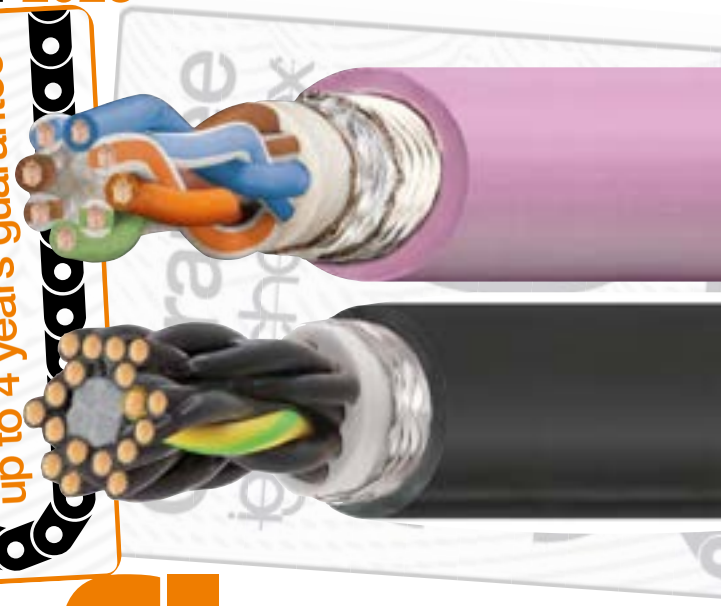
unique...

2013 tested ... tested ... tested ... 2023

Guarantee igus chainflex

4 YEARS

up to 4 years guarantee



igus.eu ... chainflex® cables ... 2024 ... motion plastics® ...

chainflex®

chainflex® works: Worldwide No. 1 in cable tests

... and in variety ... and with 36 month guarantee ... and with more than 25 years experience ... and 100 million EUR annual sales



Available from stock.
Ready for delivery in 24–48h, earlier upon request.
The delivery times indicated correspond to the average time until the ordered goods are dispatched.



No minimum order value! No surcharges!
No minimum order value with igus®. Just order the amount you need – no cutting charges (up to 10 cuts of the same type).



From 1 metre
Because chainflex® cables are high quality you only need to order the length you require. We appreciate every order from 1 m. In addition they can be planned in 0.5 m units.



36 month guarantee
We give a 36 month guarantee on every chainflex® cable. Up to 10 million double strokes guaranteed. Due to our tests in the largest lab for moved e-chain® cables, we are able to give a unique and reliable 36 month guarantee on our cables.



"7 to 8 plus Saturday" service

Monday to Friday	7.00 am to 8.00 pm
Saturday	8.00 am to 12.00 pm



Order hotline

Phone	+49-2203 9649-800
Fax	+49-2203 9649-222



Onlineshop www.chainflex.eu
Our complete product range incl. product finder, lifetime calculator and much more. Order around-the-clock!



Lifetime calculator www.igus.eu/chainflexlife
With the help of the chainflex® service life calculator, you can quickly and easily calculate the expected service life of chainflex® cables specifically for your application.



Do you have any questions?
If you have any questions, simply call us or use our online tools at www.chainflex.eu

www.chainflex.eu

Classification of chainflex® cables according to basic requirements, travel distance, oil-resistance and torsion

The chainflex® class is composed of 4 parts:

Basic requirements	Travel distance	Oil resistance	Torsion
1 to 7	1 to 6	1 to 4	1 to 4

1	Basic requirements	low	1	2	3	4	5	6	7 highest
2	Travel distance	unsupported	1	2	3	4	5	6	400 m +
3	Oil-resistance	none	1	2	3	4	highest		
4	Torsion	none	1	2	3	4	±360°		

1 Basic requirements

1: Flexible cables
2: Highly flexible cables
3: Cables without special structure (e.g. winding in layers) for use in e-chains®.
4: Cables with special structure for continuous movement in e-chains® for medium duty applications and radii from 7.5 x d, speed up to 3 m/s.
5: Cables for continuous movement in e-chains® for heavy duty applications and radii from 6.8 x d, speed up to 10 m/s.
6: Cables for continuous movement in e-chains® for heaviest duty applications and radii from 5 x d, speed up to 10 m/s.
7: Cables for continuous movement in e-chains® for heaviest duty applications and smallest radii, indoor and outdoor, radii from 4 x d, speed up to 10 m/s and more.

2 Travel distance

1: Unsupported travel up to 10 m
2: Gliding travel up to 10 m
3: Gliding travel up to 20 m
4: Gliding travel up to 50 m
5: Gliding travel up to 100 m
6: Gliding travel up to 400 m and more

3 Oil resistance

1: No oil resistance
2: Oil-resistant (following DIN EN 50363-4-1)
3: Oil-resistant (following DIN EN 50363-10-2)
4: Oil-resistant (following EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA)

4 Torsion

1: No torsion
2: ±90°, with 1 m cable length
3: ±180°, with 1 m cable length
4: ±360°, with 1 m cable length

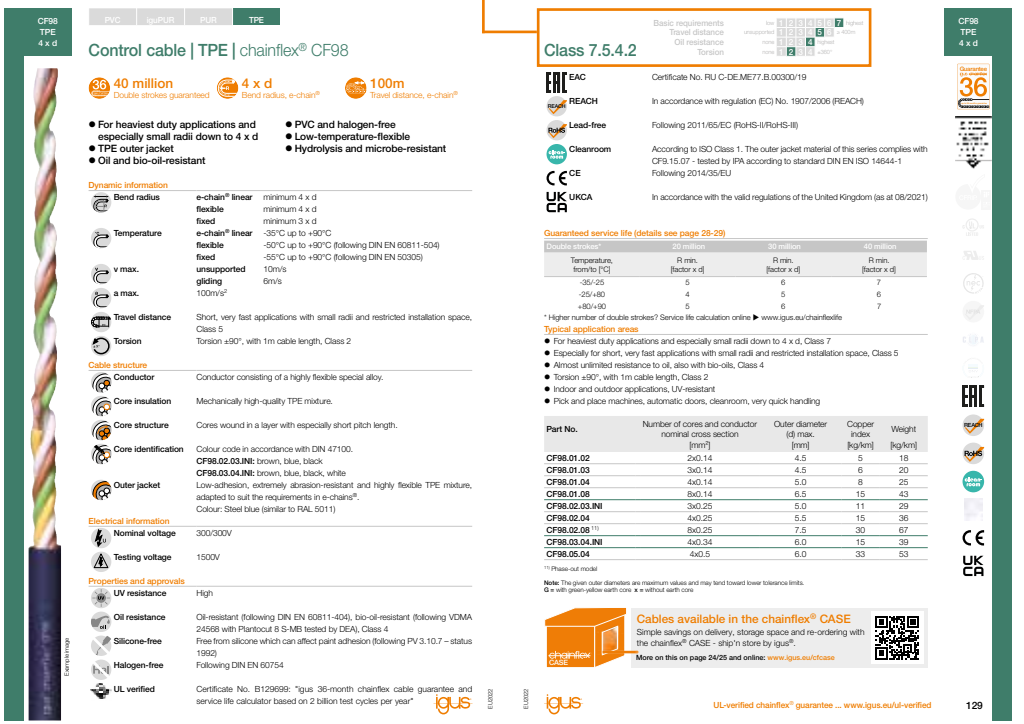
To make selection easier, we have classified all chainflex® cables according to 4 criteria: basic application requirements, travel distance, oil resistance and torsion. The higher the number the better the cable.

Example: If you are looking for a cable which is suitable for the highest mechanical load, travel distance up to 100 m for unsupported and gliding applications and oil-resistant following DIN EN 60811-2-1.

Choose from the classification overview:

Basic requirements: 7
Travel distance: 5
Oil resistance: 4
Torsion: 2

This results in the cable classification – here "Class 7.5.4.2". This can be found on every product page.


CF98 TPE 4 x d

PVC | igusPUR | PUR | TPE

Control cable | TPE | chainflex® CF98

36 40 million Double strokes guaranteed | 4 x d Bend radius, e-chain® | 100m Travel distance, e-chain®

- For heaviest duty applications and especially small radii down to 4 x d
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC and halogen-free
- Low-temperature-flexible
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	e-chain® linear	minimum 4 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d
Temperature	e-chain® linear	-35°C up to +90°C
	flexible	-50°C up to +90°C (following DIN EN 60811-504)
	fixed	-55°C up to +90°C (following DIN EN 50305)
v max.	unsupported	10m/s
	gliding	6m/s
a max.		100m/s²
Travel distance		Short, very fast applications with small radii and restricted installation space, Class 5
Torsion		Torsion ±90°, with 1m cable length, Class 2

Cable structure

Conductor	Conductor consisting of a highly flexible special alloy.
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores wound in a layer with especially short pitch length.
Core identification	Colour code in accordance with DIN 47100. **CF98.02.03.INI:** brown, blue, black **CF98.03.04.INI:** brown, blue, black, white
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	300/300V
Testing voltage	1500V

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"

Example image

igus

EL0322

Class 7.5.4.2

Basic requirements 7 | Travel distance 5 | Oil resistance 4 | Torsion 2

EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	20 million	30 million	40 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	5	6	7
-25/+80	4	5	6
+80/+90	5	6	7

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heaviest duty applications and especially small radii down to 4 x d, Class 7
- Especially for short, very fast applications with small radii and restricted installation space, Class 5
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 1m cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Pick and place machines, automatic doors, cleanroom, very quick handling

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF98.01.02	2x0.14	4.5	5	18
CF98.01.03	3x0.14	4.5	6	20
CF98.01.04	4x0.14	5.0	8	25
CF98.01.08	8x0.14	6.5	15	43
CF98.02.03.INI	3x0.25	5.0	11	29
CF98.02.04	4x0.25	5.5	15	36
CF98.02.08 [1)]	8x0.25	7.5	30	67
CF98.03.04.INI	4x0.34	6.0	15	39
CF98.05.04	4x0.5	6.0	33	53

[1)] Phase-out model

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core x = without earth core

Cables available in the chainflex® CASE
Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.
More on this on page 24/25 and online: www.igus.eu/cfcase

igus

UL-verified chainflex® guarantee ... www.igus.eu/ul-verified

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CF98 TPE 4 x d

In theory the following classes would be possible:
Lowest "Class 1.1.1.1", highest "Class 7.6.4.4"



Tested, tested, tested
chainflex® test lab
from page 24



chainflex®
Control cables
from page 52



chainflex®
Data/coax cables
from page 138



chainflex®
Bus cables
from page 172



chainflex®
Fibre Optic Cables
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chainflex®
Measuring system cables
from page 228



chainflex®
Servo cables
from page 266



chainflex®
Motor cables
from page 304



chainflex® CFROBOT
Twistable cables
from page 382



chainflex®
Special cables
from page 422



chainflex® CFCLEAN elements
for cleanroom applications
from page 444



chainflex®
Pneumatic hoses
from page 462

chainflex® selection according to "Class"

	chainflex® Series	Basic requirements	Travel distance	Oil resistance	Torsion
	CF880	3	1	1	1
	CF881	3	1	1	1
	CFLG88	3	1	1	1
	CF884	3	1	1	1
	CF885	3	1	1	1
	CF885.PE	3	1	1	1
	CF886	3	1	1	1
	CF887	3	1	1	1
	CF888	3	1	1	1
	CF890	3	1	3	1
	CF891	3	1	3	1
	CF894	3	1	3	1
	CF895	3	1	3	1
	CF896	3	1	3	1
	CF897	3	1	3	1
	CF898	3	1	3	1
	CF210.UL	4	2	2	1
	CF210.UL (motor)	4	2	2	1
New!	CF211 (measuring)	4	2	2	1
	CF220.UL.H	4	2	2	1
	CF111.D	4	2	3	1
	CF270.UL.D	4	2	3	1
	CF270.UL.D (motor)	4	2	3	1
	CF280.UL.H	4	2	3	1
	CFBUS.PVC	4	3	2	1
	CFBUS.PUR	4	3	3	1
New!	CF140.UL	4	4	1	1
	CF130.UL	4	4	1	2
	CF240	4	4	2	1
	CF240.PUR	4	4	3	1
New!	CF150.UL	4	4	3	2
	CF160.UL	4	4	3	1
	CF77.UL.D (robot)	5	1	3	3
	CFLK	5	3	3	1
New!	CF33.UL	5	4	2	1
	CFTHERMO	5	4	3	1
	CF6	5	5	2	1
	CF21.UL	5	5	2	1
	CF211 (data)	5	5	2	1
	CF31	5	5	2	1
	CF5	5	5	2	2
	CF30	5	5	2	2
	CF78.UL	5	5	3	1
New!	CF211.PUR (data)	5	5	3	1
	CF77.UL.D	5	5	3	3

	chainflex® Series	Basic requirements	Travel distance	Oil resistance	Torsion
	CFROBOT2	6	1	3	3
	CFROBOT3	6	1	3	3
	CFROBOT4	6	1	3	3
	CFROBOT7	6	1	3	3
	CFROBOT8	6	1	3	3
	CFROBOT9	6	1	3	3
New!	CFROBOT8.PLUS	6	1	3	4
	CFROBOT	6	1	4	3
	CFROBOT5	6	1	4	3
	CFROBOT6	6	1	4	3
	CF2	6	5	3	1
	CF112	6	5	3	1
	CFLG.LB.PUR	6	5	3	1
	CF113.D	6	5	3	1
	CF27.D	6	5	3	1
	CF27.D (motor)	6	5	3	1
	CFCRANE	6	6	3	1
	CFCRANE.PUR	6	6	3	1
	CF10.UL	6	6	4	1
	CF11	6	6	4	1
	CF12	6	6	4	1
	CFKoax	6	6	4	1
	CFBUS	6	6	4	1
	CF11.D	6	6	4	1
	CF35.UL	6	6	4	1
	CF310.UL	6	6	4	1
	CF9.UL	6	6	4	2
	CF34.UL.D	6	6	4	2
	CF300.UL.D	6	6	4	2
	CFPE	6	6	4	2
	CFSOFT1	7	1	2	2
	CFSOFT2	7	1	2	2
	CFLG.G	7	4	4	1
New!	CFLG.LB	7	5	4	1
	CF99.PLUS	7	5	4	1
	CFFLAT	7	5	4	1
	CF98.PLUS	7	5	4	2
	CFBUS.LB	7	6	4	1
	CF10	7	6	4	1
	CF29.D	7	6	4	1
New!	CF38	7	6	4	1
New!	CF340	7	6	4	1
	CF9	7	6	4	2
	CF37.D	7	6	4	2
New!	CF330.D	7	6	4	2



chainflex® for
Video / vision / bus technology
from page 466



chainflex® for
Network technology
from page 478



Harnessed Fibre Optic Cables
FOC
from page 518



CF.INI
Sensor/actuator cables
from page 524



chainflex® cables with
Industrial connectors
from page 542



Harnessed dress packs and cables
for robots
from page 552



Cables suitable for 24 manufacturer standards
Drive technology
from page 574



Connectors, tools and accessories
Connectors
from page 786



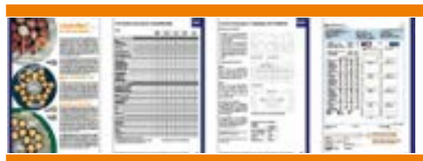
Condition monitoring and predictive maintenance
smart plastics
from page 852



Strain relief
chainfix
from page 870



Ready-to-install assembled e-chain systems®
readychain®
from page 910



Facts, figures and data
Technical appendix
from page 922

Control cables ... chainflex® types

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

Control cables

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Guaranteed service life for these series (Details ▶ Page 28-29)

Selection table ▶ From page 54

	chainflex® cable		Jacket	Shield	Minimum bend radius, e-chain® [x d]	Temperature, e-chain® from/to [°C]	Price index	Approvals and standards	Flame retardant	Oil-resistant	Halogen-free	UV-resistant	Torsion-resistant	v max. unsupported [m/s]	v max. gliding [m/s]	a max. [m/s²]	chainflex® Class	Page
	CF880		PVC		12.5	+5/ +70	●●●		✓					3		20	3.1.1.1	58
	CF881		PVC	✓	12.5	+5/ +70	●●●		✓					3		20	3.1.1.1	62
	CF130.UL		PVC		7.5	+5/ +70	●●●		✓				✓	3	2	20	4.4.1.2	66
	CF140.UL	New!	PVC	✓	7.5	+5/ +70	●●●		✓					3	2	20	4.4.1.1	70
	CF150.UL	New!	PVC		7.5	+5/ +70	●●●		✓	✓		✓	✓	3	2	20	4.4.3.2	74
	CF160.UL		PVC	✓	7.5	+5/ +70	●●●		✓	✓		✓		3	2	20	4.4.3.1	78
	CF5		PVC		6.8	+5/ +70	●●●		✓	✓		✓	✓	10	5	80	5.5.2.2	82
	CF6		PVC	✓	6.8	+5/ +70	●●●		✓	✓		✓		10	5	80	5.5.2.1	86
	CFSOFT1		PVC		5	+5/ +70	●●●		✓	✓		✓		10	5	80	7.1.2.1	90
	CFSOFT2		PVC	✓	5	+5/ +70	●●●		✓	✓		✓		10	5	80	7.1.2.1	92
	CF890		iguPUR		12.5	-20/+80	●●●		✓	✓		✓		3		20	3.1.3.1	94
	CF891		iguPUR	✓	12.5	-20/+80	●●●		✓	✓		✓		3		20	3.1.3.1	98
	CF77.UL.D		PUR		6.8	-25/ +80	●●●		✓	✓	✓	✓	✓	10	5	80	5.5.3.3	102
	CF78.UL		PUR	✓	6.8	-25/ +80	●●●		✓	✓	✓	✓		10	5	80	5.5.3.1	106
	CF2		PUR	✓	5	-20/+80	●●●		✓	✓		✓		10	5	80	6.5.3.1	110
	CF9.UL		TPE		5	-35/ +100	●●●		✓	✓		✓	✓	10	6	100	6.6.4.2	114
	CF10.UL		TPE	✓	5	-35/ +100	●●●		✓	✓		✓		10	6	100	6.6.4.1	118
	CF9		TPE		5	-35/ +100	●●●			✓	✓	✓	✓	10	6	100	7.6.4.2	122
	CF10		TPE	✓	5	-35/ +100	●●●			✓	✓	✓		10	6	100	7.6.4.1	126
	CF98.PLUS		TPE		3	-35/ +90	●●●			✓	✓	✓	✓	10	6	100	7.5.4.2	130
	CF99.PLUS		TPE	✓	3	-35/ +90	●●●			✓	✓	✓		10	6	100	7.5.4.1	134

These values are based on specific applications or tests. They do not represent the limit of what is technically feasible.

chainflex® types mentioned in the catalogue as “resistant to bio oil“ have been tested by DEA according to VDMA 24568 with Plantocut 8 S-MB.

Download the EPLAN library for any type of cable ▶ www.igus.eu/EPLAN-download

Get online and use all of the tools and data ▶ www.igus.eu/chainflex

... Data ... Coax ... chainflex® types

	chainflex® cable		Jacket	Shield	Minimum bend radius, e-chain® [x d]	Temperature, e-chain® from/to [°C]	Price index	Approvals and standards	Flame retardant	Oil-resistant	Halogen-free	UV-resistant	Torsion-resistant	v max. unsupported [m/s]	v max. gliding [m/s]	a max. [m/s²]	chainflex® Class	Page
Data cables																		138
Guaranteed service life for these series (Details ▶ Page 28-29)																		Selection table ▶ Page 140
	CF240		PVC	✓	10	+5/ +70	●●●		✓	✓				3	2	20	4.4.2.1	142
	CF240.PUR		PUR	✓	10	-25/ +80	●●●		✓	✓	✓	✓		3	2	20	4.4.3.1	146
	CF211		PVC	✓	7.5	+5/ +70	●●●		✓	✓				5	3	50	5.5.2.1	150
	CF211.PUR	New!	PUR	✓	7.5	-25/ +80	●●●		✓	✓	✓	✓		5	3	50	5.5.3.1	154
	CF11		TPE	✓	6.8	-35/ +100	●●●			✓	✓	✓		10	6	100	6.6.4.1	158
	CF112		PUR	✓	10	-25/ +80	●●●		✓	✓	✓	✓		10	5	80	6.5.3.1	162
	CF12		TPE	✓	10	-35/ +100	●●●			✓	✓	✓		10	6	100	6.6.4.1	166
Coax cables																		
	CFKoax		TPE		10	-35/ +100	●●●			✓		✓		10	5	100	6.6.4.1	168

These values are based on specific applications or tests. They do not represent the limit of what is technically feasible.

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4-years chainflex® guarantee

Guaranteed service life for predictable reliability

▶ Selection table page 140

With the help of the chainflex® service life calculator, you can quickly and easily calculate the expected service life of chainflex® cables specifically for your application:

www.igus.eu/chainflexlife

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Bus ... Ethernet ... FOC ▶▶ chainflex® types ▶▶

	chainflex® cable		Jacket	Shield	Minimum bend radius, e-chain® [x d]	Temperature, e-chain® from/to [°C]	Price index	Approvals and standards	Flame retardant	Oil-resistant	Halogen-free	UV-resistant	Torsion-resistant	v max. unsupported [m/s]	v max. gliding [m/s]	a max. [m/s²]	chainflex® Class	Page
Bus cables																		172
Guaranteed service life for these series (Details ▶ Page 28-29)																		Selection table ▶ Page 174
	CF888		PVC		15	+5/ +70	●●●		✓					3		20	3.1.1.1	180
	CFBUS.PVC		PVC		12.5	+5/ +70	●●●		✓	✓		✓		3	2	30	4.3.2.1	184
	CF898		iguPUR		15	-20/ +70	●●●		✓	✓		✓		3		20	3.1.3.1	188
	CFBUS.PUR		PUR		12.5	-20/ +70	●●●		✓	✓	✓	✓		3	2	30	4.3.3.1	192
	CFBUS		TPE		10	-35/ +70	●●●		✓	✓		✓		10	6	100	6.6.4.1	196
	CFBUS.LB		TPE		7.5	-35/ +70	●●●			✓	✓	✓		10	6	100	7.6.4.1	202
Fibre Optic Cables																		206
Guaranteed service life for these series (Details ▶ Page 28-29)																		Selection table ▶ Page 210
	CFLK		PUR		12.5	-20/ +60	●●●			✓	✓	✓		10	5	20	5.3.3.1	212
	CFLG88		PVC		7.5	+5/ +70	●●●		✓					3		20	3.1.1.1	214
	CFLG.LB.PUR		PUR		5	-35/ +80	●●●		✓	✓	✓	✓		10	6	20	6.5.3.1	216
	CFLG.LB	New!	TPE		5	-35/ +80	●●●			✓	✓	✓		10	6	20	7.5.4.1	220
	CFLG.G		TPE		10	-40/ +80	●●●			✓	✓	✓		10	6	20	7.4.4.1	224

These values are based on specific applications or tests. They do not represent the limit of what is technically feasible.

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4-years chainflex® guarantee

Guaranteed service life for predictable reliability

▶ Selection table page 174 (Bus) and page 210 (FOC)

With the help of the chainflex® service life calculator, you can quickly and easily calculate the expected service life of chainflex® cables specifically for your application:

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igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

... Measuring system ... servo ... chainflex® types

	chainflex® cable		Jacket	Shield	Minimum bend radius, e-chain® [x d]	Temperature, e-chain® from/to [°C]	Price index	Approvals and standards	Flame retardant	Oil-resistant	Halogen-free	UV-resistant	Torsion-resistant	v max. unsupported [m/s]	v max. gliding [m/s]	a max. [m/s²]	chainflex® Class	Page
Measuring system cables																		228
Guaranteed service life for these series (Details ▶ Page 28-29)																		Selection table ▶ Page 230
	CF884		PVC	✓	15	+5/ +70	●○○		✓					3		20	3.1.1.1	234
	CF211	New!	PVC	✓	10	+5/ +70	●○○		✓	✓				5	3	30	4.2.2.1	238
	CF894		iguPUR	✓	15	-20/+80	●○○		✓	✓		✓		3		20	3.1.3.1	244
	CF111.D		PUR	✓	10	-25/ +80	●○○		✓	✓	✓	✓		5	3	30	4.2.3.1	248
	CF113.D		PUR	✓	7.5	-25/ +80	●●○		✓	✓	✓	✓		10	5	50	6.5.3.1	254
	CF11.D		TPE	✓	6.8	-35/ +90	●●○			✓	✓	✓		10	6	100	6.6.4.1	260
Servo cables																		266
Guaranteed service life for these series (Details ▶ Page 28-29)																		Selection table ▶ Page 268
	CF887		PVC	✓	15	+5/ +70	●○○		✓					3		20	3.1.1.1	272
	CF210.UL		PVC	✓	10	+5/ +70	●○○		✓	✓		✓		10	2	50	4.2.2.1	274
	CF21.UL		PVC	✓	7.5	+5/ +70	●○○		✓	✓		✓		10	5	80	5.5.2.1	278
	CF897		iguPUR	✓	15	-20/+80	●○○		✓	✓		✓		3		20	3.1.3.1	282
	CF270.UL.D		PUR	✓	10	-25/ +80	●○○		✓	✓	✓	✓		10	2	50	4.2.3.1	284
	CF27.D		PUR	✓	7.5	-25/ +80	●○○		✓	✓	✓	✓		10	5	80	6.5.3.1	288
	CF29.D		TPE	✓	6.8	-35/ +100	●●○			✓	✓	✓		10	5	80	7.6.4.1	292
Hybrid cables																		
	CF220.UL.H		PVC	✓	10	+5/ +70	●○○		✓	✓		✓		10	2	50	4.2.2.1	294
	CF280.UL.H		PUR	✓	10	-25/ +80	●○○		✓	✓	✓	✓		10	2	50	4.2.3.1	298

These values are based on specific applications or tests. They do not represent the limit of what is technically feasible.

chainflex® types mentioned in the catalogue as “resistant to bio oil“ have been tested by DEA according to VDMA 24568 with Plantocut 8 S-MB.

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4-years chainflex® guarantee

Guaranteed service life for predictable reliability

▶ Selection table page 230 (measuring system) and page 268 (servo)

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igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

... Motor cables ... chainflex® types

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

	chainflex® cable		Jacket	Shield	Minimum bend radius, e-chain® [x d]	Temperature, e-chain® from/to [°C]	Price index	Approvals and standards	Flame retardant	Oil-resistant	Halogen-free	UV-resistant	Torsion-resistant	v max. unsupported [m/s]	v max. gliding [m/s]	a max. [m/s²]	chainflex® Class	Page
Motor cables																		304
Guaranteed service life for these series (Details ▶ Page 28-29)														Selection table ▶ From page 306				
	CF885		PVC		15	+5/ +70	●○○		✓					3		20	3.1.1.1	310
	CF886		PVC	✓	15	+5/ +70	●○○		✓					3		20	3.1.1.1	312
	CF210.UL		PVC	✓	10	+5/ +70	●○○		✓	✓		✓		10	2	50	4.2.2.1	314
	CF30		PVC		7.5	+5/ +70	●○○		✓	✓		✓	✓	10	5	80	5.5.2.2	316
	CF31		PVC	✓	7.5	+5/ +70	●○○		✓	✓		✓		10	5	80	5.5.2.1	320
	CF33.UL	New!	PVC	✓	7,5	+5/ +70	●○○		✓	✓		✓		10	5	80	5.4.2.1	324
	CF895		iguPUR		15	-20/+80	●○○		✓	✓		✓		3		20	3.1.3.1	328
	CF896		iguPUR	✓	15	-20/+80	●○○		✓	✓		✓		3		20	3.1.3.1	330
	CF270.UL.D		PUR	✓	10	-25/ +80	●○○		✓	✓	✓	✓		10	2	50	4.2.3.1	332
	CF27.D		PUR	✓	7.5	-25/ +80	●○○		✓	✓	✓	✓		10	5	80	6.5.3.1	336
	CF34.UL.D		TPE		7.5	-35/ +90	●●◐		✓	✓		✓	✓	10	6	80	6.6.4.2	340
	CF35.UL		TPE	✓	7.5	-35/ +90	●●◐		✓	✓		✓		10	6	80	6.6.4.1	344
	CF37.D		TPE		7.5	-35/ +90	●●◐			✓	✓	✓	✓	10	6	80	7.6.4.2	348
	CF38	New!	TPE	✓	7.5	-35/ +90	●●◐			✓	✓	✓		10	6	80	7.6.4.1	352
Spindle cables/Single cores																		
	CF885		PVC		15	+5/ +70	●○○		✓					3		20	3.1.1.1	356
	CF885.PE		PVC		15	+5/ +70	●○○		✓					3		20	3.1.1.1	358
	CF886		PVC	✓	15	+5/ +70	●○○		✓					3		20	3.1.1.1	360
	CF270.UL.D		PUR	✓	10	-25/ +80	●○○		✓	✓	✓	✓		10	2	50	4.2.3.1	362
	CF300.UL.D		TPE		7.5	-35/ +90	●●○		✓	✓		✓	✓	10	6	100	6.6.4.2	364
	CFPE		TPE		7.5	-35/ +90	●●○		✓	✓		✓	✓	10	6	100	6.6.4.2	368
	CF310.UL		TPE	✓	7.5	-35/ +90	●●○		✓	✓		✓		10	6	100	6.6.4.1	370
	CF330.D	New!	TPE		7.5	-35/ +90	●●○			✓	✓	✓	✓	10	6	100	7.6.4.2	374
	CF340	New!	TPE	✓	7.5	-35/ +90	●●○			✓	✓	✓		10	6	100	7.6.4.1	376
Medium voltage cables																		
	CFCRANE.PUR		PUR	✓	10	-20/+80	●●○		✓	✓	✓	✓		10	6	50	6.6.3.1	378
	CFCRANE		igupren	✓	10	-20/+80	●●●		✓	✓		✓		10	6	50	6.6.3.1	380

These values are based on specific applications or tests. They do not represent the limit of what is technically feasible.

chainflex® types mentioned in the catalogue as “resistant to bio oil“ have been tested by DEA according to VDMA 24568 with Plantocut 8 S-MB.

... Robots ... Torsion ... chainflex® types

	chainflex® cable	Jacket	Shield	Minimum bend radius, e-chain® [x d]	Torsion angle [°/m]	Temperature, e-chain® from/to [°C]	Price index	Approvals and standards	Flame retardant	Oil-resistant	Halogen-free	UV-resistant	Torsion-resistant	v max. twisted [°/s]	a max. twisted [°/s²]	chainflex® Class	Page
Twistable cables																	382
Guaranteed service life for these series (Details ▶ Page 28-29)																	Selection table ▶ Page 386
Control cables																	
	CF77.UL.D	PUR		6.8	±180	-25/ +80	●●●		✓	✓	✓	✓	✓	180	60	5.1.3.3	388
	CFROBOT2	PUR	✓	10	±180	-25/ +80	●●●		✓	✓	✓	✓	✓	180	60	6.1.3.3	392
Data cable																	
	CFROBOT3	PUR	✓	10	±180	-25/ +80	●●●		✓	✓	✓	✓	✓	180	60	6.1.3.3	394
Measuring system cable																	
	CFROBOT4	PUR	✓	10	±180	-25/ +80	●●●		✓	✓	✓	✓	✓	180	60	6.1.3.3	396
Fibre Optic Cable																	
	CFROBOT5	TPE		10	±180	-35/ +80	●●●			✓	✓	✓	✓	180	60	6.1.4.3	400
Motor cables																	
	CFROBOT6	PUR		10	±180	-25/ +80	●●●		✓	✓	✓	✓	✓	180	60	6.1.3.3	402
	CFROBOT7	PUR	✓	10	±180	-25/ +80	●●●		✓	✓	✓	✓	✓	180	60	6.1.3.3	404
Spindle cables/Single cores																	
	CFROBOT	TPE	✓	10	±180	-35/ +90	●●●		✓	✓		✓	✓	180	60	6.1.4.3	408
Bus cables																	
	CFROBOT8	PUR	✓	10	±180	-25/ +70	●●●		✓	✓		✓	✓	180	60	6.1.3.3	410
	CFROBOT8.PLUS New!	PUR	✓	10	±360	-25/ +70	●●●		✓	✓	✓	✓	✓	360	60	6.1.3.4	414
Hybrid cable																	
	CFROBOT9	PUR	✓	10	±180	-25/ +80	●●●		✓	✓	✓	✓	✓	180	60	6.1.3.3	418

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chainflex® types mentioned in the catalogue as “resistant to bio oil“ have been tested by DEA according to VDMA 24568 with Plantocut 8 S-MB.

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4-years chainflex® guarantee

Guaranteed service life for predictable reliability

▶ Selection table page 386

With the help of the chainflex® service life calculator, you can quickly and easily calculate the expected service life of chainflex® cables specifically for your application:

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igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

... Special ... CFCLEAN ... chainflex® types

	chainflex® cable		Jacket	Shield	Minimum bend radius, e-chain® [x d]	Temperature, e-chain® from/to [°C]	Price index	Approvals and standards	Flame retardant	Oil-resistant	Halogen-free	UV-resistant	Torsion-resistant	v max. unsupported [m/s]	v max. gliding [m/s]	a max. [m/s²]	chainflex® Class	Page
Special cables																		422
	CFTHERMO		PUR	✓	12.5	-25/ +80	●●●			✓	✓	✓		2	1	20	5.4.3.1	424
	CFFLAT		TPE		5	-35/ +90	●●●			✓	✓	✓		10	6	100	7.5.4.1	426
	CFSPECIAL.182		PUR	✓	10	-25/ +80	●●●		✓	✓	✓	✓		10	6	100	-	428
	CFSPECIAL.192		PUR	✓	10	-25/ +80	●●●		✓	✓	✓	✓		10	2	50	-	430
	CFSPECIAL.532		PUR	✓	10	-25/ +80	●●◐		✓	✓	✓	✓		10	2	50	-	432
	CFSPECIAL.562.PE		PUR	✓	10	-25/ +80	●●◐		✓	✓	✓	✓		10	2	50	-	434
	CFSPECIAL.572		PUR	✓	10	-25/ +80	●●◐		✓	✓	✓	✓		10	2	50	-	436
	CFSPECIAL.592		PUR	✓	10	-25/ +80	●●◐		✓	✓	✓	✓		10	2	50	-	438
	CFSPECIAL.792		PUR	✓	10	-25/ +80	●◐●		✓	✓	✓	✓		3	2	20	-	440
CFCLEAN elements for cleanroom applications																		444
	CFCLEAN1	New!		✓	70mm	-10/ +80	●●◐			2	-	40						450
	CFCLEAN2	New!		✓	70mm	-10/ +80	●●◐			2	-	40						452
	CFCLEAN3	New!		✓	70mm	-10/ +80	●●◐			2	-	40						454
	CFCLEAN4	New!		✓	70mm	-10/ +80	●●◐			2	-	40						456
	CFCLEAN7	New!		✓	70mm	-10/ +80	●●◐			2	-	40						458
	CFCLEAN8	New!		✓	70mm	-10/ +80	●●◐			2	-	40						460

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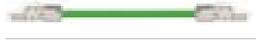
chainflex® guarantee

These series are solutions for special applications, please contact igus® for information about the service life guarantee:

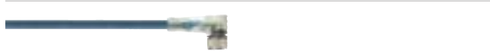
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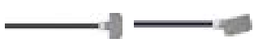
... Video ... Network ...

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	**FireWire**	Pre-harnessed cable	TPE	468
	**USB 2.0**	Pre-harnessed cable	PVC/PUR/TPE	470
	**USB 3.0**	Pre-harnessed cable	PVC/PUR	471
	**GigE**	Pre-harnessed cable	PUR-ROBOT/TPE	472
	**DVI-D/HDMI**	Pre-harnessed cable	TPE	473
Harnessed coax cables				
	**Coax**	Pre-harnessed cable (BNC/SMA)	TPE	474
	**VGA**	Pre-harnessed cable	TPE	477
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	**CAT5** Straight		PVC/PUR/TPE	481
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	**Profibus**		PVC/PUR/TPE	500
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	**Profinet**		PVC/PUR/TPE	506
	**Industrial Profinet** moulded		PVC/PUR	510
	**Profinet** with moulded connectors		PVC/PUR/TPE	512
Harnessed DevicNet cable				
	**DeviceNet** with Binder M12 a-coded		TPE	513

... FOC ... Sensor ... Actuator ...

	Cable type	Jacket	Page
Harnessed Fibre Optic Cables for video			518
	**FOC** 2 fibres	PVC/TPE	520
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Harnessed Fibre Optic Cables for network			
	**FOC** 6 fibres	TPE	522
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Sensor/actuator CF9 - CF.INI (minimum bend radius 5 x d)			524
	Connection cable M12 x 1, straight/angled	TPE	527
	Linking cable M12 x 1, straight/angled	TPE	527
	Connection cable M12 x 1, straight/angled, LED	TPE	529
	Connection cable M8 x 1, straight/angled	TPE	531
	Linking cable M8 x 1, straight/angled	TPE	531
	Connection cable M8 x 1, angled, LED	TPE	533
Sensor/actuator CF10 - CF.INI (minimum bend radius 5 x d) 360° shielded			
	Connection cable M12 x 1, straight/angled	TPE	535
	Linking cable M12 x 1, straight/angled	TPE	535
Sensor/actuator CF98 - CF.INI (minimum bend radius 4 x d)			
	Connection cable M12 x 1, straight/angled	TPE	537
	Linking cable M12 x 1, straight/angled	TPE	537
	Connection cable M8 x 1, straight/angled	TPE	539
	Linking cable M8 x 1, straight/angled	TPE	539
chainflex® cables for actuator/sensor distribution box			
	Connection cable M23, straight	TPE	540
	Linking cable M23, straight/angled	TPE	540
	Connection cable M12, straight	TPE	541

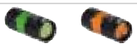
Industrial ... Robots ...

		Cable type	Page
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	Han 6B	Harnessed cable, single locking lever at both ends, straight Harnessed cable, single locking lever at both ends, angled	544
	Han 10B	Harnessed cable, single locking lever at both ends, straight Harnessed cable, single locking lever at both ends, angled	546
	Han 10B	Harnessed cable, double locking lever at both ends, straight Harnessed cable, double locking lever at both ends, angled	546
	Han 16B	Harnessed cable, single locking lever at both ends, straight Harnessed cable, single locking lever at both ends, angled	548
	Han 16B	Harnessed cable, double locking lever at both ends, straight Harnessed cable, double locking lever at both ends, angled	548
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	readycable® AIDA	Harnessed cables according to AIDA specifications	572

... Drive technology ...

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	Baumüller	Servo/resolver/pulse encoder cables	PVC/PUR/TPE	585
	Baumüller, SpeedTec	Servo/resolver/pulse encoder cables	PVC/PUR/TPE	588
	Beckhoff	Motor/servo/hybrid servo/encoder/thermal protection/resolver/network cables	PVC/PUR/TPE	590
	Berger Lahr	Servo/resolver cables	PVC/PUR/TPE	590
	Bosch Rexroth	Motor/servo/hybrid servo/ encoder cables	PVC/PUR/TPE	590
	ELAU/ Schneider Electric	Servo/hybrid servo/encoder cables	PVC/PUR/TPE	593
	FAGOR	Path measuring cables	PUR/TPE	593
	Fanuc	Motor/servo/brake/signal cables	PVC/PUR/TPE	593
	Festo	Servo/control/encoder/data/ bus cables	PVC/PUR/TPE	594
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	Lenze	Servo/fan/decoder/encoder/ feedback/resolver cables	PVC/PUR/TPE	598
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	LTi DRiVES	Servo/encoder cables	PVC/PUR/TPE	599
	Mitsubishi Electric	Motor/encoder cables	PVC/PUR	599
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	SEW	Motor/servo/hybrid servo/ control/encoder cables	PVC/PUR/TPE	602
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			Page
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Storage made easy ...







The chainflex® CASE is a cardboard box that allows cable drum shipping without a pallet. This means that the goods can be sent by a parcel carrier. The chainflex® CASE is not only used for transport, but also works as a storage system for cable drums. The cable can be easily unreeled directly from the box. Thanks to its stackability, you can set up flexible storage facilities.

The QR code on the shipping box makes online re-ordering easy. All in all, this system helps you save shipping, process and storage costs.

chainflex® CASE allows cable drums to be shipped in a cardboard box via parcel carriers. Very simple and you can save up to 84% shipping cost compared to standard shipping on a pallet by a freight forwarder.

Remove expensive storage systems for cable drums. Unreel the cable immediately from the chainflex® CASE. Carrying handles and stackability allow for individual storage spaces.

This system makes storage mobile and can be used directly on construction sites, for instance. Expensive special shelving is not required, instead, it can be stored simply in standard shelving systems.

With the QR code on every chainflex® CASE, you can re-order your cable online in a few seconds. Simply use your smartphone's scanner.

▶ www.igus.eu/cf-case

Just add the required CASE to your order



chainflex® CASE M



chainflex® CASE S

chainflex® CASE S and CASE M



chainflex® CASE Refill
Replacing cables in the chainflex® CASE made easy

New



Thanks to the new refill element, the chainflex® CASE shipping and storage solution becomes even more practical and sustainable.

- Easy refilling of the cable by replacing the roll, saving complex logistics processes
- Save up to 38% with every reorder of cables sold by the metre for an existing chainflex® CASE
- Tested and developed in collaboration with our customers
- Save up to 2.6kg of packaging waste with every refill reorder
- Simply add CASE as an option in the online shop

chainflex® is PFAS-free

New Logo for chainflex® cables



The new logo confirms that 95% of igus® chainflex® cables are already free of PFAS. This ensures their use worldwide without any restrictions - today and in the future.

Well-known products such as PTFE or well-known brand names such as Teflon are chemicals belonging to the group of per- and polyfluoroalkyl substances, or PFAS for short. Due to their durability (persistence), these substances are often referred to as “forever chemicals”.

Commonly found in everyday objects, e.g. as non-stick coatings on cookware, weatherproof clothing or smartphone screens. But also in many technical products such as seals, core insulation in high-temperature cables and many other things.

Possible EU ban

The poor degradability in combination with the long-lasting property also has an impact on the environment and poses health risks. The substance ends up in wastewater and the environment, and eventually enters the food chain of humans and animals.
The ban on certain PFAS has already been discussed at EU level because the substances do not decompose naturally and are therefore permanently found in the environment”. The European Chemicals Agency (ECHA) has published a proposal to ban at least 10,000 per- and polyfluoroalkyl substances (PFAS). This was developed within the framework of the EU chemicals regulation REACH.

Be on the safe side with chainflex®

The new “PFAS-free” logo confirms the absence of these chemicals in 95% of igus® chainflex® cables and gives customers worldwide planning safety.In some countries, the export of PFAS is already restricted or requires notification and approval.If a general ban is announced, no chainflex® cables need to be disposed of or replaced and can continue to be used worldwide without any concerns.

This claim joins a long list of approvals and standards that ensure certified use of igus® chainflex® cables worldwide. Details on the respective approvals/ standards can be found as information provided for each cable series in the web shop, catalogue and the chainflex® data sheets.

Welcome to the world ...

chainflex® approvals for all major markets

One cable for all major markets ...
You benefit from the worldwide common approvals for chainflex® cables

Today, almost all plant and machine builders export their products. Depending on the region, there are very different standards and approvals required for different products. Cables for moving applications are no exception.
Therefore igus® has been working for many decades to obtain as many approvals as possible for chainflex® cables. Due to the special nature of chainflex® cables running in e-chains® this is a challenge, as the varied applications are not described in any standard or approval.

Therefore igus® had to work out concepts with the certification authorities over many years to enable the approval of chainflex® cables.
Today, for example, igus® is the only company worldwide to offer cables with DNV approval for use in the offshore sector.

Details on this can be found on the following pages: 968-975.



Übersicht der Zulassungen:

- CE ... 1,377 cables
- DESINA ... 270 cables
- NFPA ... 972 cables
- UL-Listed ... 63 cables
- UL-AWM ... 1,042 cables
- UL-verified ... 1,317 cables
- DNV ... 381 cables
- CC-Link IE Field ... 8 cables
- Cleanroom ... 1,063 cables
- Ethercat ... 13 cables
- Profinet ... 10 cables
- Profibus ... 27 cables

Unique: 4 years for moving cables!

The chainflex® guarantee – predictable safety through laboratory and field experience



The unique chainflex® guarantee is now being extended to a maximum of four years. With clear statements on the guaranteed service life, customers gain additional planning security. The reason is that functional reliability is essential, both from an operational-functional and legal-financial point of view. Plant and machine manufacturers must make binding statements on operational safety and reliability. However, a guarantee statement to the end customer always involves a considerable risk. The unique chainflex® guarantee on igus® cables in e-chains® not only makes this risk more calculable, but also reduces it considerably.

With the unique and now extended guarantee of up to four years on every chainflex® cable in our catalogue, we assume part of the responsibility and create valuable planning reliability for the manufacturer.

This is only possible because igus® has amassed more than 30 years of experience and an enormous amount of test data in the largest laboratory for cables and e-chains® with a 3,800m² floor area. This enables the generation of reliable statements about the durability and service life of chainflex® cables.

Guarantee instead of just warranty or defects liability expands the assurance in legal terms

The assurance of a guarantee is done voluntarily by the manufacturer, and goes beyond the mandatory assurance or warranty by the seller. For the customer not only receives the promise to obtain a defect-free product, but also the ability to function over a certain period.

"**In case of guarantee the buyer is entitled to the rights under the guarantee as per the terms set down in the guarantee statement vis-à-vis the person who has given the guarantee, regardless of the legal claims (§ 443 I BGB).**"

In Germany, quality and durability guarantees are used. The latter in particular is of great importance for many customers. A mere extension of the guarantee is not enough for them, they want binding statements on the durability. The chainflex® guarantee based on the reliable data from laboratory and field experience, was created precisely for this purpose.



Analysis of the measured data: igus® "AutΩMeS" system

Direct overview of the service life using the "double strokes" selection tables

For each chainflex® series you will find a selection table called "Double strokes - guaranteed service life" This gives the technical parameters for using the respective chainflex® cable. If the cable is operated in accordance with the operating conditions specified in the selection table, a guaranteed service life of 5, 7.5 or 10 million double strokes is applicable depending on the application. The service life itself, measured by the number of possible double strokes, can even be significantly higher.

1 Temperature, from/to [°C]

2 Double strokes guaranteed

3 Minimum bend radius [x d]

Guaranteed service life (details see page 28-29)

Double strokes*	2 5 million	2 7.5 million	2 12.5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
1 -35/-25	6.8	7.5	8.5
1 -25/+90	5 3	6 3	7 3
1 +90/+100	6.8	7.5	8.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Example: Selection table "Guaranteed service life" for CF9

Example:

A cable with a diameter of 12mm in an energy chain with a radius of 100mm results in a bending factor of 8.3 (100mm/12mm). In order to determine the guaranteed durability, you set the technical conditions from the data ranges 1 & 2. In data range 3, you can now see that (with an assumed temperature range of -25/+90°C) with 8.3 x d the effective bending factor is above the minimum limit of 7 and therefore for that cable you have a guaranteed operation of 10 million double strokes. Should the temperature become higher or lower, the necessary factor for this guarantee level would be 8.5, meaning that the number of guaranteed double strokes is reduced to 7.5 million. This very clear statement provides reliability and planning safety for your machine and can be further refined with the **online service life calculator**.

Calculate service life online:
www.igus.eu/chainflexlife

Testing, testing, testing ... specific tests for specific requirements

Over 25 years of testing experience in the chainflex® laboratory

The chainflex® laboratory specialises in tests which, apart from just theoretical procedures, also investigate real applications as they would occur in the real world of mechanical and production engineering. For more than 25 years, specific data has been collected in the largest test laboratory for moving cables, which is indispensable for determining service life and function. On a laboratory floor area of 3,800 m², 700 tests are currently running in parallel, which help to constantly monitor and improve the interplay of e-chains® and cables in dynamic applications. The combination of e-chains® and chainflex® cables on the one hand, and of e-chains® and other cables that are sold as "chain-compatible" by a large number of cable providers on the market on the other. However, it is here that questions arise for the customer as to the extent to which these cables are actually suitable for use in energy chains and what is the expected service life. The conventional standard tests give generalised answers to generalised questions. The customer, however, wants a concrete answer and solution for their specific problem, which is often not, or only partially, addressed by the normal standards. It is precisely these individual customer requirements that the igus® laboratory devotes itself to.

A further consequence of our intensive research and laboratory activities is the development of standard tests and production standards for chainflex® cables for long-term use in e-chains®.

In principle, there are five main focus areas:

1. Tests of materials
In line with customer requirements, new materials for the conductors, insulation and outer jackets are developed. Differences arise that are significant but not obvious, particularly in the case of conductor and jacket materials. To this end, up to eight different chainflex® standards are used in the tests.

2. Tests of the technical design
These tests systematically evaluate new designs, manufacturing methods and the associated influences on service life. As the studies have shown, tiny differences in manufacturing processes can lead to significantly different outcomes in moving applications.



Linear chain tests of all chainflex® cables with different radii and travels

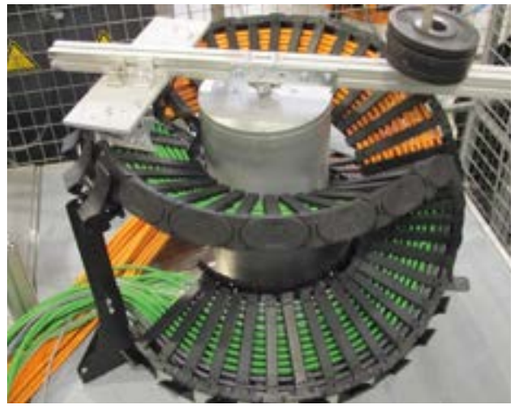


The chainflex® cables must also prove themselves in real applications under extreme conditions

3. Quality tests during production
After production, a random number of cables are subjected to the VDE or UL standard tests, as well as other special igus® tests according to certain selection criteria. The laboratory batch tests up to 20% of all finished cables in a continuous bending test and then carries out the necessary structural examinations afterwards.

4. Long-time tests of service life
These tests have to be carried out over a period of up to 5 years and investigate the actual maximum service life of the selected cables. The focus here is on a continuous monitoring of the electrical and mechanical parameters in order to detect a failure.

5. Customer-specific applications
A special service is offered for customer-specific tests according to the igus® standard. This type of test is based on the customer-specific movement sequences and offers the significant advantage of test-defined limits and the potential for optimisation before the start of mass production.



Rotary movement tests in very demanding chain applications using igus® twisterchain®



Test for complex movements by simulating multi-axis applications on robots

chainflex® in the laboratory – the largest test lab for moving cables in the world

... 3,800m² test laboratory with over 65 test stations, two climatic containers (40 feet each), and 200m of outdoor testing facilities ...



2 billion test strokes every year

Anyone who wants to carry out systematic, comparative and reproducible tests for more than 2 billion double strokes and 1.4 million electrical measurements must invest in the necessary space and resources. On a total of 65 test stations, various test series are carried out according to the igus® test standards. The laboratory team is made up of technically qualified employees who test and monitor thousands of measuring points in e-chains® and cables over a wide range of travel lengths, in horizontal or vertical applications and always under the most real-life conditions possible. Multi-axis e-chains® such as the triflex® series from the robot range are also tested for torsional strength on special test rigs.

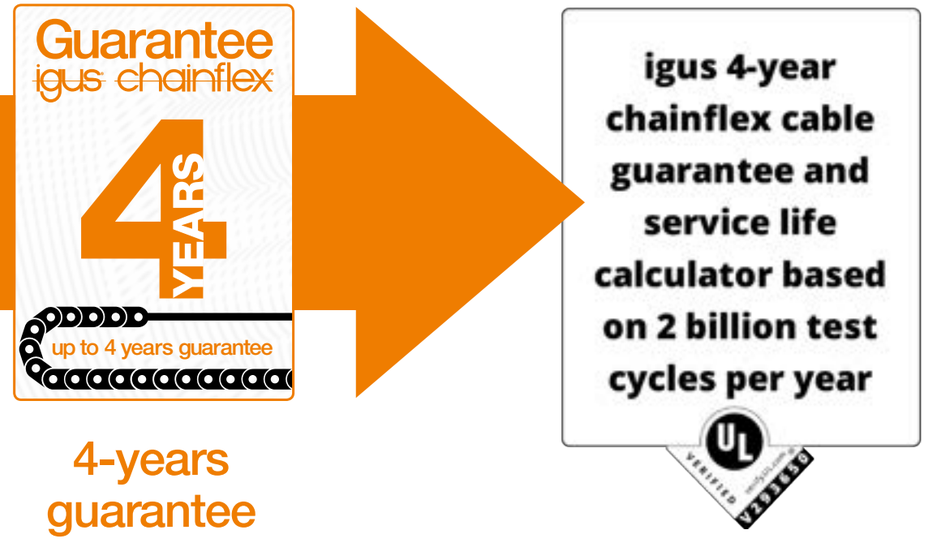


250 million cycles in batch testing per year

Special test equipment for special applications
In addition to the normal service life and quality tests, special test rigs are also available for custom tests. For example, abrasion and media tests for materials are carried out under more demanding experimental conditions than carried out according to UL or VDE standards for storage and aging. The optimum matching of igus® cable outer jacket materials to the energy supply system materials is vital. The influence of thermal factors on moving cables can be analysed in two special 40 foot climatic containers covering a temperature range of -40°C to +60°C. Both are equipped with a 6m long travel, which can be operated with different radii and e-chains®. In contrast to the standard VDE winding mandrel test (for details see page 34), one can test the aging in very different temperature profiles during continuous motion in e-chains®.

... UL verified ...

... qualified monitoring of laboratory & manufacturing with UL ... certified chainflex® guarantee promise ...



4-years guarantee

Consistent monitoring and accurate test documentation
A necessary condition for successful and meaningful testing is the systematic monitoring and documentation of the results. Here, monitoring systems developed by igus® are used which, in addition to offering constant online monitoring, ensure documentation with a very high accuracy. In this way wear can also be detected before failure. This early detection - without a destructive test - allows design modifications to be made. After each test, all the cables are dissected into their elements, examined in detail and their properties documented.

Because of these test programs, good quality data on all chainflex® cables are available and offer the user planning reliability for their cable selection.

Facts and figures

- The industry‘s largest test lab for moving cables
- 25 years of experience
- 3,800m² test area
- 65 test stations
- 800 tests conducted in parallel
- 2 billion double strokes a year
- 1.4 million electric measurements per year
- Audited and certified by Underwriter Laboratories (UL)

World's first

3xd

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year



100 million double strokes in e-chains® guaranteed!

Smaller and smaller installation spaces, shorter and shorter cycle times, 99% availability. These are the requirements that innovative automation specialists must meet.
To do this, igus® has been working on an unprecedented innovation for more than ten years.
The new generation of chainflex® **CF98.PLUS** (unshielded) and chainflex® **CF99.PLUS** (shielded) control cables are a consistent development of the well-known, highly successful CF98/CF99 and CF298 and CF299 control cable series.
Systematic research on process technology and insulation and conductor materials supported by a wide variety of test series in the igus® laboratory enabled igus® to develop this new generation of control cables.
The result is cable series that can be used reliably with a minimum **bend radius of just 3 x d** (3 x cable diameter).

The cross-sectional areas range from 0.14mm^2 to 0.5mm^2 in both the shielded and unshielded versions.
This makes igus® the first and only manufacturer to offer catalogue goods for use in an e-chain® with a guaranteed service life of 100 million double strokes.
This is with acceleration values of up to 100m/s^2.

You will find the complete information about the new generation of chainflex® control cables in this catalogue:

chainflex® CF98.PLUS ► Page 130

chainflex® CF99.PLUS ► Page 134

World first: High-end TPE cables ... ... with UL approval

Avoid machine fires with high-end TPE cables

... cold ... ... hot ... ... long ... ... small ...



According to the US National Fire Protection Association (NFPA), machine fires are the fourth leading cause of fires in industrial environments in the USA, closely followed by electrical fires. NFPA analyses state that leading causes of unclassified fires in manufacturing buildings involved flammable or combustible liquids or gases, pipelines or filters, but also included fires started by electrical wire or cable insulation. In addition to loose clamp connections, this is also caused by overloading or cable breaks.
Cables that are exposed to continuous movement and the smallest bending radii are therefore particularly at risk. If these conditions apply, the cables used in such applications must have jacket materials that can withstand these dynamics over very long periods of time.

igus® has been developing and testing cables for moving applications for more than 30 years. Their different types are adapted to various electrical and mechanical challenges of customers in the industrial environment via different types of stranding, bundled cores and jacket materials. The result is a product range of different cable types with jacket materials made of PVC, iguPUR, PUR and TPE, which guarantee the same electrical properties in every version.
This selection opens up all possibilities for customers to find the right cable for completely different and very specific applications.

igus® categorises the jacket materials of the chainflex® cables in terms of media resistance, temperature resistance, flexural strength and the properties "flame-retardant" or "halogen-free", among others.

Many thousands of test series and over 30 years of experience in the field also led to the realisation that the halogen-free, non-flame-retardant igus® TPE jacket materials show by far the highest breaking strength at a high bending load and at small bending radii within an e-chain®.

However, although these cable series easily achieved the best performance under continuous bending in e-chains®, they also had a major disadvantage; since the material was not flame-retardant, an UL AWM approval was not possible.

In cooperation with the Underwriters Laboratories (UL) igus® has now been able to prove that an AWM approval of the high-end TPE jacket material can indeed follow the UL standards.
The basis of the argument is the comparison of fire safety and reliable functionality of a cable: UL specifies the following requirements for approval, that cables must ensure maximum safety and prevent the spread of fire in an application.
igus® was able to prove to Underwriters Laboratories that using halogen-free high-end TPE reliably prevents premature ageing of the outer jackets in highly dynamic applications; indeed, it rules them out almost completely. This means that the voltage-carrying cores are protected even under maximum bending stress and are so safe that even the development of fires can be avoided.
The fact that the cables reliably avoid a reduction of the cable cross-section even under the highest load and with the tightest radii reliably excludes an increase of the current density and thus an excessive heating of the cable up to a possible fire.

By granting the unique new igus® UL AWM approval for chainflex® cables with high-end TPE jackets, the UL thus acknowledges that ensuring the function of cables in motion is of equal relevance to all factors that prevent the spread of fire.
Thus, igus® can expand its high-end chainflex® cable product range with UL AWM approval.

Safe cable selection – the different test methods

The movements carried out by cables in industrial applications range from simple linear strokes to 6-axis robot applications. Systematic, repeated series of tests under realistic conditions are essential in order to be able to predict the service life of cables.
On the following pages, igus® provides an overview of the test methods that are used for chainflex® cables, depending on the requirements and the materials used. The tabular overview enables the speedy selection of cables that meet your requirements.







Fire tests (page 39-40)

Depending on the application and the place of use, there are different requirements regarding the flame-retardant properties of a cable. To meet this, igus® offers a wide variety of tests in order to guarantee the product is appropriate.

Media tests (page 41)

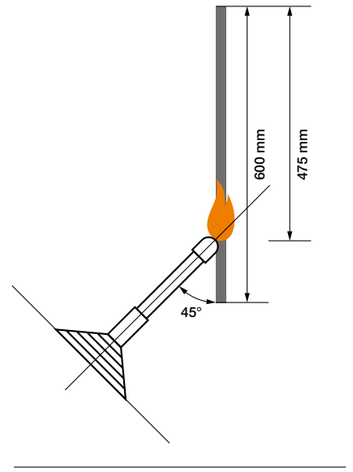
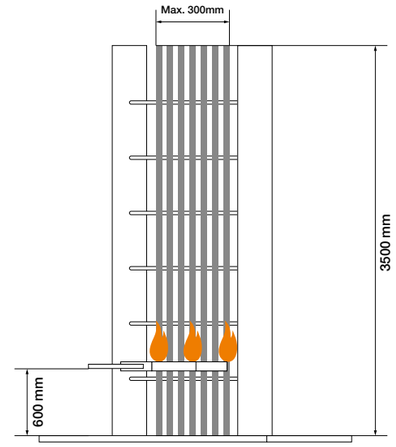
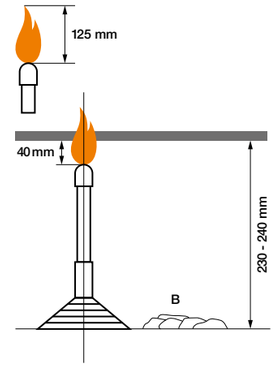
Media resistance is a very important factor when selecting the optimum jacket material. Due to the test series, the properties of the products are clearly defined and, if the correct material is chosen, cost-intensive failures during operation can be avoided.

Temperature tests (page 42)

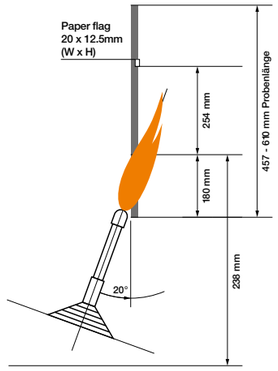
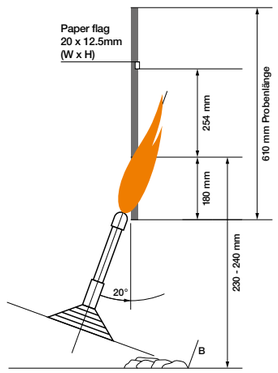
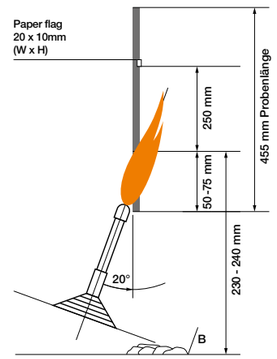
Near the respective temperature limits, moving cables can fail quickly with fractures in the jacket due to the molecular structure of the thermoplastic material used. As a result of multiple test series, igus® has been able to demonstrate that standards based tests do not provide enough adequate information about the use of cables in energy chains as they do not replicate the real stresses and loads that cables are subjected to in the real world. Today, igus® is the only manufacturer in the world, to supply cables with tested jacket materials that are guaranteed to withstand the stresses of movements in e-chains® at the indicated ambient temperatures , because they have been tested under such real conditions.

Motion tests (page 43)

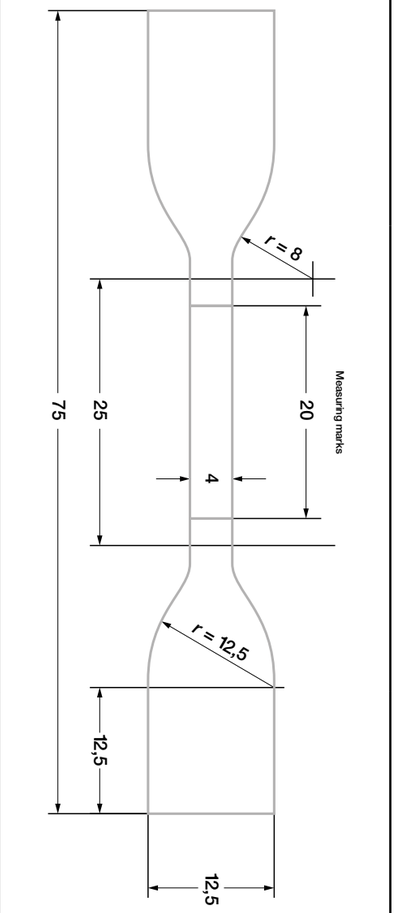
Though there are many test standards, none of today's standards specify tests that can adequately verify the service life of a cable in an energy chain. In this regard, igus® is the only manufacturer that has more than 30 years of experience testing cables in e-chains® and performs the most comprehensive range of dynamic cable tests in the world. This includes a large number of different test series. This overview shows the igus® range of basic tests for qualifying e-chain® cables.

Test	Specification	Design
IEC 60332-1-2	Test of vertical flame propagation on a core, an insulated wire or a cable, test method 1kW - flame with gas/air mixture Sample length: 600mm Burner: According to IEC 60332-1-1 Test temperature: 1kW flame Position of the sample: Vertical Position of the flame: 45° to the vertical Flame duration: See table below Conditions: The damage or carbonisation must only occur between 50mm and 500mm, measured from the upper attachment point Outer diameter of the sample [mm] / Flame duration [s]: <25: 60 25-50: 120 50-75: 240 >75: 480	
IEC 60332-3-22/-23/-24/-25	Testing vertical flame propagation of vertically arranged bundles of cables or insulated cables Sample length: 3,500mm Burner: Flat burner (Ribbon gas burner of American Gas Furnace Co.) Test temperature: Given by the prescribed gas and air flow rate Position of the sample: Vertical Position of the flame: Horizontal Flame duration: See table below Conditions: The burnt distance should not be more than 2.5m from the lower end of the burner, unless otherwise specified in the relevant standards. Regulation / Flame duration: IEC 60332-3-22 and -23: 40 minutes IEC 60332-3-24 and -25: 20 minutes	
FT2 Flame Test	UL 1581, § 1100 (FT2 Flame Test) Length of the sample: 250 – 300mm Position of the sample: Horizontal Position of the flame: 20° to the vertical Flame duration: 30 seconds Conditions: The burnt distance must not exceed 100mm. Dripping material must not ignite the underlying cotton (B).	

Test methods | **Fire tests**

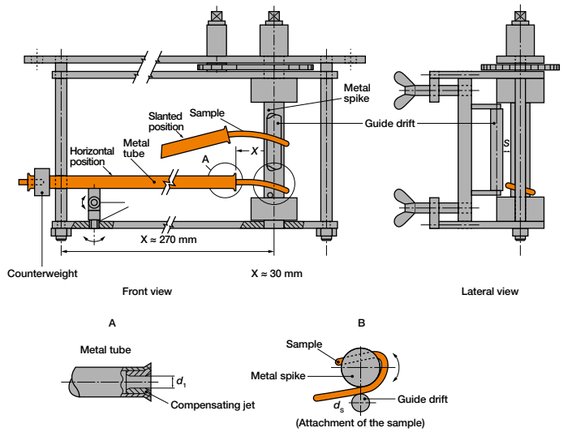
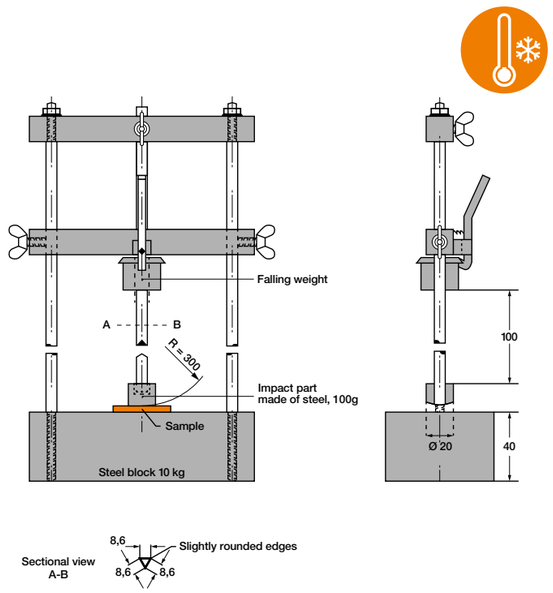
Test	Specification	Design
Vertical Flame and FT1	**UL 1581, § 1060 (Vertical Flame und FT1 Test)** Sample length: 457mm-610mm Burner: Bunsen burner with additional air supply (Tirril gas burner) Ø9.5mm Test temperature: 500W flame Position of the sample: Vertical Position of the flame: 20° to the vertical Flame duration: 5 x 15 seconds with 15 second flame break each Conditions: - Paper flag up to maximum 25% charred - The sample must continue to burn for maximum 1 minute	
VW-1 Flame	**UL 1581, § 1080 (VW-1 Flame Test)** Sample length: 610mm Burner: Bunsen burner with additional air supply (Tirril gas burner) Ø9.5mm Test temperature: 500W flame Position of the sample: Vertical Position of the flame: 20° to the vertical Flame duration: 5 x 15 seconds with 15 second flame break each Conditions: - Paper flag up to maximum 25% charred - The sample must continue to burn for maximum 1 minute - Time noted until the flame/sample is extinguished - Dripping material must not ignite the cotton (B) lying under it	
Cable Flame	**UL 1581, § 1061 (Cable Flame Test)** Sample length: 455mm Burner: Bunsen burner with additional air supply (Tirril gas burner) Ø9.5mm Test temperature: 500W flame Position of the sample: Vertical Position of the flame: 20° to the vertical Flame duration: 3 x 60 seconds with 30 seconds flame break each Conditions: - Paper flag up to maximum 25% charred - The sample must continue to burn for maximum 1 minute - Dripping material must not ignite the cotton (B) lying under it	

Test methods | **Media tests**

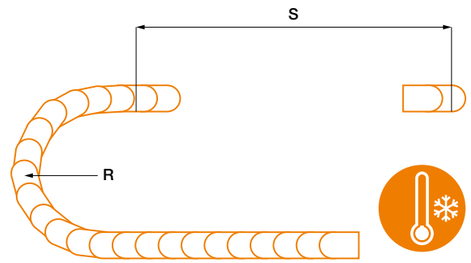
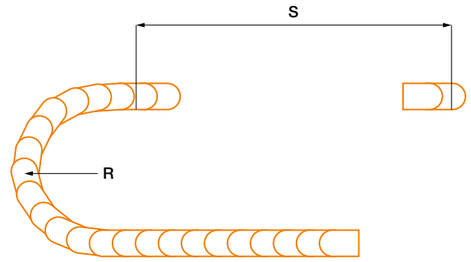
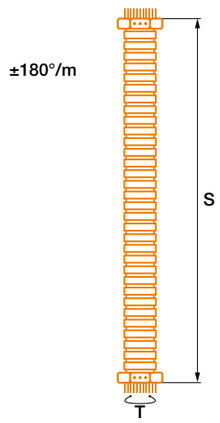
Test	Specification	Design
DIN EN 50363-4-1	**Testing of oil resistance for PVC jackets** Test according to DIN EN 60811-2-1, Clause 10 Test oil: IRM 902 Preparation of the sample according to DIN EN 60811-501 Test temperature: 90±2° Test duration: 7x 24hrs Followed by storage at room temperature of at least 16hrs, but not longer than 24hrs Maximum alteration of tensile strength: ±30% Maximum elongation at break: ±30%	
DIN EN 50363-10-2	**Testing of oil resistance for PUR jacket** Test according to DIN EN 60811-2-1, Clause 10 Test oil: IRM 902 Preparation of the sample according to DIN EN 60811-501 Test temperature: 100±2° Test duration: 7x 24hrs Followed by storage at room temperature of at least 16hrs, but not longer than 24hrs Maximum alteration of tensile strength: ±40% Minimum median elongation at break: 300% Maximum elongation at break: ±30%	
DIN EN 60811-404	**Testing of oil resistance for TPE jacket** Test according to DIN EN 60811-2-1, Clause 10 Test oil: IRM 902 Preparation of the sample according to DIN EN 60811-501 Test temperature: 100±2° Test duration: 7x 24hrs Followed by storage at room temperature of at least 16hrs, but not longer than 24hrs Maximum alteration of tensile strength: ±30% Maximum elongation at break: ±30%	

Details on the media resistance of chainflex® cables ▶ Pages 954-957

Test methods | **Temperature tests**

Test	Specification	Design
DIN EN 60811-504	**Bending test at low temperature for jacket** Feed-through of the cold winding test according to 8.2 from DIN EN 60811-504 Deviating from the standard also the outer diameter of the sample > 12.5mm Mandrel diameter 4-5 times the sample diameter (there must be at least 2 samples) Outer diameter (*d*) of the sample [mm] / Number of windings d ≤ 2.5 — 10 2.5 < d ≤ 4.5 — 6 4.5 < d ≤ 6.5 — 4 6.5 < d ≤ 8.5 — 3 8.5 < d — 2 Storage of the wound sample > 16hrs at test temperature Heat to room temperature When viewed with the naked eye or visual aid without magnification, there should not be any cracks in the outer jacket	
DIN EN 50305	**Low temperature impact test for jacket** Feed-through of the cold impact test according to 8.5 from DIN EN 60811-504 **Selection criteria according to 5.1 from** **DIN EN 50305** Diameter of the cable (D) [mm] / Weight of the hammer [g] / Weight of the intermediate sample [g] / Fall height [mm] D < 15 — 1,000 — 200 — 100 15 < D ≤ 25 — 1500 — 200 — 150 D > 25 — 2,000 — 200 — 200 3 pieces, length at least 5x the outer diameter or 150mm Storage of test equipment and samples > 16hrs at test temperature Heat to room temperature When viewed with the naked eye or visual aid without magnification, there should not be any cracks in the outer jacket.	

Test methods | **Motion tests**

Test	Specification	Design
igus® test "Cold test" in e-chain®	**Horizontal travel** Travel length S: up to about 5m Temperature: down to about -40°C Bending factor: according to the catalogue (approx. 6.8 – 10 x d) Target: **minimum** 500,000 double strokes	
igus® test "Short travel" in e-chain®	**Horizontal travel** Travel S: up to about 2.5m Temperature: down to about -20°C Bending factor: according to the catalogue (approx. 5 – 7.5 x d) Target: **minimum** 5,000,000 double strokes	
igus® test "Long travel" in e-chain®	**Horizontal travel** Travel S: up to about 7.5 m Temperature: approx. from +5°C to +30°C Bending factor: according to the catalogue (approx. 5 – 7.5 x d) Target: **minimum** 5,000,000 double strokes	
igus® test "Torsion test"	Twisted length S: about 1m Rotation angle: according to catalogue (about ±180°) Target: **minimum** 5,000,000 cycles	



Test 2233:
Control cable tested for 41 million strokes ...

Control cables are still used everywhere in automation. This makes it all the more important for control cables for constant movement in e-chains® to have a safe construction in order to meet increasingly stringent mechanical requirements.

The special properties of the chainflex® control cables are:

- igus® **braiding** in bundles with specially aligned short pitch lengths
- Gusset-filling extruded **inner jacket** in shielded cables
- **Braided shields** with optimised braid angle and optical covering up to 90%
- **Gusset-filled extruded outer jackets to secure the core braiding**, especially for long travels

Every design has to be tested time and again under real-world conditions, in order to be able to calculate a binding guarantee, or show the service life online.

Example of long-term test 2233 of a control cable of the CF5 series on a short travel, with a test bend radius reduced by 25%.

This is just one example of the numerous cable tests from the chainflex® laboratory. All current tests can be found online at ▶ www.igus.eu/tests

A test result from the igus® database	
Test no.	2233
Cable type	CF5.10.25
Bend radius factor in e-chain®	5.3 x d
Number of bending strokes without damage	41 million

Details of the test online:
www.igus.eu/test2233

Calculate service life online:
www.igus.eu/chainflexlife



Test 4901:
Data cable tested for 53 million strokes ...

Although data cables have different electrical requirements than bus cables, data cables have a specific requirement for EMC protection. In the case of constant movement in e-chains® , the EMC shielding is subjected to very high mechanical loads.
To ensure that this load does not lead to failures in the data, a safe construction is important, especially in the shielding.

The special properties of the chainflex® data cables are:

- Very short balanced **winding in pairs** according to electrical requirements
- **Braid angles** overall shields have been especially developed and tested by igus®
- **Pressure extruded outer jackets** to secure the shield and core structure

Every design has to be tested time and again under real-world conditions, in order to be able to calculate a binding guarantee, or show the service life online.

Example of long-term test 4901 of a CF211 series data cable with short travel, with a 75mm test bend radius.

This is just one example of the numerous cable tests from the chainflex® laboratory. All current tests can be found online at ▶ www.igus.eu/tests

A test result from the igus® database	
Test no.	4901
Cable type	CF211 Data
Bend radius factor in e-chain®	6.6 x d
Number of bending strokes without damage	53 million

Details of the test online:
www.igus.eu/test4901

Calculate service life online:
www.igus.eu/chainflexlife



Test 3089:
Ethernet bus cable tested for 76 million strokes ...

The use of fieldbus cables, and particularly the rapid growth of Ethernet communication in the industrial environment, places very high requirements on the design and manufacture of bus cables. This is the only way to prevent the classic mechanical damage and the gradual loss of data transmission quality.
Increasing attenuation due to shield damage or characteristic impedance changes leads to reduction in data speed. Since the attenuation values are constantly changing during movement, troubleshooting is very challenging.

The special properties of the chainflex® bus cables are:

- The **insulation material selection**, which does not change its electrical properties even after millions of cycles.
- Very balanced **cores**, which meet the bus requirements in combination with the mechanical demands
- **Braid angle** of the chainflex® overall shield developed and tested by igus®
- With **pressure extruded outer jackets** for securing the shield and core structure

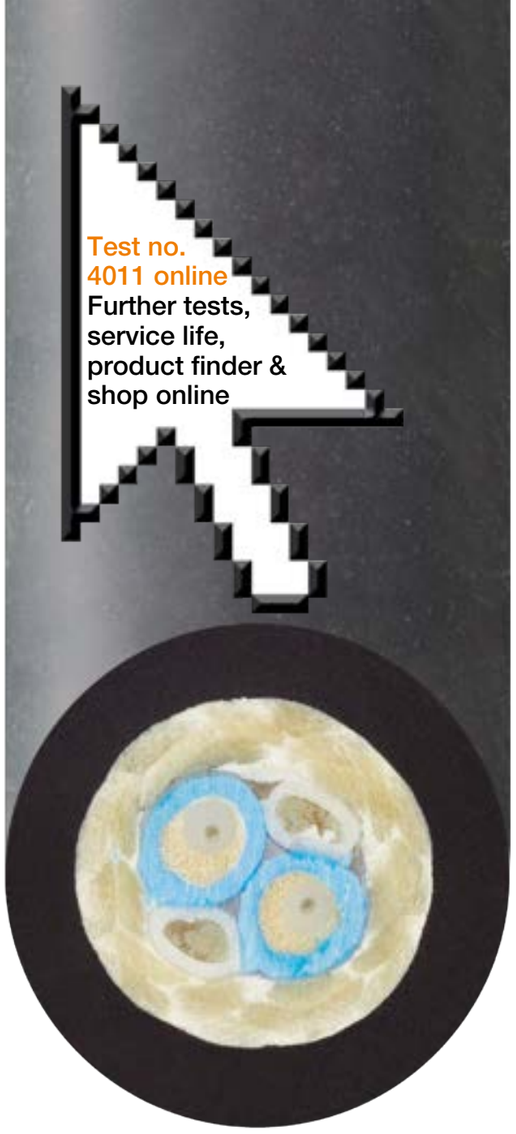
Every design has to be tested time and again under real-world conditions, in order to be able to calculate a binding guarantee, or show the service life online.

This is just one example of the numerous cable tests from the chainflex® laboratory. All current tests can be found online at ▶ www.igus.eu/tests

A test result from the igus® database	
Test no.	3089
Cable type	CFBUS.045
Bend radius factor in e-chain®	9.4 x d
Number of bending strokes without damage	76 million

Details of the test online:
www.igus.eu/test3089

Calculate service life online:
www.igus.eu/chainflexlife



Test 4011:
Fibre Optic Cable tested for 50 million strokes ...

FOC cables are the safest and most effective data transmission method.
When using glass fibres, the effective length, the effective data volume and the EMC safety is unsurpassed for today's automation technology.
However, the pure glass fibres are sensitive to mechanical loads. Therefore, chainflex® fibre optic cables are designed in such a way that the fibres are never exposed to mechanical loads at any time, but the cable structure safely absorbs all forces, thus protecting the fibres.

The special properties of the chainflex® fibre optic cables are:

- FOC **multimode or singlemode fibre** with high flexural strength
- Balanced **winding** of the aramide-protected subcable elements
- High tensile strength **aramid torsion protection braid**
- With pressure extruded **outer jackets** for securing the structure.

Every design has to be tested time and again under real-world conditions, in order to be able to calculate a binding guarantee, or show the service life online.

Example of long-term test 4011 of a multimode fibre glass cable of CFLB series tested short travel distance, with a bend radius factor of only 4.2 x d.

This is just one example of the numerous cable tests from the chainflex® laboratory. All current tests can be found online at ▶ www.igus.eu/tests

A test result from the igus® database	
Test no.	4011
Cable type	CFLG.2LB
Bend radius factor in e-chain®	4.2 x d
Number of bending strokes without damage	50 million

Details of the test online:
www.igus.eu/test4011

Calculate service life online:
www.igus.eu/chainflexlife



Test 3479:
Measuring system cable tested for 66 million strokes ...

Measuring system cables are the important communication link between the drive and the control system. Damage can occur if the electrical signals are not transmitted safely and in the correct time due to motion. Therefore measuring system cables have a special requirement for EMC protection.
In the case of constant movement in e-chains® , the EMC shielding is subjected to very high mechanical loads. To ensure that this load does not lead to failures in the measuring system, a safe construction is very important, especially in the shielding and stranding.

The special properties of the chainflex® measuring system cables are:

- Stranding elements **specifically designed for the measuring system** with the necessary element shields and optimised strand pitch lengths
- Core colour code matched to the defined measuring system
- Gusset-filling extruded **inner jacket**
- **Shield structures especially** developed and tested by igus®
- With **pressure extruded outer jackets** for securing the shield and core structure

Every design has to be tested time and again under real-world conditions, in order to be able to calculate a binding guarantee, or show the service life online.
Example of long-term test 3479 of a measuring system cable of the CF11.D series, with a 75mm test bend radius.
This is just one example of the numerous cable tests from the chainflex® laboratory. All current tests can be found online at ▶ www.igus.eu/tests

A test result from the igus® database	
Test no.	3479
Cable type	CF11.002.D
Bend radius factor in e-chain®	7.1 x d
Number of bending strokes without damage	66 million

Details of the test online:
www.igus.eu/test3479

Calculate service life online:
www.igus.eu/chainflexlife



Test 3841:
Servo cable tested for 53 million strokes ...

Servo cables are the standard for drive technology in automation and machine construction. Servo cables are often mechanically constructed in a very unbalanced manner, because of the combination of power cores and shielded pairs.
To ensure that this asymmetry does not lead to failures when in movement in e-chains® , servo cables must have very special design features, especially in long, gliding travels. Due to the ever increasing speed of today's IGBT frequency converters, very low-capacitance insulating materials are usually needed.

The special properties of the chainflex® servo cables are:

- Low-capacitance **insulating materials**
- Short **optimised pitch lengths**, in combination with good sliding materials
- The **signal or brake pairs matched** to the drive type with optimised shielding for the highest EMC protection
- Gusset-filling extruded **inner jacket**
- **High EMC protection** due to optimised overall shield

Every design has to be tested time and again under real-world conditions, in order to be able to calculate a binding guarantee, or show the service life online.

Example of long-term test 3841 of a CF21 series servo cable with a test bend factor of only 6.1 x d.

This is just one example of the numerous cable tests from the chainflex® laboratory. All current tests can be found online at ▶ www.igus.eu/tests

A test result from the igus® database	
Test no.	3841
Cable type	CF21.UL
Bend radius factor in e-chain®	6.1 x d
Number of bending strokes without damage	53 million

Details of the test online:
www.igus.eu/test3841

Calculate service life online:
www.igus.eu/chainflexlife



Test 4904:
Motor cable tested for 43 million strokes ...

Motor cables are very common in drive technology for automation as well as in plant and machine construction.
Because of today's high dynamics, the design features of conductors, insulation and in particular the core winding must be chosen in such a way that the cables can safely withstand millions of strokes.
Due to the ever increasing speed of today's IGBT frequency converters, very low-capacitance insulating materials are usually needed.

The special properties of the chainflex® motor cables are:

- Low-capacitance **insulating materials**
- Short optimised **pitch lengths**, in combination with good sliding materials
- In shielded motor cables, the gusset-filled extruded **inner jacket** with optimised shielding for maximum EMC protection
- Gusset-filling extruded **outer jackets** for unshielded types

Every design has to be tested time and again under real-world conditions, in order to be able to calculate a binding guarantee, or show the service life online.

Example of long-term test 4904 of a CF38 series motor cable, with a test bend factor of only 6.5 x d.

This is just one example of the numerous cable tests from the chainflex® laboratory. All current tests can be found online at ▶ www.igus.eu/tests

A test result from the igus® database	
Test no.	4904
Cable type	CF38
Bend radius factor in e-chain®	6.5 x d
Number of bending strokes without damage	43 million

Details of the test online:
www.igus.eu/test4904

Calculate service life online:
www.igus.eu/chainflexlife



Test 3486:
Robot bus cable tested for 22 million cycles ...

Cables for torsion are subjected to very specific stresses. In the case of shielded bus cables a high mechanical load is exerted by the bending and torsion on the insulation materials and especially on the shield.
This requires completely different structural concepts when compared to cables for linear e-chains application.

The special properties of the chainflex® bus robot cables are:

- Low-capacitance **insulating materials**
- Optimised **pitch lengths**, in combination with force-absorbing filler elements
- Special sliding **films** between the shielded elements
- Pressure extruded **outer jacket**

Every design, no matter how well thought out, should be tested again and again under real conditions so that a binding guarantee or the service life can be calculated online.
Therefore, test standards are also necessary for robotic cables, which test these constructions time and again.

Example for long-term test 3486 of an Ethernet robot cable with 4 shielded Ethernet pairs of the series CFROBOT8, with a test torsion angle of ±180° on one metre.

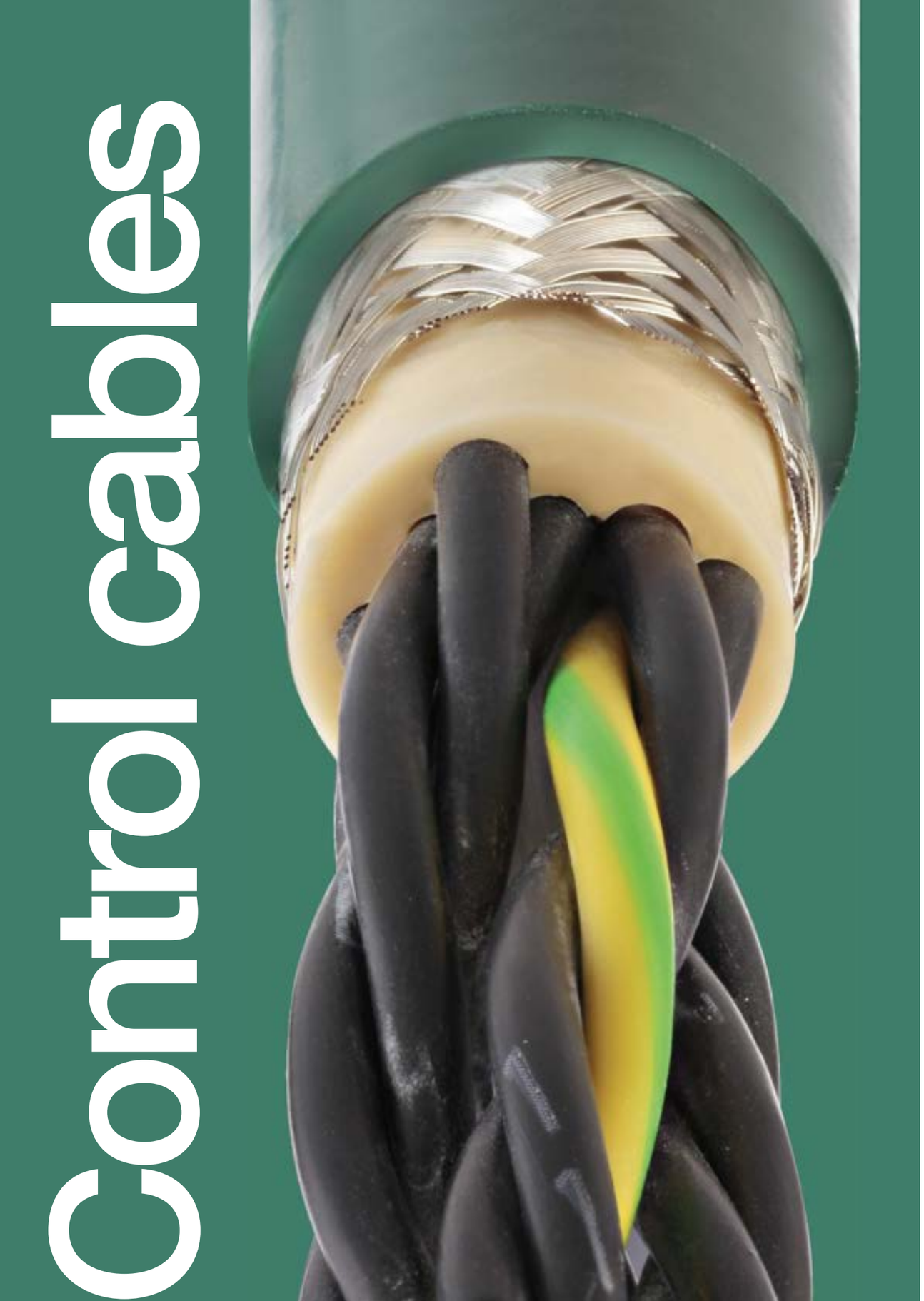
This is just one example of the numerous cable tests from the chainflex® laboratory. All current tests can be found online at ▶ www.igus.eu/tests

A test result from the igus® database	
Test no.	3486
Cable type	CFROBOT8
Torsion angle in e-chain®	±180°/m
Cycle frequency without damage	22 million

Details of the test online:
www.igus.eu/test3486

Calculate service life online:
www.igus.eu/chainflexlife

Control cables



chainflex® cable	Jacket	Shield	Minimum bend radius e-chain® [x d]	Temperature e-chain® from/to [°C]	Approvals and standards	Oil-resistant	Torsion-resistant	v max. [m/s] unsupported	v max. [m/s] gliding	a max.	Page	
Control cables												
CF880	PVC		12.5	+5/+70				3		20	58	
CF881	PVC	✓	12.5	+5/+70				3		20	62	
CF130.UL	PVC		7.5	+5/+70			✓	3	2	20	66	
CF140.UL	PVC	✓	7.5	+5/+70				3	2	20	70	New
CF150.UL	PVC		7.5	+5/+70		✓	✓	3	2	20	74	New
CF160.UL	PVC	✓	7.5	+5/+70		✓		3	2	20	78	
CF5	PVC		6.8	+5/+70		✓	✓	10	5	80	82	
CF6	PVC	✓	6.8	+5/+70		✓		10	5	80	86	
CFSOFT1	PVC		5	+5/+70		✓		10	5	80	90	
CFSOFT2	PVC	✓	5	+5/+70		✓		10	5	80	92	
CF890	iguPUR		12.5	-20/+80		✓		3		20	94	
CF891	iguPUR	✓	12.5	-20/+80		✓		3		20	98	
CF77.UL.D	PUR		6.8	-25/+80		✓	✓	10	5	80	102	
CF78.UL	PUR	✓	6.8	-25/+80		✓		10	5	80	106	
CF2	PUR	✓	5	-20/+80		✓		10	5	80	110	
CF9.UL	TPE		5	-35/+100		✓	✓	10	6	100	114	
CF10.UL	TPE	✓	5	-35/+100		✓		10	6	100	118	
CF9	TPE		5	-35/+100		✓	✓	10	6	100	122	
CF10	TPE	✓	5	-35/+100		✓		10	6	100	126	
CF98.PLUS	TPE		3	-35/+90		✓	✓	10	6	100	130	
CF99.PLUS	TPE	✓	3	-35/+90		✓		10	6	100	134	
Twistable control cables (twistable cables chapter ▶ Page 382)												
CF77.UL.D	PUR		6.8	+25/+80		✓	✓				388	
CFROBOT2	PUR	✓	10	+25/+80		✓	✓				392	

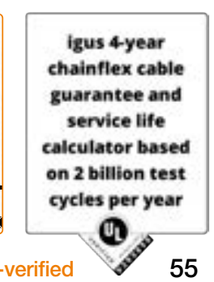
chainflex® guarantee ▶▶ Guaranteed service life (1)

	chainflex® cables		Temperature, from/to [°C]	v max. [m/s] unsupported	v max. [m/s] gliding	a max. [m/s²]	Travel distance [m]	Minimum bend radius [x d] for travel distance < 10m	Minimum bend radius [x d] for travel distance ≥ 10m	Minimum bend radius [x d] for travel distance < 10m	Minimum bend radius [x d] for travel distance ≥ 10m	Minimum bend radius [x d] for travel distance < 10m	Minimum bend radius [x d] for travel distance ≥ 10m	Page
Control cables								5 million (1 million) double strokes *		7.5 million (3 million) double strokes *		10 million (5 million) double strokes *		
	CF880		+5 / +15	3	-	20	≤ 10	15	-	16	-	17	-	58
			+15 / +60					12.5	-	13.5	-	14.5	-	
			+60 / +70					15	-	16	-	17	-	
	CF881		+5 / +15	3	-	20	≤ 10	15	-	16	-	17	-	62
			+15 / +60					12.5	-	13.5	-	14.5	-	
			+70 / +70					15	-	16	-	17	-	
	CF130.UL		+5 / +15	3	2	20	≤ 50	10	12.5	11	13.5	12	14.5	66
			+15 / +60					7.5	10	8.5	11	9.5	12	
			+60 / +70					10	12.5	11	13.5	12	14.5	
	CF140.UL	New!	+5 / +15	3	2	20	≤ 50	10	12.5	11	13.5	12	14.5	70
			+15 / +60					7.5	10	8.5	11	9.5	12	
			+60 / +70					10	12.5	11	13.5	12	14.5	
	CF150.UL	New!	+5 / +15	3	2	20	≤ 50	10	12.5	11	13.5	12	14.5	74
			+15 / +60					7.5	10	8.5	11	9.5	12	
			+60 / +70					10	12.5	11	13.5	12	14.5	
	CF160.UL		+5 / +15	3	2	20	≤ 50	10	12.5	11	13.5	12	14.5	78
			+15 / +60					7.5	10	8.5	11	9.5	12	
			+60 / +70					10	12.5	11	13.5	12	14.5	
	CF5		+5 / +15	10	5	80	≤ 100	7.5	10	8.5	11	9.5	12	82
			+15 / +60					6.8	7.5	7.8	8.5	8.8	9.5	
			+60 / +70					7.5	10	8.5	11	9.5	12	
	CF6		+5 / +15	10	5	80	≤ 100	7.5	10	8.5	11	9.5	12	86
			+15 / +60					6.8	7.5	7.8	8.5	8.8	9.5	
			+60 / +70					7.5	10	8.5	11	9.5	12	
								10 million		15 million		20 million		
	CFSOFT1		+5 / +15	10	5	80	≤ 5	6.8	-	7.5	-	8.5	-	90
			+15 / +60					5	-	6	-	7	-	
			+60 / +70					6.8	-	7.5	-	8.5	-	
	CFSOFT2		+5 / +15	10	5	80	≤ 5	6.8	-	7.5	-	8.5	-	92
			+15 / +60					5	-	6	-	7	-	
			+60 / +70					6.8	-	7.5	-	8.5	-	

(1) Guaranteed service life for these series (details ▶ see page 28-29)

* Higher number of double strokes? Calculate service life online: ▶ www.igus.eu/chainflexlife
Values in brackets apply to the CF880 and CF881 series





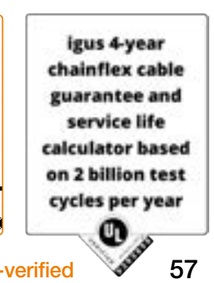
chainflex® guarantee ▶▶ Guaranteed service life (1)

	chainflex® cables	Temperature, from/to [°C]	v max. [m/s] unsupported	v max. [m/s] gliding	a max. [m/s²]	Travel distance [m]	Minimum bend radius [x d] for travel distance < 10m	Minimum bend radius [x d] for travel distance ≥ 10m	Minimum bend radius [x d] for travel distance < 10m	Minimum bend radius [x d] for travel distance ≥ 10m	Minimum bend radius [x d] for travel distance < 10m	Minimum bend radius [x d] for travel distance ≥ 10m	Page
Control cables							5 million (1 million) double strokes *		7.5 million (3 million) double strokes *		10 million (5 million) double strokes *		
	CF890	-20 / -10	3	-	20	≤ 10	15	-	16	-	17	-	94
		-10 / +70					12.5	-	13.5	-	14.5	-	
		+70 / +80					15	-	16	-	17	-	
	CF891	-20 / -10	3	-	20	≤ 10	15	-	16	-	17	-	98
		-10 / +70					12.5	-	13.5	-	14.5	-	
		+70 / +80					15	-	16	-	17	-	
	CF77.UL.D	-25 / -15	10	5	80	≤ 100	8.5	10	9.5	11	10.5	12	102
		-15 / +70					6.8	7.5	7.5	8.5	8.5	9.5	
		+70 / +80					7.5	10	9.5	11	10.5	12	
	CF78.UL	-25 / -15	10	5	80	≤ 100	8.5	10	9.5	11	10.5	12	106
		-15 / +70					6.8	7.5	7.5	8.5	8.5	9.5	
		+70 / +80					7.5	10	9.5	11	10.5	12	
	CF2	-20 / -10	10	5	80	≤ 100	6.8		7.5		8.5		110
		-10 / +70					5		6.8		7.5		
		+70 / +80					6.8		7.5		8.5		
	CF9.UL	-35 / -25	10	6	100	> 400	6.8		7.5		10		114
		-25 / +90					5		6		7		
		+90 / +100					6.8		7.5		10		
	CF10.UL	-35 / -25	10	6	100	> 400	6.8		7.5		8.5		118
		-25 / +90					5		6		7		
		+90 / +100					6.8		7.5		8.5		
							5 million		7.5 million		12.5 million		
	CF9	-35 / -25	10	6	100	> 400	6.8		7.5		8.5		122
		-25 / +90					5		6		7		
		+90 / +100					6.8		7.5		8.5		
	CF10	-35 / -25	10	6	100	> 400	6.8		7.5		8.5		126
		-25 / +90					5		6		7		
		+90 / +100					6.8		7.5		8.5		
							5 million		40 million		100 million		
	CF98.PLUS	-35 / -25	10	6	100	≤ 100	4		6		7		130
		-25 / +80					3		5		6		
		+80 / +90					4		6		7		
	CF99.PLUS	-35 / -25	10	6	100	≤ 100	4		6		7		134
		-25 / +80					3		5		6		
		+80 / +90					4		6		7		

(1) Guaranteed service life for these series (details ▶ see page 28-29)

* Higher number of double strokes? Calculate service life online: ▶ www.igus.eu/chainflexlife
Values in brackets apply to the CF890 and CF891 series





Control cable | PVC | chainflex® CF880

5 million
Double strokes guaranteed

12.5 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- PVC outer jacket
- Flame-retardant

Example image

Dynamic information

Bend radius	e-chain® linear	minimum 12.5 x d
	flexible	minimum 10 x d
	fixed	minimum 7 x d
Temperature	e-chain® linear	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	unsupported	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores wound with an optimised pitch length.
Core identification	Black cores with white numbers, one green-yellow core.
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains®. Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	300/500V 300V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

Class 3.1.1.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6	≥ 400m	
Oil resistance	none	**1**	2	3	4	highest			
Torsion	none	**1**	2	3	4	±360°			

Properties and approvals

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See datasheet for details ▶ www.igus.eu/CF880
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	15	16	17
+15/+60	12.5	13.5	14.5
+60/+70	15	16	17

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- No torsion, Class 1
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

CF880
PVC
12.5 x d

EPLAN download, configurators ▶ www.igus.eu/CF880

Control cable | PVC | chainflex® CF880

Class 3.1.1.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	**1**	2	3	4		highest		
Torsion	none	**1**	2	3	4		±360°		

CF880
PVC
12.5 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF880.05.02	2x0.5	5.0	11	32
CF880.05.03	3G0.5	5.5	16	37
CF880.05.04	4G0.5	6.0	21	46
CF880.05.05	5G0.5	6.5	26	55
CF880.05.07	7G0.5	7.5	37	73
CF880.05.12	12G0.5	8.5	63	108
CF880.05.18	18G0.5	10.0	94	158
CF880.05.25	25G0.5	12.0	128	227
CF880.07.02	2x0.75	5.5	16	40
CF880.07.03	3G0.75	6.0	24	49
CF880.07.04	4G0.75	6.5	32	61
CF880.07.05	5G0.75	7.0	40	73
CF880.07.07	7G0.75	8.0	56	99
CF880.07.12	12G0.75	10.0	94	152
CF880.07.18	18G0.75	11.5	140	167
CF880.07.25	25G0.75	13.5	194	284
CF880.10.02	2x1.0	6.0	21	48
CF880.10.03	3G1.0	6.5	32	58
CF880.10.04	4G1.0	7.0	42	62
CF880.10.05	5G1.0	7.5	52	86
CF880.10.07	7G1.0	8.5	73	116
CF880.10.12	12G1.0	10.5	124	182
CF880.10.18	18G1.0	12.5	186	278
CF880.10.25	25G1.0	15.0	258	393
CF880.15.02	2x1.5	6.5	32	64
CF880.15.03	3G1.5	7.0	47	82
CF880.15.04	4G1.5	7.5	63	104
CF880.15.05	5G1.5	8.5	78	120
CF880.15.07	7G1.5	10.0	109	167
CF880.15.12	12G1.5	12.0	186	260
CF880.15.18	18G1.5	14.5	279	370
CF880.15.25	25G1.5	17.5	387	514

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF880.25.03	3G2.5	8.5	78	120
CF880.25.04	4G2.5	9.0	103	150
CF880.25.05	5G2.5	10.0	129	184
CF880.25.07	7G2.5	12.0	181	256
CF880.25.12	12G2.5	15.0	327	414

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case



chainflex® CF880 in a short travel application

EPLAN download, configurators ▶ www.igus.eu/CF880

Control cable | PVC | chainflex® CF881

5 million
Double strokes guaranteed

12.5 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- PVC outer jacket
- Shielded
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 12.5 x d
	flexible	minimum 10 x d
	fixed	minimum 7 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores wound with an optimised pitch length.
Core identification	Black cores with white numbers, one green-yellow core.
Overall shield	Braiding made of tinned copper wires. Coverage approx. 60% optical
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains®. Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	300/500V 300V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

Example image

Class 3.1.1.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6	≥ 400m	
Oil resistance	none	**1**	2	3	4	highest			
Torsion	none	**1**	2	3	4	±360°			

Properties and approvals

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF881
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	15	16	17
+15/+60	12.5	13.5	14.5
+60/+70	15	16	17

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- No torsion, Class 1
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

CF881
PVC
12.5 x d

EPLAN download, configurators ▶ www.igus.eu/CF881

Control cable | PVC | chainflex® CF881

Class 3.1.1.1

Basic requirements	low	1	2	**3**	4	5	6	7 highest
Travel distance	unsupported	**1**	2	3	4	5	6	≥ 400m
Oil resistance	none	**1**	2	3	4	highest		
Torsion	none	**1**	2	3	4	±360°		

CF881
PVC
12.5 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF881.05.03	(3G0.5)C	6.0	28	47
CF881.05.04	(4G0.5)C	6.5	35	54
CF881.05.05	(5G0.5)C	7.0	41	65
CF881.05.07	(7G0.5)C	8.0	59	75
CF881.05.12	(12G0.5)C	9.0	91	125
CF881.05.18	(18G0.5)C	11.0	136	177
CF881.05.25	(25G0.5)C	13.0	210	243
CF881.07.02	(2x0.75)C	6.5	30	50
CF881.07.03	(3G0.75)C	7.0	37	66
CF881.07.04	(4G0.75)C	7.5	46	72
CF881.07.05	(5G0.75)C	8.0	61	87
CF881.07.07	(7G0.75)C	9.0	83	112
CF881.07.12	(12G0.75)C	10.5	124	170
CF881.07.18	(18G0.75)C	12.0	183	238
CF881.07.25 [11)]	(25G0.75)C	14.5	222	309
CF881.10.02	(2x1.0)C	6.5	30	52
CF881.10.03	(3G1.0)C	7.0	46	73
CF881.10.04	(4G1.0)C	7.5	63	102
CF881.10.05	(5G1.0)C	8.0	76	110
CF881.10.07	(7G1.0)C	9.5	100	130
CF881.10.12	(12G1.0)C	11.5	167	229
CF881.10.18	(18G1.0)C	13.0	213	281
CF881.10.25	(25G1.0)C	16.0	291	390
CF881.15.02	(2x1.5)C	7.5	60	71
CF881.15.03	(3G1.5)C	7.5	63	87
CF881.15.04	(4G1.5)C	8.5	90	111
CF881.15.05	(5G1.5)C	9.0	94	131
CF881.15.07	(7G1.5)C	11.0	153	183
CF881.15.12	(12G1.5)C	13.0	212	282
CF881.15.18	(18G1.5)C	15.0	399	458
CF881.15.25	(25G1.5)C	18.5	425	573
CF881.25.04	(4G2.5)C	10.0	141	163
CF881.25.05	(5G2.5)C	11.0	149	195
CF881.25.07	(7G2.5)C	13.0	204	262
CF881.25.12 [11)]	(12G2.5)C	16.0	342	428

[11)] Phase-out model

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Order example: CF881.25.25 - to your desired length (0.5m steps)
CF881 chainflex® series .25 Code nominal cross section .25 Number of cores

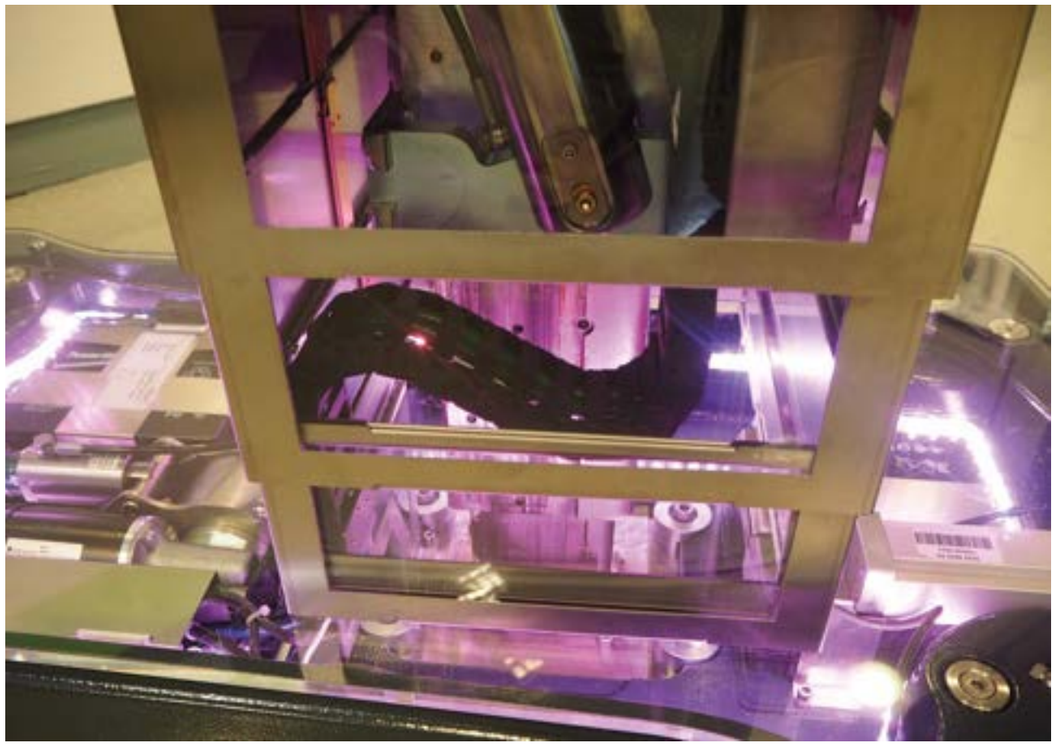
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chainflex® CF881 in a mobile surgical table

EPLAN download, configurators ▶ www.igus.eu/CF881

Control cable | PVC | chainflex® CF130.UL



Example image

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

50m
Travel distance, e-chain®

- For medium duty applications
- PVC outer jacket
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
	gliding	2m/s
a max.		20m/s²
Travel distance		Unsupported travels and up to 50m for gliding applications, Class 4
Torsion		Torsion ±90°, with 1m cable length, Class 2

Cable structure

Conductor	Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	**Number of cores < 12:** Cores wound in a layer with short pitch length. **Number of cores ≥ 12:** Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
Core identification	**Cores < 0.5mm²:** Colour code in accordance with DIN 47100. **Cores ≥ 0.5mm²:** Black cores with white numbers, one green-yellow core.
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Silver-grey (similar to RAL 7001)
CFRIP®	Strip cables faster: a tear strip is moulded into the outer jacket Video ▶ www.igus.eu/CFRIP

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus.eu/CF130UL

EU2024

Class 4.4.1.2

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	2	3	**4**	5	6	≥ 400m	
Oil resistance	none	**1**	2	3	4	highest			
Torsion	none	1	**2**	3	4	±360°			

Properties and approvals

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF130UL
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1, material/cable tested by IPA according to DIN EN ISO standard 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
Temperature, from/to [°C]	< 10m R min. [x d]	≥ 10m R min. [x d]	< 10m R min. [x d]	≥ 10m R min. [x d]	< 10m R min. [x d]	≥ 10m R min. [x d]
+5/+15	10	12.5	11	13.5	12	14.5
+15/+60	7.5	10	8.5	11	9.5	12
+60/+70	10	12.5	11	13.5	12	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 50m for gliding applications, Class 4
- Without influence of oil, Class 1
- Torsion ±90°, with 1m cable length, Class 2
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices



chainflex® CF130.UL for woodworking application. e-chain®: E4/light

CF130.UL
PVC
7.5 x d

Control cable | PVC | chainflex® CF130.UL

Class 4.4.1.2

Basic requirements: low 1 2 3 **4** 5 6 7 highest
Travel distance: unsupported 1 2 3 **4** 5 6 ≥ 400m
Oil resistance: none **1** 2 3 4 highest
Torsion: none 1 **2** 3 4 ±360°

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF130.02.03.UL	3x0.25	5.0	9	26
CF130.02.04.UL	4x0.25	5.5	11	35
CF130.02.06.UL	6x0.25	6.0	16	48
CF130.02.07.UL	7x0.25	6.5	19	56
CF130.02.12.UL	12x0.25	8.5	33	96
CF130.02.18.UL	18x0.25	10.0	46	123
CF130.02.20.UL	20x0.25	10.5	51	145
CF130.02.25.UL	25x0.25	11.5	66	164
CF130.02.30.UL	30x0.25	12.5	75	188
CF130.03.02.UL	2x0.34	5.0	8	27
CF130.03.05.UL	5x0.34	6.0	18	42
CF130.05.02.UL	2x0.5	5.5	11	38
CF130.05.03.UL	3G0.5	5.5	16	40
CF130.05.04.UL	4G0.5	6.0	21	47
CF130.05.05.UL	5G0.5	6.5	26	56
CF130.05.07.UL	7G0.5	7.5	37	76
CF130.05.12.UL	12G0.5	10.0	63	140
CF130.05.18.UL	18G0.5	12.0	94	192
CF130.05.25.UL	25G0.5	13.5	129	259
CF130.07.02.UL	2x0.75	6.0	16	48
CF130.07.03.UL	3G0.75	6.0	23	50
CF130.07.04.UL	4G0.75	6.5	31	60
CF130.07.05.UL	5G0.75	7.0	38	70
CF130.07.07.UL	7G0.75	8.0	54	96
CF130.07.12.UL	12G0.75	11.0	91	175
CF130.07.18.UL	18G0.75	13.5	134	248
CF130.07.25.UL	25G0.75	16.0	186	346
CF130.07.36.UL	36G0.75	19.0	293	531
CF130.07.42.UL	42G0.75	21.0	341	608
CF130.10.02.UL	2x1.0	6.0	21	55
CF130.10.03.UL	3G1.0	6.5	31	61
CF130.10.04.UL	4G1.0	7.0	41	74
CF130.10.05.UL	5G1.0	7.5	50	87
CF130.10.07.UL	7G1.0	9.0	71	118
CF130.10.12.UL	12G1.0	12.5	120	228
CF130.10.18.UL	18G1.0	15.0	179	308
CF130.10.25.UL	25G1.0	17.5	248	410

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF130.15.02.UL	2x1.5	6.5	31	71
CF130.15.03.UL	3G1.5	7.0	46	76
CF130.15.04.UL	4G1.5	8.0	61	93
CF130.15.05.UL	5G1.5	8.5	75	111
CF130.15.07.UL [17]	7G1.5	10.5	105	166
CF130.15.12.UL	12G1.5	13.0	179	288
CF130.15.18.UL	18G1.5	17.0	268	438
CF130.15.25.UL	25G1.5	19.5	371	563
CF130.15.36.UL	36G1.5	23.0	579	887
CF130.25.03.UL	3G2.5	8.5	75	118
CF130.25.04.UL	4G2.5	9.5	100	149
CF130.25.07.UL [17]	7G2.5	12.0	174	250
CF130.25.12.UL	12G2.5	16.5	297	445
CF130.40.03.UL	3G4.0	10.0	119	209
CF130.40.05.UL	5G4.0	12.0	198	294
CF130.60.04.UL	4G6.0	13.0	237	392
CF130.60.05.UL	5G6.0	14.0	299	471

[17] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

EPLAN download, configurators ▶ www.igus.eu/CF130UL

PVC | iguPUR | PUR | TPE

New

Control cable | PVC | chainflex® CF140.UL



Example image

10 million Double strokes guaranteed

7.5 x d Bend radius, e-chain®

50m Travel distance, e-chain®

- For medium duty applications
- PVC outer jacket
- Shielded
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
	gliding	2m/s
a max.		20m/s²
Travel distance		Unsupported travels and up to 50m for gliding applications, Class 4

Cable structure

Conductor	Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	**Number of cores < 12:** Cores wound in a layer with short pitch length. **Number of cores ≥ 12:** Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
Core identification	**Cores < 0.5mm²:** Colour code in accordance with DIN 47100. **Cores ≥ 0.5mm²:** Black cores with white numbers, one green-yellow core.
Inner jacket	PVC mixture adapted to suit the requirements in e-chains®.
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Silver-grey (similar to RAL 7001)
CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ▶ www.igus.eu/CFRIP

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus.eu/CF140UL

EU2024 igus

CF140.UL
PVC
7.5 x d

Class 4.4.1.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	2	3	**4**	5	6	≥ 400m	
Oil resistance	none	**1**	2	3	4	highest			
Torsion	none	**1**	2	3	4	±360°			

Properties and approvals

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF140UL
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF130.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
Temperature, from/to [°C]	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	10	12.5	11	13.5	12	14.5
+15/+60	7.5	10	8.5	11	9.5	12
+60/+70	10	12.5	11	13.5	12	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 50m for gliding applications, Class 4
- Without influence of oil, Class 1
- No torsion, Class 1
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

PVC | iguPUR | PUR | TPE

New

Control cable | PVC | chainflex® CF140.UL

Strip cables 50% faster with CFRIP® tear strip

Basic requirements — low 1 2 3 **4** 5 6 7 highest
Travel distance — unsupported 1 2 3 **4** 5 6 ≥ 400m
Oil resistance — none **1** 2 3 4 highest
Torsion — none **1** 2 3 4 ±360°

Class 4.4.1.1

CF140.UL
PVC
7.5 x d

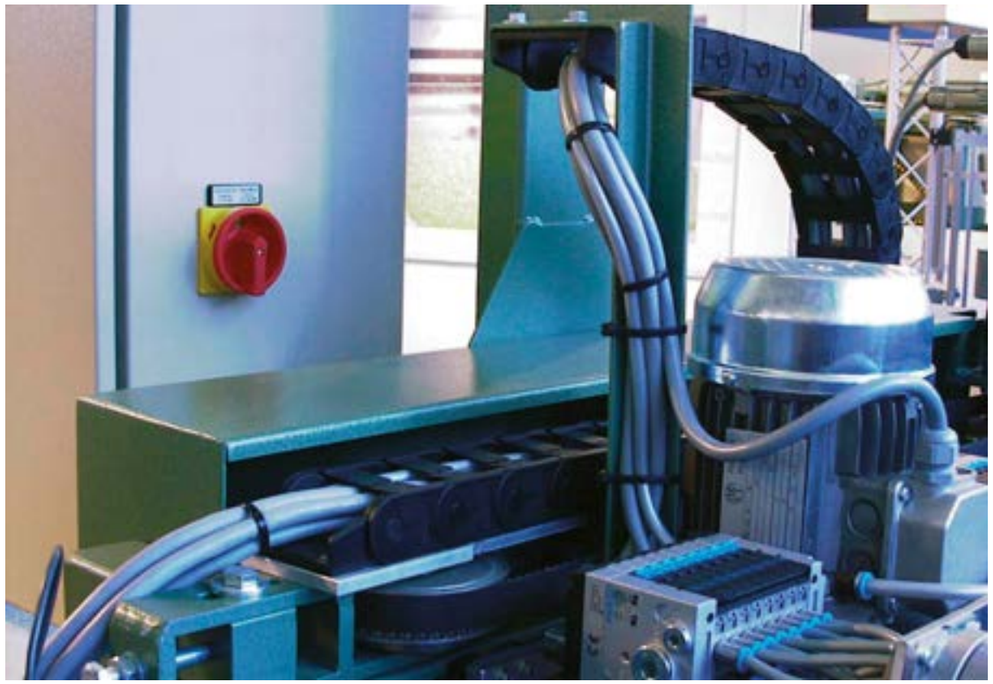


Example image

	Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
	CF140.02.12.UL	(12x0.25)C	10.5	72	133
	CF140.03.05.UL	(5x0.34)C	7.5	36	72
	CF140.05.03.UL	(3G0.5)C	7.0	33	72
New	**CF140.05.04.UL**	(4G0,5)C	7.5	38	81
	CF140.05.05.UL	(5G0.5)C	8.0	45	91
	CF140.05.18.UL	(18G0.5)C	14.5	147	258
	CF140.05.36.UL	(36G0.5)C	18.5	258	468
	CF140.07.03.UL	(3G0.75)C	8.0	42	85
	CF140.07.04.UL	(4G0.75)C	8.5	51	102
	CF140.07.05.UL	(5G0.75)C	9.0	61	115
	CF140.07.07.UL	(7G0.75)C	10.0	83	152
	CF140.07.12.UL	(12G0.75)C	13.0	136	263
	CF140.07.18.UL	(18G0.75)C	15.5	194	359
	CF140.07.25.UL	(25G0.75)C	18.0	261	479
	CF140.10.02.UL	(2x1.0)C	8.0	35	86
	CF140.10.03.UL	(3G1.0)C	8.5	51	105
	CF140.10.04.UL	(4G1.0)C	9.0	62	118
	CF140.10.05.UL	(5G1.0)C	9.5	74	136
	CF140.10.07.UL	(7G1.0)C	10.5	104	176
	CF140.10.12.UL	(12G1.0)C	14.0	166	300
	CF140.10.18.UL	(18G1.0)C	16.5	240	413
	CF140.10.25.UL	(25G1.0)C	19.5	325	562
	CF140.15.03.UL	(3G1.5)C	9.0	68	126
	CF140.15.04.UL	(4G1.5)C	9.5	86	146
	CF140.15.05.UL	(5G1.5)C	9.5	108	168
	CF140.15.07.UL [17)]	(7G1.5)C	11.5	144	226
	CF140.15.12.UL	(12G1.5)C	16.0	233	387
	CF140.15.18.UL	(18G1.5)C	19.0	346	463
	CF140.15.25.UL	(25G1.5)C	22.5	464	737
	CF140.15.36.UL	(36G1.5)C	26.5	663	1150
	CF140.25.03.UL	(3G2.5)C	10.5	106	202
	CF140.25.04.UL	(4G2.5)C	11.5	140	210

[17)] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



chainflex® CF140.UL in a feeder application. e-chain®: easychain®



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

EPLAN download, configurators ▶ www.igus.eu/CF140UL

PVC | iguPUR | PUR | TPE

New

Control cable | PVC | chainflex® CF150.UL

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

50m
Travel distance

- For medium duty applications
- PVC outer jacket
- Oil-resistant
- Flame-retardant
- TC-ER (Power and Control Tray Cable)

UL	CSA:
TC-ER UL 1277	C(UL) CIC/TC
MTW UL 1063	
WTTC UL 2277	**Specifications:**
DP-1 UL 1690	OIL RES I / SUN RES
AWM 2587	75°C wet ≥2.5mm²
	90°C dry
	DIR BUR ≥2.5mm²

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
	gliding	2m/s
a max.		20m/s²
Travel distance		Unsupported travels and up to 50m for gliding applications, Class 4
Torsion		Torsion ±90°, with 1m cable length, Class 2

Cable structure

Conductor
Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).

Core insulation
Mechanically high-quality PVC/PA mixture.

Core structure
Number of cores < 12: Cores wound in a layer with short pitch length.
Number of cores ≥ 12: Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.

Core identification
Black cores with white numbers, one green-yellow core.

Outer jacket
Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1)
Colour: jet black (similar to RAL 9005)

CFRIP®
Strip cables faster: a tear strip is moulded into the outer jacket
Video ▶ www.igus.eu/CFRIP

Electrical information

Nominal voltage
300/500V (following DIN VDE 0298-3)
600V TC-ER, 1000V WTTC, 600V MTW, 600V AWM

Testing voltage
2,000V (following DIN EN 50395)



Example image

EPLAN download, configurators ▶ www.igus.eu/CF150UL

4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 4.4.2.2

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	2	3	**4**	5	6	≥ 400m	
Oil resistance	none	1	**2**	3	4	highest			
Torsion	none	1	**2**	3	4	±360°			

Properties and approvals

UV resistance	Medium
Oil resistance	Oil resistant (according to DIN EN 50363-4-1), UL Oil Res I, Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame, FT4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year“
UL listed	TC-ER UL 1277, WTTC UL 2277, MTW UL W63
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF150UL
NEC	In accordance with Article 501 Part II 501.10(B) Class I Division 2 and Article 502 Part II 502.10(B), TC-ER cables may be used in Class I and Class II, Division 2 hazardous areas.
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II)
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
Temperature, from/to [°C]	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	10	12.5	11	13.5	12	14.5
+15/+60	7.5	10	8.5	11	9.5	12
+60/+70	10	12.5	11	13.5	12	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 50m for gliding applications, Class 4
- Light oil influence, Class 2
- Torsion ±90°, with 1m cable length, Class 2
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units for high-bay warehouses, machining units/packaging machines, quick handling, indoor cranes, laying of cables on cable trays

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

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UL-verified chainflex® guarantee ... www.igus.eu/ul-verified

CF150.UL
PVC
7.5 x d

PVC | iguPUR | PUR | TPE

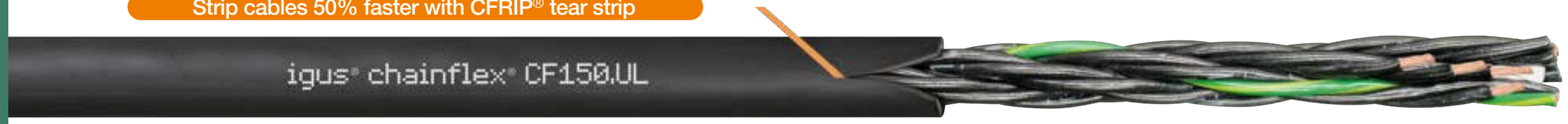
Control cable | PVC | chainflex® CF150.UL

New

Strip cables 50% faster with CFRIP® tear strip

Class 4.4.2.2

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	2	3	**4**	5	6	≥ 400m	
Oil resistance	none	1	**2**	3	4	highest			
Torsion	none	1	**2**	3	4	±360°			



Example image

	Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
	CF150.UL.10.03	3G1.0	8.0	30	78
	CF150.UL.10.04	4G1.0	8.5	40	94
	CF150.UL.10.05	5G1.0	9.0	50	112
	CF150.UL.10.07	7G1.0	10.5	70	155
	CF150.UL.10.12	12G1.0	15.0	119	281
	CF150.UL.10.18	18G1.0	19.0	178	425
	CF150.UL.15.03	3G1.5	8.5	45	98
	CF150.UL.15.04	4G1.5	9.0	60	122
	CF150.UL.15.05	5G1.5	10.0	75	148
	CF150.UL.15.07 [17)]	7G1.5	12.0	104	205
	CF150.UL.15.12	12G1.5	16.5	178	365
	CF150.UL.15.18	18G1.5	21.0	267	529
New	**CF150.UL.15.25**	25G1.5	24.5	371	746
	CF150.UL.25.03	3G2.5	9.5	75	133
	CF150.UL.25.04	4G2.5	10.0	100	164
	CF150.UL.25.05	5G2.5	11.0	124	200
	CF150.UL.25.07 [17)]	7G2.5	12.0	173	268
	CF150.UL.25.12	12G2.5	18.5	297	502
	CF150.UL.25.18	18G2.5	24.5	445	808

[17)] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Order example: CF150.UL.10.03 - to your desired length (0.5m steps)
CF150.UL **chainflex® series** .10 **Code nominal cross section** .03 **Number of cores**

Order online ▶ www.igus.eu/CF150UL

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

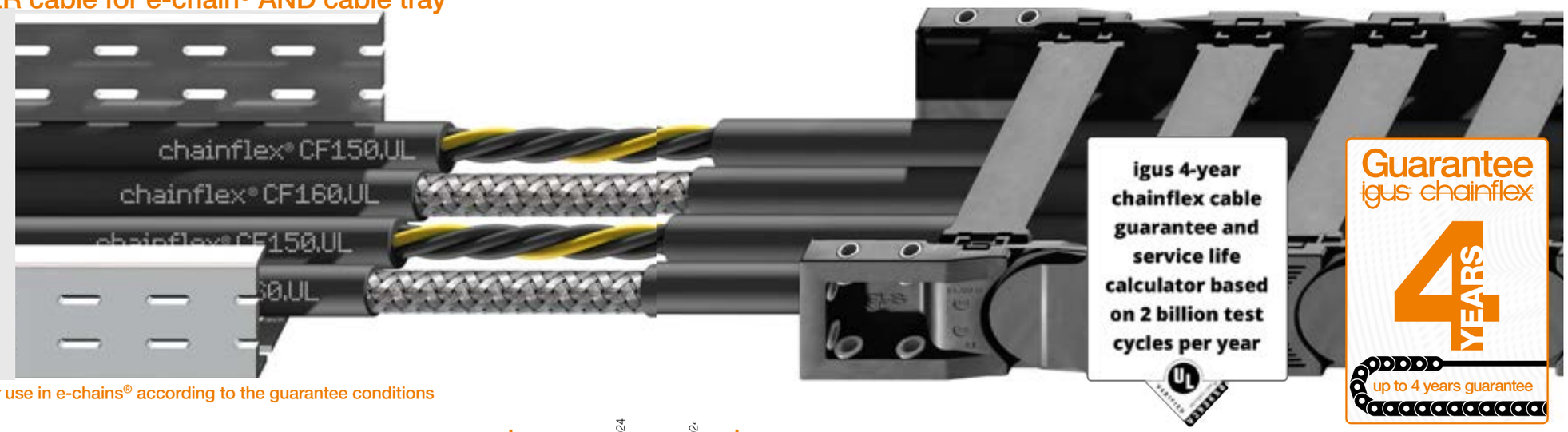
Cables available in the chainflex® CASE
Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.
More on this on page 24/25 and online: www.igus.eu/cf-case

The only MTW/TC-ER cable for e-chain® AND cable tray

UL
TC-ER UL 1277
MTW UL 1063
WTTC UL 2277
DP-1 UL 1690
AWM 2587

CSA:
C(UL) CIC/TC

Specifications:
OIL RES I / SUN RES
75°C wet ≥2.5mm²
90°C dry
DIR BUR ≥2.5 mm²



*** with guaranteed service life for use in e-chains® according to the guarantee conditions**

CF150.UL
PVC
7.5 x d

PVC | iguPUR | PUR | TPE

Control cable | PVC | chainflex® CF160.UL



Example image

10 million Double strokes guaranteed

7.5 x d Bend radius, e-chain®

50m Travel distance

- For medium duty applications
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant
- TC-ER (Power and Control Tray Cable)

UL	CSA:
TC-ER UL 1277	C(UL) CIC/TC
MTW UL 1063	
WTTC UL 2277	**Specifications:**
DP-1 UL 1690	OIL RES I / SUN RES
AWM 2587	75°C wet ≥ 2.5mm²
	90°C dry
	DIR BUR ≥2.5mm²

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
	gliding	2m/s
a max.		20m/s²
Travel distance		Unsupported travels and up to 50m for gliding applications, Class 4

Cable structure

Conductor Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).

Core insulation Mechanically high-quality PVC/PA mixture.

Core structure **Number of cores < 12:** Cores wound in a layer with short pitch length.
Number of cores ≥ 12: Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.

Core identification Black cores with white numbers, one green-yellow core.

Inner jacket PVC mixture adapted to suit the requirements in e-chains®.

Overall shield Bending-resistant braiding made of tinned copper wires.
Coverage linear approx. 55%, optical approx. 80%

Outer jacket Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1)
Colour: jet black (similar to RAL 9005)

CFRIP® Strip cables faster: a tear strip is moulded into the inner jacket
Video ▶ www.igus.eu/CFRIP

Electrical information

Nominal voltage 300/500V (following DIN VDE 0298-3)
600V TC-ER, 1000V WTTC, 600V MTW, 600V AWM

Testing voltage 2,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus.eu/CF160UL

4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

EU2024

Class 4.4.2.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	2	3	**4**	5	6	≥ 400m	
Oil resistance	none	1	**2**	3	4	highest			
Torsion	none	**1**	2	3	4	±360°			

Properties and approvals

UV resistance	Medium
Oil resistance	Oil resistant (according to DIN EN 50363-4-1), UL Oil Res I, Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame, FT4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year“
UL listed	TC-ER UL 1277, WTTC UL 2277, MTW UL W63
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF160UL
NEC	In accordance with Article 501 Part II 501.10(B) Class I Division 2 and Article 502 Part II 502.10(B), TC-ER cables may be used in Class I and Class II, Division 2 hazardous areas.
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II)
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
Temperature, from/to [°C]	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	10	12.5	11	13.5	12	14.5
+15/+60	7.5	10	8.5	11	9.5	12
+60/+70	10	12.5	11	13.5	12	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 50m for gliding applications, Class 4
- Light oil influence, Class 2
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units for high-bay warehouses, machining units/packaging machines, quick handling, indoor cranes, laying of cables on cable trays

CF160.UL
PVC
7.5 x d

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Control cable | PVC | chainflex® CF160.UL

Strip cables 50% faster with CFRIP® tear strip

Class 4.4.2.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	2	3	**4**	5	6	≥ 400m	
Oil resistance	none	1	**2**	3	4	highest			
Torsion	none	**1**	2	3	4	±360°			



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF160.UL.10.03	(3G1.0)C	9.5	53	121
CF160.UL.10.04	(4G1.0)C	10.0	66	143
CF160.UL.10.05	(5G1.0)C	11.0	77	164
CF160.UL.10.07	(7G1.0)C	12.5	107	220
CF160.UL.10.12	(12G1.0)C	18.5	177	389
CF160.UL.10.18	(18G1.0)C	23.5	280	648
CF160.UL.15.03	(3G1.5)C	10.0	72	149
CF160.UL.15.04	(4G1.5)C	11.0	89	175
CF160.UL.15.05	(5G1.5)C	12.0	105	204
CF160.UL.15.07 [17)]	(7G1.5)C	13.5	140	271
CF160.UL.15.12	(12G1.5)C	20.0	243	478
CF160.UL.15.18	(18G1.5)C	25.5	373	762
CF160.UL.25.03	(3G2.5)C	11.0	103	185
CF160.UL.25.04	(4G2.5)C	12.0	129	219
CF160.UL.25.05	(5G2.5)C	13.0	159	264
CF160.UL.25.07 [17)]	(7G2.5)C	14.5	223	361
CF160.UL.25.12	(12G2.5)C	23.5	389	688
CF160.UL.25.18	(18G2.5)C	29.5	573	1092

[17)] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Order example: CF160.UL.10.03 - to your desired length (0.5m steps)
CF160.UL **chainflex® series** .10 **Code nominal cross section** .03 **Number of cores**

Order online ▶ www.igus.eu/CF160UL

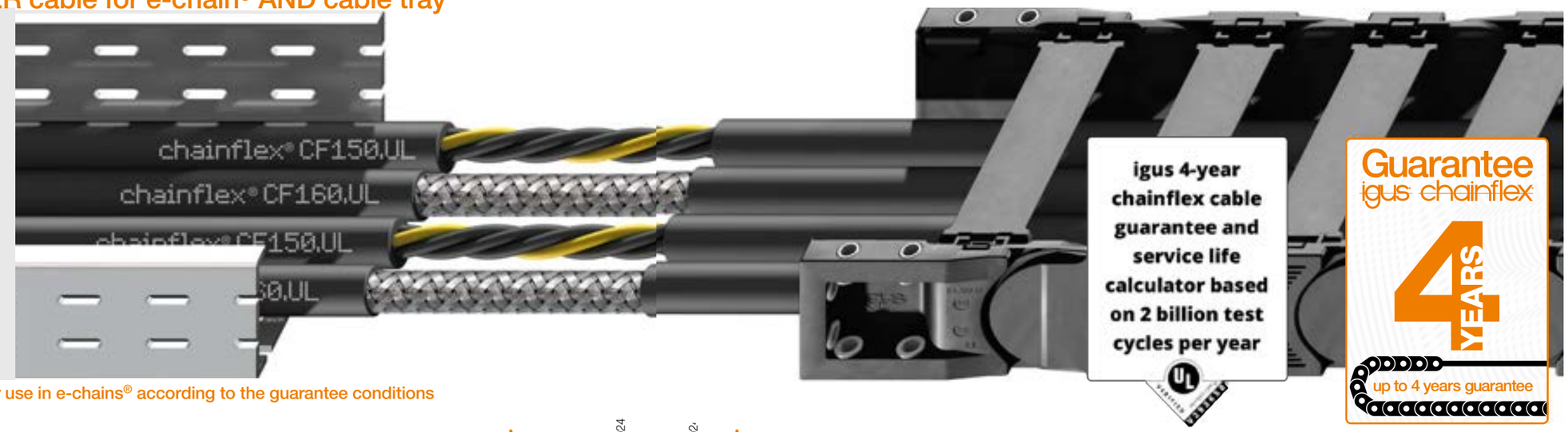
Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

The only MTW/TC-ER cable for e-chain® AND cable tray

UL
TC-ER UL 1277
MTW UL 1063
WTTC UL 2277
DP-1 UL 1690
AWM 2587

CSA:
C(UL) CIC/TC

Specifications:
OIL RES I / SUN RES
75°C wet ≥2.5mm²
90°C dry
DIR BUR ≥2.5 mm²



*** with guaranteed service life for use in e-chains® according to the guarantee conditions**

CF160.UL
PVC
7.5 x d

Control cable | PVC | chainflex® CF5

10 million
Double strokes guaranteed

6.8 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For heavy duty applications
- PVC outer jacket
- Oil-resistant
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 6.8 x d
	flexible	minimum 5 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5
Torsion		Torsion ±90°, with 1m cable length, Class 2

Cable structure

Conductor
Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).

Core insulation
Cores ≤ 0.5mm²: mechanically high-quality TPE mixture.
Cores ≥ 0.75mm²: mechanically high-quality PVC mixture.

Core structure
Number of cores < 12: Cores wound in a layer with short pitch length.
Number of cores ≥ 12: Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.

Core identification
Cores < 0.5mm²: Colour code in accordance with DIN 47100.
Cores ≥ 0.5mm²: Black cores with white numbers, one green-yellow core.

Outer jacket
Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1).
Colour: Moss green (similar to RAL 6005)

CFRIP®
Strip cables faster: a tear strip is moulded into the outer jacket
Video ▶ www.igus.eu/CFRIP

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) 600V (following UL)
Testing voltage	2,000V (following DIN EN 50395)



Example image

Class 5.5.2.2

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	**2**	3	4				highest
Torsion	none	1	**2**	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF5
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 2, material/cable tested by IPA according to ISO standard 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
Temperature, from/to [°C]	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	7.5	10	8.5	11	9.5	12
+15/+60	6.8	7.5	7.8	8.5	8.8	9.5
+60/+70	7.5	10	8.5	11	9.5	12

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 100m for gliding applications, Class 5
- Light oil influence, Class 2
- Torsion ±90°, with 1m cable length, Class 2
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units, machining units/packaging machines, quick handling, indoor cranes

CF5
PVC
6.8 x d

EPLAN download, configurators ▶ www.igus.eu/CF5

Control cable | PVC | chainflex® CF5

Strip cables 50% faster with CFRIP® tear strip

Class 5.5.2.2

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	**2**	3	4				highest
Torsion	none	1	**2**	3	4				±360°

CF5
PVC
6.8 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF5.02.36	36x0.25	15.0	99	209
CF5.03.15	15x0.34	11.0	55	113
CF5.03.18	18x0.34	12.0	67	143
CF5.03.25	25x0.34	14.0	92	194
CF5.05.02	2x0.5	6.0	11	38
CF5.05.03	3G0.5	6.0	16	41
CF5.05.04	4G0.5	6.5	21	47
CF5.05.05	5G0.5	7.0	25	59
CF5.05.07	7G0.5	8.0	36	78
CF5.05.12	12G0.5	11.0	61	131
CF5.05.18	18G0.5	13.0	91	190
CF5.05.25	25G0.5	16.0	124	281
CF5.05.30	30G0.5	18.0	149	325
CF5.07.03	3G0.75	6.5	23	54
CF5.07.04	4G0.75	7.0	32	67
CF5.07.05	5G0.75	7.5	39	82
CF5.07.07	7G0.75	9.0	56	115
CF5.07.12	12G0.75	12.5	91	189
CF5.07.18	18G0.75	15.0	134	269
CF5.07.25	25G0.75	17.5	190	384
CF5.07.36	36G0.75	22.0	267	587
CF5.07.42	42G0.75	23.5	313	745
CF5.10.03	3G1.0	6.5	31	56
CF5.10.04	4G1.0	7.0	41	78
CF5.10.05	5G1.0	8.0	50	94
CF5.10.07	7G1.0	9.5	74	130
CF5.10.12	12G1.0	13.0	119	227
CF5.10.18	18G1.0	16.5	179	306
CF5.10.25	25G1.0	19.5	248	487
CF5.15.03	3G1.5	7.5	46	74
CF5.15.04	4G1.5	8.0	61	105
CF5.15.05	5G1.5	9.0	75	127
CF5.15.07 [17]	7G1.5	10.5	105	180
CF5.15.12	12G1.5	15.0	179	264
CF5.15.18	18G1.5	19.5	267	478
CF5.15.25	25G1.5	21.5	371	645
CF5.15.36	36G1.5	26.5	529	960

[17] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF5.25.04	4G2.5	10.0	96	170
CF5.25.05	5G2.5	11.0	120	200
CF5.25.07 [17]	7G2.5	13.0	169	279
CF5.25.12	12G2.5	18.5	284	480
CF5.25.18	18G2.5	23.5	427	765
CF5.25.25	25G2.5	27.5	591	1054

[17] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case



**chainflex® CF5/CF6 for storage retrieval unit: Long travel in longitudinal axis.
e-chain®: Series E4/00 with igus® guide trough made of steel**

EPLAN download, configurators ▶ www.igus.eu/CF5

Control cable | PVC | chainflex® CF6

Example image

10 million
Double strokes guaranteed

6.8 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For heavy duty applications
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 6.8 x d
	flexible	minimum 5 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5

Cable structure

Conductor	Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).
Core insulation	**Cores ≤ 0.5mm²:** mechanically high-quality TPE mixture. **Cores ≥ 0.75mm²:** mechanically high-quality PVC mixture.
Core structure	**Number of cores < 12:** Cores wound in a layer with short pitch length. **Number of cores ≥ 12:** Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
Core identification	**Cores < 0.5mm²:** Colour code in accordance with DIN 47100. **Cores ≥ 0.5mm²:** Black cores with white numbers, one green-yellow core.
Inner jacket	PVC mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Moss green (similar to RAL 6005)
CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ▶ www.igus.eu/CFRIP

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) 600V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus.eu/CF6

Class 5.5.2.1

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6	≥ 400m
Oil resistance	none	1	**2**	3	4	highest		
Torsion	none	**1**	2	3	4	±360°		

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 2. The outer jacket material of this series complies with CF5.10.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
Temperature, from/to [°C]	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	7.5	10	8.5	11	9.5	12
+15/+60	6.8	7.5	7.8	8.5	8.8	9.5
+60/+70	7.5	10	8.5	11	9.5	12

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 100m for gliding applications, Class 5
- Light oil influence, Class 2
- No torsion, Class 1
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units, machining units/packaging machines, quick handling, indoor cranes

CF6
PVC
6.8 x d

Control cable | PVC | chainflex® CF6

Strip cables 50% faster with CFRIP® tear strip

Basic requirements: low 1 2 3 4 **5** 6 7 highest
Travel distance: unsupported 1 2 3 4 **5** 6 ≥ 400m
Oil resistance: none 1 **2** 3 4 highest
Torsion: none **1** 2 3 4 ±360°

Class 5.5.2.1



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF6.02.04	(4x0.25)C	7.0	29	61
CF6.02.25	(25x0.25)C	14.5	111	260
CF6.03.05	(5x0.34)C	7.5	37	90
CF6.05.02	(2x0.5)C	7.0	30	77
CF6.05.05	(5G0.5)C	8.5	49	106
CF6.05.07	(7G0.5)C	10.0	64	127
CF6.05.09	(9G0.5)C	12.0	80	154
CF6.05.12	(12G0.5)C	13.0	98	232
CF6.05.18	(18G0.5)C	15.0	145	286
CF6.05.25	(25G0.5)C	17.5	192	399
CF6.07.03	(3G0.75)C	8.0	46	98
CF6.07.04	(4G0.75)C	8.5	56	113
CF6.07.05	(5G0.75)C	9.0	67	128
CF6.07.07	(7G0.75)C	10.5	87	152
CF6.07.12	(12G0.75)C	14.0	128	266
CF6.07.18	(18G0.75)C	17.5	196	400
CF6.07.25	(25G0.75)C	19.5	265	536
CF6.10.03	(3G1.0)C	8.0	54	107
CF6.10.04	(4G1.0)C	9.0	65	116
CF6.10.05	(5G1.0)C	9.5	77	136
CF6.10.07	(7G1.0)C	12.0	103	205
CF6.10.12	(12G1.0)C	15.0	161	319
CF6.10.18	(18G1.0)C	19.0	245	482
CF6.10.25	(25G1.0)C	21.0	322	595
CF6.15.03	(3G1.5)C	9.0	72	122
CF6.15.04	(4G1.5)C	9.5	88	155
CF6.15.05	(5G1.5)C	10.5	105	177
CF6.15.07 [17)]	(7G1.5)C	12.5	146	258
CF6.15.12	(12G1.5)C	17.0	225	375
CF6.15.18	(18G1.5)C	21.0	345	581
CF6.15.25	(25G1.5)C	24.0	462	865
CF6.25.03	(3G2.5)C	10.5	107	180
CF6.25.04	(4G2.5)C	11.5	131	222

[17)] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Order example: CF6.02.04 - to your desired length (0.5m steps)
CF6 chainflex® series .02 Code nominal cross section .04 Number of cores

Order online ▶ www.igus.eu/CF6

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



chainflex® CF5 and CF6 control cables (green) as well as CF211 measuring system cables (grey) in a screwing station of a car factory. e-chain®: E4/00 system with chainfix clip strain relief devices.

Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this page 24/25 and online: www.igus.eu/cf-case

EPLAN download, configurators ▶ www.igus.eu/CF6

CF6
PVC
6.8 x d

Control cable | PVC | chainflex® CFSOFT1

20 million
Double strokes guaranteed

5 x d
Bend radius, e-chain®

5m
Travel distance, e-chain®

- For heaviest duty applications and very small radii down to 5 x d
- Highly flexible, soft design
- PVC outer jacket
- Oil-resistant
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 5 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		80m/s²
Travel distance		Short, very fast applications with small radii and restricted installation space, Class 1

Cable structure

Conductor	Very finely stranded special conductors with especially soft and bending resistant design, made of bare copper wires.
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores wound in a layer with especially short pitch length.
Core identification	Colour code in accordance with DIN 47100.
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame



Example image

EPLAN download, configurators ▶ www.igus.eu/CFSOFT1

4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 7.1.2.1

Basic requirements	low	1 2 3 4 5 6 **7** highest
Travel distance	unsupported	**1** 2 3 4 5 6 ≥ 400m
Oil resistance	none	1 **2** 3 4 highest
Torsion	none	**1** 2 3 4 ±360°

Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CFSOFT1
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 2. The outer jacket material of this series complies with CF5.10.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	10 million	15 million	20 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	6.8	7.5	8.5
+15/+60	5	6	7
+60/+70	6.8	7.5	8.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heaviest duty applications and very small radii down to 5 x d, Class 7
- Especially for short, very fast applications with small radii and restricted installation space, Class 1
- Light oil influence, Class 2
- No torsion, Class 1
- Especially soft cable design, for reduced forces
- Pick and place machines, automatic doors, cleanroom, very quick handling

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFSOFT1.02.03	3x0.25	5.5	9	28
CFSOFT1.02.08	8x0.25	7.0	21	62
CFSOFT1.03.04	4x0.34	6.0	15	39
CFSOFT1.05.04	4x0.5	7.0	21	52

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

EU2024

Control cable | PVC | chainflex® CFSOFT2



Example image

20 million Double strokes guaranteed

5 x d Bend radius, e-chain®

5m Travel distance, e-chain®

- For heaviest duty applications and very small radii down to 5 x d
- Highly flexible, soft design
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 5 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.	80m/s²	
Travel distance	Short, very fast applications with small radii and restricted installation space, Class 1	

Cable structure

Conductor	Very finely stranded special conductors with especially soft and bending resistant design, made of bare copper wires.
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores wound in a layer with especially short pitch length.
Core identification	**Cores < 0.75mm²:** Colour code in accordance with DIN 47100. **Cores ≥ 0.75mm²:** Black cores with white numbers, one green-yellow core.
Intermediate layer	Foil taping over the outer layer.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus.eu/CFSOFT2

Class 7.1.2.1

Basic requirements	low	1	2	3	4	5	6	**7** highest
Travel distance	unsupported	**1**	2	3	4	5	6	≥ 400m
Oil resistance	none	1	**2**	3	4	highest		
Torsion	none	**1**	2	3	4	±360°		

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CFSOFT2
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 2. The outer jacket material of this series complies with CF5.10.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	10 million	15 million	20 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	6.8	7.5	8.5
+15/+60	5	6	7
+60/+70	6.8	7.5	8.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heaviest duty applications and very small radii down to 5 x d, Class 7
- Especially for short, very fast applications with small radii and restricted installation space, Class 1
- Light oil influence, Class 2
- No torsion, Class 1
- Especially soft cable design, for reduced forces
- Pick and place machines, automatic doors, cleanroom, very quick handling

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFSOFT2.02.03	(3x0.25)C	6.0	17	41
CFSOFT2.02.08	(8x0.25)C	7.5	38	86
CFSOFT2.03.04	(4x0.34)C	6.5	24	50
CFSOFT2.05.04	(4x0.5)C	7.5	36	80

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

CFSOFT2
PVC
5 x d

Control cable | iguPUR | chainflex® CF890



Example image

5 million Double strokes guaranteed

12.5 x d Bend radius, e-chain®

10m Travel distance, e-chain®

- For flexing applications
- iguPUR outer jacket
- Oil-resistant
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 12.5 x d
	flexible	minimum 10 x d
	fixed	minimum 7 x d
Temperature	**e-chain® linear**	-20°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores wound with an optimised pitch length.
Core identification	Black cores with white numbers, one green-yellow core.
Outer jacket	Low-adhesion iguPUR mixture, adapted to suit the requirements in e-chains®. Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	300/500V
	600V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

Class 3.1.3.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6	≥ 400m	
Oil resistance	none	1	2	**3**	4	highest			
Torsion	none	**1**	2	3	4	±360°			

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF890
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-20/-10	15	16	17
-10/+70	12.5	13.5	14.5
+70/+80	15	16	17

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- With influence of oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

Control cable | iguPUR | chainflex® CF890

Class 3.1.3.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°

CF890
iguPUR
12.5 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF890.05.02	2x0.5	5.0	11	30
CF890.05.03	3G0.5	5.5	16	34
CF890.05.04	4G0.5	6.0	21	44
CF890.05.05	5G0.5	6.5	26	53
CF890.05.07	7G0.5	7.5	37	70
CF890.05.12	12G0.5	8.5	63	105
CF890.05.18	18G0.5	10.0	94	155
CF890.05.25	25G0.5	12.0	128	222
CF890.07.02	2x0.75	5.5	16	38
CF890.07.03	3G0.75	6.0	24	46
CF890.07.04	4G0.75	6.5	32	58
CF890.07.05	5G0.75	7.0	40	71
CF890.07.07	7G0.75	8.0	56	96
CF890.07.12	12G0.75	10.0	94	146
CF890.07.18	18G0.75	11.5	140	162
CF890.07.25	25G0.75	13.5	194	278
CF890.10.02	2x1.0	6.0	21	46
CF890.10.03	3G1.0	6.5	32	56
CF890.10.04	4G1.0	7.0	42	58
CF890.10.05	5G1.0	7.5	52	89
CF890.10.07	7G1.0	8.5	73	117
CF890.10.12	12G1.0	10.5	124	178
CF890.10.18	18G1.0	12.5	186	273
CF890.10.25	25G1.0	15.0	258	375
CF890.15.02	2x1.5	6.5	32	62
CF890.15.03	3G1.5	7.0	47	76
CF890.15.04	4G1.5	7.5	63	97
CF890.15.05	5G1.5	8.5	78	117
CF890.15.07	7G1.5	10.0	109	163
CF890.15.12	12G1.5	12.0	186	256
CF890.15.18	18G1.5	14.5	279	362
CF890.15.25	25G1.5	17.5	387	502
CF890.25.03	3G2.5	8.5	78	136
CF890.25.04	4G2.5	9.0	103	145
CF890.25.05	5G2.5	10.0	129	175
CF890.25.07	7G2.5	12.0	181	246
CF890.25.12 [11)]	12G2.5	15.0	327	408
CF890.25.25	25G2.5	21.5	638	786

[11)] Phase-out model
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

EPLAN download, configurators ▶ www.igus.eu/CF890

Order example: CF890.05.02 - to your desired length (0.5m steps)
CF890 chainflex® series .05 Code nominal cross section .02 Number of cores

Order online ▶ www.igus.eu/CF890

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case



Control cable | iguPUR | chainflex® CF891

5 million
Double strokes guaranteed

12.5 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- iguPUR outer jacket
- Oil-resistant
- Shielded
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 12.5 x d
	flexible	minimum 10 x d
	fixed	minimum 7 x d
Temperature	**e-chain® linear**	-20°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores wound with an optimised pitch length.
Core identification	Black cores with white numbers, one green-yellow core.
Overall shield	Braiding made of tinned copper wires. Coverage approx. 60% optical
Outer jacket	Low-adhesion iguPUR mixture, adapted to suit the requirements in e-chains®. Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	300/500V 600V (following UL)
Testing voltage	2,000V (following DIN EN 50395)



Example image

Class 3.1.3.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6	≥ 400m	
Oil resistance	none	1	2	**3**	4	highest			
Torsion	none	**1**	2	3	4	±360°			

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF891
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-20/-10	15	16	17
-10/+70	12.5	13.5	14.5
+70/+80	15	16	17

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- With influence of oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

CF891
iguPUR
12.5 x d

Control cable | iguPUR | chainflex® CF891

Class 3.1.3.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°

CF891
iguPUR
12.5 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF891.05.02	(2x0.5)C	6.0	18	37
CF891.05.03	(3G0.5)C	6.0	28	45
CF891.05.05	(5G0.5)C	7.0	41	62
CF891.05.12	(12G0.5)C	9.0	91	122
CF891.05.18	(18G0.5)C	11.0	136	174
CF891.05.25	(25G0.5)C	13.0	210	234
CF891.07.02	(2x0.75)C	6.5	30	48
CF891.07.03	(3G0.75)C	7.0	37	63
CF891.07.04	(4G0.75)C	7.5	46	68
CF891.07.05	(5G0.75)C	8.0	61	85
CF891.07.07	(7G0.75)C	9.0	83	109
CF891.07.12	(12G0.75)C	10.5	124	166
CF891.07.18	(18G0.75)C	12.0	183	232
CF891.07.25	(25G0.75)C	14.5	222	299
CF891.10.02	(2x1.0)C	6.5	30	50
CF891.10.03	(3G1.0)C	7.0	46	71
CF891.10.04	(4G1.0)C	7.5	63	98
CF891.10.05	(5G1.0)C	8.0	76	105
CF891.10.07	(7G1.0)C	9.5	100	126
CF891.10.12	(12G1.0)C	11.5	167	224
CF891.10.18 [11)]	(18G1.0)C	13.0	213	276
CF891.10.25	(25G1.0)C	16.0	291	382
CF891.15.02	(2x1.5)C	7.5	60	69
CF891.15.03	(3G1.5)C	7.5	63	85
CF891.15.04	(4G1.5)C	8.5	90	108
CF891.15.05	(5G1.5)C	9.0	94	129
CF891.15.07	(7G1.5)C	11.0	153	177
CF891.15.12	(12G1.5)C	13.0	212	276
CF891.15.25 [11)]	(25G1.5)C	18.5	425	560
CF891.25.04	(4G2.5)C	10.0	141	157
CF891.25.05	(5G2.5)C	11.0	149	192
CF891.25.07	(7G2.5)C	13.0	204	255

[11)] Phase-out model

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Order example: CF891.05.02 - to your desired length (0.5m steps)
CF891 **chainflex® series** .05 **Code nominal cross section** .02 **Number of cores**

Order online ▶ www.igus.eu/CF891

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this page 24/25 and online: www.igus.eu/cf-case



chainflex® CF891 in an adjustment device for a process crane

EPLAN download, configurators ▶ www.igus.eu/CF891

EU2024

Control cable | PUR | chainflex® CF77.UL.D



Example image

10 million
Double strokes guaranteed

6.8 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For heavy duty applications
- PUR outer jacket
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 6.8 x d
	flexible	minimum 5 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5
Torsion		Torsion ±180°, with 1m cable length, Class 3 (except for 5-core types ≥ 4.0mm² ▶ Product range table)

Cable structure

Conductor
Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).

Core insulation
Mechanically high-quality TPE mixture.

Core structure
Number of cores < 12: Cores wound in a layer with short pitch length.
Number of cores ≥ 12: Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.

Core identification
Cores < 0.5mm²: Colour code in accordance with DIN 47100.
Cores ≥ 0.5mm²: Black cores with white numbers, one green-yellow core.
CF77.UL.02.03.INI: brown, blue, black
CF77.UL.03.04.INI: brown, blue, black, white
CF77.UL.03.05.INI: brown, blue, black, white, green-yellow

Outer jacket
Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2)
Colour: Window-grey (similar to RAL 7040)
Variants ▶ Product range table

Electrical information

Nominal voltage
300/500V (following DIN VDE 0298-3)
Number of cores < 12:
Cores < 0.5mm²: 300V (following UL)
Cores ≥ 0.5mm²: 1000V (following UL)
Number of cores ≥ 12: 1000V (following UL)

Testing voltage
2,000V (following DIN EN 50395)

Class 5.5.3.3

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	1	2	**3**	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF77ULD
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003X1
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1, material/cable tested by IPA according to DIN EN ISO standard 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
Temperature, from/to [°C]	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]
-25/-15	8.5	10	9.5	11	10.5	12
-15/+70	6.8	7.5	7.5	8.5	8.5	9.5
+70/+80	8.5	10	9.5	11	10.5	12

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 100m for gliding applications, Class 5
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 1m cable length, Class 3
- Indoor and outdoor applications with average sun radiation
- Machining units/machine tools, storage and retrieval units for high-bay warehouses, packaging industry, quick handling, refrigerating sector

CF77.UL.D
PUR
6.8 x d

Control cable | PUR | chainflex® CF77.UL.D

Class 5.5.3.3

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	2	**3**	4	highest			
Torsion	none	1	2	**3**	4	±360°			

CF77.UL.D
PUR
6.8 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF77.UL.02.03.INI [12]	3x0.25	5.0	9	29
CF77.UL.02.04.D	4x0.25	5.5	11	35
CF77.UL.02.05.D	5x0.25	6.0	13	39
CF77.UL.02.07.D	7x0.25	6.5	18	51
CF77.UL.02.12.D	12x0.25	9.0	32	78
CF77.UL.02.18.D	18x0.25	10.5	47	127
CF77.UL.02.25.D	25x0.25	11.5	63	155
CF77.UL.03.04.INI [12]	4x0.34	6.0	14	37
CF77.UL.03.05.INI [12]	5x0.34	6.0	18	36
CF77.UL.03.05.INI.D	5x0.34	6.0	18	36
CF77.UL.05.04.D	4G0.5	6.0	21	46
CF77.UL.05.05.D	5G0.5	6.5	26	53
CF77.UL.05.07.D	7G0.5	7.5	39	78
CF77.UL.05.12.D	12G0.5	10.0	63	130
CF77.UL.05.18.D	18G0.5	12.0	94	184
CF77.UL.05.25.D	25G0.5	14.0	129	243
CF77.UL.05.30.D	30G0.5	15.0	155	315
CF77.UL.07.03.D	3G0.75	6.5	23	52
CF77.UL.07.04.D	4G0.75	7.0	31	59
CF77.UL.07.05.D	5G0.75	7.5	38	71
CF77.UL.07.07.D	7G0.75	8.5	54	100
CF77.UL.07.12.D	12G0.75	12.0	91	180
CF77.UL.07.18.D	18G0.75	13.5	134	239
CF77.UL.07.20.D	20G0.75	14.5	149	269
CF77.UL.07.25.D	25G0.75	16.0	186	336
CF77.UL.07.36.D	36G0.75	19.0	279	506
CF77.UL.07.42.D	42G0.75	21.0	341	580
CF77.UL.10.02.D	2x1.0	6.5	21	51
CF77.UL.10.03.D	3G1.0	6.5	31	58
CF77.UL.10.04.D	4G1.0	7.0	41	73
CF77.UL.10.05.D	5G1.0	8.0	50	90
CF77.UL.10.07.D	7G1.0	9.0	71	120
CF77.UL.10.12.D	12G1.0	12.5	120	220
CF77.UL.10.18.D	18G1.0	15.0	179	314
CF77.UL.10.25.D	25G1.0	17.5	248	431
CF77.UL.10.42.D	42G1.0	22.5	433	699

[12] Colour outer jacket: Colza yellow (similar to RAL 1021)

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF77.UL.15.03.D	3G1.5	7.0	46	71
CF77.UL.15.04.D	4G1.5	7.5	61	88
CF77.UL.15.05.D	5G1.5	8.0	75	105
CF77.UL.15.07.D [17]	7G1.5	9.5	105	152
CF77.UL.15.12.D	12G1.5	13.0	179	297
CF77.UL.15.18.D	18G1.5	17.0	268	405
CF77.UL.15.25.D	25G1.5	19.5	297	564
CF77.UL.15.36.D	36G1.5	23.5	551	848
CF77.UL.25.03.D	3G2.5	8.5	75	132
CF77.UL.25.04.D	4G2.5	9.5	95	167
CF77.UL.25.05.D	5G2.5	10.0	124	196
CF77.UL.25.07.D [17]	7G2.5	12.0	174	270
CF77.UL.25.12.D	12G2.5	17.0	297	479
CF77.UL.40.04.D [90]	4G4.0	11.5	165	245
CF77.UL.40.05.D [90]	5G4.0	12.0	198	284
CF77.UL.60.05.D [90]	5G6.0	13.5	297	412

[17] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.
[90] Torsion ± 90°

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

EPLAN download, configurators ▶ www.igus.eu/CF77ULD

Control cable | PUR | chainflex® CF78.UL



Example image

10 million
Double strokes guaranteed

6.8 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For heavy duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 6.8 x d
	flexible	minimum 5 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5

Cable structure

Conductor	Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	**Number of cores < 12:** Cores wound in a layer with short pitch length. **Number of cores ≥ 12:** Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
Core identification	Black cores with white numbers, one green-yellow core.
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Window-grey (similar to RAL 7040)
CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ▶ www.igus.eu/CFRIP

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) **Number of cores < 12:** **Cores < 0.5mm²:** 300V (following UL) **Cores ≥ 0.5mm²:** 1000V (following UL) **Number of cores ≥ 12:** 1000V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

CF78.UL
PUR
6.8 x d

Class 5.5.3.1

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF78UL
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003X1
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
Temperature, from/to [°C]	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]
-25/-15	8.5	10	9.5	11	10.5	12
-15/+70	6.8	7.5	7.5	8.5	8.5	9.5
+70/+80	8.5	10	9.5	11	10.5	12

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 100m for gliding applications, Class 5
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications with average sun radiation
- Machining units/machine tools, storage and retrieval units for high-bay warehouses, packaging industry, quick handling, refrigerating sector

Control cable | PUR | chainflex® CF78.UL

Strip cables 50% faster with CFRIP® tear strip

Class 5.5.3.1

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF78.UL.05.04	(4G0.5)C	8.0	38	77
CF78.UL.05.05	(5G0.5)C	8.0	45	91
CF78.UL.05.07	(7G0.5)C	9.5	59	115
CF78.UL.05.09	(9G0.5)C	11.0	77	143
CF78.UL.05.12	(12G0.5)C	12.5	92	202
CF78.UL.05.18	(18G0.5)C	14.5	146	248
CF78.UL.05.25	(25G0.5)C	16.0	168	354
CF78.UL.07.03	(3G0.75)C	8.0	42	79
CF78.UL.07.04	(4G0.75)C	8.5	49	96
CF78.UL.07.05	(5G0.75)C	9.5	61	112
CF78.UL.07.07	(7G0.75)C	10.5	83	151
CF78.UL.07.12	(12G0.75)C	13.5	136	249
CF78.UL.07.18	(18G0.75)C	15.5	194	354
CF78.UL.07.36	(36G0.75)C	22.0	390	702
CF78.UL.10.03	(3G1.0)C	8.5	50	96
CF78.UL.10.04	(4G1.0)C	9.0	62	112
CF78.UL.10.05	(5G1.0)C	9.5	74	129
CF78.UL.10.07	(7G1.0)C	11.0	104	176
CF78.UL.10.12	(12G1.0)C	14.5	166	300
CF78.UL.10.18	(18G1.0)C	17.0	240	407
CF78.UL.10.25	(25G1.0)C	20.0	325	545
CF78.UL.15.03	(3G1.5)C	9.5	68	122
CF78.UL.15.04	(4G1.5)C	10.0	86	145
CF78.UL.15.05	(5G1.5)C	9.5	108	159
CF78.UL.15.07 [17]	(7G1.5)C	11.5	144	217
CF78.UL.15.12	(12G1.5)C	16.0	233	387
CF78.UL.15.18	(18G1.5)C	19.0	346	541
CF78.UL.15.25	(25G1.5)C	22.5	464	724
CF78.UL.15.36	(36G1.5)C	26.5	663	1095
CF78.UL.15.42	(42G1.5)C	29.5	820	1296
CF78.UL.25.03	(3G2.5)C	10.0	106	174
CF78.UL.25.04	(4G2.5)C	11.5	140	203
CF78.UL.25.05	(5G2.5)C	12.0	166	235
CF78.UL.25.07 [17]	(7G2.5)C	14.5	230	334
CF78.UL.25.12	(12G2.5)C	19.0	382	585
CF78.UL.40.04	(4G4.0)C	13.0	203	328

[17] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x** = without earth core

Order example: CF78.UL.05.04 - to your desired length (0.5m steps)
CF78.UL **chainflex® series** **.05 Code nominal cross section** **.04 Number of cores**

Order online ▶ www.igus.eu/CF78UL

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

chainflex CASE

Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this page 24/25 and online: www.igus.eu/cf-case

cost down...
...life up

Reduce cost, improve technology, now!
Do the chainflex® price check ...
www.igus.eu/cf-price-check

… for example: reduce cost with CF6 ...

EPLAN download, configurators ▶ www.igus.eu/CF78UL

Control cable | PUR | chainflex® CF2

10 million
Double strokes guaranteed

5 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For extremely heavy duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 5 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d
Temperature	**e-chain® linear**	-20°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	**Number of cores < 12:** Cores wound in a layer with short pitch length. **Number of cores ≥ 12:** Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
Core identification	Colour code in accordance with DIN 47100.
Inner jacket	PVC mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Anthracite grey (similar to RAL 7016)

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	2,000V (following DIN EN 50395)



Example image

EPLAN download, configurators ▶ www.igus.eu/CF2

4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 6.5.3.1

Basic requirements	low	1	2	3	4	5	**6**	7 highest
Travel distance	unsupported	1	2	3	4	**5**	6	≥ 400m
Oil resistance	none	1	2	**3**	4	highest		
Torsion	none	**1**	2	3	4	±360°		

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF2
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-20/-10	6.8	7.5	8.5
-10/+70	5	6.8	7.5
+70/+80	6.8	7.5	8.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 100m for gliding applications, Class 5
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications
- Storage and retrieval units, machining units/packaging machines, quick handling, indoor cranes, refrigeration sector

UL-verified chainflex® guarantee ... www.igus.eu/ul-verified

CF2
PUR
5 x d

Control cable | PUR | chainflex® CF2

Class 6.5.3.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°

CF2
PUR
5 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF2.01.04	(4x0.14)C	6.5	18	49
CF2.01.08	(8x0.14)C	7.5	31	66
CF2.01.12	(12x0.14)C	9.5	51	102
CF2.01.18	(18x0.14)C	10.5	56	135
CF2.01.24 [3)]	(24x0.14)C	11.5	68	162
CF2.01.36	(36x0.14)C	14.5	92	240
CF2.02.04	(4x0.25)C	7.0	25	59
CF2.02.08	(8x0.25)C	8.0	43	84
CF2.02.18	(18x0.25)C	12.0	100	173
CF2.02.48	(48x0.25)C	17.5	191	387

The chainflex® types marked with a [3)] refer to cables that are based on a bundling of 4 cores each. Due to their excellent electrical properties (starquad with especially minimum crosstalk), these cables can virtually be used in all cases in which otherwise twisted-pair cables are required.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



chainflex® CF2 cables are resistant to oil and coolants. e-chain®: E4/00 system.

Order example: CF2.01.04 - to your desired length (0.5m steps)
CF2 chainflex® series .01 Code nominal cross section .04 Number of cores

Order online ▶ www.igus.eu/CF2

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

cost down...
...life up

Reduce cost, improve technology, now!
Do the chainflex® price check ...
www.igus.eu/cf-price-check

… for example: reduce cost with CF240.PUR ...

chainflex CASE

Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

EPLAN download, configurators ▶ www.igus.eu/CF2

Control cable | TPE | chainflex® CF9.UL



Example image

10 million
Double strokes guaranteed

5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For extremely heavy duty applications
- TPE outer jacket
- Oil and bio-oil-resistant
- Flame-retardant
- PVC-free
- Low-temperature-flexible
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 5 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d
Temperature	**e-chain® linear**	-35°C up to +100°C
	flexible	-45°C up to +100°C (following DIN EN 60811-504)
	fixed	-50°C up to +100°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.	100m/s²	
Travel distance	Unsupported travels and up to 400m for gliding applications, Class 6	
Torsion	Torsion ±90°, with 1m cable length, Class 2	

Cable structure

Conductor
Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).

Core insulation
Mechanically high-quality TPE mixture.

Core structure
Number of cores < 12: Cores wound in a layer with short pitch length.
Number of cores ≥ 12: Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.

Core identification
Cores < 0.75mm²: Colour code in accordance with DIN 47100.
Cores ≥ 0.75mm²: Black cores with white numbers, one green-yellow core.
CF9.UL.02.03.INI: brown, blue, black
CF9.UL.03.04.INI: brown, blue, black, white
CF9.UL.03.05.INI: braun, blau, schwarz, weiß, grüngelb

Outer jacket
Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®.
Colour: Slate grey (similar to RAL 7015)

CFRIP®
Strip cables faster: a tear strip is moulded into the outer jacket
Video ▶ www.igus.eu/CFRIP

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) **Cores < 0.5mm²:** 300V (following UL) **Cores ≥ 0.5mm²:** 1000V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus.eu/CF9UL

CF9.UL
TPE
5 x d

Class 6.6.4.2

Basic requirements	low	1	2	3	4	5	**6**	7 highest
Travel distance	unsupported	1	2	3	4	5	**6**	≥ 400m
Oil resistance	none	1	2	3	**4**	highest		
Torsion	none	1	**2**	3	4	±360°		

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF9UL
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003X2
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF34.UL.25.04.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-35/-25	6.8	7.5	8.5
-25/+90	5	6	7
+90/+100	6.8	7.5	8.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 1m cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, ship to shore, outdoor cranes, low-temperature applications

Control cable | TPE | chainflex® CF9.UL

Class 6.6.4.2

Basic requirements	low	1	2	3	4	5	**6**	7 highest
Travel distance	unsupported	1	2	3	4	5	**6**	≥ 400m
Oil resistance	none	1	2	3	**4**	highest		
Torsion	none	1	**2**	3	4	±360°		

Strip cables 50% faster with CFRIP® tear strip

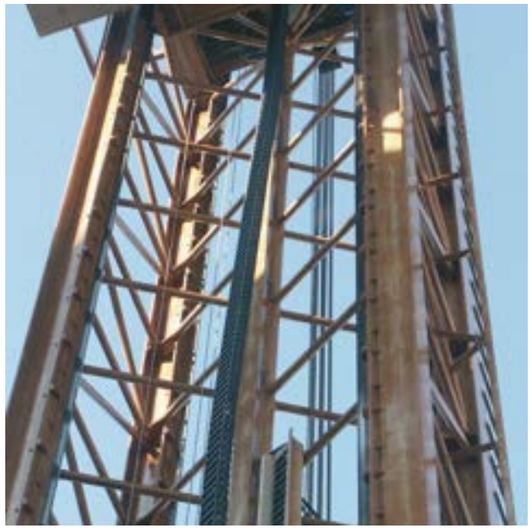


Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF9.UL.02.02	2x0.25	5.0	5	24
CF9.UL.02.03.INI	3x0.25	5.0	8	28
CF9.UL.02.04	4x0.25	5.5	10	32
CF9.UL.02.06	6x0.25	6.0	15	42
CF9.UL.02.08	8x0.25	7.0	20	57
CF9.UL.02.12	12x0.25	7.5	30	81
CF9.UL.03.04.INI	4x0.34	5.5	14	38
CF9.UL.03.05.INI	5x0.34	6.0	17	46
CF9.UL.03.06	6x0.34	6.5	21	51
CF9.UL.03.08	8x0.34	7.5	28	67
CF9.UL.05.02	2x0.5	5.5	10	35
CF9.UL.05.03	3x0.5	6.0	15	42
CF9.UL.05.04	4x0.5	6.0	20	50
CF9.UL.05.05	5x0.5	6.5	25	56
CF9.UL.05.07	7x0.5	7.5	35	79
CF9.UL.05.12	12x0.5	9.5	60	137
CF9.UL.05.18	18x0.5	12.0	90	201
CF9.UL.07.05	5G0.75	7.0	38	77
CF9.UL.07.07	7G0.75	8.5	53	105
CF9.UL.07.12	12G0.75	11.0	90	191
CF9.UL.07.25	25G0.75	15.0	186	366
CF9.UL.10.03	3G1.0	6.5	30	62
CF9.UL.10.04	4G1.0	7.0	40	78
CF9.UL.10.12	12G1.0	11.5	119	228
CF9.UL.10.18 [11]	18G1.0	14.5	178	332
CF9.UL.10.25	25G1.0	16.0	248	447
CF9.UL.15.04	4G1.5	8.0	60	102
CF9.UL.15.05	5G1.5	8.5	75	124
CF9.UL.15.07 [17]	7G1.5	10.0	104	171
CF9.UL.15.12	12G1.5	13.5	178	309
CF9.UL.15.18	18G1.5	16.0	267	449
CF9.UL.15.25	25G1.5	19.0	371	650
CF9.UL.25.04	4G2.5	9.0	100	159
CF9.UL.25.05	5G2.5	10.0	124	194
CF9.UL.25.07 [17]	7G2.5	12.0	174	270
CF9.UL.25.12	12G2.5	16.0	297	502
CF9.UL.25.18	18G2.5	20.0	445	737
CF9.UL.25.25	25G2.5	23.5	612	1,011
CF9.UL.40.04	4G4.0	10.5	159	231

[11] Phase-out model
[17] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



igus® chainflex® cables in a drilling application.

chainflex CASE

Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

EPLAN download, configurators ▶ www.igus.eu/CF9UL

Control cable | TPE | chainflex® CF10.UL

10 million
Double strokes guaranteed

5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For extremely heavy duty applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- Flame-retardant
- PVC-free
- Low-temperature-flexible
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 5 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d
Temperature	**e-chain® linear**	-35°C up to +100°C
	flexible	-45°C up to +100°C (following DIN EN 60811-504)
	fixed	-50°C up to +100°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.	100m/s²	
Travel distance	Unsupported travels and up to 400m for gliding applications, Class 6	

Cable structure

Conductor
Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).

Core insulation
Mechanically high-quality TPE mixture.

Core structure
Number of cores < 12: Cores wound in a layer with short pitch length.
Number of cores ≥ 12: Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.

Core identification
Cores < 0.75mm²: Colour code in accordance with DIN 47100.
Cores ≥ 0.75mm²: Black cores with white numbers, one green-yellow core.

Inner jacket
TPE mixture adapted to suit the requirements in e-chains®.

Overall shield
Extremely bending-resistant braiding made of tinned copper wires.
Coverage linear approx. 70%, optical approx. 90%

Outer jacket
Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®.
Colour: Slate grey (similar to RAL 7015)

CFRIP®
Strip cables faster: a tear strip is moulded into the inner jacket
Video ▶ www.igus.eu/CFRIP

Electrical information

Nominal voltage
300/500V (following DIN VDE 0298-3)
Cores < 0.5mm²: 300V (following UL)
Cores ≥ 0.5mm²: 1000V (following UL)

Testing voltage
2,000V (following DIN EN 50395)



Example image

EPLAN download, configurators ▶ www.igus.eu/CF10UL

CF10.UL
TPE
5 x d

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	5	**6**	≥ 400m	
Oil resistance	none	1	2	3	**4**	highest			
Torsion	none	**1**	2	3	4	±360°			

Properties and approvals

UV resistance — High

Oil resistance — Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4

Flame-retardant — According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame

Silicone-free — Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)

PFAS-free — Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances

UL verified — Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"

UL/CSA AWM — See data sheet for details ▶ www.igus.eu/CF10UL

NFPA — Following NFPA 79-2018, chapter 12.9

DNV — Type Approval Certificate TAE00003X2

REACH — In accordance with regulation (EC) No. 1907/2006 (REACH)

Lead-free — Following 2011/65/EC (RoHS-II/RoHS-III)

Cleanroom — According to ISO Class 1. The outer jacket material of this series complies with CF34.UL.25.04.D - tested by IPA according to standard DIN EN ISO 14644-1

CE — Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-35/-25	6.8	7.5	8.5
-25/+90	5	6	7
+90/+100	6.8	7.5	8.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, ship to shore, outdoor cranes, low-temperature applications

Control cable | TPE | chainflex® CF10.UL

Strip cables 50% faster with CFRIP® tear strip

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	5	**6**	≥ 400m	
Oil resistance	none	1	2	3	**4**	highest			
Torsion	none	**1**	2	3	4	±360°			



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF10.UL.02.04	(4x0.25)C	6.5	24	60
CF10.UL.02.08	(8x0.25)C	8.5	40	94
CF10.UL.02.12	(12x0.25)C	9.5	64	137
CF10.UL.02.25	(25x0.25)C	12.5	110	241
CF10.UL.05.04	(4x0.5)C	7.5	37	83
CF10.UL.05.05	(5x0.5)C	8.0	44	98
CF10.UL.05.12	(12x0.5)C	11.5	103	211
CF10.UL.05.25	(25x0.5)C	15.5	186	383
CF10.UL.07.04	(4G0.75)C	8.0	49	101
CF10.UL.07.05 [11)]	(5G0.75)C	8.5	59	119
CF10.UL.07.07	(7G0.75)C	10.0	89	171
CF10.UL.07.12	(12G0.75)C	12.5	135	268
CF10.UL.07.25 [11)]	(25G0.75)C	17.0	256	489
CF10.UL.10.02	(2x1.0)C	7.5	38	88
CF10.UL.10.03 [11)]	(3G1.0)C	8.0	48	99
CF10.UL.10.04	(4G1.0)C	8.5	61	117
CF10.UL.10.05 [11)]	(5G1.0)C	9.0	72	137
CF10.UL.10.07	(7G1.0)C	11.0	110	204
CF10.UL.10.25 [11)]	(25G1.0)C	18.5	348	608
CF10.UL.15.04	(4G1.5)C	9.0	83	144
CF10.UL.15.05 [11)]	(5G1.5)C	10.0	111	184
CF10.UL.15.07 [17)]	(7G1.5)C	11.5	148	250
CF10.UL.15.12	(12G1.5)C	15.0	240	420
CF10.UL.15.18	(18G1.5)C	18.5	365	613
CF10.UL.25.04	(4G2.5)C	11.0	140	232
CF10.UL.25.07 [17)]	(7G2.5)C	14.0	226	369
CF10.UL.25.12	(12G2.5)C	18.5	395	666
CF10.UL.40.04	(4G4.0)C	12.5	205	315

[11)] Phase-out model
[17)] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x** = without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case



The special cable structure of chainflex® CF10.UL guarantees quality – offered by igus® fully harnessed.

EPLAN download, configurators ▶ www.igus.eu/CF10UL

PVC | iguPUR | PUR | **TPE**

Control cable | TPE | chainflex® CF9



Example image

12.5 million
Double strokes guaranteed

5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For heaviest duty applications
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC and halogen-free
- Low-temperature-flexible
- Hydrolysis and microbe-resistant

Now available with UL approval & 25% longer service life

Dynamic information

Bend radius	**e-chain® linear**	minimum 5 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d
Temperature	**e-chain® linear**	-35°C up to +100°C
	flexible	-50°C up to +100°C (following DIN EN 60811-504)
	fixed	-55°C up to +100°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		100m/s²
Travel distance		Unsupported travels and up to 400m for gliding applications, Class 6
Torsion		Torsion ±90°, with 1m cable length, Class 2

Cable structure

Conductor
Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).

Core insulation
Mechanically high-quality TPE mixture.

Core structure
Number of cores < 12: Cores wound in a layer with short pitch length.
Number of cores ≥ 12: Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.

Core identification
Cores < 0.75mm²: Colour code in accordance with DIN 47100.
Cores ≥ 0.75mm²: Black cores with white numbers, one green-yellow core.
CF9.02.03.INI: brown, blue, black
CF9.03.04.INI: brown, blue, black, white
CF9.03.05.INI: brown, blue, black, white, green-yellow
CF9.03.16.07.03.INI:
0.34mm²: violet/red/grey/red-blue, green/grey-pink/white-green/white-yellow, white-grey/black/yellow-brown/brown-green, white/yellow/pink/grey-brown
0.75mm²: blue/green-yellow/brown

Outer jacket
Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®.
Colour: Steel blue (similar to RAL 5011)

CFRIP®
Strip cables faster: a tear strip is moulded into the outer jacket
Video ▶ www.igus.eu/CFRIP

EPLAN download, configurators ▶ www.igus.eu/CF9

CF9
TPE
5 x d

Class 7.6.4.2

Basic requirements	low	1	2	3	4	5	6	**7**	highest
Travel distance	unsupported	1	2	3	4	5	**6**		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	1	**2**	3	4				±360°

Electrical information

Nominal voltage
300/500V (following DIN VDE 0298-3)
Cores < 0.5mm²: 300V (following UL)
Cores ≥ 0.5mm²: 1000V (following UL)

Testing voltage
2,000V (following DIN EN 50395)

Properties and approvals

UV resistance
High

Oil resistance
Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4

Silicone-free
Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)

Halogen-free
Following DIN EN 60754

PFAS-free
Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances

UL verified
Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"

UL AWM
See data sheet for details ▶ www.igus.eu/CF9
(from production date 01/2022)

REACH
In accordance with regulation (EC) No. 1907/2006 (REACH)

Lead-free
Following 2011/65/EC (RoHS-II/RoHS-III)

Cleanroom
According to ISO Class 1, material/cable tested by IPA according to DIN EN ISO standard 14644-1

CE
Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	12.5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-35/-25	6.8	7.5	8.5
-25/+90	5	6	7
+90/+100	6.8	7.5	8.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 7
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 1m cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

Control cable | TPE | chainflex® CF9

Class 7.6.4.2

Basic requirements	low	1	2	3	4	5	6	**7**	highest
Travel distance	unsupported	1	2	3	4	5	**6**		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	1	**2**	3	4				±360°

Strip cables 50% faster with CFRIP® tear strip



Example image

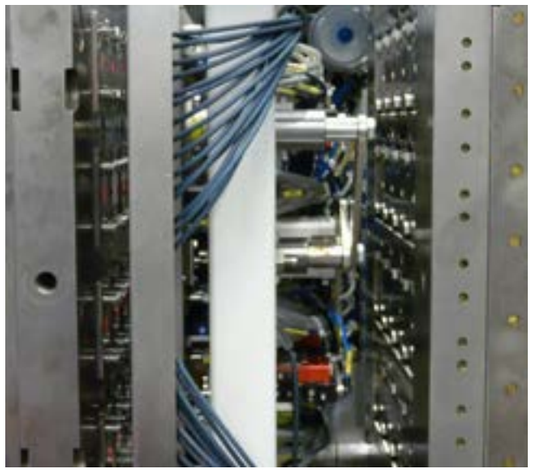
Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF9.02.02	2x0.25	4.5	5	18
CF9.02.03.INI	3x0.25	4.5	8	22
CF9.02.06	6x0.25	5.5	15	36
CF9.02.07	7x0.25	6.5	18	43
CF9.02.08	8x0.25	6.5	20	49
CF9.02.12	12x0.25	8.0	30	71
CF9.02.18	18x0.25	9.0	45	100
CF9.02.20	20x0.25	9.5	50	113
CF9.02.25	25x0.25	10.5	63	138
CF9.03.04.INI	4x0.34	5.0	14	31
CF9.03.05.INI	5x0.34	5.5	17	36
CF9.03.06	6x0.34	6.0	21	43
CF9.03.08	8x0.34	7.0	28	57
CF9.03.16.07.03.INI	16x0.34+3x0.75	11	77	152
CF9.05.02	2x0.5	5.0	10	28
CF9.05.03	3x0.5	5.5	15	34
CF9.05.04	4x0.5	6.0	20	41
CF9.05.05	5x0.5	6.5	25	50
CF9.05.07	7x0.5	7.5	35	69
CF9.05.12	12x0.5	10.0	60	123
CF9.05.18	18x0.5	11.5	90	179
CF9.05.25	25x0.5	13.5	124	240
CF9.05.36	36x0.5	16.5	178	345
CF9.07.04	4G0.75	6.5	30	56
CF9.07.05	5G0.75	7.0	38	69
CF9.07.07	7G0.75	8.0	53	94
CF9.07.12	12G0.75	11.0	90	176
CF9.07.20	20G0.75	13.5	149	270
CF9.07.25	25G0.75	15	186	330
CF9.10.03	3G1.0	6.0	30	54
CF9.10.04	4G1.0	6.5	40	68
CF9.10.05	5G1.0	7.5	50	84
CF9.10.12	12G1.0	12.0	120	212
CF9.10.18	18G1.0	14.0	179	303
CF9.10.25	25G1.0	16.5	248	417

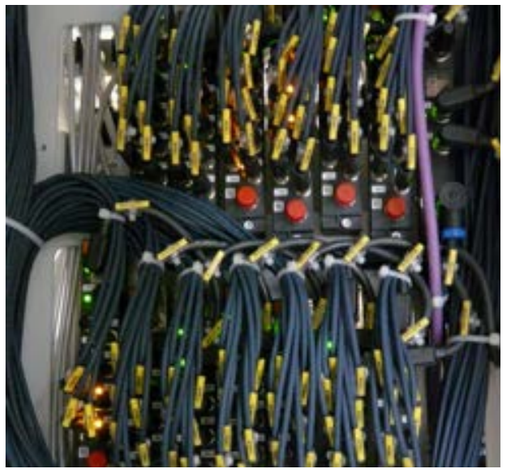
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF9.15.02	2x1.5	6.5	30	55
CF9.15.04	4G1.5	7.5	60	90
CF9.15.05	5G1.5	8.0	75	111
CF9.15.07 [17)]	7G1.5	9.5	104	159
CF9.15.12	12G1.5	13.0	178	280
CF9.15.18	18G1.5	16.0	267	412
CF9.15.25	25G1.5	19.0	371	585
CF9.15.36	36G1.5	22.5	534	816
CF9.25.04	4G2.5	9.0	100	144
CF9.25.05	5G2.5	9.5	124	176
CF9.25.07 [17)]	7G2.5	12.0	174	253
CF9.25.12	12G2.5	17.0	297	465
CF9.25.16	16G2.5	19.0	396	616
CF9.25.18 [7)]	18G2.5	22.5	445	795
CF9.25.25	25G2.5	23.0	612	926
CF9.40.04	4G4.0	10.5	159	212
CF9.60.04	4G6.0	12.0	238	308
CF9.60.05	5G6.0	13.0	297	378
CF9.100.04	4G10	16.5	396	550
CF9.160.04	4G16	20.5	633	843

[7)] Nominal voltage 600/1000V
[17)] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core





chainflex® CF9 INI cables in a high-performance system for plastics processing with cycle times in seconds. e-chain® E6 series. (Source: Hekuma)

EPLAN download, configurators ▶ www.igus.eu/CF9

CF9
TPE
5 x d

PVC | iguPUR | PUR | **TPE**

Control cable | TPE | chainflex® CF10

12.5 million
Double strokes guaranteed

5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For heaviest duty applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- PVC and halogen-free
- Low-temperature-flexible
- Hydrolysis and microbe-resistant

Now available with UL approval & 25% longer service life



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 5 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d
Temperature	**e-chain® linear**	-35°C up to +100°C
	flexible	-50°C up to +100°C (following DIN EN 60811-504)
	fixed	-55°C up to +100°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		100m/s²
Travel distance		Unsupported travels and up to 400m for gliding applications, Class 6

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	**Number of cores < 12:** Cores wound in a layer with short pitch length. **Number of cores ≥ 12:** Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
Core identification	**Cores < 0.75mm²:** Colour code in accordance with DIN 47100. **Cores ≥ 0.75mm²:** Black cores with white numbers, one green-yellow core. **CF9.03.05.INI:** brown, blue, black, white, green-yellow
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Steel blue (similar to RAL 5011)
CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ▶ www.igus.eu/CFRIP

EPLAN download, configurators ▶ www.igus.eu/CF10

Class 7.6.4.1

Basic requirements	low	1	2	3	4	5	6	**7** highest
Travel distance	unsupported	1	2	3	4	5	**6**	≥ 400m
Oil resistance	none	1	2	3	**4**	highest		
Torsion	none	**1**	2	3	4	±360°		

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) **Cores < 0.5mm²:** 300V (following UL) **Cores ≥ 0.5mm²:** 1000V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL AWM	See data sheet for details ▶ www.igus.eu/CF10 (from production date 01/2022)
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	12.5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-35/-25	6.8	7.5	8.5
-25/+90	5	6	7
+90/+100	6.8	7.5	8.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 7
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, ship to shore, outdoor cranes, low-temperature applications

Control cable | TPE | chainflex® CF10

Class 7.6.4.1

Basic requirements	low	1	2	3	4	5	6	**7**	highest
Travel distance	unsupported	1	2	3	4	5	**6**		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	**1**	2	3	4				±360°

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF10.01.12	(12x0.14)C	7.5	37	78
CF10.01.18	(18x0.14)C	9.5	63	119
CF10.02.04	(4x0.25)C	6.5	24	49
CF10.02.08	(8x0.25)C	8.0	40	79
CF10.02.12	(12x0.25)C	9.5	65	122
CF10.02.25	(25x0.25)C	12.0	110	211
CF10.03.05.INI	(5x0.34)C	7.0	33	63
CF10.05.04	(4x0.5)C	7.0	37	70
CF10.05.05	(5x0.5)C	7.5	44	81
CF10.05.07	(7x0.5)C	8.5	58	104
CF10.05.12	(12x0.5)C	12.0	107	198
CF10.05.18	(18x0.5)C	13.5	144	261
CF10.05.25	(25x0.5)C	15.0	186	332
CF10.07.04	(4G0.75)C	7.5	49	86
CF10.07.05	(5G0.75)C	8.0	58	102
CF10.07.07	(7G0.75)C	9.5	90	147
CF10.07.12	(12G0.75)C	12.5	139	244
CF10.07.20	(20G0.75)C	15.0	210	350
CF10.07.25	(25G0.75)C	17.0	255	443
CF10.10.02	(2x1.0)C	7.5	38	72
CF10.10.03	(3G1.0)C	7.5	48	84
CF10.10.04	(4G1.0)C	8.0	60	100
CF10.10.05	(5G1.0)C	8.5	72	118
CF10.10.07	(7G1.0)C	10.0	110	172
CF10.10.12	(12G1.0)C	13.5	175	294
CF10.10.18	(18G1.0)C	16.0	244	404
CF10.10.25	(25G1.0)C	19.0	323	550
CF10.15.04	(4G1.5)C	9.0	94	141
CF10.15.05	(5G1.5)C	9.5	111	163
CF10.15.07 [17)]	(7G1.5)C	11.5	148	224
CF10.15.12	(12G1.5)C	15.0	240	373
CF10.15.18	(18G1.5)C	18.5	365	568
CF10.25.04	(4G2.5)C	11.0	140	209
CF10.25.07 [17)]	(7G2.5)C	13.5	227	335
CF10.25.12	(12G2.5)C	19.5	402	636
CF10.40.04	(4G4.0)C	12.5	205	287
CF10.40.05 [11)]	(5G4.0)C	13.5	254	351

[11)] Phase-out model
[17)] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

EPLAN download, configurators ▶ www.igus.eu/CF10

Order example: CF10.01.12 - to your desired length (0.5m steps)
CF10 chainflex® series .01 Code nominal cross section .12 Number of cores

Order online ▶ www.igus.eu/CF10

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



chainflex CF10 control cable in storage and retrieval units e-chain®: E2 system

Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

EU2024

CF10
TPE
5 x d

Control cable | TPE | chainflex® CF98.PLUS

Example image

100 million
Double strokes guaranteed

3 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For heaviest duty applications and very small radii down to 3 x d
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC and halogen-free
- Low-temperature-flexible
- Hydrolysis and microbe-resistant

100 million double strokes in e-chains® guaranteed!

Dynamic information

Bend radius	**e-chain® linear**	minimum 3 x d
	flexible	minimum 3 x d
	fixed	minimum 3 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-50°C up to +90°C (following DIN EN 60811-504)
	fixed	-55°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		100m/s²

Travel distance — Short, very fast applications with small radii and restricted installation space, Class 5

Torsion — Torsion ±90°, with 1m cable length, Class 2

Cable structure

Conductor — Conductor consisting of a highly flexible special alloy.

Core insulation — Mechanically high-quality TPE mixture.

Core structure — Cores wound in a layer with especially short pitch length.

Core identification — Colour code in accordance with DIN 47100.
CF98.PLUS.02.03.INI: brown, blue, black
CF98.PLUS.03.04.INI: brown, blue, black, white

Outer jacket — Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®.
Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage — 300/500 V (following DIN VDE 0298-3)

Testing voltage — 2,000 V (following DIN EN 50395)

Class 7.5.4.2

Basic requirements	low	1	2	3	4	5	6	**7**	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	1	**2**	3	4				±360°

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	40 million	100 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-35/-25	4	6	7
-25/+80	3	5	6
+80/+90	4	6	7

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heaviest duty applications and very small radii down to 3 x d, Class 7
- Especially for short, very fast applications with small radii and restricted installation space, Class 5
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 1m cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Pick and place machines, automatic doors, cleanroom, very quick handling

CF98.PLUS
TPE
3 x d

Control cable | TPE | chainflex® CF98.PLUS

Class 7.5.4.2

Basic requirements	low	1	2	3	4	5	6	**7** highest
Travel distance	unsupported	1	2	3	4	**5**	6	≥ 400m
Oil resistance	none	1	2	3	**4** highest			
Torsion	none	1	**2**	3	4	±360°		

CF98.PLUS
TPE
3 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF98.PLUS.01.02	2x0.14	4.5	4	18
CF98.PLUS.01.03	3x0.14	4.5	6	20
CF98.PLUS.01.04	4x0.14	5.0	7	25
CF98.PLUS.01.08	8x0.14	6.5	15	45
CF98.PLUS.02.03.INI	3x0.25	5.0	10	29
CF98.PLUS.02.04	4x0.25	5.5	14	36
CF98.PLUS.02.08	8x0.25	7.5	29	68
CF98.PLUS.03.04.INI	4x0.34	6.0	15	38
CF98.PLUS.05.04	4x0.5	6.0	32	53

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

Order example: CF98.PLUS.01.02 – to your desired length (0.5m steps)
CF98.PLUS chainflex® series .01 Code nominal cross section .02 Number of cores

Order online ▶ www.igus.eu/CF98PLUS

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Smaller and smaller installation spaces, shorter and shorter cycle times, 99% availability. These are the requirements that innovative automation specialists must meet.
To do this, igus® has been working on an unprecedented innovation for more than ten years.
The new generation of chainflex® **CF98.PLUS** (unshielded) and chainflex® **CF99.PLUS** (shielded) control cables are a consistent development of the well-known, highly successful CF98/CF99 and CF298 and CF299 control cable series.

Systematic research on process technology and insulation and conductor materials supported by a wide variety of test series in the igus® laboratory enabled igus® to develop this new generation of control cables.
The result is cable series that can be used reliably with a minimum **bend radius of just 3 x d** (3 x cable diameter).

The cross-sectional areas range from 0.14mm² to 0.5mm² in both the shielded and unshielded versions.
This makes igus® the first and only manufacturer to offer catalogue goods for use in an e-chain® with a **guaranteed service life of 100 million double strokes!**
This is with acceleration values of up to 100m/s².

EPLAN download, configurators ▶ www.igus.eu/CF98PLUS

Control cable | TPE | chainflex® CF99.PLUS



Example image

100 million
Double strokes guaranteed

3 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For heaviest duty applications and very small radii down to 3 x d
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- PVC and halogen-free
- Low-temperature-flexible
- Hydrolysis and microbe-resistant

100 million double strokes in e-chains® guaranteed!

Dynamic information

Bend radius	**e-chain® linear**	minimum 3 x d
	flexible	minimum 3 x d
	fixed	minimum 2 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-50°C up to +90°C (following DIN EN 60811-504)
	fixed	-55°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		100m/s²
Travel distance		Short, very fast applications with small radii and restricted installation space, Class 5

Cable structure

Conductor	Conductor consisting of a highly flexible special alloy.
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores wound in a layer with especially short pitch length.
Core identification	Colour code in accordance with DIN 47100.
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending resistant braiding made of alloy wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	300/500 V (following DIN VDE 0298-3)
Testing voltage	2,000 V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus.eu/CF99PLUS

EU2024

Class 7.5.4.1

Basic requirements	low	1	2	3	4	5	6	**7** highest
Travel distance	unsupported	1	2	3	4	**5**	6	≥ 400m
Oil resistance	none	1	2	3	**4** highest			
Torsion	none	**1**	2	3	4	±360°		

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	40 million	100 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-35/-25	4	6	7
-25/+80	3	5	6
+80/+90	4	6	7

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heaviest duty applications and very small radii down to 3 x d, Class 7
- Especially for short, very fast applications with small radii and restricted installation space, Class 5
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Pick and place machines, automatic doors, cleanroom, very quick handling

CF99.PLUS
TPE
3 x d

Control cable | TPE | chainflex® CF99.PLUS

Class 7.5.4.1

Basic requirements	low	1	2	3	4	5	6	**7** highest
Travel distance	unsupported	1	2	3	4	**5**	6	≥ 400m
Oil resistance	none	1	2	3	**4** highest			
Torsion	none	**1**	2	3	4	±360°		

CF99.PLUS
TPE
3 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF99.PLUS.01.02	(2x0.14)C	6.0	12	39
CF99.PLUS.01.04	(4x0.14)C	6.5	16	48
CF99.PLUS.01.08	(8x0.14)C	8.0	28	76
CF99.PLUS.02.04	(4x0.25)C	7.0	23	60
CF99.PLUS.03.08	(8x0.34)C	9.5	45	111

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

Order example: CF99.PLUS.01.02 – to your desired length (0.5m steps)
CF99.PLUS **chainflex® series** .01 **Code nominal cross section** .02 **Number of cores**

Order online ▶ www.igus.eu/CF99PLUS

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Smaller and smaller installation spaces, shorter and shorter cycle times, 99% availability. These are the requirements that innovative automation specialists must meet.
To do this, igus® has been working on an unprecedented innovation for more than ten years.
The new generation of chainflex® **CF98.PLUS** (unshielded) and chainflex® **CF99.PLUS** (shielded) control cables are a consistent development of the well-known, highly successful CF98/CF99 and CF298 and CF299 control cable series.

Systematic research on process technology and insulation and conductor materials supported by a wide variety of test series in the igus® laboratory enabled igus® to develop this new generation of control cables.
The result is cable series that can be used reliably with a minimum **bend radius of just 3 x d** (3 x cable diameter).

The cross-sectional areas range from 0.14mm² to 0.5mm² in both the shielded and unshielded versions.
This makes igus® the first and only manufacturer to offer catalogue goods for use in an e-chain® with a **guaranteed service life of 100 million double strokes!**
This is with acceleration values of up to 100m/s².

EPLAN download, configurators ▶ www.igus.eu/CF99PLUS

Data cables

Coax cables



chainflex® cable	Jacket	Shield	Minimum bend radius e-chain® [x d]	Temperature e-chain® from/to [°C]	Approvals and standards	Oil-resistant	Torsion-resistant	v max. [m/s] unsupported	v max. [m/s] gliding	a max.	Page
Data cables – wound in layers											
CF240	PVC	✓	10	+5/+70		✓		3	2	20	142
CF240.PUR	PUR	✓	10	-25/+80		✓		3	2	20	146
Data cables – twisted pair											
CF211	PVC	✓	7.5	+5/+70		✓		5	3	50	150
CF211.PUR	PUR	✓	7.5	-25/+80		✓		5	3	50	154 New
CF11	TPE	✓	6.8	-35/+100		✓		10	6	100	158
Data cables – twisted pair with pair shield											
CF112	PUR	✓	10	-25/+80		✓		10	5	80	162
CF12	TPE	✓	10	-35/+100		✓		10	6	100	166
Coax cable											
CFKoax	TPE	✓	10	-35/+100 -35/+70		✓		10	5	100	168
Twistable data cable (twistable cables chapter ▶ Page 382)											
CFROBOT3	PUR	✓	10	-25/+80		✓	✓				394

4-years chainflex® guarantee

Guaranteed service life for predictable reliability

▶ Selection table page 140

With the help of the chainflex® service life calculator, you can quickly and easily calculate the expected service life of chainflex® cables specifically for your application:

www.igus.eu/chainflexlife

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

chainflex® guarantee

Guaranteed service life (1)

	chainflex® cables	Temperature, from/to [°C]	v max. [m/s] unsupported	v max. [m/s] gliding	a max. [m/s²]	Travel distance [m]	Minimum bend radius [x d] for travel distance < 10m	Minimum bend radius [x d] for travel distance ≥ 10m	Minimum bend radius [x d] for travel distance < 10m	Minimum bend radius [x d] for travel distance ≥ 10m	Minimum bend radius [x d] for travel distance < 10m	Minimum bend radius [x d] for travel distance ≥ 10m	Page
Data cables							5 million (1 million) double strokes *		7.5 million (3 million) double strokes *		10 million (5 million) double strokes *		
	CF240	+5 / +15	3	2	20	≤ 50	12.5	15	13.5	16	14.5	17	142
		+15 / +60					10	12.5	11	13.5	12	14.5	
		+60 / +70					12.5	15	13.5	16	14.5	17	
	CF240.PUR	-25 / -15	3	2	20	≤ 50	12.5	15	13.5	16	14.5	17	146
		-15 / +70					10	12.5	11	13.5	12	14.5	
		+70 / +80					12.5	15	13.5	16	14.5	17	
	CF211	+5 / +15	5	3	50	≤ 100	10		11		12		150
		+15 / +60					7.5		8.5		9.5		
		+60 / +70					10		11		12		
	CF211.PUR New!	-25 / -15	5	3	50	≤ 100	10		11		12		154
		-15 / +70					7.5		8.5		9.5		
		+70 / +80					10		11		12		
							5 million		7.5 million		12.5 million		
	CF11	-35 / -25	10	6	100	≤ 400	7.5		8.5		9.5		158
		-25 / +90					6.8		7.5		8.5		
		+90 / +100					7.5		8.5		9.5		
							5 million		7.5 million		10 million		
	CF112	-20 / -15	10	5	80	≤ 100	12.5		13.5		14.5		162
		-15 / +70					10		11		12		
		+70 / +80					12.5		13.5		14.5		
							5 million		7.5 million		12.5 million		
	CF12	-35 / -25	10	6	100	≤ 400	12.5		13.5		14.5		166
		-25 / +90					10		11		12		
		+90 / +100					12.5		13.5		14.5		
Coax cables							5 million		7.5 million		10 million		
	CFKoax1/3	-35 / -25	10	5	100	≤ 400	12.5		13.5		14.5		168
		-25 / +90					10		11		12		
		+90 / +100					12.5		13.5		14.5		
	CFKoax2	-35 / -25	10	5	100	≤ 400	12.5		13.5		14.5		168
		-25 / +60					10		11		12		
		+60 / +70					12.5		13.5		14.5		

(1) Guaranteed service life for these series (details ▶ see page 28-29)

* Higher number of double strokes? Calculate service life online: ▶ www.igus.eu/chainflexlife

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Data cable | PVC | chainflex® CF240



Example image

10 million Double strokes guaranteed

10 x d Bend radius, e-chain®

50m Travel distance, e-chain®

- For medium duty applications
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
	gliding	2m/s
a max.		20m/s²
Travel distance		Unsupported travels and up to 50m for gliding applications, Class 4

Cable structure

Conductor	Very finely stranded special conductors of particularly bending resistant design made of bare copper wires.
Core insulation	Mechanically high-quality TPE mixture.
Core structure	The individual cores are wound in layers with a short pitch length.
Core identification	Colour code in accordance with DIN 47100.
Intermediate layer	Foil taping over the outer layer.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Silver-grey (similar to RAL 7001)

Electrical information

Nominal voltage	300/300V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	1,500V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus.eu/CF240

Class 4.4.2.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	2	3	**4**	5	6	≥ 400m
Oil resistance	none	1	**2**	3	4	highest		
Torsion	none	**1**	2	3	4	±360°		

Properties and approvals

Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF240
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1, material/cable tested by IPA according to DIN EN ISO standard 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
Temperature, from/to [°C]	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	12.5	15	13.5	16	14.5	17
+15/+60	10	12.5	11	13.5	12	14.5
+60/+70	12.5	15	13.5	16	14.5	17

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 50m for gliding applications, Class 4
- Light oil influence, Class 2
- No torsion, Class 1
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units, machining units/packaging machines, handling, indoor cranes

PVC | iguPUR | PUR | TPE

Data cable | PVC | chainflex® CF240

Class 4.4.2.1

Basic requirements	low	1	2	3	**4**	5	6	7 highest
Travel distance	unsupported	1	2	3	**4**	5	6	≥ 400m
Oil resistance	none	1	**2**	3	4	highest		
Torsion	none	**1**	2	3	4	±360°		

CF240
PVC
10 x d



Example image

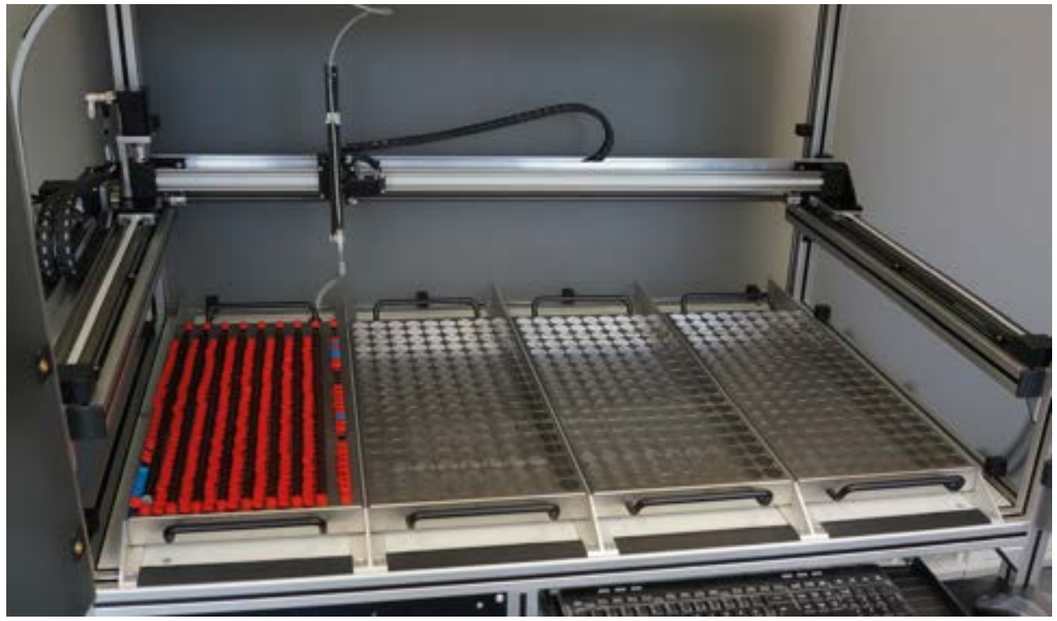
Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF240.01.03	(3x0.14)C	4.5	12	28
CF240.01.04	(4x0.14)C	5.0	17	32
CF240.01.05	(5x0.14)C	5.5	19	37
CF240.01.07	(7x0.14)C	6.0	25	47
CF240.01.14	(14x0.14)C	7.0	41	75
CF240.01.18	(18x0.14)C	7.5	51	90
CF240.01.24	(24x0.14)C	8.5	64	125
CF240.02.03	(3x0.25)C	5.0	19	35
CF240.02.04	(4x0.25)C	5.5	23	45
CF240.02.05	(5x0.25)C	6.0	28	49
CF240.02.07	(7x0.25)C	6.5	35	61
CF240.02.08	(8x0.25)C	7.0	39	68
CF240.02.14	(14x0.25)C	7.5	60	92
CF240.02.18	(18x0.25)C	8.5	71	122
CF240.02.24	(24x0.25)C	10.0	95	161
CF240.03.02	(2x0.34)C	5.5	21	37
CF240.03.03	(3x0.34)C	5.5	29	42
CF240.03.04	(4x0.34)C	6.0	33	51
CF240.03.05	(5x0.34)C	6.5	38	56
CF240.03.07	(7x0.34)C	7.5	50	77
CF240.03.10	(10x0.34)C	8.0	58	97
CF240.03.14	(14x0.34)C	8.0	74	112
CF240.03.18	(18x0.34)C	9.0	91	139
CF240.03.24	(24x0.34)C	10.0	119	177

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Order example: CF240.01.03 - to your desired length (0.5m steps)
CF240 **chainflex® series** .01 **Code nominal cross section** .03 **Number of cores**

Order online ▶ www.igus.eu/CF240

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



chainflex® CF240 data cables in small handling machines



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Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

EPLAN download, configurators ▶ www.igus.eu/CF240

PVC | iguPUR | **PUR** | TPE

Data cable | PUR | chainflex® CF240.PUR



Example image

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

50m
Travel distance, e-chain®

- For medium duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
	gliding	2m/s
a max.	20m/s²	
Travel distance	Unsupported travels and up to 50m for gliding applications, Class 4	

Cable structure

Conductor	Very finely stranded special conductors of particularly bending resistant design made of bare copper wires.
Core insulation	Mechanically high-quality TPE mixture.
Core structure	The individual cores are wound in layers with a short pitch length.
Core identification	Colour code in accordance with DIN 47100.
Intermediate layer	Foil taping over the outer layer.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Window-grey (similar to RAL 7040)

Electrical information

Nominal voltage	300/300V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	1,500V (following DIN EN 50395)

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3

EPLAN download, configurators ▶ www.igus.eu/CF240PUR

4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 4.4.3.1

Basic requirements	low 1 2 3 **4** 5 6 7 highest
Travel distance	unsupported 1 2 3 **4** 5 6 ≥ 400m
Oil resistance	none 1 2 **3** 4 highest
Torsion	none **1** 2 3 4 ±360°

Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ **www.igus.eu/CF240PUR**
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003X3
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
Temperature, from/to [°C]	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]
-25/-15	12.5	15	13.5	16	14.5	17
-15/+70	10	12.5	11	13.5	12	14.5
+70/+80	12.5	15	13.5	16	14.5	17

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 50m for gliding applications, Class 4
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications with average sun radiation
- Machining units/machine tools, storage and retrieval units for high-bay warehouses, packaging industry, quick handling, refrigerating sector

UL-verified chainflex® guarantee ... www.igus.eu/ul-verified

CF240.PUR
PUR
10 x d

Data cable | PUR | chainflex® CF240.PUR

Class 4.4.3.1

Basic requirements	low	1	2	3	**4**	5	6	7 highest
Travel distance	unsupported	1	2	3	**4**	5	6	≥ 400m
Oil resistance	none	1	2	3	**4**	highest		
Torsion	none	**1**	2	3	4	±360°		

CF240.PUR
PUR
10 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF240.PUR.01.04	(4x0.14)C	5.5	15	39
CF240.PUR.01.07	(7x0.14)C	6.5	24	54
CF240.PUR.01.08 [11)]	(8x0.14)C	7.0	26	64
CF240.PUR.01.14	(14x0.14)C	7.5	41	79
CF240.PUR.01.18	(18x0.14)C	8.0	51	97
CF240.PUR.01.25	(25x0.14)C	8.5	66	101
CF240.PUR.02.03	(3x0.25)C	5.5	18	41
CF240.PUR.02.04	(4x0.25)C	6.0	22	45
CF240.PUR.02.05	(5x0.25)C	6.0	25	50
CF240.PUR.02.07	(7x0.25)C	7.0	33	65
CF240.PUR.02.08	(8x0.25)C	7.0	39	72
CF240.PUR.02.14	(14x0.25)C	8.0	60	103
CF240.PUR.02.18	(18x0.25)C	9.0	71	122
CF240.PUR.02.25	(25x0.25)C	10.5	97	152
CF240.PUR.03.03	(3x0.34)C	5.0	25	47
CF240.PUR.03.04	(4x0.34)C	5.5	30	54
CF240.PUR.03.05	(5x0.34)C	6.0	34	60
CF240.PUR.03.07	(7x0.34)C	6.5	45	84
CF240.PUR.03.14	(14x0.34)C	8.0	74	126
CF240.PUR.03.18	(18x0.34)C	8.5	91	156

[11)] Phase-out model

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Order example: CF240.PUR.01.04 - to your desired length (0.5m steps)
CF240.PUR **chainflex® series** .01 **Code nominal cross section** .04 **Number of cores**

Order online ▶ www.igus.eu/CF240PUR

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

cost down...
...life up

Reduce cost, improve technology, now!
Do the chainflex® price check ...
www.igus.eu/cf-price-check

… for example: reduce cost with CF240 ...



Cables available in the chainflex® CASE
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More on this on page 24/25 and online: www.igus.eu/cf-case

EPLAN download, configurators ▶ www.igus.eu/CF240PUR

Data cable | PVC | chainflex® CF211



Example image

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For heavy duty applications
- PVC outer jacket
- Shielded
- Twisted pair
- Oil-resistant
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	5m/s
	gliding	3m/s
a max.	50m/s²	
Travel distance	Unsupported travels and up to 100m for gliding applications, Class 5	

Cable structure

Conductor	Very finely stranded special conductors of particularly bending resistant design made of bare copper wires.
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores twisted in pairs with a short pitch length, core pairs then wound with short pitch lengths.
Core identification	Colour code in accordance with DIN 47100.
Intermediate layer	Foil taping over the outer layer.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Silver-grey (similar to RAL 7001)

Electrical information

Nominal voltage	300/300V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	1,500V (following DIN EN 50395)

Class 5.5.2.1

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6	≥ 400m
Oil resistance	none	1	**2**	3	4	highest		
Torsion	none	**1**	2	3	4	±360°		

Properties and approvals

Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF211DATA
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF240.02.24 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	10	11	12
+15/+60	7.5	8.5	9.5
+60/+70	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 100m for gliding applications, Class 5
- Light oil influence, Class 2
- No torsion, Class 1
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units, machining units/packaging machines, handling, indoor cranes

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EU2024
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CF211
PVC
7.5 x d

Data cable | PVC | chainflex® CF211

Class 5.5.2.1

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	**2**	3	4	highest			
Torsion	none	**1**	2	3	4	±360°			

CF211
PVC
7.5 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF211.02.01.02	(2x0.25)C	5.0	18	33
CF211.02.02.02 [2)]	(2x(2x0.25))C	6.0	25	51
CF211.02.03.02	(3x(2x0.25))C	7.0	36	63
CF211.02.04.02	(4x(2x0.25))C	7.5	44	76
CF211.02.05.02	(5x(2x0.25))C	8.5	52	92
CF211.02.06.02	(6x(2x0.25))C	9.0	62	105
CF211.02.08.02	(8x(2x0.25))C	10.5	78	137
CF211.02.10.02	(10x(2x0.25))C	12.0	90	170
CF211.02.14.02	(14x(2x0.25))C	12.0	119	204
CF211.03.03.02	(3x(2x0.34))C	8.0	44	86
CF211.03.08.02	(8x(2x0.34))C	12.0	102	206
CF211.05.01.02	(2x0.5)C	6.0	26	51
CF211.05.02.02 [2)]	(2x(2x0.5))C	7.0	46	90
CF211.05.03.02	(3x(2x0.5))C	9.0	61	109
CF211.05.04.02	(4x(2x0.5))C	9.5	74	125
CF211.05.05.02	(5x(2x0.5))C	11.0	91	153
CF211.05.06.02	(6x(2x0.5))C	11.5	103	189
CF211.05.08.02	(8x(2x0.5))C	13.0	137	234
CF211.05.10.02	(10x(2x0.5))C	15.5	181	326
CF211.05.14.02	(14x(2x0.5))C	16.0	193	341

The chainflex® types marked with [2)] are cables designed as a star-quad.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

Order example: CF211.02.01.02 - to your desired length (0.5m steps)
CF211 **chainflex® series** .02 **Code nominal cross section** .01 **Number of cores** .02 **Identification pairs**

Order online ▶ www.igus.eu/CF211DATA

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.





chainflex® cables (e.g. CF211) and igus® e-chains® (E065 series) in a pharmacy picking systems

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PVC | iguPUR | **PUR** | TPE

New

Data cable | PUR | chainflex® CF211.PUR

Example image

10 million Double strokes guaranteed

7.5 x d Bend radius, e-chain®

100m Travel distance, e-chain®

- For heavy duty applications
- PUR outer jacket
- Shielded, twisted pair
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	5m/s
	gliding	3m/s
a max.	50m/s²	
Travel distance	Unsupported travels and up to 100m for gliding applications, Class 5	

Cable structure

Conductor	Very finely stranded special conductors of particularly bending resistant design made of bare copper wires.
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores twisted in pairs with a short pitch length, core pairs then wound with short pitch lengths.
Core identification	Colour code in accordance with DIN 47100.
Intermediate layer	Foil taping over the outer layer.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Window-grey (similar to RAL 7040)

Electrical information

Nominal voltage	300/300V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	1,500V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus.eu/CF211PUR

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Class 5.5.3.1

Basic requirements	low	1	2	3	4	**5**	6	7 highest
Travel distance	unsupported	1	2	3	4	**5**	6	≥ 400m
Oil resistance	none	1	2	**3**	4	highest		
Torsion	none	**1**	2	3	4	±360°		

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ **www.igus.eu/CF211PUR**
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003X3
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-25/-15	10	11	12
-15/+70	7.5	8.5	9.5
+70/+80	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 100m for gliding applications, Class 5
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications with average sun radiation
- Machining units/machine tools, storage and retrieval units for high-bay warehouses, packaging industry, quick handling, refrigerating sector

CF211.PUR
PUR
7.5 x d

Data cable | PUR | chainflex® CF211.PUR

New

Class 5.5.3.1

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	2	**3**	4	highest			
Torsion	none	**1**	2	3	4	±360°			

CF211.PUR
PUR
7.5 x d



Example image

	Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
	CF211.PUR.02.01.02	(2x0.25)C	5.0	18	32
	CF211.PUR.02.02.02 2)	(2x(2x0.25))C	6.0	25	49
	CF211.PUR.02.03.02	(3x(2x0.25))C	7.0	36	65
	CF211.PUR.02.04.02	(4x(2x0.25))C	7.5	44	76
	CF211.PUR.02.05.02	(5x(2x0.25))C	8.5	52	89
	CF211.PUR.02.06.02	(6x(2x0.25))C	9.0	62	102
	CF211.PUR.02.08.02	(8x(2x0.25))C	10.5	78	130
	CF211.PUR.02.10.02	(10x(2x0.25))C	12.0	90	168
	CF211.PUR.02.14.02	(14x(2x0.25))C	12.0	119	204
	CF211.PUR.03.03.02	(3x(2x0.34))C	8.0	44	83
New	**CF211.PUR.03.06.02**	(6x(2x0.34))C	10.0	63	119
	CF211.PUR.03.08.02	(8x(2x0.34))C	12.0	95	163
	CF211.PUR.05.01.02	(2x0.5)C	6.0	26	51
	CF211.PUR.05.02.02 2)	(2x(2x0.5))C	7.0	41	86
	CF211.PUR.05.03.02	(3x(2x0.5))C	9.0	61	105
	CF211.PUR.05.04.02	(4x(2x0.5))C	9.5	74	123
	CF211.PUR.05.05.02	(5x(2x0.5))C	11.0	91	152
	CF211.PUR.05.06.02	(6x(2x0.5))C	11.5	103	189
	CF211.PUR.05.08.02	(8x(2x0.5))C	13.0	137	221
	CF211.PUR.05.10.02	(10x(2x0.5))C	15.5	170	297
	CF211.PUR.05.14.02	(14x(2x0.5))C	15.5	185	311

The chainflex® types marked with 2) are cables designed as a star-quad.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

Order example: CF211.PUR.02.01.02 **- to your desired length (0.5m steps)**
CF211.PUR **chainflex® series** .02 **Code nominal cross section** .01 **Number of cores** .02 **Identification pairs**

Order online ▶ www.igus.eu/CF211PUR

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

cost down...
...life up

Reduce cost, improve technology, now!
Do the chainflex® price check ...
www.igus.eu/cf-price-check

… for example: reduce cost with CF211 ...

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

EPLAN download, configurators ▶ www.igus.eu/CF211PUR

PVC | iguPUR | PUR | **TPE**

Data cable | TPE | chainflex® CF11

12.5 million
Double strokes guaranteed

6.8 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For extremely heavy duty applications
- TPE outer jacket
- Shielded
- Twisted pair
- Oil and bio-oil-resistant
- PVC and halogen-free
- Hydrolysis and microbe-resistant

Now available with UL approval & 25% longer service life



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 6.8 x d
	flexible	minimum 5 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-35°C up to +100°C
	flexible	-50°C up to +100°C (following DIN EN 60811-504)
	fixed	-55°C up to +100°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		100m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores twisted in pairs with a short pitch length, core pairs then wound with short pitch lengths.
Core identification	**Cores < 1.0mm²:** Colour code in accordance with DIN 47100. **Cores ≥ 1.0mm²:** Black cores with white numbers.
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	300/300V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	1,500V (following DIN EN 50395)

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	**6**	7 highest
Travel distance	unsupported	1	2	3	4	5	**6**	≥ 400m
Oil resistance	none	1	2	3	**4**	highest		
Torsion	none	**1**	2	3	4	±360°		

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL AWM	See data sheet for details ▶ **www.igus.eu/CF11** (from production date 01/2022)
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	12.5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-35/-25	7.5	8.5	9.5
-25/+90	6.8	7.5	8.5
+90/+100	7.5	8.5	9.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

CF11
TPE
6.8 x d

EPLAN download, configurators ▶ www.igus.eu/CF11

Data cable | TPE | chainflex® CF11

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	3	4				highest
Torsion	none	1	2	3	4				±360°

CF11
TPE
6.8 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF11.01.04.02	(4x(2x0.14))C	7.5	30	63
CF11.01.18.02	(18x(2x0.14))C	12.5	101	202
CF11.02.01.02	(2x0.25)C	6.0	17	39
CF11.02.02.02 [2)]	(2x(2x0.25))C	6.5	26	47
CF11.02.03.02	(3x(2x0.25))C	8.0	35	78
CF11.02.04.02	(4x(2x0.25))C	8.5	42	90
CF11.02.05.02	(5x(2x0.25))C	9.0	49	100
CF11.02.06.02	(6x(2x0.25))C	10.0	69	125
CF11.02.10.02	(10x(2x0.25))C	13.5	103	207
CF11.02.14.02	(14x(2x0.25))C	14.0	124	228
CF11.03.08.02	(8x(2x0.34))C	13.0	106	209
CF11.05.04.02	(4x(2x0.5))C	9.5	77	140
CF11.05.06.02	(6x(2x0.5))C	12.0	103	198
CF11.05.08.02	(8x(2x0.5))C	14.5	135	251
CF11.07.03.02	(3x(2x0.75))C	10.5	83	155
CF11.10.04.02	(4x(2x1.0))C	12.5	125	232
CF11.15.06.02	(6x(2x1.5))C	16.5	247	420

The chainflex® types marked with [2)] are cables designed as a star-quad.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

Order example: CF11.01.04.02 **- to your desired length (0.5m steps)**
CF11 **chainflex® series** .01 **Code nominal cross section** .04 **Number of cores** .02 **Identification pairs**

Order online ▶ www.igus.eu/CF11

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Delivery time means time until goods are shipped.

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...life up

Reduce cost, improve technology, now!
Do the chainflex® price check ...
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… for example: reduce cost with CF211.PUR ...

EPLAN download, configurators ▶ www.igus.eu/CF11

Data cable | PUR | chainflex® CF112



Example image

10 million Double strokes guaranteed

10 x d Bend radius, e-chain®

100m Travel distance, e-chain®

- For extremely heavy duty applications
- PUR outer jacket
- Double shielded, twisted pair
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5

Cable structure

Conductor	Very finely stranded special conductors of particularly bending resistant design made of bare copper wires.
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores twisted in pairs with a short pitch length, core pairs then wound with short pitch lengths.
Core identification	Colour code in accordance with DIN 47100.
Element shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Anthracite grey (similar to RAL 7016)

Electrical information

Nominal voltage	300/300V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	1,500V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus.eu/CF112

EU2024

CF112
PUR
10 x d

Class 6.5.3.1

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	3	4				highest
Torsion	none	1	2	3	4				±360°

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF112
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003X3
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-25/-15	12.5	13.5	14.5
-15/+70	10	11	12
+70/+80	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 100m for gliding applications, Class 5
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications with average sun radiation
- Machining units/machine tools, storage and retrieval units for high-bay warehouses, packaging industry, quick handling, refrigerating sector

Data cable | PUR | chainflex® CF112

Class 6.5.3.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	**5**	**6**		≥ 400m
Oil resistance	none	1	2	**3**	4	highest			
Torsion	none	**1**	2	3	4	±360°			

CF112
PUR
10 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF112.02.02.02	(2x(2x0.25)C)C	9.5	57	118
CF112.02.03.02	(3x(2x0.25)C)C	10.0	71	133
CF112.02.04.02	(4x(2x0.25)C)C	11.0	78	153
CF112.02.05.02	(5x(2x0.25)C)C	11.5	99	178
CF112.05.02.02	(2x(2x0.5)C)C	11.5	75	163
CF112.05.04.02	(4x(2x0.5)C)C	13.0	117	217
CF112.05.06.02	(6x(2x0.5)C)C	14.5	160	285

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

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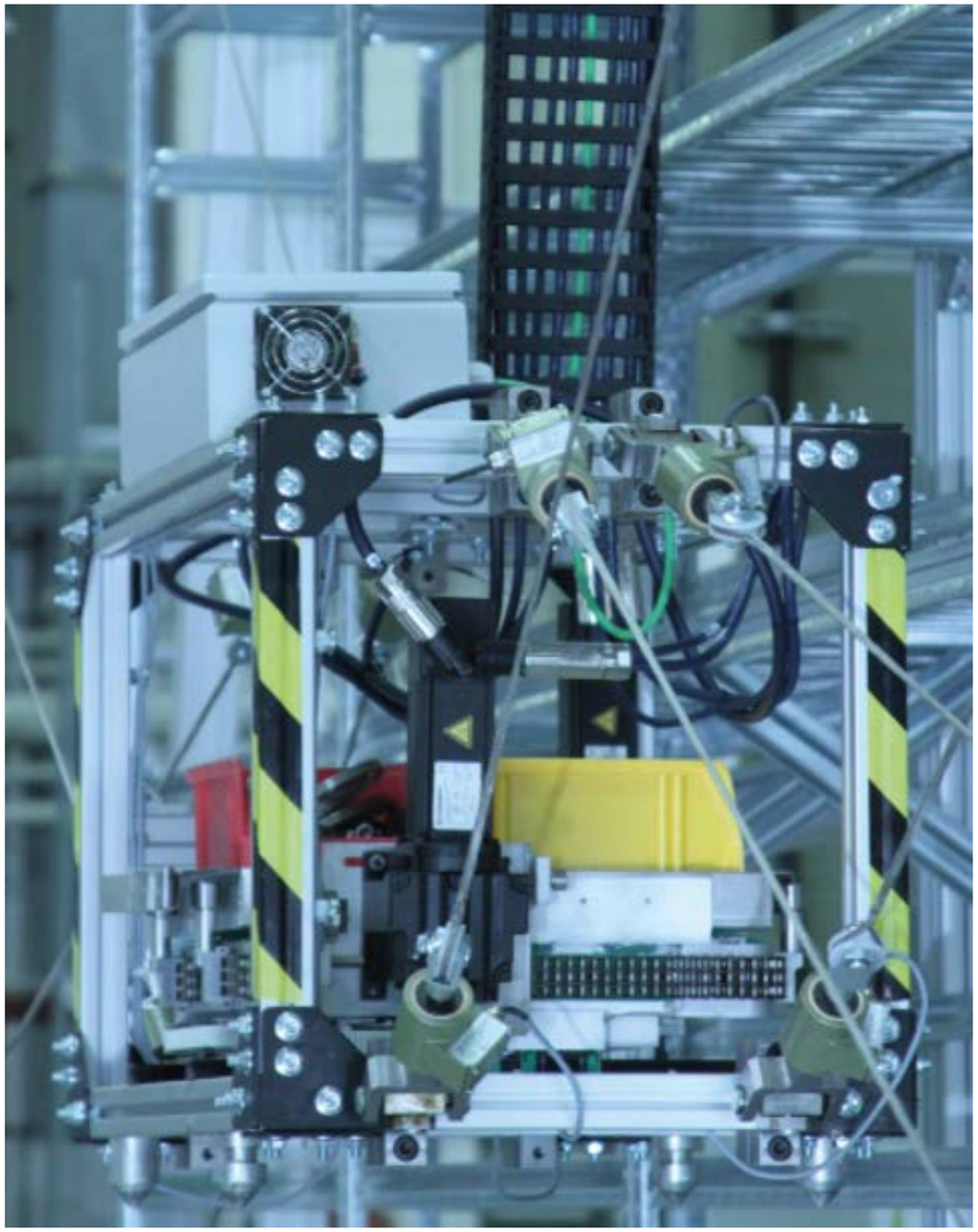
More on this on page 24/25 and online: www.igus.eu/cf-case

Order example: CF112.02.02.02 **- to your desired length (0.5m steps)**
CF112 **chainflex® series** .02 **Code nominal cross section** .02 **Number of cores** .02 **Identification pairs**

Order online ▶ www.igus.eu/CF112

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

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Hanging application with chainflex® CF112 data cables

EU2024

PVC | iguPUR | PUR | **TPE**

Data cable | TPE | chainflex® CF12



Example image

12.5 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For extremely heavy duty applications
- TPE outer jacket
- Double-shielded
- Oil and bio-oil-resistant
- PVC and halogen-free
- Hydrolysis and microbe-resistant

Now available with UL approval & 25% longer service life

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-35°C up to +100°C
	flexible	-50°C up to +100°C (following DIN EN 60811-504)
	fixed	-55°C up to +100°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		100m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores twisted in pairs with a short pitch length, core pairs then wound with short pitch lengths.
Core identification	**Cores < 0.5mm²:** Colour code in accordance with DIN 47100. **Cores ≥ 0.5mm²:** Black cores with white numbers.
Element shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Element shield	TPE mixture on pair shielding adapted to suit the requirements in e-chains®.
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Highly flexible shield consisting of galvanised steel wire braid. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	300/300V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	1,500V (following DIN EN 50395)

Properties and approvals

UV resistance	High

4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

igus®

Class 6.6.4.1

Basic requirements	low 1 2 3 4 5 **6** 7 highest
Travel distance	unsupported 1 2 3 4 5 **6** ≥ 400m
Oil resistance	none 1 2 3 4 highest
Torsion	none **1** 2 3 4 ±360°

Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL AWM	See data sheet for details ▶ www.igus.eu/CF12 (from production date 01/2022)
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	12.5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-35/-25	12.5	13.5	14.5
-25/+90	10	11	12
+90/+100	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- For maximum EMC protection
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF12.02.04.02	(4x(2x0.25)C)C	11.5	52	172
CF12.05.03.02	(3x(2x0.5))C	13.5	65	224
CF12.05.04.02	(4x(2x0.5)C)C	14.5	83	267
CF12.05.06.02	(6x(2x0.5)C)C	17.0	128	376
CF12.05.08.02	(8x(2x0.5)C)C	20.5	163	503
CF12.05.10.02 [11)]	(10x(2x0.5)C)C	22.5	203	605
CF12.05.14.02	(14x(2x0.5)C)C	22.5	297	679
CF12.10.06.02	(6x(2x1.0)C)C	20.0	198	529

[11)] Phase-out model
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

EU2024

Coax cable | TPE | chainflex® CFKoax

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For extremely heavy duty applications
- TPE outer jacket
- Oil and bio-oil-resistant
- UV-resistant
- Hydrolysis and microbe-resistant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-35°C up to +100°C (CFKoax1/3) -35°C up to +70°C (CFKoax2)
	flexible	-50°C up to+100°C (CFKoax1/3) -50°C up to +70°C (CFKoax2)
	fixed	-55°C up to +100°C (CFKoax1/3) -55°C up to +70°C (CFKoax2)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		100m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6

Cable structure

Conductor	Multi-wire; adapted to single-wire diameter with pitch length to suit the requirements in e-chains®.
Core insulation	Special FEP mixture (CFKoax1/3) Special PE mixture (CFKoax2)
Core structure	Cores wound in a layer with especially short pitch length.
Core identification	Coaxial elements ▶ Product range table
Element shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Element shield	TPE mixture adapted to suit the requirements in e-chains®.
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: ▶ Product range table

Electrical information

Nominal voltage	500/500V (following DIN VDE 0298-3)
Testing voltage	1,500V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus.eu/CFKOAX

4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	**6**	7 highest
Travel distance	unsupported	1	2	3	4	5	**6**	≥ 400m
Oil resistance	none	1	2	3	**4**	highest		
Torsion	none	**1**	2	3	4	±360°		

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
Info	The coaxial elements used in cables of the CFKoax1 series are comparable with a HF75-0.3/1.6 according to MIL-C-17/94-RG179 and thus fit into an RG179 plug! The coaxial elements used in cables of the CFKoax2 series are comparable with a HF50-0.9/2.95 according to MIL-C-17/28-RG58 and thus fit into an RG58 plug! The coaxial elements used in cables of the CFKoax3 series are comparable with a HF50-0.3/0.85 according to MIL-C-17/93-RG178 and thus fit into an RG178 plug!

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-35/-25	12.5	13.5	14.5
-25/+60 (CFKoax2)	10	11	12
-25/+90 (CFKoax1/CFKoax3)	10	11	12
+60/+70 (CFKoax2)	12.5	13.5	14.5
+90/+100 (CFKoax1/CFKoax3)	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications with average sun radiation
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, indoor cranes, low temperature applications

CFKoax
TPE
10 x d

Coax cable | TPE | chainflex® CFKoax

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	5	**6**		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	**1**	2	3	4				±360°

CFKoax
TPE
10 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFKoax1.01[5)]	1xHF75-0.3/1.6	4.5	8	23
CFKoax1.05[5)]	5xHF75-0.3/1.6	10.0	34	110
CFKoax2.01	1xHF50-0.9/2.95	5.5	19	36
CFKoax3.01[5)]	1xHF50-0.3/0.85	3.5	6	12

[5)] not PFAS-free

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Part No.	Characteristic wave impedance approx. [Ω]	Core identification	Colour outer jacket
CFKoax1.01	75	red	Steel-blue (similar to RAL 5011)
CFKoax1.05	75	red, green, blue, white, black	Steel-blue (similar to RAL 5011)
CFKoax2.01	50		Jet black (similar to RAL 9005)
CFKoax3.01	50		Window-grey (similar to RAL 7040)



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this page 24/25 and online: www.igus.eu/cf-case

Order example: CFKoax1.01 **- to your desired length (0.5m steps)**
CFKoax **chainflex® series** .01 **Number of coaxial elements**

Order online ▶ www.igus.eu/CFKoax

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Coax cable and other chainflex® cables in a stage technology application. e-chain®: E4/4 system

EPLAN download, configurators ▶ www.igus.eu/CFKOAX

Bus cables



chainflex® cable	Jacket	Shield	Minimum bend radius e-chain® [x d]	Temperature e-chain® from/to [°C]	Approvals and standards	Oil-resistant	Torsion-resistant	v max. [m/s] unsupported	v max. [m/s] gliding	a max.	Page
Bus cables											
Selection chart for chainflex® bus cables											176
Selection chart for chainflex® Ethernet cables											179
CF888	PVC	✓	15	+5/+70	CE			3		20	180
CFBUS.PVC	PVC	✓	12.5	+5/+70	CE	✓		3	2	30	184
CF898	iguPUR	✓	15	-20/+70	CE	✓		3		20	188
CFBUS.PUR	PUR	✓	12.5	-20/+70	CE	✓		3	2	30	192
CFBUS	TPE	✓	10	-35/+70	CE	✓		10	6	100	196
CFBUS.LB	TPE	✓	7.5	-35/+70	CE	✓		10	6	100	202
Twistable bus cables (twistable cables chapter ▶ Page 382)											
CFROBOT8	PUR	✓	10	-25/+70	CE	✓	✓				410
CFROBOT8. PLUS	PUR	✓	10	-25/+70	CE	✓	✓				414 New

4-years chainflex® guarantee

Guaranteed service life for predictable reliability

▶ Selection table page 174

With the help of the chainflex® service life calculator, you can quickly and easily calculate the expected service life of chainflex® cables specifically for your application:

www.igus.eu/chainflexlife

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

chainflex® guarantee

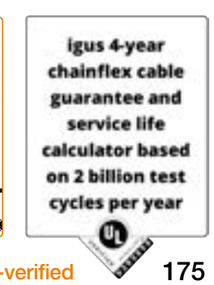
Guaranteed service life (1)

	chainflex® cables	Temperature, from/to [°C]	v max. [m/s] unsupported	v max. [m/s] gliding	a max. [m/s²]	Travel distance [m]	Minimum bend radius [x d] 5 million (1 million) double strokes *	Minimum bend radius [x d] 7.5 million (3 million) double strokes *	Minimum bend radius [x d] 10 million (5 million) double strokes *	Page
Bus cables										
	CF888	+5 / +15	3	-	20	≤ 10	17.5	18.5	19.5	180
		+15 / +60					15	16	17	
		+60 / +70					17.5	18.5	19.5	
	CFBUS.PVC	+5 / +15	3	2	30	≤ 20	15	16	17	184
		+15 / +60					12.5	13.5	14.5	
		+60 / +70					15	16	17	
	CF898	-20 / -10	3	-	20	≤ 10	17.5	18.5	19.5	188
		-10 / +60					15	16	17	
		+60 / +70					17.5	18.5	19.5	
	CFBUS.PUR	-20 / -10	3	2	30	≤ 20	15	16	17	192
		-10 / +60					12.5	13.5	14.5	
		+60 / +70					15	16	17	
	CFBUS.001-.049 CFBUS.060	-35 / -25	10	6	100	≤ 400	12.5	13.5	14.5	196
		-25 / +60					10	11	12	
		+60 / +70					12.5	13.5	14.5	
	CFBUS.050-.055 CFBUS.065-.070	-35 / -25	10	6	100	≤ 400	15	16	17	196
		-25 / +60					12.5	13.5	14.5	
		+60 / +70					15	16	17	
							5 million	7.5 million	12.5 million	
	CFBUS.LB .001-.022	-35 / -25	10	6	100	≤ 400	12.5	13.5	14.5	202
		-25 / +60					10	11	12	
		+60 / +70					12.5	13.5	14.5	
	CFBUS.LB. .040-.060	-35 / -25	10	6	100	≤ 400	10	11	12	202
		-25 / +60					7.5	8.5	9.5	
		+60 / +70					10	11	12	

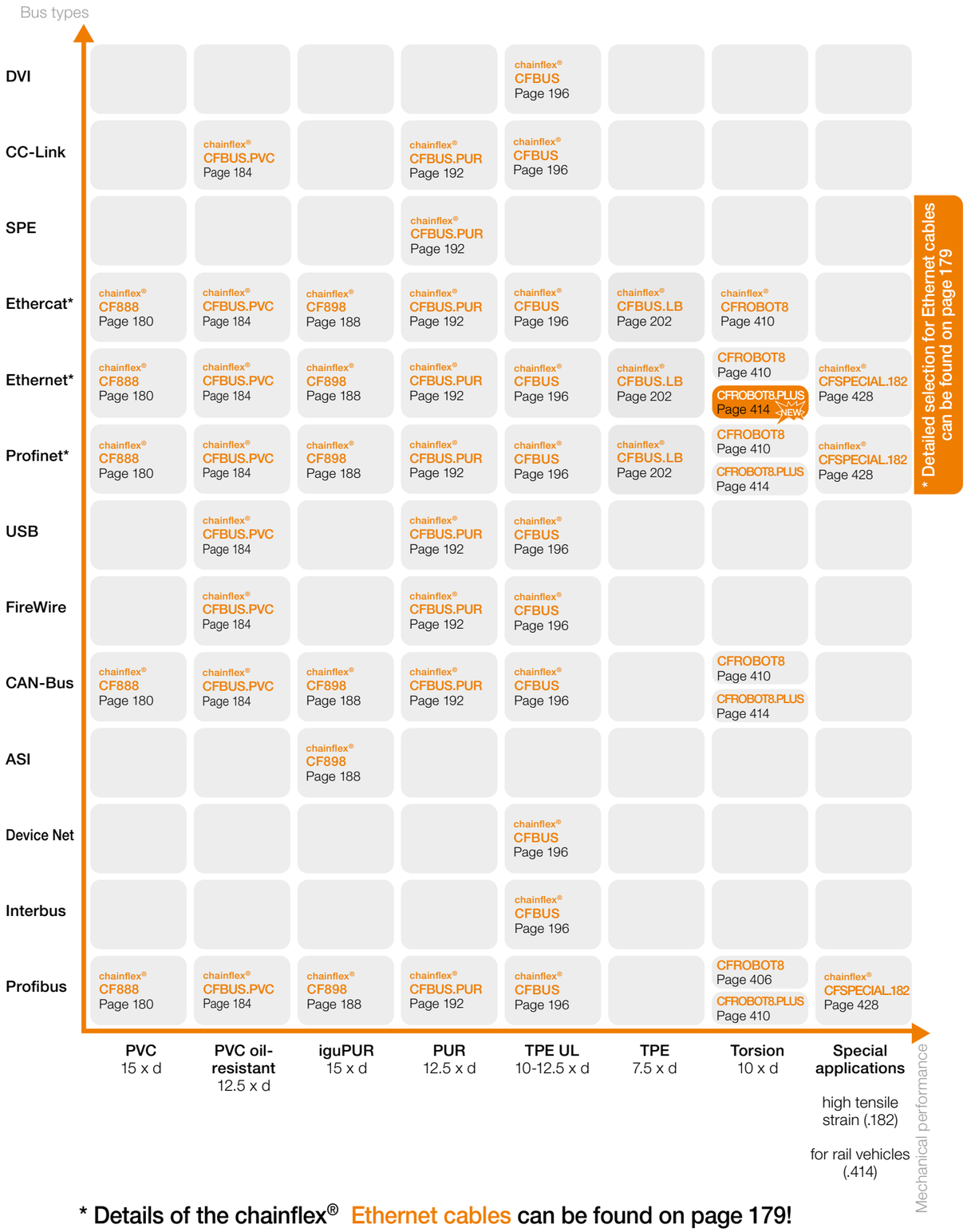
(1) Guaranteed service life for these series (details ▶ see page 28-29)

* Higher number of double strokes? Calculate service life online: ▶ www.igus.eu/chainflexlife
Figures in brackets refer to series CF888 and CF898





The right cable for every bus system …
The chainflex® bus cables product range at a glance



* Details of the chainflex® Ethernet cables can be found on page 179!

Bus system/ chainflex® type	Jacket	Number of cores and conductor nominal cross section[mm²]	Page
Profibus (1x2x0.64mm) 150Ohm			
CF888.001	PVC	(2x0.25)C	182
CFBUS.PVC.001	PVC	(2x0.25)C	186
CF898.001	iguPUR	(2x0.25)C	190
CFBUS.PUR.001	PUR	(2x0.25)C	194
CFBUS.001	TPE	(2x0.25)C	198
CFBUS.002	TPE	(2x0.25)C+4x1.5	198
CFBUS.003	TPE	(2x0.25)C+3G0.75	198
CFBUS.LB.001	TPE	(2x0.25)C	204
CFROBOT8.001	PUR	(2x0.35)C	412
CFROBOT8.PLUS.001	PUR	(2x0.25)C	416
CFSPECIAL.182.001	PUR	(2x0.25)C	428
Interbus 100Ohm			
CFBUS.010	TPE	(3x(2x0.25))C	198
CFBUS.011	TPE	(3x(2x0.25)+(3G1.0))C	198
CAN-Bus 120Ohm			
CF888.021	PVC	(2x0.5)C	182
CFBUS.PVC.020	PVC	(4x0.25)C	186
CFBUS.PVC.021	PVC	(2x0.5)C	186
CFBUS.PVC.022	PVC	(4x0.5)C	186
CF898.021	iguPUR	(2x0.5)C	190
CFBUS.PUR.020	PUR	(4x0.25)C	194
CFBUS.PUR.021	PUR	(2x0.5)C	194
CFBUS.PUR.022	PUR	(4x0.5)C	194
CFBUS.020	TPE	(4x0.25)C	198
CFBUS.021	TPE	(2x0.5)C	198
CFBUS.022	TPE	(4x0.5)C	198
CFBUS.LB.020	TPE	(4x0.25)C	204
CFBUS.LB.021	TPE	(2x0.5)C	204
CFBUS.LB.022	TPE	(4x0.5)C	204
CFROBOT8.022	PUR	(4x0.5)C	412
CFROBOT8.PLUS.022	PUR	(4x0.5)C	416
Device Net 120Ohm			
CFBUS.030	TPE	((2xAWG24)C+2xAWG22)C	198
CFBUS.031	TPE	((2xAWG18)C+2xAWG15)C	198
CC-Link 110Ohm			
CFBUS.PVC.035	PVC	(3x0.5)C	186
CFBUS.PUR.035	PUR	(3x0.5)C	196
CFBUS.035	TPE	(3xAWG20)C	198
Ethernet/CAT5I 100Ohm			
CFBUS.PVC.040	PVC	(4x0.25)C	186
CFBUS.PUR.040	PUR	(4x0.25)C	194
CFBUS.040	TPE	(4x0.25)C	200
CFBUS.LB.040	TPE	(4x(0.25)C	204
Single Pair Ethernet 100Ohm			
CFBUS.PUR.042	PUR	(2x0.15)C	194
Ethernet/CAT5e 100Ohm			
CF888.045	PVC	(4x(2x0.14))C	182
CFBUS.PVC.045	PVC	(4x(2x0.15))C	186
CF898.045	iguPUR	(4x(2x0.14))C	190

Bus system/ chainflex® type	Jacket	Number of cores and conductor nominal cross section[mm²]	Page
Ethernet/CAT5e 100Ohm			
CFBUS.PUR.045	PUR	(4x(2x0.15))C	194
CFBUS.045	TPE	(4x(2x0.15))C	200
CFBUS.LB.045	TPE	(4x(2x0.15))C	204
CFROBOT8.045	PUR	4x(2x0.15)C	412
CFROBOT8.PLUS.045	PUR	(4x(2x0.15))C	416
CFSPECIAL.182.045	PUR	(4x(2x0.15))C	428
Ethernet/CAT6 100Ohm			
CFBUS.PVC.049	PVC	(4x(2x0.15))C	186
CFBUS.PUR.049	PUR	(4x(2x0.15))C	194
CFBUS.PUR.H01.049	PUR	(4x(2x0.15))C+4x1.5	194
CFBUS.049	TPE	(4x(2x0.15))C	200
CFBUS.LB.049	TPE	(4x(2x0.15))C	204
CFROBOT8.049	PUR	4x(2x0.15)C	412
CFROBOT8.PLUS.049	PUR	(4x(2x0.15))C	416
Ethernet/CAT6A 100Ohm			
CFBUS.PVC.050	PVC	4x(2x0.20)C	186
CFBUS.PUR.050	PUR	4x(2x0.20)C	194
CFBUS.050	TPE	(4x(2x0.15)C)C	200
CFROBOT8.050	PUR	4x(2x0.15)C	412
CFROBOT8.PLUS.050	PUR	(4x(2x0.15)C)C	416
Ethernet/CAT7 100Ohm			
CFBUS.PVC.052	PVC	(4x(2x0.15)C)C	184
CFBUS.PUR.052	PUR	(4x(2x0.15)C)C	192
CFBUS.052	TPE	(4x(2x0.15)C)C	198
CFROBOT8.PLUS.052 New	PUR	(4x(2x0.15)C)C	416
FireWire IEEE 1394a/b 100Ohm			
CFBUS.PUR.056	PUR	(2x(2x0.15)C+2x0.38)C	194
CFBUS.055	TPE	2x(2x0.15)C+2x(0.34)C	200
Profinet 100Ohm			
CF888.060	PVC	(4x0.38)C	182
CFBUS.PVC.060	PVC	(4x0.38)C	186
CF898.060	iguPUR	(4x0.34)C	190
CF898.061.FC	iguPUR	(4x0.34)C	190
CFBUS.PUR.060	PUR	(4x0.38)C	194
CFBUS.PUR.H01.060	PUR	(4x0.38)C+4x1.5	194
CFBUS.060	TPE	(4x0.38)C	200
CFBUS.LB.060	TPE	(4x0.38)C	204
CFROBOT8.060	PUR	(2x(2x0.34))C	412
CFROBOT8.PLUS.060	PUR	(4x0.38)C	416
USB 90Ohm			
CFBUS.065	TPE	((2xAWG28)+2xAWG20)C	200
CFBUS.066	TPE	((2xAWG24)+2xAWG20)C	200
USB 3.0 90Ohm			
CFBUS.PVC.068	PVC	(2x(2xAWG28)+2x(2xAWG28)C)C	186
CFBUS.PUR.068	PUR	(2x(2xAWG28)+2x(2xAWG28)C)C	194
DVI 100Ohm			
CFBUS.070	TPE	(4x(2xAWG28)C +(2xAWG28)+3xAWG28)C	200
ASI BUS (flat cables)			
CF898.082 (yellow)	iguPUR	2x2.5	190
CF898.083 (black)	iguPUR	2x2.5	190

For all data rates and types of movement … Networking your machine with chainflex® Ethernet cables

In our catalogue range you will find the right Ethernet solution for every type of motion. We have prepared a wide range of products both sold by the metre and also a wide variety of ready-to-connect cables with connectors. All chainflex® cables come with a **4-years guarantee** and up to 10 million double strokes as standard, giving you peace-of-mind and confidence.

We support you in three aspects of machine networking with Ethernet cables for moving applications that have been developed, manufactured and tested for high quality:

For your system, we offer Ethernet cables from **CAT5 to CAT7** so that you have the right solution for all data volumes. With that you can safely use Bus systems such as Ethernet/IP, Profinet, EtherCAT, Sercos and many other derivatives. The different quality levels of cable mean that there are opportunities for very large savings or future-proofing.

With the new **Single Pair Ethernet (SPE)** bus technology, it is now possible to create Ethernet connections all the way from the control cabinet to each machine element and thus connect the entire machine with one single bus system. Due to the construction using only one pair of wires, the cable can be manufactured with a considerable weight decrease and a 25% smaller outer diameter. For this pioneering development, we are a member in the Industrial Partner Network for SPE.

By taking into account the individual mechanical requirements in your application, we can offer more customised solutions. There are cables for large and small bend radii for linear movements in energy chains or torsional movements on robots. We can offer you a reasonably priced PVC solution, an oil-resistant PUR cable or a solution with highly abrasion-resistant TPE. Also, **special solutions** for long travels or high tensile strength versions for hanging applications or rolling solutions are standard products for us.

Our **online tools** also enable you to reduce process costs and help you to find the right cable with just a few clicks.

Also visit our Ethernet website:

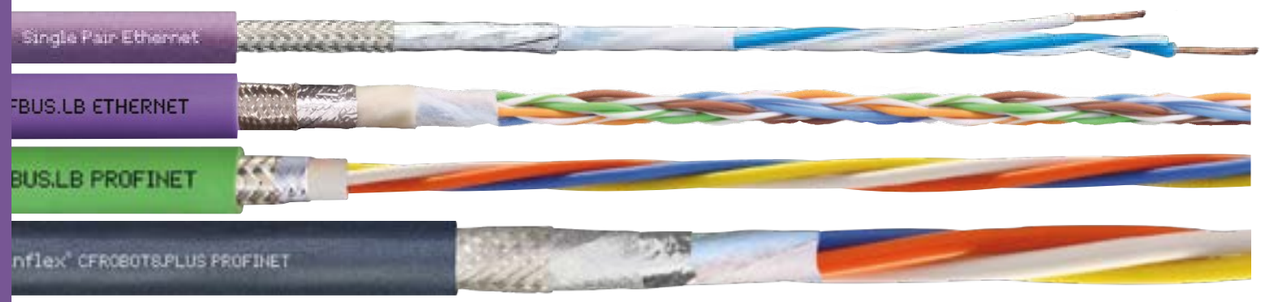
www.chainflex.eu/ethernet

All common Bus types in different cable quality levels for your diverse applications. From stock. Tested. With a guarantee.

EtherCAT®

CC-Link IE Field

PROFINET®



Always find the Ethernet cable that works, for less.
Selection table for the largest range of flexible Ethernet cables

Electrical performance

	CF888 PVC 15 x d	CFBUS.PVC PVC, oil-res. 12.5 x d	CF898 iguPUR 15 x d	CFBUS.PUR PUR 12.5 x d	CFBUS TPE UL 10 x d	CFBUS.LB TPE Hal 7.5 x d	CFROBOT8 PUR ± 180°/m	CFROBOT8.PLUS PUR ± 360°/m	Special cables
CAT7 10GBit 600MHz		chainflex® CFBUS.PVC.052 Page 186		chainflex® CFBUS.PUR.052 Page 194	chainflex® CFBUS.052 Page 200		chainflex® CFROBOT8.052 Page 412	chainflex® NEW CFROBOT8. PLUS.052 Page 416	
CAT6A 10GBit 500MHz		chainflex® CFBUS.PVC.050 Page 186		chainflex® CFBUS.PUR.050 Page 194	chainflex® CFBUS.050 Page 200		chainflex® CFROBOT8.050 Page 412	chainflex® CFROBOT8. PLUS.050 Page 416	
CAT6 1GBit 250MHz		chainflex® CFBUS.PVC.049 Page 186		chainflex® CFBUS.PUR.049 Page 194	chainflex® CFBUS.049 Page 200	chainflex® CFBUS.LB.049 Page 204	chainflex® CFROBOT8.049 Page 412	chainflex® CFROBOT8. PLUS.049 Page 416	
CAT5e 1GBit 100MHz	chainflex® CF888.045 Page 182	chainflex® CFBUS.PVC.045 Page 186	chainflex® CF898.045 Page 190	chainflex® CFBUS.PUR.045 Page 194	chainflex® CFBUS.045 Page 200	chainflex® CFBUS.LB.045 Page 204	chainflex® CFROBOT8.045 Page 412	chainflex® CFROBOT8. PLUS.045 Page 416	CFSPECIAL. 182.045 p. 428 CFCLEAN8.045 Page 460
SPE 1GBit 600MHz				chainflex® CFBUS.PUR.042 Page 194					
Profinet 100MBit 100MHz	chainflex® CF888.060 Page 182	chainflex® CFBUS.PVC.060 Page 186	CF898.060 Page 190 CF898.061.FC Page 190	chainflex® CFBUS.PUR.060 Page 194	chainflex® CFBUS.060 Page 200	chainflex® CFBUS.LB.060 Page 204	chainflex® CFROBOT8.060 Page 412	chainflex® CFROBOT8. PLUS.060 Page 416	
CAT5 100MBit 100MHz		chainflex® CFBUS.PVC.040 Page 186		chainflex® CFBUS.PUR.040 Page 194	chainflex® CFBUS.040 Page 200	chainflex® CFBUS.LB.040 Page 204			

Mechanical performance

SPE Single Pair Ethernet (SPE) ...
... the key to smart industrial automation

In the area of mechanical engineering, a strong trend in recent years has been a continuous increase in the need for more and faster data. Fieldbuses such as Profibus and CC-Link in Ethernet derivates such as Profinet and CC-Link IE have been developed further in order to enable improved performance in machines.
The situation is similar in the case of the Ethernet types. Whereas CAT5 used to be the standard and a quantum leap was achieved with CAT5e, everyone is now talking about CAT6A and CAT7 for the future. This is not only true with regard to building infrastructure but is also in the case of machine and robot cabling.

However, all products end at the last "intelligent" component of the machine. Due to the sheer size of the cable and the connector solutions, connections extending as far as the smallest sensor had not yet been possible. This is where we and our partners of the Industrial Partner Network e.V. are now breaking new ground with the Single Pair Ethernet (SPE). The idea is to reduce to one data pair in order to keep connector and cable small.

This is most evident in the case of the connector. It is now the size of an M8 round connector and is therefore considerably smaller than the normal RJ45. As regards the cable, we have reduced the diameter by 25% and have now also arrived in the range of a proximity switch cable. This allows smaller installation spaces and energy chains, which will be welcome in the field of machine design.

As a clear service life together with a guarantee is always given for all cables in the igus® catalogue; thorough testing is what allows us to do it. This also applies to the new member of the family, of course: CFBUS.PUR.042 is guaranteed to last for 10 million double strokes or 4 years.

Bus cable | PVC | chainflex® CF888

5 million
Double strokes guaranteed

15 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- PVC outer jacket
- Shielded
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 15 x d
	flexible	minimum 12 x d
	fixed	minimum 8 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	According to bus specification.
Core structure	According to bus specification.
Core identification	According to bus specification. ▶ Product range table
Overall shield	Braiding made of tinned copper wires. Coverage approx. 60% optical
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains®. Colour: Red lilac (similar to RAL 4001) Variants ▶ Product range table

Electrical information

Nominal voltage	50V 300V (following UL), except **CF888.001:** 30V (following UL)
Testing voltage	500V

EPLAN download, configurators ▶ www.igus.eu/CF888

4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 3.1.1.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6	≥ 400m	
Oil resistance	none	**1**	2	3	4	highest			
Torsion	none	**1**	2	3	4	±360°			

Properties and approvals

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF888
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	17.5	18.5	19.5
+15/+60	15	16	17
+60/+70	17.5	18.5	19.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- No torsion, Class 1
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

CF888
PVC
15 x d

UL-verified chainflex® guarantee ... www.igus.eu/ul-verified

Bus cable | PVC | chainflex® CF888

Class 3.1.1.1

Basic requirements	low	1	2	**3**	4	5	6	7 highest
Travel distance	unsupported	**1**	2	3	4	5	6	≥ 400m
Oil resistance	none	**1**	2	3	4	highest		
Torsion	none	**1**	2	3	4	±360°		

CF888
PVC
15 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
Profibus (1x2x0.64mm)				
CF888.001	(2x0.25)C	8.0	18	59
CAN-Bus				
CF888.021	(2x0.5)C	8.5	24	73
Ethernet/CAT5e				
CF888.045	(4x(2x0.14))C	7.0	25	62
Profinet				
CF888.060 [2) 13)]	(4x0.34)C	7.0	25	59

Part No.	Characteristic wave impedance approx. [Ω]	Core group	Colour code
Profibus (1x2x0.64mm)			
CF888.001	150	2x0.25	red, green
CAN-Bus			
CF888.021	120	2x0.5	white, brown
Ethernet/CAT5e			
CF888.045	100	4x(2x0.14)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Profinet			
CF888.060 [2) 13)]	100	4x0.34	white, orange, blue, yellow (star-quad)

The chainflex® types marked with [2)] are cables designed as a star-quad.
[13)] Colour outer jacket: Yellow-green (RAL 6018)

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

Technical note on bus cables
chainflex® bus cables have been specially developed and tested for continuously moving use in e-chains®. Depending on the material used for the outer jacket and on the underlying construction principle, the bus cables are designed for different mechanical requirements and resistance to diverse media.
The cables have been electrically designed in such a way that, on the one hand, the electrical requirements of the respective bus specification are reliably met and, on the other, that greater value is placed on a high degree of EMC reliability.
It is also ensured that the electrical values remain stable over the long term in spite of permanent movement.
The overall quality of transmission in a complete bus communication system, however, is not solely dependent on the cable used. What is also essential is that all components (electronic parts, connecting system and cable) are precisely matched to each other and that the maximum transmission lengths, which are dependent on the respective system, are adhered to with regard to the data transmission rates needed. A cable is thus not solely responsible for the reliable transmission of signals.
igus® advises you when you are designing your bus system to take all these factors into account and, with extensive tests, helps you to ensure the process reliability of your system from the very beginning.

chainflex® CF888 bus cables in a handling application

EPLAN download, configurators ▶ www.igus.eu/CF888

Bus cable | PVC | chainflex® CFBUS.PVC

10 million
Double strokes guaranteed

12.5 x d
Bend radius, e-chain®

20m
Travel distance, e-chain®

- For medium duty applications
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 12.5 x d
	flexible	minimum 10 x d
	fixed	minimum 7 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
	gliding	2m/s
a max.		30m/s²
Travel distance		Unsupported travels and up to 20m for gliding applications, Class 3

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	According to bus specification.
Core structure	According to bus specification.
Core identification	According to bus specification. ▶ Product range table
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Red lilac (similar to RAL 4001) Variants ▶ Product range table

Electrical information

Nominal voltage	50V 300V (following UL), except **CFBUS.PVC.020:** 30V (following UL)
Testing voltage	500V



Example image

EPLAN download, configurators ▶ www.igus.eu/CFBUSPVC

4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 4.3.2.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	2	**3**	4	5	6	≥ 400m	
Oil resistance	none	1	**2**	3	4	highest			
Torsion	none	**1**	2	3	4	±360°			

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL listed	CMX, 75°C (except CFBUS.PVC.068)
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CFBUSPVC
NFPA	Following NFPA 79-2018, chapter 12.9
CLPA	**CFBUS.PVC.045:** CC-Link IE Field, Reference no. 153 **CFBUS.PVC.049:** CC-Link IE Field, Reference no. 154
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF240.02.24 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	15	16	17
+15/+60	12.5	13.5	14.5
+60/+70	15	16	17

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 20m for gliding applications, Class 3
- Light oil influence, Class 2
- No torsion, Class 1
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Machining units/packaging machines, handling, indoor cranes

CFBUS.PVC
PVC
12.5 x d

Bus cable | PVC | chainflex® CFBUS.PVC

Class 4.3.2.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	2	**3**	4	5	6		≥ 400m
Oil resistance	none	1	**2**	3	4				highest
Torsion	none	**1**	2	3	4				±360°

CFBUS.PVC
PVC
12.5 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
Profibus (1x2x0.64mm)				
CFBUS.PVC.001	(2x0.25)C	8.5	25	77
CAN-Bus				
CFBUS.PVC.020 2)	(4x0.25)C	7.0	23	57
CFBUS.PVC.021	(2x0.5)C	8.5	32	86
CFBUS.PVC.022 2)	(4x0.5)C	8.5	43	94
CC-Link				
CFBUS.PVC.035	(3x0.5)C	8.0	40	82
Ethernet/CAT5I				
CFBUS.PVC.040 2)	(4x0.25)C	6.5	29	70
Ethernet/CAT5e				
CFBUS.PVC.045	(4x(2x0.15))C	7.5	33	67
Ethernet/CAT6				
CFBUS.PVC.049	(4x(2x0.15))C	7.5	33	67
Ethernet/CAT6A				
CFBUS.PVC.050	4x(2x0.20)C	10.0	65	123
Ethernet/CAT7				
CFBUS.PVC.052	(4x(2x0.15)C)C	9.5	89	136
Profinet				
CFBUS.PVC.060 2) 13)	(4x0.38)C	7.0	33	67
USB 3.0				
CFBUS.PVC.068	(2x(2xAWG28) +2x(2xAWG28)C)C	7.0	39	68

Part No.	Characteristic wave impedance approx. [Ω]	Core group	Colour code
Profibus (1x2x0.64mm)			
CFBUS.PVC.001	150	2x0.25	red, green
CAN-Bus			
CFBUS.PVC.020 2)	120	4x0.25	white, green, brown, yellow (star-quad)
CFBUS.PVC.021	120	2x0.5	white, brown
CFBUS.PVC.022 2)	120	4x0.5	white, green, brown, yellow (star-quad)
CC-Link			
CFBUS.PVC.035	110	3x0.5	white, blue, yellow
Ethernet/CAT5I			
CFBUS.PVC.040 2)	100	4x0.25	white, green, brown, yellow (star-quad)
Ethernet/CAT5e			
CFBUS.PVC.045	100	4x(2x0.15)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT6			
CFBUS.PVC.049	100	4x(2x0.15)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT6A			
CFBUS.PVC.050	100	4x(2x0.20)C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT7			
CFBUS.PVC.052	100	4x(2x0.15)C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Profinet			
CFBUS.PVC.060 2) 13)	100	4x0.38	white, orange, blue, yellow (star-quad)
USB 3.0			
CFBUS.PVC.068	90	2x(2xAWG28)	red/black, green/white-green
		2x(2xAWG28)C	blue/yellow, orange/violet

The chainflex® types marked with 2) are cables designed as a star-quad.
13) Colour outer jacket: Yellow-green (RAL 6018)

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

Technical note on bus cables
chainflex® bus cables have been specially developed and tested for continuously moving use in e-chains®. Depending on the material used for the outer jacket and on the underlying construction principle, the bus cables are designed for different mechanical requirements and resistance to diverse media.
The cables have been electrically designed in such a way that, on the one hand, the electrical requirements of the respective bus specification are reliably met and, on the other, that greater value is placed on a high degree of EMC reliability.
It is also ensured that the electrical values remain stable over the long term in spite of permanent movement.
The overall quality of transmission in a complete bus communication system, however, is not solely dependent on the cable used. What is also essential is that all components (electronic parts, connecting system and cable) are precisely matched to each other and that the maximum transmission lengths, which are dependent on the respective system, are adhered to with regard to the data transmission rates needed. A cable is thus not solely responsible for the reliable transmission of signals.
igus® advises you when you are designing your bus system to take all these factors into account and, with extensive tests, helps you to ensure the process reliability of your system from the very beginning.

EU2024 igus

Bus cable | iguPUR | chainflex® CF898

5 million
Double strokes guaranteed

15 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- iguPUR outer jacket
- Oil-resistant
- Shielded
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 15 x d
	flexible	minimum 12 x d
	fixed	minimum 8 x d
Temperature	**e-chain® linear**	-20°C up to +70°C
	flexible	-40°C up to +70°C (following DIN EN 60811-504)
	fixed	-50°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	According to bus specification.
Core structure	According to bus specification.
Core identification	According to bus specification. ▶ Product range table
Overall shield	Braiding made of tinned copper wires. Coverage approx. 60% optical
Outer jacket	Low-adhesion iguPUR mixture, adapted to suit the requirements in e-chains®. Colour: Red lilac (similar to RAL 4001) Variants ▶ Product range table

Electrical information

Nominal voltage	50V 300V (following UL), except **CF898.001:** 30V (following UL)
Testing voltage	500V



Example image

Class 3.1.3.1

Basic requirements	low	1	2	**3**	4	5	6	7 highest
Travel distance	unsupported	**1**	2	3	4	5	6	≥ 400m
Oil resistance	none	1	2	**3**	4	highest		
Torsion	none	**1**	2	3	4	±360°		

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame **CF898.082-CF898.083:** According to IEC 60332-1-2, FT2
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF898
NFPA	**CF898.001-CF898.060:** Following NFPA 79-2018, Kapitel 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-20/-10	17.5	18.5	19.5
-10/+60	15	16	17
+60/+70	17.5	18.5	19.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- With influence of oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

CF898
iguPUR
15 x d

Bus cable | iguPUR | chainflex® CF898

Class 3.1.3.1

Basic requirements: low 1 2 **3** 4 5 6 7 highest
Travel distance: unsupported **1** 2 3 4 5 6 ≥ 400m
Oil resistance: none 1 2 **3** 4 highest
Torsion: none **1** 2 3 4 ±360°

CF898
iguPUR
15 x d



Example image

	Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
	Profibus (1x2x0.64mm)				
PROFIBUS	**CF898.001**	(2x0.25)C	8.0	18	56
	CAN-Bus				
	CF898.021	(2x0.5)C	8.5	24	80
	Ethernet/CAT5e				
	CF898.045	(4x(2x0.14))C	7.0	25	54
	Profinet				
PROFINET EtherCAT	**CF898.060** [13]	(4x0.34)C	7.0	25	58
	CF898.061.FC	(4x0.34)C	7.0	25	72
	ASI BUS (flat cables)				
	CF898.082 [14]	According to ASI	4.0	50	82
	CF898.083 [15]	According to ASI	4.0	50	79

Part No.	Characteristic wave impedance approx. [Ω]	Core group	Colour code
Profibus (1x2x0.64mm)			
CF898.001	150	2x0.25	red, green
CAN-Bus			
CF898.021	120	2x0.5	white, brown
Ethernet/CAT5e			
CF898.045	100	4x(2x0.14)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Profinet			
CF898.060 [13]	100	4x0.34	white, orange, blue, yellow (star-quad)
CF898.061.FC	100	4x0.34	white, orange, blue, yellow (star-quad)
ASI BUS (flat cables)			
CF898.082 [14]	According to ASI	2x2.5	blue, brown
CF898.083 [15]	According to ASI	2x2.5	blue, brown

[13] Colour outer jacket: Yellow-green (RAL 6018)
[14] Colour outer jacket: Yellow (RAL 1021)
[15] Colour outer jacket: Jet black (RAL 9005)

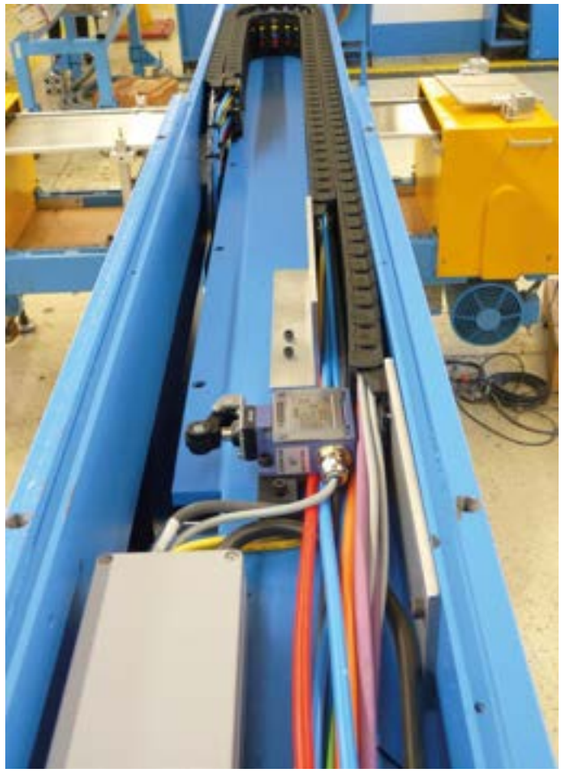
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case



Adjustment device with chainflex® CF898 bus cables

Technical note on bus cables
chainflex® bus cables have been specially developed and tested for continuously moving use in e-chains®. Depending on the material used for the outer jacket and on the underlying construction principle, the bus cables are designed for different mechanical requirements and resistance to diverse media.
The cables have been electrically designed in such a way that, on the one hand, the electrical requirements of the respective bus specification are reliably met and, on the other, that greater value is placed on a high degree of EMC reliability.
It is also ensured that the electrical values remain stable over the long term in spite of permanent movement.
The overall quality of transmission in a complete bus communication system, however, is not solely dependent on the cable used. What is also essential is that all components (electronic parts, connecting system and cable) are precisely matched to each other and that the maximum transmission lengths, which are dependent on the respective system, are adhered to with regard to the data transmission rates needed. A cable is thus not solely responsible for the reliable transmission of signals.
igus® advises you when you are designing your bus system to take all these factors into account and, with extensive tests, helps you to ensure the process reliability of your system from the very beginning.

EPLAN download, configurators ▶ www.igus.eu/CF898

Bus cable | PUR | chainflex® CFBUS.PUR



Example image

10 million Double strokes guaranteed

12.5 x d Bend radius, e-chain®

20m Travel distance, e-chain®

- For medium duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Single Pair Ethernet for e-chains®

SPE

Dynamic information

Bend radius	e-chain® linear	minimum 12.5 x d
	flexible	minimum 10 x d
	fixed	minimum 7 x d
Temperature	e-chain® linear	-20°C up to +70°C
	flexible	-40°C up to +70°C (following DIN EN 60811-504)
	fixed	-50°C up to +70°C (following DIN EN 50305)
v max.	unsupported	3m/s
	gliding	2m/s
a max.		30m/s²
Travel distance		Unsupported travels and up to 20m for gliding applications, Class 3

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	According to bus specification.
Core structure	According to bus specification.
Core identification	According to bus specification. ▶ Product range table
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Red lilac (similar to RAL 4001) Variants ▶ Product range table

Electrical information

Nominal voltage	50V 300V (following UL), except **CFBUS.PUR.020:** 30V (following UL)
Testing voltage	500V

EPLAN download, configurators ▶ www.igus.eu/CFBUSPUR

4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 4.3.3.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	2	**3**	4	5	6	≥ 400m	
Oil resistance	none	1	2	**3**	4	highest			
Torsion	none	**1**	2	3	4	±360°			

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL listed	CMX, 75°C (except CFBUS.PUR.068)
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CFBUSPUR
NFPA	Following NFPA 79-2018, chapter 12.9
CLPA	**CFBUS.PUR.045:** CC-Link IE Field, Reference no. 151 **CFBUS.PUR.049:** CC-Link IE Field, Reference no. 152
DNV	Type Approval Certificate TAE00003X6 **CFBUS.PUR.040-.052:** Type Approval Certificate TAE00003X8
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-20/-10	15	16	17
-10/+60	12.5	13.5	14.5
+60/+70	15	16	17

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 20m for gliding applications, Class 3
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

CFBUS.PUR
PUR
12.5 x d

Bus cable | PUR | chainflex® CFBUS.PUR

Class 4.3.3.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	2	**3**	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°

CFBUS.PUR
PUR
12.5 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
Profibus (1x2x0.64mm)				
CFBUS.PUR.001	(2x0.25)C	8.5	25	75
CAN-Bus				
CFBUS.PUR.020 2)	(4x0.25)C	7.5	23	64
CFBUS.PUR.021	(2x0.5)C	8.5	32	82
CFBUS.PUR.022 2)	(4x0.5)C	8.5	43	91
CC-Link				
CFBUS.PUR.035	(3x0.5)C	8.0	40	76
Ethernet/CAT5I				
CFBUS.PUR.040 2)	(4x0.25)C	6.5	29	69
Single Pair Ethernet/CAT5e				
CFBUS.PUR.042	(2x0.15)C	5.5	12	33
Ethernet/CAT5e				
CFBUS.PUR.045	(4x(2x0.15))C	7.5	33	66
Ethernet/CAT6				
CFBUS.PUR.049	(4x(2x0.15))C	7.5	33	66
CFBUS.PUR.H01.049	((4x(2x0.15))C+4x1.5)C	12.5	125	202
Ethernet/CAT6A				
CFBUS.PUR.050	4x(2x0.20)C	10.0	65	120
Ethernet/CAT7				
CFBUS.PUR.052	(4x(2x0.15)C)C	9.5	89	129
FireWire IEEE 1394b				
CFBUS.PUR.056	(2x(2x0.15)C+2x0.38)C	9.0	59	91
Profinet				
CFBUS.PUR.060 2) 13)	(4x0.38)C	7.0	33	64
CFBUS.PUR.H01.060	((4x0.38)C+4x1.5)C	11.5	120	196
USB 3.0				
CFBUS.PUR.068	(2x(2xAWG28) +2x(2xAWG28)C)C	7.0	39	64

Part No.	Characteristic wave impedance approx. [Ω]	Core group	Colour code
Profibus (1x2x0.64mm)			
CFBUS.PUR.001	150	2x0.25	red, green
CAN-Bus			
CFBUS.PUR.020 2)	120	4x0.25	white, green, brown, yellow (star-quad)
CFBUS.PUR.021	120	2x0.5	white, brown
CFBUS.PUR.022 2)	120	4x0.5	white, green, brown, yellow (star-quad)
CC-Link			
CFBUS.PUR.035	110	3x0.5	white, blue, yellow
Ethernet/CAT5I			
CFBUS.PUR.040 2)	100	4x0.25	white, green, brown, yellow (star-quad)
Single Pair Ethernet/CAT5e			
CFBUS.PUR.042		2x0.15	white/blue
Ethernet/CAT5e			
CFBUS.PUR.045	100	4x(2x0.15)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT6			
CFBUS.PUR.049	100	4x(2x0.15)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
CFBUS.PUR.H01.049	100	(4x(2x0.15))C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
		4x1.5	black, brown, grey, blue
Ethernet/CAT6A			
CFBUS.PUR.050	100	4x(2x0.20)C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT7			
CFBUS.PUR.052	110	(4x(2x0.15))C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
FireWire IEEE 1394b			
CFBUS.PUR.056	110	2x(2x0.15)C	orange/blue, blue/red
		2x0.38	black, white
Profinet			
CFBUS.PUR.060 2) 13)	100	4x0.38	white, orange, blue, yellow (star-quad)
CFBUS.PUR.H01.060	100	(4x0.38)C	white, orange, blue, yellow (star-quad)
		4x1.5	black, brown, grey, blue
USB 3.0			
CFBUS.PUR.068	90	2x(2xAWG28)	red/black, green/white-green
		2x(2xAWG28)C	blue/yellow, orange/violet

The chainflex® types marked with 2) are cables designed as a star-quad.
13) Colour outer jacket: Yellow-green (RAL 6018)

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

EPLAN download, configurators ▶ www.igus.eu/CFBUSPUR

Bus cable | TPE | chainflex® CFBUS



Example image

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For extremely heavy duty applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- Flame-retardant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-35°C up to +70°C
	flexible	-45°C up to +70°C (following DIN EN 60811-504)
	fixed	-50°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		100m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	According to bus specification.
Core structure	According to bus specification.
Core identification	According to bus specification. ▶ Product range table
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Red lilac (similar to RAL 4001) Variants ▶ Product range table

Electrical information

Nominal voltage	50V 600V (following UL), except **CFBUS.065/.066:** 30V (following UL)
Testing voltage	500V (following DIN EN 50289-1-3)

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Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	**6**	7 highest
Travel distance	unsupported	1	2	3	4	5	**6**	≥ 400m
Oil resistance	none	1	2	3	**4**	highest		
Torsion	none	**1**	2	3	4	±360°		

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame **CFBUS.030/CFBUS.065/CFBUS.066:** According to IEC 60332-1-2, FT2
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶www.igus.eu/CFBUS
NFPA	Following NFPA 79-2018, chapter 12.9
CLPA	**CFBUS.045:** CC-Link IE Field, Reference no. 130 **CFBUS.049:** CC-Link IE Field, Reference no. 137
DNV	Type Approval Certificate TAE00003X5 **CFBUS.040-.052:** Type Approval Certificate TAE00003X7
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF34.UL.25.04.D - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
Temperature, from/to [°C]	CFBUS .001-.049	CFBUS .050-.070	CFBUS .001-.049	CFBUS .050-.070	CFBUS .001-.049	CFBUS .050-.070
	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]
-35/-25	12.5	15	13.5	16	14.5	17
-25/+60	10	12.5	11	13.5	12	14.5
+60/+70	12.5	15	13.5	16	14.5	17

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, indoor cranes, low temperature applications

CFBUS
TPE
10 x d

Bus cable | TPE | chainflex® CFBUS

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	**6**	7 highest
Travel distance	unsupported	1	2	3	4	5	**6**	≥ 400m
Oil resistance	none	1	2	3	**4**	highest		
Torsion	none	**1**	2	3	4	±360°		

CFBUS TPE 10 x d



Example image

	Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
	Profibus (1x2x0.64mm)				
PROFIBUS	**CFBUS.001**	(2x0.25)C	9.0	33	92
PROFIBUS	**CFBUS.002**	(2x0.25)C+4x1.5	12.5	94	191
PROFIBUS	**CFBUS.003**	(2x0.25)C+3G0.75	11.5	55	145
	Interbus				
	CFBUS.010	(3x(2x0.25))C	9.0	47	91
	CFBUS.011	(3x(2x0.25)+(3G1.0))C	10.5	87	152
	CAN-Bus				
	CFBUS.020 [2]	(4x0.25)C	6.5	28	58
	CFBUS.021	(2x0.5)C	8.0	39	81
	CFBUS.022 [2]	(4x0.5)C	8.0	43	87
	DeviceNet				
	CFBUS.030 [4]	((2xAWG24)C +2xAWG22)C	7.0	36	57
	CFBUS.031 [4]	((2xAWG18)C +2xAWG15)C	11.5	103	174
	CC-Link				
CC-Link	**CFBUS.035**	(3xAWG20)C	8.5	43	96

Part No.	Characteristic wave impedance approx. [Ω]	Core group	Colour code
Profibus (1x2x0.64mm)			
CFBUS.001	150	2x0.25	red, green
CFBUS.002	150	(2x0.25)C	red/green
		4x1.5	black with white numbers 1-4
CFBUS.003	150	(2x0.25)C	red/green
		3G0.75	black, blue, green-yellow
Interbus			
CFBUS.010	100	3x(3x0.25)	white/brown, green/yellow, grey/pink
CFBUS.011	100	3x(2x0.25)	white/brown, green/yellow, grey/pink
		(3G1.0)	red, blue, green-yellow
CAN-Bus			
CFBUS.020 [2]	120	4x0.25	white, green, brown, yellow (star-quad)
CFBUS.021	120	2x0.5	white, brown
CFBUS.022 [2]	120	4x0.5	white, green, brown, yellow (star-quad)
DeviceNet			
CFBUS.030 [4]	120	(2xAWG24)C	white/blue
		2xAWG22	red, black
CFBUS.031 [4]	120	(2xAWG18)C	white/blue
		2xAWG15	red, black
CC-Link			
CFBUS.035	110	3xAWG20	white, blue, yellow

The chainflex® types marked with [2] are cables designed as a star-quad.
[4] Manufactured without inner jacket

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

Technical note on bus cables
chainflex® bus cables have been specially developed and tested for continuously moving use in e-chains®. Depending on the material used for the outer jacket and on the underlying construction principle, the bus cables are designed for different mechanical requirements and resistance to diverse media.
The cables have been electrically designed in such a way that, on the one hand, the electrical requirements of the respective bus specification are reliably met and, on the other, that greater value is placed on a high degree of EMC reliability.
It is also ensured that the electrical values remain stable over the long term in spite of permanent movement.
The overall quality of transmission in a complete bus communication system, however, is not solely dependent on the cable used. What is also essential is that all components (electronic parts, connecting system and cable) are precisely matched to each other and that the maximum transmission lengths, which are dependent on the respective system, are adhered to with regard to the data transmission rates needed. A cable is thus not solely responsible for the reliable transmission of signals.
igus® advises you when you are designing your bus system to take all these factors into account and, with extensive tests, helps you to ensure the process reliability of your system from the very beginning.

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

EPLAN download, configurators ▶ www.igus.eu/CFBUS

Bus cable | TPE | chainflex® CFBUS

Class 6.6.4.1

Basic requirements: low 1 2 3 4 5 **6** 7 highest
Travel distance: unsupported 1 2 3 4 5 **6** ≥ 400m
Oil resistance: none 1 2 3 4 highest
Torsion: none **1** 2 3 4 ±360°

CFBUS
TPE
10 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
Ethernet/CAT5I				
CFBUS.040 2)	(4x0.25)C	7.0	33	59
Ethernet/CAT5e				
CFBUS.045	(4x(2x0.15))C	8.5	42	84
Ethernet/CAT6				
CFBUS.049	(4x(2x0.15))C	8.5	42	84
Ethernet/CAT6A				
CFBUS.050 4) 5)	(4x(2x0.15)C)C	10.5	83	134
Ethernet/CAT7				
CFBUS.052 4)	(4x(2x0.15)C)C	10.5	89	133
FireWire 1394a				
CFBUS.055 5)	2x(2x0.15)C+2x(0.34)C	8.0	39	76
Profinet				
CFBUS.060 2) 13)	(4x0.38)C	7.5	39	74
USB				
CFBUS.065 5)	((2xAWG28)+2xAWG20)C	5.5	28	45
CFBUS.066	((2xAWG24)+2xAWG20)C	6.5	32	51
DVI				
CFBUS.070 4) 5) 6)	(4x(2xAWG28)C +(2xAWG28)+3xAWG28)C	9.0	35	95

Part No.	Characteristic wave impedance approx. [Ω]	Core group	Colour code
Ethernet/CAT5I			
CFBUS.040 2)	100	4x0.25	white, green, brown, yellow (star-quad)
Ethernet/CAT5e			
CFBUS.045	100	4x(2x0.15)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT6			
CFBUS.049	100	4x(2x0.15)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT6A			
CFBUS.050 4) 5)	100	4x(2x0.15)C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT7			
CFBUS.052 4)	100	4x(2x0.15)C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
FireWire 1394a			
CFBUS.055 5)	100	2x(2x0.15)C	orange/blue, green/red
		2x(0.34)C	white, black
Profinet			
CFBUS.060 2) 13)	100	4x0.38	white, orange, blue, yellow (star-quad)
USB			
CFBUS.065 5)	90	(2xAWG28)	white/green
		2xAWG20	red, black
CFBUS.066	90	(2xAWG24)	white/green
		2xAWG20	red, black
DVI			
CFBUS.070 4) 5) 6)	100	4x(2xAWG28)C	4 x white/yellow with element-shield in blue, black, red, white
		(2xAWG28)	white/brown
		3xAWG28)C	green, yellow, grey

The chainflex® types marked with 2) are cables designed as a star-quad.
4) Manufactured without inner jacket
5) not PFAS-free
6) without cULus
13) Colour outer jacket: Yellow-green (RAL 6018)

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Technical note on bus cables
chainflex® bus cables have been specially developed and tested for continuously moving use in e-chains®. Depending on the material used for the outer jacket and on the underlying construction principle, the bus cables are designed for different mechanical requirements and resistance to diverse media.
The cables have been electrically designed in such a way that, on the one hand, the electrical requirements of the respective bus specification are reliably met and, on the other, that greater value is placed on a high degree of EMC reliability.
It is also ensured that the electrical values remain stable over the long term in spite of permanent movement.
The overall quality of transmission in a complete bus communication system, however, is not solely dependent on the cable used. What is also essential is that all components (electronic parts, connecting system and cable) are precisely matched to each other and that the maximum transmission lengths, which are dependent on the respective system, are adhered to with regard to the data transmission rates needed. A cable is thus not solely responsible for the reliable transmission of signals.
igus® advises you when you are designing your bus system to take all these factors into account and, with extensive tests, helps you to ensure the process reliability of your system from the very beginning.

EPLAN download, configurators ▶ www.igus.eu/CFBUS

EU2024 igus® UL-verified chainflex® guarantee ... www.igus.eu/ul-verified 201

Bus cable | TPE | chainflex® CFBUS.LB



12.5 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For heaviest duty applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- Low-temperature-flexible
- PVC and halogen-free
- Hydrolysis and microbe-resistant

Now available with UL approval & 25% longer service life

Dynamic information

Bend radius	e-chain® linear	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	e-chain® linear	-35°C up to +70°C
	flexible	-50°C up to +70°C (following DIN EN 60811-504)
	fixed	-55°C up to +70°C (following DIN EN 50305)
v max.	unsupported	10m/s
	gliding	6m/s
a max.		100m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	According to bus specification.
Core structure	According to bus specification.
Core identification	According to bus specification. ▶ Product range table
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Red lilac (similar to RAL 4001) Variants ▶ Product range table

Electrical information

Nominal voltage	50V 600V (following UL)
Testing voltage	500V (following DIN EN 50289-1-3)

Example image

EPLAN download, configurators ▶ www.igus.eu/CFBUSLB

EU2024

Class 7.6.4.1

Basic requirements	low	1	2	3	4	5	6	**7**	highest
Travel distance	unsupported	1	2	3	4	5	**6**	≥ 400m	
Oil resistance	none	1	2	3	**4**	highest			
Torsion	none	**1**	2	3	4	±360°			

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL AWM	See data sheet for details ▶ www.igus.eu/CFBUSLB (from production date 01/2022)
CLPA	**CFBUS.LB.045:** CC-Link IE Field, Reference no. 131 **CFBUS.LB.049:** CC-Link IE Field, Reference no. 138
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		12.5 million	
Temperature, from/to [°C]	CFBUS.LB .001-.022	CFBUS.LB .040-.060	CFBUS.LB .001-.022	CFBUS.LB .040-.060	CFBUS.LB .001-.022	CFBUS.LB .040-.060
	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]
-35/-25	12.5	10	13.5	11	14.5	12
-25/+60	10	7.5	11	8.5	12	9.5
+60/+70	12.5	10	13.5	11	14.5	12

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 7
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, indoor cranes, low temperature applications

CFBUS.LB
TPE
7.5 x d

Bus cable | TPE | chainflex® CFBUS.LB

Class 7.6.4.1

Basic requirements	low	1	2	3	4	5	6	**7** highest
Travel distance	unsupported	1	2	3	4	5	**6**	≥ 400m
Oil resistance	none	1	2	3	**4** highest			
Torsion	none	**1**	2	3	4	±360°		

CFBUS.LB
TPE
7.5 x d



Example image

	Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
	Profibus (1x2x0.64mm)				
PROFIBUS	**CFBUS.LB.001**	(2x0.25)C	9.0	33	78
	CAN-Bus/Feldbus				
	CFBUS.LB.020 [2]	(4x0.25)C	6.5	28	49
	CFBUS.LB.021	(2x0.5)C	8.0	39	67
	CFBUS.LB.022 [2]	(4x0.5)C	8.0	43	78
	Ethernet/CAT5I				
EtherCAT	**CFBUS.LB.040** [2]	(4x0.25)C	7.0	33	50
	Ethernet/CAT5e				
CC-Link IE Field	**CFBUS.LB.045**	(4x(2x0.15))C	8.5	42	71
	Ethernet/CAT6				
CC-Link IE Field	**CFBUS.LB.049**	(4x(2x0.15))C	8.5	42	71
	Profinet				
PROFINET EtherCAT	**CFBUS.LB.060** [2] [13]	(4x0.38)C	7.5	39	67

	Part No.	Characteristic wave impedance approx. [Ω]	Core group	Colour code
	Profibus (1x2x0.64mm)			
	CFBUS.LB.001	150	2x0.25	red, green
	CAN-Bus/Feldbus			
	CFBUS.LB.020 [2]	120	4x0.25	white, green, brown, yellow (star-quad)
	CFBUS.LB.021	120	2x0.5	white, brown
	CFBUS.LB.022 [2]	120	4x0.5	white, green, brown, yellow (star-quad)
	Ethernet/CAT5I			
	CFBUS.LB.040 [2]	100	4x0.25	white, green, brown, yellow (star-quad)
	Ethernet/CAT5e			
	CFBUS.LB.045	100	4x(2x0.15)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
	Ethernet/CAT6			
	CFBUS.LB.049	100	4x(2x0.15)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
	Profinet			
	CFBUS.LB.060 [2] [13]	100	4x0.38	white, orange, blue, yellow (star-quad)

The chainflex® types marked with [2] are cables designed as a star-quad.
[13] Colour outer jacket: Yellow-green (RAL 6018)

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

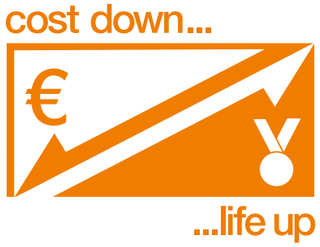


Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

Technical note on bus cables
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The overall quality of transmission in a complete bus communication system, however, is not solely dependent on the cable used. What is also essential is that all components (electronic parts, connecting system and cable) are precisely matched to each other and that the maximum transmission lengths, which are dependent on the respective system, are adhered to with regard to the data transmission rates needed. A cable is thus not solely responsible for the reliable transmission of signals.
igus® advises you when you are designing your bus system to take all these factors into account and, with extensive tests, helps you to ensure the process reliability of your system from the very beginning.



Reduce cost, improve technology, now!

Do the chainflex® price check ...
www.igus.eu/cf-price-check

… for example: reduce cost with CFBUS.PUR ...

Fibre Optic Cables



chainflex® cable	Jacket	Minimum bend radius e-chain® [x d]	Temperature e-chain® from/to [°C]	Approvals and standards	Oil-resistant	Torsion-resistant	v max. [m/s] unsupported	v max. [m/s] gliding	a max.	Page
Fibre Optic Cables										
Information about fibre optic cables										208
CFLK	PUR	12.5	-20/+60	CE	✓		10	5	20	212
CFLG88	PVC	7.5	+5/+70	CE			3	2	20	214
CFLG.LB.PUR	PUR	5	-25/+80	CE	✓		10	6	20	216
CFLG.LB	TPE	5	-35/+80	CE	✓		10	6	20	220 New
CFLG.G	TPE	10	-40/+80	CE	✓		10	6	20	224
Twistable fibre optic cable (twistable cables chapter ▶ Page 382)										
CFROBOT5	TPE	10	-20/+80	CE	✓		180	180		400

Overview to find the right fibre optic cable

	POF Plastic FOC 980/1,000µm	GOF Multimode Glass fibre FOC 50/125µm 62.5/125µm	GOF Singlemode Glass fibre FOC 9/125µm
CFLK	✓		
CFLG88		✓	
CFLG.LB.PUR		✓	✓
CFLG.LB		✓	✓
CFLG.G		✓	✓
CFROBOT5		✓	

4 years chainflex® guarantee

Guaranteed service life for predictable reliability

▶ Selection table page 210

With the help of the chainflex® service life calculator, you can quickly and easily calculate the expected service life of chainflex® cables specifically for your application:

www.igus.eu/chainflexlife

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

The safest and often most cost-efficient way to transfer data to machines and plant.

Communication between systems in machines and plant is becoming more and more complex all the time, yet fault-free performance is becoming ever more important.

However, many plant manufacturers or operators have major EMC problems that occur sporadically or even after years of operation.

These problems are often based on conventional bus cables that either have insufficient or unreliable shielding.

Alongside igus® chainflex® bus cables that already prevent these problems to a large extent, chainflex® fibre optic cables provide further advantages for even greater data safety.

Fibre Optic Cables (FOC) do not require a braided shielding that is susceptible to mechanical damage as EMC protection, and are insensitive to EMC on account of their very nature, since industrial conventional interference fields do not have any effect on light signals. In addition, fibre optic cables can be used independently of the system, since a special bus cable is not required for every bus system type, rather one FOC type can usually be used to operate any bus system providing the bus system manufacturer provides respective FOC converters.

The large number of fibre optic cables in industrial data transmission is also much more manageable than the large number of different field or high-speed buses which require a separate cable for each bus.

Thus the following fibre types can be used for industrial data communication, completely independently of the type of field bus used. The fibre type and number depends only on which converters are used and which fibre type the respective manufacturer prescribes. The fibres are defined on the basis of diameter and result in a clear and limited choice.

Important fibre types:

- **Multi-mode fibres**
  50/125µm
  62.5/125µm
  The ideal fibre for large data volumes and longer transmission lengths in the field of automation. Transmission lengths of several hundred metres can be realised quite easily, due to the very low output attenuation (0.8-3db/km per fibre and light wave length) of these fibre types.

- **POF (plastic fibres)**
  980/1,000µm
  The ideal and low-cost fibre for short transmission paths. On account of the high output attenuation of the fibre type of 160-230dB/km, lengths over 15m must be avoided in constantly moving energy chains.

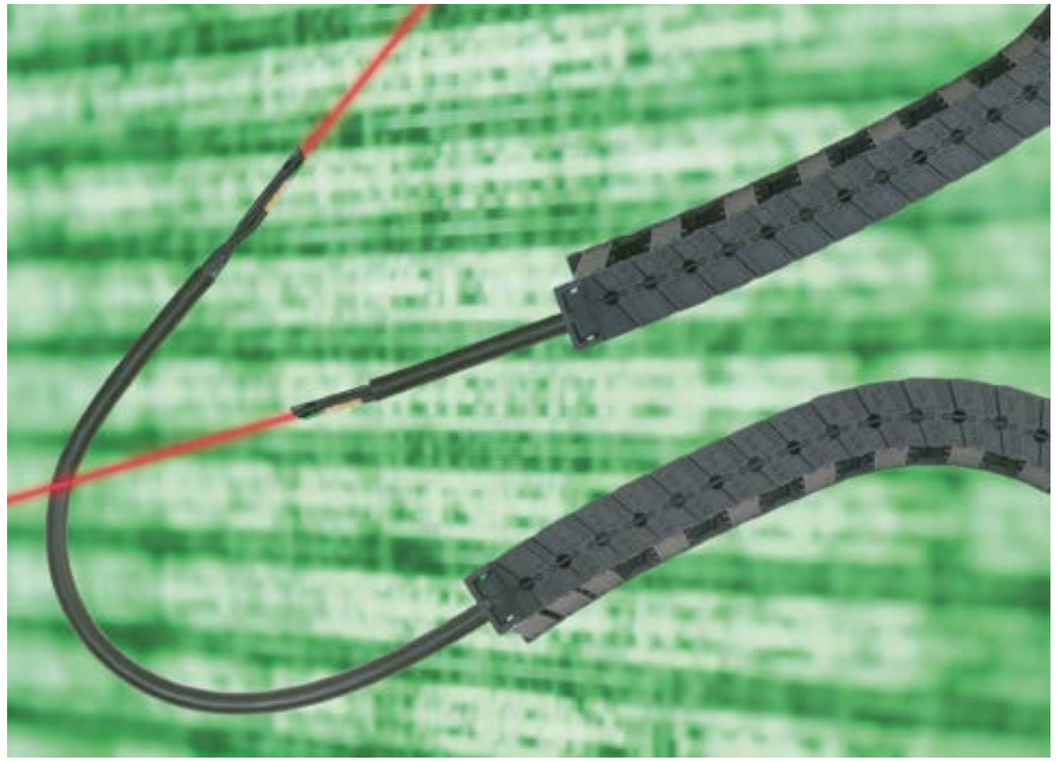
- **PCF (Polymer Cladded Fiber)**
  200/230µm
  The ideal compromise for POF fibre. This plastic coated quartz glass fibre is a viable alternative for many terminal devices that have been designed for POF.
  This means greater transmission lengths (100m and more) are possible without the original POF terminal devices having to be replaced.

chainflex® FOC offer the operator the following advantages:

1. Greater data security
- Better transmission characteristics
- Greater possible transmission lengths of several 100m
- Greater possible data volumes thanks to lower attenuation values
- Maximum EMC protection for the data transmitted
- Future-proof installation (no cable replacement with new bus systems)

2. Greater mechanical protection
- The FOC designed for permanent mechanical movement
- The igus® typical highly abrasion-proof and chemical-resistant sheathing materials
- The special chainflex® design concept (tested for 30 million cycles without a significant increase in attenuation)

3. Future-oriented cost reduction
- Bus-independent bus cable wiring
- Longer service life in e-chains®
- Extendable without transmission limits



Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

chainflex® guarantee

Guaranteed service life (1)

	chainflex® cables	Temperature, from/to [°C]	v max. [m/s] unsupported	v max. [m/s] gliding	a max. [m/s²]	Travel distance [m]	Minimum bend radius [x d] 5 million (1 million) double strokes *	Minimum bend radius [x d] 7.5 million (3 million) double strokes *	Minimum bend radius [x d] 10 million (5 million) double strokes *	Page
Fibre Optic Cables										
	CFLK	-20 / -10 -10/+50 +50/+60	10	5	20	≤ 20	15 12.5 15	16 13.5 16	17 14.5 17	212
	CFLG88	+5 / +15 +15 / +60 +60 / +70	3	-	20	≤ 10	10 7.5 10	11 8.5 11	12 9.5 12	214
	CFLG.LB.PUR	-35 / -25 -25 / +70 +70 / +80	10	6	20	≤ 100	7.5 5 7.5	8.5 6 8.5	9.5 7 9.5	216
	CFLG.LB New!	-35 / -25 -25 / +70 +70 / +80	10	6	20	≤ 100	7.5 5 7.5	8.5 6 8.5	9.5 7 9.5	220
	CFLG.G	-40 / -30 -30 / +60 +60 / +70	10	6	20	≤ 50	12.5 10 12.5	13.5 11 13.5	14.5 12 14.5	224

(1) Guaranteed service life for these series (details ▶ see page 28-29)

* Higher number of double strokes? Calculate service life online: ▶ www.igus.eu/chainflexlife
Figures in brackets refer to series CFLG88





Fibre Optic Cable | PUR | chainflex® CFLK



Example image

10 million Double strokes guaranteed

12.5 x d Bend radius, e-chain®

20m Travel distance, e-chain®

- **POF fibre for heavy duty applications and interference-free transmission**
- **PUR outer jacket**
- **Oil-resistant and coolant-resistant**

Dynamic information

Bend radius	**e-chain® linear**	minimum 12.5 x d
	flexible	minimum 10 x d
	fixed	minimum 7 x d
Temperature	**e-chain® linear**	-20°C up to +60°C
	flexible	-40°C up to +60°C (following DIN EN 60811-504)
	fixed	-50°C up to +60°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		20m/s²
Travel distance		Unsupported travels and up to 20m for gliding applications, Class 3

Cable structure

Fibre Optic Cable	980/1000 µm fibre with PE isolation.
Core structure	POF fibre with stranded high-tensile plastic reinforcement.
Core identification	▶ Product range table
Outer jacket	Low-adhesion, halogen-free PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2). Colour: Red lilac (similar to RAL 4001)

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU

EPLAN download, configurators ▶ www.igus.eu/CFLK

4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

EU2024

Class 5.3.3.1

Basic requirements	low	1	2	3	4	5	6	7 highest
Travel distance	unsupported	1	2	3	4	5	6	≥ 400m
Oil resistance	none	1	2	3	4	highest		
Torsion	none	1	2	3	4	±360°		

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-20/-10	15	16	17
-10/+50	12.5	13.5	14.5
+50/+60	15	16	17

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 20m for gliding applications, Class 3
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Highest EMC safety
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

Part No.	Number of fibres/ Fibre diameter	Outer diameter (d) max. [mm]	Weight [kg/km]
CFLK.L1.01	1x980/1,000	6.0	27
CFLK.L1.02	2x980/1,000	7.0	31

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.

Part No.	Bandwidth [MHz x km] @ 650nm	Attenuation [dB/km] @ 650nm	Fibre identification
CFLK.L1.01	2	200	black
CFLK.L1.02	2	200	black, blue

Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this page 24/25 and online: www.igus.eu/cf-case



Woodworking machines with e-chains® and chainflex® cables

CFLK
PUR
12.5 x d

Fibre Optic Cable | PVC | chainflex® CFLG88



Example image

5 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- Graded index glass-fibre cable for flexing applications
- PVC outer jacket
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Fibre Optic Cable	50/125µm, 62.5/125µm bending-resistant solid glass fibre optic cores, with aramid strain relief elements.
Core structure	FOC cores wound with a short pitch length with high-tensile aramid dampers.
Core identification	FOC cores: Orange or blue with black numbers.
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains®. Colour: jet black (similar to RAL 9005)

Properties and approvals

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF240.02.24 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

EPLAN download, configurators ▶ www.igus.eu/CFLG88

Class 3.1.1.1

Basic requirements	low	1	2	**3**	4	5	6	7 highest
Travel distance	unsupported	1	2	**3**	4	5	6	≥ 400m
Oil resistance	none	1	2	**3**	4	highest		
Torsion	none	1	2	**3**	4	±360°		

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	10	11	12
+15/+60	7.5	8.5	9.5
+60/+70	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- No torsion, Class 1
- Highest EMC safety
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

Part No.	Number of fibres/ Fibre diameter	Outer diameter (d) max. [mm]	Weight [kg/km]
CFLG88.2.62.5/125 [11)]	2x62.5/125	7.0	44
CFLG88.2.50/125	2x50/125	7.0	44

[11)] Phase-out model
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.

Part No.	Bandwidth [MHz x km] @ 850nm	Attenuation [dB/km] @ 850nm	Bandwidth [MHz x km] @ 1,300nm	Attenuation [dB/km] @ 1,300nm	Fibre identification
CFLG88.2.62.5/125	≥ 200	≤ 3.5	≥ 500	≤ 1.5	orange with black numbers
CFLG88.2.50/125	≥ 200	≤ 3.0	≥ 500	≤ 1.0	blue with black numbers



Cables available in the chainflex® CASE

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More on this page 24/25 and online: www.igus.eu/cf-case

CFLG88
PVC
7.5 x d

PVC | iguPUR | PUR | TPE

Fibre Optic Cable | PUR | chainflex® CFLG.LB.PUR

10 million
Double strokes guaranteed

5 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- Graded index glass-fibre cable for heaviest duty applications
- PUR outer jacket
- Metal-free
- Oil-resistant
- Low-temperature-flexible
- PVC and halogen-free
- UV-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 5 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		20m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5

Cable structure

Fibre Optic Cable	50/125 µm, 62.5/125 µm, 9/125 µm especially bending-resistant solid glass fibre optic cores, with aramid strain relief elements.
Core structure	FOC cores wound with a short pitch length with high-tensile aramid dampers.
Core identification	Orange, blue or yellow with black numbers.
Overall shield	Extremely bending-resistant aramid braid for torsion protection.
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: jet black (similar to RAL 9005)



Example image

EPLAN download, configurators ▶ www.igus.eu/CFLGLBPUR

4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

EU2024

Class 6.5.3.1

Basic requirements	low	1	2	3	4	5	6	7 highest
Travel distance	unsupported	1	2	3	4	5	6	≥ 400m
Oil resistance	none	1	2	3	4	highest		
Torsion	none	1	2	3	4	±360°		

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
DNV	Type Approval Certificate TAE000048J
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-25/-15	7.5	8.5	9.5
-15/+70	5	6	7
+70/+80	7.5	8.5	9.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heaviest duty applications with 5-7.5 x d, Class 6
- Unsupported travels and up to 100 m for gliding applications (horizontal + vertical), Class 5
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Maximum EMC protection, with high transmission qualities
- Indoor and outdoor applications
- Offshore, ships, storage and retrieval units, processing/packaging machines, fast handling, semiconductor assembly, refrigeration area

CFLG.
LB.PUR
PUR
5 x d

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

UL-verified chainflex® guarantee ... www.igus.eu/ul-verified

Fibre Optic Cable | PUR | chainflex® CFLG.LB.PUR

Class 6.5.3.1

Basic requirements	low	1	2	3	4	5	6	7 highest
Travel distance	unsupported	1	2	3	4	5	6	≥ 400m
Oil resistance	none	1	2	3	4 highest			
Torsion	none	1	2	3	4	±360°		

CFLG.
LB.PUR
PUR
5 x d



Example image

Part No.	Number of fibres/ Fibre diameter	Outer diameter (d) max. [mm]	Weight [kg/km]
CFLG.2LB.PUR.62.5/125	2x62.5/125	8.5	62
CFLG.4LB.PUR.62.5/125	4x62.5/125	9.0	68
CFLG.6LB.PUR.62.5/125 [11)]	6x62.5/125	11.0	96
CFLG.12LB.PUR.62.5/125	12x62.5/125	14.0	150
CFLG.6LB.PUR.50/125	6x50/125	11.0	95
CFLG.12LB.PUR.50/125	12x50/125	14.0	160
CFLG.6LB.PUR.9/125	6x9/125	11.0	95

[11)] Phase-out model
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.

Part No.	Bandwidth [MHz x km] @ 850nm	Attenuation [dB/km] @ 850nm	Bandwidth [MHz x km] @ 1,300nm	Attenuation [dB/km] @ 1,300nm	Fibre identification
CFLG.2LB.PUR.62.5/125	≥ 200	≤ 3.5	≥ 500	≤ 1.5	orange with black numbers
CFLG.4LB.PUR.62.5/125	≥ 200	≤ 3.5	≥ 500	≤ 1.5	orange with black numbers
CFLG.6LB.PUR.62.5/125	≥ 200	≤ 3.5	≥ 500	≤ 1.5	orange with black numbers
CFLG.12LB.PUR.62.5/125	≥ 200	≤ 3.0	≥ 500	≤ 0.7	orange with black numbers
CFLG.6LB.PUR.50/125	≥ 500	≤ 3.0	≥ 500	≤ 1.0	blue with black numbers
CFLG.12LB.PUR.50/125	≥ 200	≤ 3.0	≥ 500	≤ 1.0	blue with black numbers

Part No.	Attenuation [dB/km] @ 1,310nm	Chromatic dispersion [ps/nm/km] @ 1,310nm	Attenuation [dB/km] @ 1,550nm	Chromatic dispersion [ps/nm/km] @ 1,550nm	Fibre identification
CFLG.6LB.PUR.9/125	≤ 0.35	3.5	≤ 0.25	18	yellow with black numbers

Order example: CFLG.4LB.PUR.62.5/125 - to your desired length (0.5m steps)
CFLG.LB.PUR **chainflex® series** .4 **Number of fibres** .62.5/125 **Fibre diameter**

Order online ▶ www.igus.eu/CFLGLBPUR

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Cables available in the chainflex® CASE

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More on this on page 24/25 and online: www.igus.eu/cf-case

EPLAN download, configurators ▶ www.igus.eu/CFLGLBPUR

PVC | iguPUR | PUR | TPE

Fibre Optic Cable | TPE | chainflex® CFLG.LB

New



Example image

10 million
Double strokes guaranteed

5 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- Graded index glass-fibre cable for heaviest duty applications
- TPE outer jacket
- Metal-free
- Oil and bio-oil-resistant
- Low-temperature-flexible
- PVC and halogen-free
- UV-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 5 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d
Temperature	**e-chain® linear**	-35°C up to +80°C
	flexible	-50°C up to +80°C (following DIN EN 60811-504)
	fixed	-55°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		20m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5 **CFLG.12.LB:** Unsupported travels and up to 400m for gliding applications, Class 6

Cable structure

Fibre Optic Cable	50/125µm, 62.5/125µm bending-resistant solid glass fibre optic cores, with aramid strain relief elements.
Core structure	FOC cores wound with a short pitch length with high-tensile aramid dampers.
Core identification	Orange or blue with black numbers.
Overall shield	Extremely bending-resistant aramid braid for torsion protection.
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: jet black (similar to RAL 9005)

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4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

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Class 7.5.4.1

Basic requirements	low	1	2	3	4	5	6	7 highest
Travel distance	unsupported	1	2	3	4	5	6	≥ 400m
Oil resistance	none	1	2	3	4 highest			
Torsion	none	1	2	3	4 ±360°			

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-35/-25	7.5	8.5	9.5
-25/+70	5	6	7
+70/+80	7.5	8.5	9.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heaviest duty applications with 5-7.5 x d, Class 7
- Unsupported travels and up to 100m for gliding applications (horizontal + vertical), Class 5,
  CFLG.12.LB: Unsupported travels and up to 400m in gliding applications (horizontal + vertical), Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Maximum EMC protection, with high transmission qualities
- Indoor and outdoor applications
- Crane applications, conveyor technology, storage and retrieval units, processing/ packaging machines, fast handling, semiconductor assembly, refrigeration area

CFLG.LB
TPE
5 x d

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

UL-verified chainflex® guarantee ... www.igus.eu/ul-verified

Fibre Optic Cable | TPE | chainflex® CFLG.LB

New

Class 7.5.4.1

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	3	4				highest
Torsion	none	1	2	3	4				±360°

CFLG.LB
TPE
5 x d



Example image

	Part No.	Number of fibres/ Fibre diameter	Outer diameter (d) max. [mm]	Weight [kg/km]
	CFLG.2LB.62.5/125	2x62.5/125	8.5	57
	CFLG.4LB.62.5/125	4x62.5/125	9.0	68
	CFLG.6LB.62.5/125	6x62.5/125	11.0	91
	CFLG.12LB.62.5/125	12x62.5/125	14.0	150
	CFLG.2LB.50/125	2x50/125	8.5	54
	CFLG.4LB.50/125	4x50/125	9.0	64
	CFLG.6LB.50/125	6x50/125	11.0	86
	CFLG.12LB.50/125	12x50/125	14.0	150
New	**CFLG.12LB.9/125**	12x9/125	15.0	125

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.

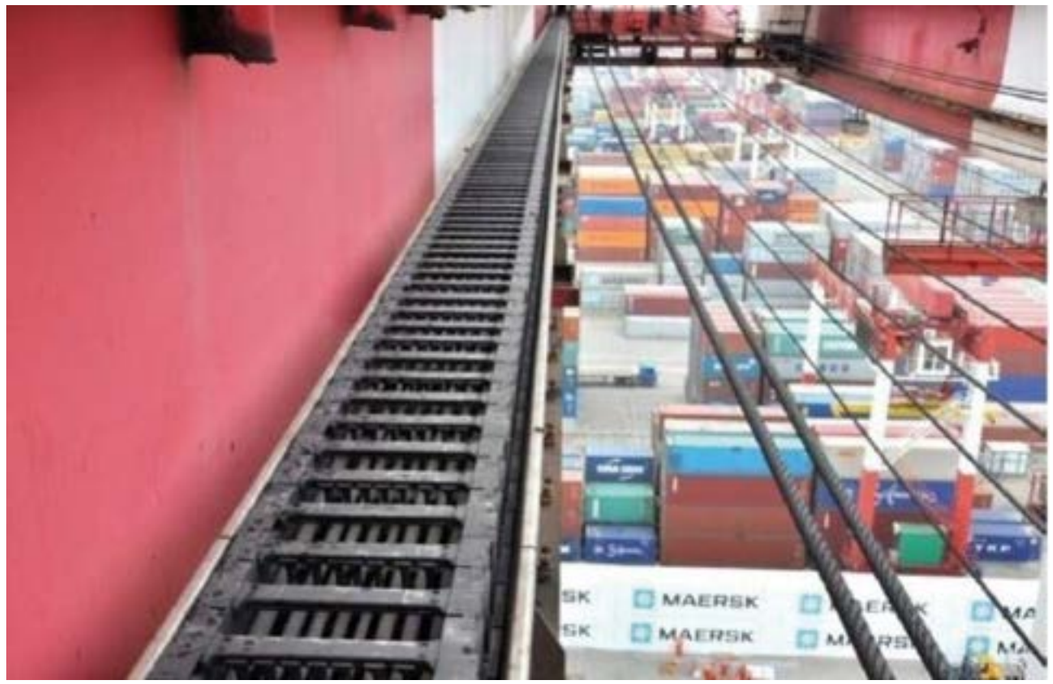
Part No.	Bandwidth [MHz x km] @ 850nm	Attenuation [dB/km] @ 850nm	Bandwidth [MHz x km] @ 1,300nm	Attenuation [dB/km] @ 1,300nm	Fibre identification
CFLG.2LB.62.5/125	≥ 200	≤ 3.5	≥ 500	≤ 1.5	orange with black numbers
CFLG.4LB.62.5/125	≥ 200	≤ 3.5	≥ 500	≤ 1.5	orange with black numbers
CFLG.6LB.62.5/125	≥ 200	≤ 3.5	≥ 500	≤ 1.5	orange with black numbers
CFLG.12LB.62.5/125	≥ 200	≤ 3.5	≥ 500	≤ 1.5	orange with black numbers
CFLG.2LB.50/125	≥ 500	≤ 3.5	≥ 500	≤ 1.5	blue with black numbers
CFLG.4LB.50/125	≥ 500	≤ 3.5	≥ 500	≤ 1.5	blue with black numbers
CFLG.6LB.50/125	≥ 500	≤ 3.5	≥ 500	≤ 1.5	blue with black numbers
CFLG.12LB.50/125	≥ 500	≤ 3.5	≥ 500	≤ 1.5	blue with black numbers

	Part No.	Attenuation [dB/km] @ 1310nm	Chromatic dispersion [ps/nm/km] @1310 nm	Attenuation [dB/km] @ 1550nm	Chromatic dispersion [ps/nm/km]] @ 1550nm	Fibre identification
New	**CFLG.12LB.9/125**	≤ 0,5	3.5	≤ 0.5	18	yellow with black numbers

Order example: CFLG.4LB.62.5/125 - to your desired length (0.5m steps)
CFLG.LB **chainflex® series** .4 **Number of fibres** .62.5/125 **Fibre diameter**

Order online ▶ www.igus.eu/CFLGLB

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



chainflex® fibre optic cable on an STS crane



Cables available in the chainflex® CASE

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Fibre Optic Cable | TPE | chainflex® CFLG.G

Example image

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

50m
Travel distance, e-chain®

- Glass-fibre cable for heaviest duty applications
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC and halogen-free
- Low-temperature-flexible
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-40°C up to +80°C
	flexible	-50°C up to +80°C (following DIN EN 60811-504)
	fixed	-55°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		20m/s²
Travel distance		Unsupported travels and up to 50m for gliding applications, Class 4

Cable structure

Fibre Optic Cable	9/125 µm, 50/125 µm, 62.5/125 µm fibres in gel-filled tubes.
Core structure	Gel-filled fibre sheath surrounded by GRP rods and torsion protection braid in the outer jacket.
Core identification	Fibres ▶ Product range table
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: jet black (similar to RAL 9005)

Class 7.4.4.1

Basic requirements	low	1	2	3	4	5	6	**7**	highest
Travel distance	unsupported	1	2	3	**4**	5	6	≥ 400m	
Oil resistance	none	1	2	3	**4**	highest			
Torsion	none	**1**	2	3	4	±360°			

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
Info	For hanging applications, please use cables of the series CFLG.LB - see page 220!

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-40/-30	12.5	13.5	14.5
-30/+70	10	11	12
+70/+80	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 7
- Unsupported travels and up to 50m for gliding applications (horizontal), Class 4
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Maximum EMC protection, with high transmission qualities
- Indoor and outdoor applications
- Crane applications, conveyor technology, low temperature applications

CFLG.G
TPE
10 x d

Fibre Optic Cable | TPE | chainflex® CFLG.G

Class 7.4.4.1

Basic requirements	low	1	2	3	4	5	6	**7**	highest
Travel distance	unsupported	1	2	3	**4**	5	6	≥ 400m	
Oil resistance	none	1	2	3	**4**	highest			
Torsion	none	**1**	2	3	4	±360°			

CFLG.G
TPE
10 x d



Example image

Part No.	Number of fibres/ Fibre diameter	Outer diameter (d) max. [mm]	Weight [kg/km]
CFLG.6G.62.5/125.TC	6x62.5/125	10.0	80
CFLG.12G.62.5/125.TC	12x62.5/125	10.0	80
CFLG.6G.50/125.TC [11)]	6x50/125	10.0	60
CFLG.12G.50/125.TC	12x50/125	10.0	75
CFLG.12E.9/125.TC	12x9/125	10.0	75

[11)] Phase-out model
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.

Part No.	Bandwidth [MHz x km] @ 850nm	Attenuation [dB/km] @ 850nm	Bandwidth [MHz x km] @ 1,300nm	Attenuation [dB/km] @ 1,300nm
CFLG.6G.62.5/125.TC	≥ 200	≤ 3.5	≥ 500	≤ 1.0
CFLG.12G.62.5/125.TC	≥ 200	≤ 3.5	≥ 500	≤ 1.0
CFLG.6G.50/125.TC	≥ 500	≤ 3.0	≥ 500	≤ 1.0
CFLG.12G.50/125.TC	≥ 500	≤ 3.0	≥ 500	≤ 1.0

Part No.	Attenuation [dB/km] @ 1,310nm	Chromatic dispersion [ps/nm/km] @ 1,310nm	Attenuation [dB/km] @ 1,550nm	Chromatic dispersion [ps/nm/km] @ 1,550nm
CFLG.12E.9/125.TC	≤ 0.35	3.5	≤ 0.25	18

Part No.	Fibre identification	Hollow core identification
CFLG.6G.62.5/125.TC	ecru, yellow, green, red, violet, blue	orange
CFLG.12G.62.5/125.TC	ecru, yellow, green, red, violet, blue, turquoise, grey, brown, black, orange, pink	orange
CFLG.6G.50/125.TC	ecru, yellow, green, red, violet, blue	blue
CFLG.12G.50/125.TC	ecru, yellow, green, red, violet, blue, turquoise, grey, brown, black, orange, pink	blue
CFLG.12E.9/125.TC	ecru, yellow, green, red, violet, blue, turquoise, grey, brown, black, orange, pink	yellow



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

EPLAN download, configurators ▶ www.igus.eu/CFLGG

Order example: CFLG.6G.62.5/125.TC - to your desired length (0.5m steps)
CFLG.G **chainflex® series**.6G **Number of fibres**.62.5/125**Fibre diameter**.TC **Special marking**

Order online ▶ www.igus.eu/CFLGG

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

cost down...



...life up

Reduce cost, improve technology, now!
Do the chainflex® price check ...
www.igus.eu/cf-price-check

... for example: Reduce bend radius with CFLG.LB ...



chainflex® fibre optic cable in a sea lock

EU2024 igus®

Measuring system cables



chainflex® cable	Jacket	Shield	Minimum bend radius e-chain® [x d]	Temperature e-chain® from/to [°C]	Approvals and standards	Oil-resistant	Torsion-resistant	v max. [m/s] unsupported	v max. [m/s] gliding	a max.	Page
Measuring system cables											
Selection chart for chainflex® measuring system cables											232
CF884	PVC	✓	15	+5/+70				3		20	234
CF211	PVC	✓	10	+5/+70		✓		5	3	30	238 New
CF894	iguPUR	✓	15	-20/+80		✓		3		20	244
CF111.D	PUR	✓	10	-25/+80		✓		5	3	30	248
CF113.D	PUR	✓	7.5	-25/+80		✓		10	5	50	254
CF11.D	TPE	✓	6.8	-35/+90		✓		10	6	100	260
Twistable measuring system cable (twistable cables chapter ► Page 382)											
CFROBOT4	PUR	✓	10	-25/+80		✓	✓				396

4-years chainflex® guarantee

Guaranteed service life for predictable reliability

► Selection table page 230

With the help of the chainflex® service life calculator, you can quickly and easily calculate the expected service life of chainflex® cables specifically for your application:

www.igus.eu/chainflexlife

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

chainflex® guarantee

Guaranteed service life (1)

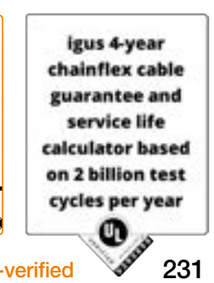
	chainflex® cables		Temperature, from/to [°C]	v max. [m/s] unsupported	v max. [m/s] gliding	a max. [m/s²]	Travel distance [m]	Minimum bend radius [x d] < 10m	Minimum bend radius [x d] ≥ 10m	Minimum bend radius [x d] < 10m	Minimum bend radius [x d] ≥ 10m	Minimum bend radius [x d] < 10m	Minimum bend radius [x d] ≥ 10m	Page
Measuring system cables								5 million (1 million) double strokes *		7.5 million (3 million) double strokes *		10 million (5 million) double strokes *		
	CF884		+5 / +15 +15 / +60 +60 / +70	3	-	20	≤ 10	17.5 15 17.5		18.5 16 18.5		19.5 17 19.5		234
	CF211	New!	+5 / +15 +15 / +60 +60 / +70	5	3	30	≤ 10	12.5 10 12.5		13.5 11 13.5		14.5 12 14.5		238
	CF894		-20 / -10 -10 / +70 +70 / +80	3	-	20	≤ 10	17.5 15 17.5		18.5 16 18.5		19.5 17 19.5		244
	CF111.D		-25 / -15 -15 / +70 +70 / +80	5	3	30	≤ 10	12.5 10 12.5		13.5 11 13.5		14.5 12 14.5		248
	CF113.D		-25 / -15 -15 / +70 +70 / +80	10	5	50	≤ 100	10 7.5 10		11 8.5 11		12 9.5 12		254
								5 million		7.5 million		12.5 million		
	CF11.D		-35 / -25 -25 / +80 +80 / +90	10	6	100	≤ 400	8.5 6.8 7.5	10 7.5 10	9.5 7.5 9.5	11 8.5 11	10.5 8.5 10.5	12 9.5 12	260

(1) Guaranteed service life for these series (details ▶ see page 28-29)

* Higher number of double strokes? Calculate service life online: ▶ www.igus.eu/chainflexlife

Figures in brackets refer to series CF884 and CF894





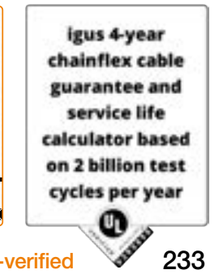
Selection chart for chainflex® measuring system cables

chainflex® measuring system cables

Drive technology system	chainflex® series Class Jacket Page Number of cores and conductor nominal cross section[mm²]	CF884.yyy 3.1.1.1 PVC 234	CF211.yyy 4.2.2.1 PVC 238	CF894.yyy 3.1.3.1 PUR 244	CF111.yyy.D 4.2.3.1 PUR 248	CF113.yyy.D 6.5.3.1 PUR 254	CF11.yyy.D 6.6.4.1 TPE 260
Allen Bradley							
CFxxx.040.D	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C				✓	✓	
B&R							
CFxxx.024.D	((4x0.14)+2x(2x0.34))C		✓		✓		
CFxxx.027.D	(5x(2x0.14)+2x0.5)C		✓		✓	✓	✓
Baumüller							
CFxxx.027.D	(5x(2x0.14)+2x0.5)C		✓		✓	✓	✓
Beckhoff							
CFxxx.007.D	(4x0.34)C		✓			✓	✓
Berger Lahr							
CFxxx.011.D	(4x(2x0.34)+4x0.5)C	✓	✓	✓		✓	✓
Control Techniques							
CFxxx.001.D	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	✓	✓		✓	✓	✓
CFxxx.011.D	(4x(2x0.34)+4x0.5)C	✓	✓	✓		✓	✓
CFxxx.026.D	(6x(2x0.25)+(2x0.34)C+2x0.5)C				✓		
ELAU							
CFxxx.009.D	(4x(2x0.25)+2x0.5)C	✓	✓	✓		✓	✓
Fagor							
CFxxx.002.D	(3x(2x0.14)C+2x(0.5)C)C		✓		✓	✓	✓
CFxxx.004.D	(2x(2x2x0.14)+(4x0.14)C+(4x0.5))C				✓	✓	✓
CFxxx.015.D	(4x(2x0.14)+4x0.5)C	✓		✓	✓	✓	✓
FANUC							
CFxxx.021.D	((4x0.25)+3x(2x0.25+2x0.5))C				✓		✓
CFxxx.022.D	((2x0.25)+5x0.5)C	✓		✓	✓	✓	✓
CFxxx.041.D	(2x(2x0.18)+5x0.5)C		✓		✓		
CFxxx.042.D	(3x(2x0.18)+6x0.5)C		✓		✓		
Festo							
CFxxx.002.D	(3x(2x0.14)C+2x(0.5)C)C		✓		✓	✓	✓
Heidenhain							
CFxxx.002.D	(3x(2x0.14)C+2x(0.5)C)C		✓		✓	✓	✓
CFxxx.004.D	(2x(2x2x0.14)+(4x0.14)C+(4x0.5))C				✓	✓	✓
CFxxx.005.D	(4x(2x0.14)+4x0.5)C					✓	✓
CFxxx.015.D	(4x(2x0.14)+4x0.5)C	✓		✓	✓	✓	✓
CFxxx.017.D	(4x(2x0.14)+(4x0.14)C+4x1.0)C		✓			✓	✓
CFxxx.025.D	(3x(2x0.14)C+(2x0.5)C)C					✓	✓
Jetter							
CFxxx.025.D	(3x(2x0.14)C+(2x0.5)C)C					✓	✓
Lenze							
CFxxx.002.D	(3x(2x0.14)C+2x(0.5)C)C		✓		✓	✓	✓
CFxxx.010.D	(4x(2x0.25)+2x1.0)C		✓			✓	✓
CFxxx.025.D	(3x(2x0.14)C+(2x0.5)C)C					✓	✓
CFxxx.032.D	3x(2x0.14)C+(3x0.14)C		✓			✓	✓
CFxxx.033.D	4x(2x0.14)C+2x(1.0)C		✓			✓	✓
CFxxx.034.D	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C					✓	✓

Drive technology system	chainflex® series Class Jacket Page Number of cores and conductor nominal cross section[mm²]	CF884.yyy 3.1.1.1 PVC 234	CF211.yyy 4.2.2.1 PVC 238	CF894.yyy 3.1.3.1 PUR 244	CF111.yyy.D 4.2.3.1 PUR 248	CF113.yyy.D 6.5.3.1 PUR 254	CF11.yyy.D 6.6.4.1 TPE 260
LTi DRiVES							
CFxxx.004.D	(2x(2x2x0.14)+(4x0.14)C+(4x0.5))C				✓	✓	✓
CFxxx.009.D	(4x(2x0.25)+2x0.5)C	✓	✓	✓		✓	✓
CFxxx.010.D	(4x(2x0.25)+2x1.0)C		✓				✓
NUM							
CFxxx.001.D	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	✓	✓	✓			✓
Omron							
CFxxx.008.D	(3x(2x0.25))C					✓	✓
CFxxx.009.D	(4x(2x0.25)+2x0.5)C	✓	✓	✓		✓	✓
CFxxx.010.D	(4x(2x0.25)+2x1.0)C		✓			✓	✓
CFxxx.018.D	(2x(2x0.25)+2x0.5)C		✓			✓	✓
Rexroth							
CFxxx.009.D	(4x(2x0.25)+2x0.5)C	✓	✓	✓		✓	✓
CFxxx.010.D	(4x(2x0.25)+2x1.0)C		✓			✓	✓
CFxxx.017.D	(4x(2x0.14)+(4x0.14)C+4x1.0)C		✓			✓	✓
CFxxx.018.D	(2x(2x0.25)+2x0.5)C		✓			✓	✓
CFxxx.019.D	(3x(2x0.25)C+(3x0.25)+2x1.0)C		✓			✓	✓
Schneider Electric							
CFxxx.009.D	(4x(2x0.25)+2x0.5)C	✓	✓	✓		✓	✓
SEW							
CFxxx.008.D	(3x(2x0.25))C					✓	
CFxxx.036.D	(5x(2x0.25))C		✓			✓	
CFxxx.037.D	(6x(2x0.25))C		✓			✓	
Siemens							
CFxxx.001.D	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	✓	✓	✓		✓	✓
CFxxx.002.D	(3x(2x0.14)C+2x(0.5)C)C		✓		✓	✓	✓
CFxxx.006.D	(3x(2x0.14)C+2x0.5+4x0.14+4x0.23)C	✓	✓	✓		✓	✓
CFxxx.011.D	(4x(2x0.34)+4x0.5)C	✓	✓	✓		✓	✓
CFxxx.028.D	(2x(2x0.15)+(2x0.38))C	✓	✓	✓	✓	✓	✓
Stöber							
CFxxx.008.D	(3x(2x0.25))C					✓	✓
CFxxx.009.D	(4x(2x0.25)+2x0.5)C	✓	✓	✓		✓	✓
CFxxx.011.D	(4x(2x0.34)+4x0.5)C	✓	✓	✓	✓	✓	✓
CFxxx.016.D	(3x(2x0.25)C)C		✓				
CFxxx.021.D	(3x(2x0.5+2x0.25)+(4x0.25))C				✓		✓





Measuring system cable | PVC | chainflex® CF884



Example image

5 million Double strokes guaranteed

15 x d Bend radius, e-chain®

10m Travel distance, e-chain®

- For flexing applications
- PVC outer jacket
- Shielded
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 15 x d
	flexible	minimum 12 x d
	fixed	minimum 8 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	According to measuring system specification.
Core identification	According to measuring system specification. ▶ Product range table
Element shield	Foil taping of optimised, bending-resistant foil shield. Coverage approx. 100% optical
Overall shield	Braiding made of tinned copper wires. Coverage approx. 60% optical
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains®. Colour: Yellow-green (similar to RAL 6018)

Electrical information

Nominal voltage	50V 30V (following UL)
Testing voltage	500V

EPLAN download, configurators ▶ www.igus.eu/CF884

4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 3.1.1.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6	≥ 400m	
Oil resistance	none	**1**	2	3	4	highest			
Torsion	none	**1**	2	3	4	±360°			

Properties and approvals

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶www.igus.eu/CF884
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	17.5	18.5	19.5
+15/+60	15	16	17
+60/+70	17.5	18.5	19.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- No torsion, Class 1
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

UL-verified chainflex® guarantee ... www.igus.eu/ul-verified

PVC | iguPUR | PUR | TPE

Measuring system cable | PVC | chainflex® CF884

Class 3.1.1.1

Basic requirements	low	1	2	**3**	4	5	6	7 highest
Travel distance	unsupported	**1**	2	3	4	5	6	≥ 400m
Oil resistance	none	**1**	2	3	4	highest		
Torsion	none	**1**	2	3	4	±360°		

CF884
PVC
15 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF884.001	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	8.5	41	91
CF884.006	(3x(2x0.14)C+(4x0.14)+(4x0.22)+(2x0.5))C	9.0	50	101
CF884.009	(4x(2x0.25)+2x0.5)C	8.0	44	91
CF884.011	(4x(2x0.34)+4x0.5)C	9.5	64	117
CF884.015	(4x(2x0.14)+4x0.5)C	8.5	44	92
CF884.022	((2x0.25)+5x0.5)C	8.0	44	79
CF884.028	(2x(2x0.15)+(2x0.38))C	7.5	41	58

Part No.	Core group	Colour code
CF884.001	3x(2x0.14)C	green/yellow, black/brown, red/orange
	4x0.14	grey, blue, white-yellow, white-black
	2x0.5	brown-red, brown-blue
CF884.006	3x(2x0.14)C	green/yellow, black/brown, red/orange
	4x0.14	grey, blue, white-yellow, white-black
	4x0.22	brown-yellow/brown-grey/green-black/green-red
	2x0.5	brown-red, brown-blue
CF884.009	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x0.5	white, brown
CF884.011	4x(2x0.34)	black/brown, red/orange, yellow/green, blue/violet
	4x0.5	blue-white, black-white, red-white, yellow-white
CF884.015	4x(2x0.14)	brown/green, yellow/violet, grey/pink, red/black
	4x0.5	blue, white, brown-green, white-green
CF884.022	2x0.25	white, brown
	5x0.5	green, yellow, grey, pink, blue
CF884.028	2x(2x0.15)	green/yellow, pink/blue
	2x0.38	red/black

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

cost down...



...life up

Reduce cost, improve technology, now!

Do the chainflex® price check ...
www.igus.eu/cf-price-check

... for example: Reduce bend radius with CF113.D ...

Order example: CF884.015 – to your desired length (0.5m steps)
CF884 **chainflex® series** .015 **Code measuring system type**

Order online ▶ www.igus.eu/CF884

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

EPLAN download, configurators ▶ www.igus.eu/CF884

EU2024 igus®

PVC | iguPUR | PUR | TPE

New

Measuring system cable | PVC | chainflex® CF211

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For medium duty applications
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant

Dynamic information

Bend radius	e-chain® linear	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	e-chain® linear	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	unsupported	5m/s
	gliding	3m/s
a max.		30m/s²
Travel distance		Unsupported travels and up to 10m for gliding applications, Class 2

Cable structure

Conductor	Very finely stranded special conductors of particularly bending resistant design made of tinned copper wires.
Core insulation	Mechanically high-quality TPE mixture.
Core structure	According to measuring system specification.
Core identification	According to measuring system specification. ▶ Product range table
Element shield	Extremely bending-resistant, tinned copper cover. Coverage approx. 90% optical
Element shield	TPE mixture on pair shielding adapted to suit the requirements in e-chains®.
Intermediate layer	Foil taping over the outer layer.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Yellow-green (similar to RAL 6018)

Electrical information

Nominal voltage	50V 300V (following UL)
Testing voltage	500V

Example image

igus® chainflex® CF211

EPLAN download, configurators ▶ www.igus.eu/CF211

4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 4.2.2.1

Basic requirements	low	1	2	3	**4**	5	6	7 highest
Travel distance	unsupported	1	**2**	3	4	5	6	≥ 400m
Oil resistance	none	1	**2**	3	4	highest		
Torsion	none	**1**	2	3	4	±360°		

Properties and approvals

Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF211
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 2. The outer jacket material of this series complies with CF5.10.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	12.5	13.5	14.5
+15/+60	10	11	12
+60/+70	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 10m for gliding applications, Class 2
- Light oil influence, Class 2
- No torsion, Class 1
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units, machining units/packaging machines, handling, indoor cranes, wood/stone processing

CF211
PVC
10 x d

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

UL-verified chainflex® guarantee ... www.igus.eu/ul-verified

PVC | iguPUR | PUR | TPE

Measuring system cable | PVC | chainflex® CF211

New

Class 4.2.2.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	**2**	3	4	5	6		≥ 400m
Oil resistance	none	1	**2**	3	4		highest		
Torsion	none	**1**	2	3	4		±360°		

CF211
PVC
10 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF211.001	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	64	100
CF211.002	(3x(2x0.14)C+2x(0.5)C)C	9.5	66	106
CF211.004	(2x(2x(2x0.14))+(4x0.14)C +(4x0.5))C	10.0	70	115
CF211.006	(3x(2x0.14)C+(4x0.14)+(4x0.25) +(2x0.5))C	10.0	76	122
New **CF211.007** [2)]	(4x0.34)C	5.5	25	45
CF211.009	(4x(2x0.25)+2x0.5)C	8.0	49	79
CF211.010	(4x(2x0.25)+2x1.0)C	8.5	61	92
CF211.011	(4x(2x0.34)+4x0.5)C	9.5	72	109
CF211.014	(4x(2x0.25)C+(2x0.5))C	10.5	77	124
CF211.015	(4x(2x0.14)+4x0.5)C	8.5	54	86
CF211.016	(3x(2x0.25)C)C	9.0	51	89
CF211.017	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	92	134
CF211.018	(2x(2x0.25)+2x0.5)C	6.5	34	54
CF211.019	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	86	125
CF211.022	((2x0.25)+5x0.5)C	7.0	46	71
CF211.024	((4x0.14)+2x(2x0.34))C	7.0	36	61
CF211.027	(5x(2x0.14)+2x0.5)C	8.0	45	75

Part No.	Core group	Colour code
CF211.001	3x(2x0.14)C	green/yellow, black/brown, red/orange
	(4x0.14)	grey/blue/white-yellow/white-black
	(2x0.5)	brown-red, brown-blue
CF211.002	3x(2x0.14)C	green/yellow, black/brown, red/orange
	2x(0.5)C	black, red
CF211.004	2x(2x(2x0.14))	(brown/green)/(yellow/violet), (grey/pink)/(red/black)
	(4x0.14)C	yellow-black/red-black/green-black/blue-black
	(4x0.5)	brown-green/white-green/blue/white
CF211.006	3x(2x0.14)C	green/yellow, black/brown, red/orange
	(4x0.14)	grey/blue/white-yellow/white-black
	(4x0.25)	brown-yellow/brown-grey/green-black/green-red
	(2x0.5)	brown-red, brown-blue
CF211.007 [2)]	(4x0.34)C	white, green, brown, yellow (star-quad)
CF211.009	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x0.5	white, brown
CF211.010	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x1.0	white, brown
CF211.011	4x(2x0.34)	black/brown, red/orange, green/yellow, blue/violet
	4x0.5	black-white, red-white, yellow-white, blue-white
CF211.014	4x(2x0.25)C	white/brown, green/yellow, grey/pink, blue/red
	(2x0.5)	black no. 1/black no. 2
CF211.015	4x(2x0.14)	brown/green, yellow/violet, grey/pink, red/black
	4x0.5	blue, white, brown-green, white-green
CF211.016	3x(2x0.25)C	white/brown, green/yellow, grey/pink
CF211.017	4x(2x0.14)	red/black, brown/green, yellow/violet, grey/pink
	(4x0.14)C	blue-black/yellow-black/red-black/green-black
	4x1.0	white-green, brown-green, blue, white
CF211.018	2x(2x0.25)	red/black, grey/pink
	2x0.5	white, brown
CF211.019	3x(2x0.25)C	brown/green, grey/pink, red/black
	(3x0.25)	blue/violet/yellow
	2x1.0	white, brown
CF211.022	(2x0.25)	white/brown
	5x0.5	green, yellow, grey, pink, blue
CF211.024	(4x0.14)	yellow/grey/violet/pink
	2x(2x0.34)	white-green/white, brown-green/blue
CF211.027	5x(2x0.14)	brown/green, yellow/grey, white/violet, red/black, pink/blue
	2x0.5	white-green, white-red

The chainflex® types marked with [2)] are cables designed as a star-quad.
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

EPLAN download, configurators ▶ www.igus.eu/CF211

Further cable types ▶ Page 242

PVC | iguPUR | PUR | TPE

Measuring system cable | PVC | chainflex® CF211

New

Class 4.2.2.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	**2**	3	4	5	6	≥ 400m	
Oil resistance	none	1	**2**	3	4	highest			
Torsion	none	**1**	2	3	4	±360°			

CF211
PVC
10 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF211.028	(2x(2x0.15)+(2x0.38))C	7.5	40	77
New **CF211.030**	(3x(2x0.25)C+2x(2x0.25))C	8.5	60	87
CF211.032 [5]	3x(2x0.14)C+(3x0.14)C	8.0	35	79
CF211.033 [5]	4x(2x0.14)C+2x(1.0)C	9.5	64	112
CF211.036	(5x(2x0.25))C	8.0	42	69
CF211.037	(6x(2x0.25))C	8.5	51	83
CF211.038	(3x(2x0.14)+(2x0.34))C	7.5	33	62
CF211.039	(4x(2x0.14)C+2x(0.5)C)C	10.0	77	125
CF211.041	(2x(2x0.18)+5x0.5)C	7.5	49	79
CF211.042	(3x(2x0.18)+6x0.5)C	8.5	62	98

[5] Manufactured without overall shield

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Part No.	Core group	Colour code
CF211.028	2x(2x0.15)	green/yellow, pink/blue
	(2x0.38)	red/black
CF211.030	3x(2x0.25)C	white/brown, green/yellow, grey/pink
	2x(2x0.25)	blue/red, black/violet
CF211.032 [5]	3x(2x0.14)C	green/black, yellow/black, red/black
	(3x0.14)C	grey/pink/black
CF211.033 [5]	4x(2x0.14)C	yellow/black, red/black, blue/black, green/black
	2x(1.0)C	white, brown
CF211.036	5x(2x0.25)	white/brown green/yellow, grey/pink, blue/red, black/violet
CF211.037	6x(2x0.25)	white/brown, green/yellow, grey/pink, blue/red, black/violet, grey-pink/red-blue
CF211.038	3x(2x0.14)	white/brown, green/yellow, grey/pink
	(2x0.34)	blue/red
CF211.039	(4x(2x0.14)C	green/yellow, grey/pink, blue/red, black/violet
	2x(0.5)C	brown, black
CF211.041	2x(2x0.18)	white/brown, black/violet
	5x0.5	blue, violet, green, yellow, grey
CF211.042	3x(2x0.18)	white/black, red/white, black/red
	6x0.5	black no. 1, black no. 2, black no. 3, red no. 4, red no. 5, red no. 6

Further cable types ▶ Page 240



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

cost down...



...life up

Reduce cost, improve technology, now!

Do the chainflex® price check ...
www.igus.eu/cf-price-check

… for example: reduce cost with CF884 ...

Order example: CF211.038 – to your desired length (0.5m steps)
CF211 **chainflex® series** .038 **Code measuring system type**

Order online ▶ www.igus.eu/CF211

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Measuring system cable | iguPUR | chainflex® CF894



Example image

5 million
Double strokes guaranteed

15 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- iguPUR outer jacket
- Oil-resistant
- Shielded
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 15 x d
	flexible	minimum 12 x d
	fixed	minimum 8 x d
Temperature	**e-chain® linear**	-20°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	According to measuring system specification.
Core identification	According to measuring system specification. ▶ Product range table
Element shield	Foil taping of optimised, bending-resistant foil shield. Coverage approx. 100% optical
Overall shield	Braiding made of tinned copper wires. Coverage approx. 60% optical
Outer jacket	Low-adhesion iguPUR mixture, adapted to suit the requirements in e-chains®. Colour: Yellow-green (similar to RAL 6018)

Electrical information

Nominal voltage	50V 30V (following UL)
Testing voltage	500V

Class 3.1.3.1

Basic requirements	low 1 2 **3** 4 5 6 7 highest
Travel distance	unsupported **1** 2 3 4 5 6 ≥ 400m
Oil resistance	none 1 2 **3** 4 highest
Torsion	none **1** 2 3 4 ±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF894
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-20/-10	17.5	18.5	19.5
-10/+70	15	16	17
+70/+80	17.5	18.5	19.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- With influence of oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

CF894
iguPUR
15 x d

Measuring system cable | iguPUR | chainflex® CF894

Class 3.1.3.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°

CF894
iguPUR
15 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF894.001	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	8.5	41	80
CF894.006	(3x(2x0.14)C+(4x0.14)+(4x0.22)+(2x0.5))C	9.0	50	105
CF894.009	(4x(2x0.25)+2x0.5)C	8.0	44	80
CF894.011	(4x(2x0.34)+4x0.5)C	9.5	64	126
CF894.015	(4x(2x0.14)+4x0.5)C	8.5	44	84
CF894.022	((2x0.25)+5x0.5)C	8.0	44	78
CF894.028	(2x(2x0.15)+(2x0.38))C	7.5	41	57

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Part No.	Core group	Colour code
CF894.001	3x(2x0.14)C	green/yellow, black/brown, red/orange
	4x0.14	grey, blue, white-yellow, white-black
	2x0.5	brown-red, brown-blue
CF894.006	3x(2x0.14)C	green/yellow, black/brown, red/orange
	4x0.14	grey, blue, white-yellow, white-black
	4x0.22	brown-yellow/brown-grey/green-black/green-red
	2x0.5	brown-red, brown-blue
CF894.009	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x0.5	white/brown
CF894.011	4x(2x0.34)	black/brown, red/orange, yellow/green, blue/violet
	4x0.5	blue-white, black-white, red-white, yellow-white
CF894.015	4x(2x0.14)	brown/green, yellow/violet, grey/pink, red/black
	4x0.5	blue, white, brown-green, white-green
CF894.022	2x0.25	white, brown
	5x0.5	green, yellow, grey, pink, blue
CF894.028	2x(2x0.15)	green/yellow, pink/blue
	2x0.38	red/black



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

cost down...



...life up

Reduce cost, improve technology, now!

Do the chainflex® price check ...
www.igus.eu/cf-price-check

... for example: Reduce bend radius with CF113.D ...

Order example: CF894.011 – to your desired length (0.5m steps)
CF894 **chainflex® series** .011 **Code measuring system type**

Order online ▶ www.igus.eu/CF894

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

EPLAN download, configurators ▶ www.igus.eu/CF894

PVC | iguPUR | **PUR** | TPE

Measuring system cable | PUR | chainflex® CF111.D



Example image

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For medium duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	5m/s
	gliding	3m/s
a max.	30m/s²	
Travel distance	Unsupported travels and up to 10m for gliding applications, Class 2	

Cable structure

Conductor	Very finely stranded special conductors of particularly bending resistant design made of tinned copper wires.
Core insulation	Mechanically high-quality TPE mixture.
Core structure	According to measuring system specification.
Core identification	According to measuring system specification. ▶ Product range table
Element shield	Extremely bending-resistant, tinned copper cover. Coverage approx. 90% optical
Element shield	TPE mixture on pair shielding adapted to suit the requirements in e-chains®.
Intermediate layer	Foil taping over the outer layer.
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Yellow-green (similar to RAL 6018)

Electrical information

Nominal voltage	50V 300V (following UL)
Testing voltage	500V

4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 4.2.3.1

Basic requirements	low	1	2	3	**4**	5	6	7 highest
Travel distance	unsupported	1	**2**	3	4	5	6	≥ 400m
Oil resistance	none	1	2	**3**	4	highest		
Torsion	none	**1**	2	3	4	±360°		

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF111D
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003X4
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-25/-15	12.5	13.5	14.5
-15/+70	10	11	12
+70/+80	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 10m for gliding applications, Class 2
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

UL-verified chainflex® guarantee ... www.igus.eu/ul-verified

CF111.D
PUR
10 x d

Measuring system cable | PUR | chainflex® CF111.D

Class 4.2.3.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	**2**	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°

CF111.D
PUR
10 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF111.001.D	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.5	64	104
CF111.002.D	(3x(2x0.14)C+2x(0.5)C)C	9.5	66	109
CF111.004.D	(2x(2x(2x0.14))+(4x0.14)C +(4x0.5))C	10.5	70	116
CF111.006.D	(3x(2x0.14)C+(4x0.14)+(4x0.25) +(2x0.5))C	10.0	76	122
CF111.009.D	(4x(2x0.25)+2x0.5)C	8.0	49	79
CF111.010.D	(4x(2x0.25)+2x1.0)C	8.5	61	94
CF111.011.D	(4x(2x0.34)+4x0.5)C	9.5	72	115
CF111.014.D	(4x(2x0.25)C+(2x0.5))C	10.5	77	124
CF111.015.D	(4x(2x0.14)+4x0.5)C	8.5	54	87
CF111.020.D	(3x(2x0.14)+2x(4x0.14)+(2x0.5))C	8.5	52	87
CF111.021.D	((4x0.25)+3x(2x0.25+2x0.5))C	9.5	80	117
CF111.022.D	((2x0.25)+5x0.5)C	7.0	46	75
CF111.024.D	((4x0.14)+2x(2x0.34))C	7.0	36	61
CF111.026.D	(6x(2x0.25)+(2x0.34)C+(2x0.5))C	10.5	74	119

Part No.	Core group	Colour code
CF111.001.D	3x(2x0.14)C	green/yellow, black/brown, red/orange
	(4x0.14)	grey/blue/white-yellow/white-black
	(2x0.5)	brown-red/brown-blue
CF111.002.D	3x(2x0.14)C	green/yellow, black/brown, red/orange
	2x(0.5)C	black, red
CF111.004.D	2x(2x(2x0.14))	(brown/green)/(yellow/violet), (grey/pink)/(red/black)
	(4x0.14)C	yellow-black/red-black/green-black/blue-black
	(4x0.5)	brown-green/white-green/blue/white
CF111.006.D	3x(2x0.14)C	green/yellow, black/brown, red/orange
	(4x0.14)	grey/blue/white-yellow/white-black
	(4x0.25)	brown-yellow/brown-grey/green-black/green-red
	(2x0.5)	brown-red/brown-blue
CF111.009.D	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x0.5	white, brown
CF111.010.D	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x1.0	white, brown
CF111.011.D	4x(2x0.34)	black/brown, red/orange, green/yellow, blue/violet
	4x0.5	black-white, red-white, yellow-white, blue-white
CF111.014.D	4x(2x0.25)C	white/brown, green/yellow, grey/pink, blue/red
	(2x0.5)	black no. 1/black no. 2
CF111.015.D	4x(2x0.14)	brown/green, yellow/violet, grey/pink, red/black
	4x0.5	blue, white, brown-green, white-green
CF111.020.D	3x(2x0.14)	blue/red, black/violet, grey-pink/red-blue
	2x(4x0.14)	green/grey/yellow/pink, white-green/white-yellow/brown-green/yellow-brown
	(2x0.5)	white/brown
CF111.021.D	(4x0.25)	white/brown/grey/black
	3x2x0.25	white/yellow, white/grey, black/orange
	3x2x0.5	black no. 1/black no. 2, black no. 3/black no. 4, black no. 5/black no. 6
CF111.022.D	(2x0.25)	white/brown
	5x0.5	green, yellow, grey, pink, blue
CF111.024.D	(4x0.14)	yellow/grey/violet/pink
	2x(2x0.34)	white-green/white, brown-green/blue
CF111.026.D	6x(2x0.25)	green/yellow, grey/pink, blue/red, black/violet, grey-pink/red-blue, white-green/brown-green
	(2x0.34)C	white/brown
	(2x0.5)	blue/red

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

EPLAN download, configurators ▶ www.igus.eu/CF111D

Further cable types ▶ Page 252

Measuring system cable | PUR | chainflex® CF111.D

Class 4.2.3.1

Basic requirements	low	1	2	3	**4**	5	6	7 highest
Travel distance	unsupported	1	**2**	3	4	5	6	≥ 400m
Oil resistance	none	1	2	**3**	4	highest		
Torsion	none	**1**	2	3	4	±360°		

CF111.D
PUR
10 x d



Example image

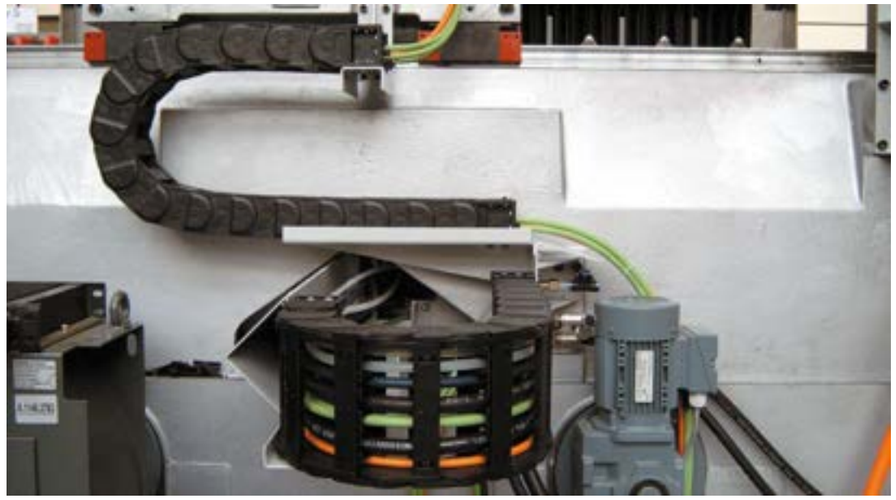
Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF111.027.D	(5x(2x0.14)+2x0.5)C	8.0	45	76
CF111.028.D	(2x(2x0.15)+(2x0.38))C	7.5	40	73
CF111.032.D [5]	3x(2x0.14)C+(3x0.14)C	8.5	35	82
CF111.040.D	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	9.0	81	118
CF111.041.D	(2x(2x0.18)+5x0.5)C	7.5	49	80
CF111.042.D	(3x(2x0.18)+6x0.5)C	8.5	62	99

Part No.	Core group	Colour code
CF111.027.D	5x(2x0.14)	brown/green, yellow/grey, white/violet, red/black, pink/blue
	2x0.5	white-green, white-red
CF111.028.D	2x(2x0.15)	green/yellow, pink/blue
	(2x0.38)	red/black
CF111.032.D [5]	3x(2x0.14)C	green/black, yellow/black, red/black
	(3x0.14)C	grey/pink/black
CF111.040.D	3x(4x0.14)	black/red/white-black/white-red, green/blue/white-green/white-blue, yellow/brown/white-yellow/white-brown
	(2x0.14+2x0.34)	violett/orange/weißviolett/weißorange
	2x1.5	white-grey, grey
CF111.041.D	2x(2x0.18)	white/brown, black/violet
	5x0.5	blue, violet, green, yellow, grey
CF111.042.D	3x(2x0.18)	white/black, red/white, black/red
	6x0.5	black no. 1, black no. 2, black no. 3, red no. 4, red no. 5, red no. 6

[5] Manufactured without overall shield

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Further cable types ▶ Page 250



readychain® systems from igus® are completely pre-harnessed with chainflex® cables, hoses, metal parts etc.

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year



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More on this page 24/25 and online: www.igus.eu/cf-case



Reduce cost, improve technology, now!
Do the chainflex® price check ...
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… for example: reduce cost with CF211 ...

EPLAN download, configurators ▶ www.igus.eu/CF111D

PVC | iguPUR | **PUR** | TPE

Measuring system cable | PUR | chainflex® CF113.D



Example image

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For extremely heavy duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

DriveCliq with 300V UL approval

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		50m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of tinned copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	According to measuring system specification.
Core identification	According to measuring system specification. ▶ Product range table
Element shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Element shield	TPE mixture on pair shielding adapted to suit the requirements in e-chains®.
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Yellow-green (similar to RAL 6018)
CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ▶ www.igus.eu/CFRIP

Electrical information

Nominal voltage	50V 300V (following UL)
Testing voltage	500V

Class 6.5.3.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6	≥ 400m
Oil resistance	none	1	2	**3**	4	highest		
Torsion	none	**1**	2	3	4	±360°		

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF113D
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003X4
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-25/-15	10	11	12
-15/+70	7.5	8.5	9.5
+70/+80	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 100m for gliding applications, Class 5
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, indoor cranes, low temperature applications

EU2024

CF113.D
PUR
7.5 x d

PVC | iguPUR | **PUR** | TPE

Measuring system cable | PUR | chainflex® CF113.D

Strip cables 50% faster with CFRIP® tear strip

Class 6.5.3.1

Basic requirements	low	1	2	3	4	5	**6**	7 highest
Travel distance	unsupported	1	2	3	4	**5**	6	≥ 400m
Oil resistance	none	1	2	**3**	4			highest
Torsion	none	**1**	2	3	4			±360°

CF113.D
PUR
7.5 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF113.001.D	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	71	137
CF113.002.D	(3x(2x0.14)C+2x(0.5)C)C	10.0	74	144
CF113.003.D	(3x(2x0.14)+2x1.0)C	8.0	56	103
CF113.004.D	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	78	152
CF113.005.D	(4x(2x0.14)+4x0.5)C	9.0	60	115
CF113.006.D	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	11.0	85	158
CF113.007.D [2]	(4x0.34)C	6.5	31	54
CF113.008.D	(3x(2x0.25))C	7.5	36	76
CF113.009.D	(4x(2x0.25)+2x0.5)C	8.5	57	99
CF113.010.D	(4x(2x0.25)+2x1.0)C	9.0	68	122
CF113.011.D	(4x(2x0.34)+4x0.5)C	10.0	81	142
CF113.013.D	(3x(2x0.14)C+2x0.5)C	9.0	62	121
CF113.014.D	(4x(2x0.25)C+(2x0.5))C	11.0	86	163
CF113.015.D	(4x(2x0.14)+4x0.5)C	9.0	60	114
CF113.016.D	(3x(2x0.25)C)C	10.0	60	126
CF113.017.D [4]	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	100	150
CF113.018.D [4]	(2x(2x0.25)+2x0.5)C	6.5	41	65

Part No.	Core group	Colour code
CF113.001.D	3x(2x0.14)C	green/yellow, black/brown, red/orange
	(4x0.14)	grey/blue/white-yellow/white-black
	(2x0.5)	brown-red/brown-blue
CF113.002.D	3x(2x0.14)C	green/yellow, black/brown, red/orange
	2x(0.5)C	black, red
CF113.003.D	3x(2x0.14)	white/brown, green/yellow, grey/pink
	2x1.0	blue, red
CF113.004.D	2x(2x(2x0.14))	(brown/green)/(yellow/violet), (grey/pink)/(red/black)
	(4x0.14)C	yellow-black/red-black/green-black/blue-black
	(4x0.5)	brown-green/white-green/blue/white
CF113.005.D	4x(2x0.14)	white/brown, green/yellow, grey/pink, blue/red
	4x0.5	black, violet, grey-pink, red-blue
CF113.006.D	3x(2x0.14)C	green/yellow, black/brown, red/orange
	(4x0.14)	grey/blue/white-yellow/white-black
	(4x0.25)	brown-yellow/brown-grey/green-black/green-red
	(2x0.5)	brown-red/brown-blue
CF113.007.D [2]	4x0.34	white, green, brown, yellow (star-quad)
CF113.008.D	3x(2x0.25)	white/brown, green/yellow, grey/pink
CF113.009.D	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x0.5	white, brown
CF113.010.D	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x1.0	white, brown
CF113.011.D	4x(2x0.34)	black/brown, red/orange, green/yellow, blue/violet
	4x0.5	black-white, red-white, yellow-white, blue-white
CF113.013.D	3x(2x0.14)C	white/brown, green/yellow, grey/pink
	2x0.5	blue, red
CF113.014.D	4x(2x0.25)C	white/brown, green/yellow, grey/pink, blue/red
	(2x0.5)	black no. 1/black no. 2
CF113.015.D	(4x(2x0.15))C	brown/green, yellow/violet, grey/pink, red/black
	4x0.5	blue, white, brown-green, white-green
CF113.016.D	3x(2x0.25)C	white/brown, green/yellow, grey/pink
CF113.017.D [4]	4x(2x0.14)	red/black, brown/green, yellow/violet, grey/pink
	(4x0.14)C	blue-black/yellow-black/red-black/green-black
	4x1.0	white-green, brown-green, blue, white
CF113.018.D [4]	2x(2x0.25)	red/black, grey/pink
	2x0.5	white, brown

The chainflex® types marked with [2] are cables designed as a star-quad.
[4] Manufactured without inner jacket

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x** = without earth core

Further cable types ▶ Page 258

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Measuring system cable | PUR | chainflex® CF113.D

Strip cables 50% faster with CFRIP® tear strip

Class 6.5.3.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°

CF113.D
PUR
7.5 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF113.019.D [4]	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	93	143
CF113.022.D	((2x0.25)+5x0.5)C	8.0	54	94
CF113.025.D	(3x(2x0.14)C+(2x0.5)C)C	10.0	72	141
CF113.027.D	(5x(2x0.14)+2x0.5)C	9.0	52	105
CF113.028.D [4]	(2x(2x0.20)+(2x0.38))C	7.5	44	69
CF113.029.D	(5x(2x0.25)C+(2x0.25+2x0.5))C	12.0	105	192
CF113.031.D	(2x(2x0.25)C+2x1.0)C	9.5	69	133
CF113.032.D [5]	3x(2x0.14)C+(3x0.14)C	8.5	35	82
CF113.033.D [5]	4x(2x0.14)C+2x(1.0)C	9.5	64	111
CF113.036.D	(5x(2x0.25))C	8.5	51	103
CF113.037.D	(6x(2x0.25))C	9.0	58	114
CF113.038.D	(3x(2x0.14)+(2x0.34))C	8.5	36	87
CF113.040.D	(3x(4x0.14)+(2x0.14+2x0.34) +2x1.5)C	10.0	88	155

Part No.	Core group	Colour code
CF113.019.D [4]	3x(2x0.25)C	brown/green, grey/pink, red/black
	(3x0.25)	blue/violet/yellow
	2x1.0	white, brown
CF113.022.D	(2x0.25)	white/brown
	5x0.5	green, yellow, grey, pink, blue
CF113.025.D	3x(2x0.14)C	green/yellow, blue/red, grey/pink
	(2x0.5)C	white/brown
CF113.027.D	5x(2x0.14)	brown/green, yellow/grey, white/violet, red/black, pink/blue
	2x0.5	white-green, white-red
CF113.028.D [4]	2x(2x0.20)	green/yellow, pink/blue
	(2x0.38)	red/black
CF113.029.D	5x(2x0.25)C	white/brown green/yellow, grey/pink, blue/red, black/violet
	(2x0,25+2x0.5)	grey-pink/brown-green/white-green/red-blue
CF113.031.D	2x(2x0.25)C	white/brown, green/yellow
	2x1.0	black no. 1, black no. 2
CF113.032.D [5]	3x(2x0.14)C	green/black, yellow/black, red/black
	(3x0.14)C	grey/pink/black
CF113.033.D [5]	4x(2x0.14)C	yellow/black, red/black, blue/black, green/black
	2x(1.0)C	white, brown
CF113.036.D	5x(2x0.25)	white/brown green/yellow, grey/pink, blue/red, black/violet
CF113.037.D	6x(2x0.25)	white/brown, green/yellow, grey/pink, blue/red, black/violet, grey-pink/red-blue
CF113.038.D	3x(2x0.14)	white/brown, green/yellow, grey/pink
	(2x0.34)	blue/red
CF113.040.D	3x(4x0.14)	black/red/white-black/white-red, green/blue/white-green/white-blue, yellow/brown/white-yellow/white-brown
	(2x0.14+2x0.34)	violett/orange/weißviolett/weißorange
	2x1.5	white-grey, grey

[4] Manufactured without inner jacket
[5] Manufactured without overall shield

Further cable types ▶ Page 256

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

EPLAN download, configurators ▶ www.igus.eu/CF113D



chainflex® measuring system cables in a double-spindle machining centre.

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PVC | iguPUR | PUR | **TPE**

Measuring system cable | TPE | chainflex® CF11.D



Example image

12.5 million
Double strokes guaranteed

6.8 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For extremely heavy duty applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- PVC and halogen-free
- Hydrolysis and microbe-resistant

Now available with UL approval & 25% longer service life

Dynamic information

Bend radius	**e-chain® linear**	minimum 6.8 x d
	flexible	minimum 5 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-50°C up to +90°C (following DIN EN 60811-504)
	fixed	-55°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		100m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of tinned copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	According to measuring system specification.
Core identification	According to measuring system specification. ▶ Product range table
Element shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Element shield	TPE mixture on pair shielding adapted to suit the requirements in e-chains®.
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Yellow-green (similar to RAL 6018)
CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ▶ www.igus.eu/CFRIP

Electrical information

Nominal voltage	50V
	300V (following UL)
Testing voltage	500V

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Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	5	**6**		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL AWM	See data sheet for details ▶ www.igus.eu/CF11D
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		12.5 million	
Temperature, from/to [°C]	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]
-35/-25	8.5	10	9.5	11	10.5	12
-25/+80	6.8	7.5	7.5	8.5	8.5	9.5
+80/+90	8.5	10	9.5	11	10.5	12

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, indoor cranes, low temperature applications

CF11.D
TPE
6.8 x d

Measuring system cable | TPE | chainflex® CF11.D

Strip cables 50% faster with CFRIP® tear strip

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	**6**	7 highest
Travel distance	unsupported	1	2	3	4	5	**6**	≥ 400m
Oil resistance	none	1	2	3	**4**	highest		
Torsion	none	**1**	2	3	4	±360°		

CF11.D
TPE
6.8 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF11.001.D	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	71	119
CF11.002.D	(3x(2x0.14)C+2x(0.5)C)C	10.0	74	125
CF11.003.D	(3x(2x0.14)+2x1.0)C	8.0	56	86
CF11.004.D [11)]	(2x(2x(2x0.14))+(4x0.14)C +(4x0.5))C	11.0	78	127
CF11.005.D	(4x(2x0.14)+4x0.5)C	9.0	60	97
CF11.006.D	(3x(2x0.14)C+(4x0.14)+(4x0.25) +(2x0.5))C	10.5	85	139
CF11.007.D [2)]	(4x0.34)C	6.0	31	48
CF11.008.D	(3x(2x0.25))C	7.5	36	60
CF11.009.D	(4x(2x0.25)+2x0.5)C	8.5	57	91
CF11.010.D	(4x(2x0.25)+2x1.0)C	9.0	68	105
CF11.011.D	(4x(2x0.34)+4x0.5)C	10.0	81	124
CF11.012.D	(3x(2x0.14)C+(3x0.14)C +(4x0.14)+(2x0.14+2x0.5))C	11.0	89	140
CF11.013.D	(3x(2x0.14)C+2x0.5)C	9.0	62	104
CF11.014.D	(4x(2x0.25)C+(2x0.5))C	11.0	86	138
CF11.015.D	(4x(2x0.14)+4x0.5)C	9.0	60	97

Part No.	Core group	Colour code
CF11.001.D	3x(2x0.14)C	green/yellow, black/brown, red/orange
	(4x0.14)	grey/blue/white-yellow/white-black
	(2x0.5)	brown-red/brown-blue
CF11.002.D	3x(2x0.14)C	green/yellow, black/brown, red/orange
	2x(0.5)C	black, red
CF11.003.D	3x(2x0.14)	white/brown, green/yellow, grey/pink
	2x1.0	blue, red
CF11.004.D [11)]	2x(2x(2x0.14))	(brown/green)/(yellow/violet), (grey/pink)/(red/black)
	(4x0.14)C	yellow-black/red-black/green-black/blue-black
	(4x0.5)	brown-green/white-green/blue/white
CF11.005.D	4x(2x0.14)	white/brown, green/yellow, grey/pink, blue/red
	4x0.5	black, violet, grey-pink, red-blue
CF11.006.D	3x(2x0.14)C	green/yellow, black/brown, red/orange
	(4x0.14)	grey/blue/white-yellow/white-black
	(4x0.25)	brown-yellow/brown-grey/green-black/green-red
	(2x0.5)	brown-red/brown-blue
CF11.007.D [2)]	4x0.34	white, green, brown, yellow (star-quad)
CF11.008.D	3x(2x0.25)	white/brown, green/yellow, grey/pink
CF11.009.D	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x0.5	white, brown
CF11.010.D	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x1.0	white, brown
CF11.011.D	4x(2x0.34)	black/brown, red/orange, green/yellow, blue/violet
	4x0.5	black-white, red-white, yellow-white, blue-white
CF11.012.D	3x(2x0.14)C	green/yellow, white/grey, blue/red
	(3x0.14)C	red/green/brown
	(4x0.14)	grey/yellow/pink/violet
	(2x0.14+2x0.5)	blue/brown-blue/grey/brown-red
CF11.013.D	3x(2x0.14)C	white/brown, green/yellow, grey/pink
	2x0.5	blue, red
CF11.014.D	4x(2x0.25)C	white/brown, green/yellow, grey/pink, blue/red
	(2x0.5)	black no. 1/black no. 2
CF11.015.D	4x(2x0.14)	brown/green, yellow/violet, grey/pink, red/black
	4x0.5	blue, white, brown-green, white-green

The chainflex® types marked with [2)] are cables designed as a star-quad.
[11)] Phase-out model

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Further cable types ▶ Page 264

EPLAN download, configurators ▶ www.igus.eu/CF11D

EU2024

Measuring system cable | TPE | chainflex® CF11.D

Strip cables 50% faster with CFRIP® tear strip

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	5	**6**	≥ 400m	
Oil resistance	none	1	2	3	**4**	highest			
Torsion	none	**1**	2	3	4	±360°			

CF11.D
TPE
6.8 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF11.017.D [4) 11)]	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	100	126
CF11.018.D [4)]	(2x(2x0.25)+2x0.5)C	6.5	41	51
CF11.019.D [4)]	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	93	120
CF11.021.D	((4x0.25)+3x(2x0.25+2x0.5))C	10.0	88	130
CF11.022.D	((2x0.25)+5x0.5)C	7.5	54	79
CF11.025.D	(3x(2x0.14)C+(2x0.5)C)C	10.0	72	123
CF11.027.D	(5x(2x0.14)+2x0.5)C	8.5	52	88
CF11.028.D	(2x(2x0.20)+(2x0.38))C	7.5	44	63
CF11.031.D	(2x(2x0.25)C+2x1.0)C	9.5	69	116
CF11.032.D [5)]	3x(2x0.14)C+(3x0.14)C	8.0	35	71
CF11.033.D [5)]	4x(2x0.14)C+2x(1.0)C	9.5	64	104
CF11.038.D	(3x(2x0.14)+(2x0.34))C	8.0	36	71

Part No.	Core group	Colour code
CF11.017.D [4) 11)]	4x(2x0.14)	red/black, brown/green, yellow/violet, grey/pink
	(4x0.14)C	blue-black/yellow-black/red-black/green-black
	4x1.0	white-green, brown-green, blue, white
CF11.018.D [4)]	2x(2x0.25)	red/black, grey/pink
	2x0.5	white, brown
CF11.019.D [4)]	3x(2x0.25)C	brown/green, grey/pink, red/black
	(3x0.25)	blue/violet/yellow
	2x1.0	white, brown
CF11.021.D	(4x0.25)	white/brown/grey/black
	3x2x0.25	white/yellow, white/grey, black/orange
	3x2x0.5	black no. 1/black no. 2, black no. 3/black no. 4, black no. 5/black no. 6
CF11.022.D	(2x0.25)	white/brown
	5x0.5	green, yellow, grey, pink, blue
CF11.025.D	3x(2x0.14)C	green/yellow, blue/red, grey/pink
	(2x0.5)	white/brown
CF11.027.D	5x(2x0.14)	brown/green, yellow/grey, white/violet, red/black, pink/blue
	2x0.5	white-green, white-red
CF11.028.D	2x(2x0.20)	green/yellow, pink/blue
	(2x0.38)	red/black
CF11.031.D	2x(2x0.25)C	white/brown, green/yellow
	2x1.0	black no. 1, black no. 2
CF11.032.D [5)]	3x(2x0.14)C	green/black, yellow/black, red/black
	(3x0.14)C	grey/pink/black
CF11.033.D [5)]	4x(2x0.14)C	yellow/black, red/black, blue/black, green/black
	2x(1.0)C	white, brown
CF11.038.D	3x(2x0.14)	white/brown, green/yellow, grey/pink
	(2x0.34)	blue/red

[4)] Manufactured without inner jacket
[5)] Manufactured without overall shield
[11)] Phase-out model

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Further cable types ▶ Page 262



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

EPLAN download, configurators ▶ www.igus.eu/CF11D

EU2024

Servo cables
Hybrid cables



chainflex® cable	Jacket	Shield	Minimum bend radius e-chain® [x d]	Temperature e-chain® from/to [°C]	Approvals and standards	Oil-resistant	Torsion-resistant	v max. [m/s] unsupported	v max. [m/s] gliding	a max.	Page
Servo cables											
Information and selection chart for hybrid servo cables											270
CF887	PVC	✓	15	+5/+70				3		20	272
CF210.UL	PVC	✓	10	+5/+70		✓		10	2	50	274
CF21.UL	PVC	✓	7.5	+5/+70		✓		10	5	80	278
CF897	iguPUR	✓	15	-20/+80		✓		3		20	282
CF270.UL.D	PUR	✓	10	-25/+80		✓		10	2	50	284
CF27.D	PUR	✓	7.5	-25/+80		✓		10	5	80	288
CF29.D	TPE	✓	6.8	-35/+100		✓		10	5	80	292
Hybrid cables											
CF220.UL.H	PVC	✓	10	+5/+70		✓		10	2	50	294
CF280.UL.H	PUR	✓	10	-25/+80		✓		10	2	50	298
Twistable hybrid cable (twistable cables chapter ▶ Page 382)											
CFROBOT9	PUR	✓	10	-25/+80		✓	✓				418

4-years chainflex® guarantee

Guaranteed service life for predictable reliability

▶ Selection table page 268

With the help of the chainflex® service life calculator, you can quickly and easily calculate the expected service life of chainflex® cables specifically for your application:

www.igus.eu/chainflexlife

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

chainflex® guarantee ▶▶ Guaranteed service life (1)

	chainflex® cables	Temperature, from/to [°C]	v max. [m/s] unsupported	v max. [m/s] gliding	a max. [m/s²]	Travel distance [m]	Minimum bend radius [x d] < 10m	Minimum bend radius [x d] ≥ 10m	Page
Servo cables							5 million (1 million) double strokes *		
	CF887	+5 / +15 +15 / +60 +60 / +70	3	-	20	≤ 10	17.5 15 17.5	18.5 16 18.5	272
	CF210.UL	+5 / +15 +15 / +60 +60 / +70	10	2	50	≤ 10	12.5 10 12.5	13.5 11 13.5	274
	CF21.UL	+5 / +15 +15 / +60 +60 / +70	10	5	80	≤ 100	10 7.5 10	11 8.5 11	278
	CF897	-20 / -10 -10 / +70 +70 / +80	3	-	20	≤ 10	17.5 15 17.5	18.5 16 18.5	282
	CF270.UL.D	-25 / -15 -15 / +70 +70 / +80	10	2	50	≤ 10	12.5 10 12.5	13.5 11 13.5	284
	CF27.D	-25 / -15 -15 / +70 +70 / +80	10	5	80	≤ 100	10 7.5 10	11 8.5 11	288
							5 million	7.5 million	12.5 million
	CF29.D	-35 / -25 -25 / +90 +90 / +100	10	5	80	> 400	8.5 6.8 7.5	10 7.5 10	9.5 7.5 9.5	11 8.5 11	10.5 8.5 10.5	12 9.5 12	292
Hybrid cables									
	CF220.UL.H	+5 / +15 +15 / +60 +60 / +70	10	2	50	≤ 10	12.5 10 12.5	13.5 11 13.5	14.5 12 14.5	294
	CF280.UL.H	-25 / -15 -15 / +70 +70 / +80	10	2	50	≤ 10	12.5 10 12.5	13.5 11 13.5	14.5 12 14.5	298

(1) Guaranteed service life for these series (details ▶ see page 28-29)

* Higher number of double strokes? Calculate service life online: ▶ www.igus.eu/chainflexlife
Figures in brackets refer to series CF887 and CF897

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

igus® chainflex® system cables (hybrid servo cables) ...
... for single-cable solutions in drive technology

In chainflex® series CF220.UL.H and CF280.UL.H, you will see system cables for intelligent drive concepts for many well known system manufacturers.

To save installation space in e-chain systems® some manufacturers combine the servo cable for power with the measuring system cable for position data to make a so-called hybrid cable. The feedback of the position data to the servo controller is done frequently by various digital bus technologies.

When combining these two cables into a hybrid cable, it is necessary to guarantee the data transmission properties and the EMC behavior of the cable for many millions of movement cycles.

High optical coverage shielding designs are used in igus® chainflex® servo hybrid cables because of the close proximity of the power cores carrying high interference square-wave signals to the bus cores.

A secure transmission of bus signals at maximum cable length and at maximum speed makes high demands on the insulating materials of the bus or data cores.

In the 3,800m² large igus® laboratory, electrical parameters such as capacitance, impedance, attenuation and crosstalk are measured over the entire test period of several million double strokes and monitored for compliance with the specifications.

igus® chainflex® servo hybrid cables are available in cost-effective PVC and oil-resistant, halogen-free PUR.

As with all chainflex® cables, igus® also offers a guarantee of 4 years or 10 million double strokes for the servo hybrid cables and 5 million for chainflex® M.

In the chart on the opposite page you will find an overview of all currently available hybrid cables grouped by system manufacturer.

The companies listed are drive systems manufacturers or technology providers whose rotation sensors are commonly available.



Two become one: hybrid servo cables combine servo and measuring system cables.

Selection table hybrid servo cables

Hybrid technology/ Manufacturer	CF220.UL.H PVC 10 x d Page 294	CF280.UL.H PUR 10 x d Page 298
SICK (HIPERFACE DSL)		
ABB	CF220.UL.H100-.H102	CF280.UL.H100-.H102
AMK		
B&R		
Baumüller		
BCB		
Beckhoff		
BMP		
CEDS		
Fertig		
Fine		
Han´s		
Harmonic Drive AG		
Heidrive		
Infranor		
IRT		
Jetter		
KEBA		
Kinavo		
Kollmorgen		
Lafert		
LTi DRiVES		
Mavilor		
Maxsine		
metronix		
NUM		
Parker		
PowerMotor		
ROBOX		
Selema		
Siboni		
Sigmatek		
STEP		
TG-Drives		
WEG		
SEW cable type A, B, C, D, E		
SEW	CF220.UL.H203	CF280.UL.H200-.H206
MOVILINK DDI		
SEW	-	CF280.UL.H207
SINAMICS S210		
Siemens	CF220.UL.H300-.H304	CF280.UL.H300-.H304
IndraDrive / crtlXDRIVE		
Bosch Rexroth	-	CF280.UL.H400-.H401
HEIDENHAIN		
B&R	CF220.UL.H501	CF280.UL.H501-.H502

Servo cable | PVC | chainflex® CF887



Example image

5 million
Double strokes guaranteed

15 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- PVC outer jacket
- Shielded
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 15 x d
	flexible	minimum 12 x d
	fixed	minimum 8 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance TPE mixture.
Core structure	Power cores and control pair elements wound together in an optimised pitch length.
Core identification	**Power cores:** Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L- **1 control pair:** Black cores with white numbers. 1. Control core: 5 2. Control core: 6 **2 control pairs:** Black cores with white numbers. 1. Control core: 5 2. Control core: 6 3. Control core: 7 4. Control core: 8
Element shield	Foil taping of optimised, bending-resistant foil shield.
Overall shield	Braiding made of tinned copper wires. Coverage approx. 60% optical
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains®. Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus.eu/CF887

Class 3.1.1.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6	≥ 400m	
Oil resistance	none	**1**	2	3	4	highest			
Torsion	none	**1**	2	3	4	±360°			

Properties and approvals

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF887
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	17.5	18.5	19.5
+15/+60	15	16	17
+60/+70	17.5	18.5	19.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- No torsion, Class 1
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
1 control pair shielded				
CF887.07.05.02.01	(4G0.75+(2x0.5)C)C	10.0	69	119
CF887.15.15.02.01	(4G1.5+(2x1.5)C)	12.5	124	200
CF887.25.15.02.01	(4G2.5+(2x1.5)C)C	13.5	182	254
CF887.40.15.02.01	(4G4.0+(2x1.5)C)C	14.5	236	340
2 control pairs shielded				
CF887.10.07.02.02	(4G1.0+2x(2x0.75)C)	11.5	110	184
CF887.15.15.02.02	(4G1.5+2x(2x1.5)C)C	13.5	164	253
CF887.25.15.02.02	(4G2.5+2x(2x1.5)C)C	14.5	217	325

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

CF887
PVC
15 x d

Servo cable | PVC | chainflex® CF210.UL



Example image

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For medium duty applications
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	2m/s
a max.		50m/s²
Travel distance		Unsupported travels and up to 10m for gliding applications, Class 2

Cable structure

Conductor	Stranded conductor in bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Power cores and control pair elements wound with a short pitch length around a high tensile strength centre element.
Core identification	**Power cores:** Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L- **1 control pair:** Black cores with white numbers. 1. Control core: 4 2. Control core: 5 **2 control pairs:** Black cores with white numbers. 1. Control core: 5 2. Control core: 6 3. Control core: 7 4. Control core: 8
Element shield	Bending-resistant braiding made of tinned copper wires.
Intermediate layer	Foil taping over the outer layer.
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Pastel orange (similar to RAL 2003)

EPLAN download, configurators ▶ www.igus.eu/CF210UL

4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 4.2.2.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	**2**	3	4	5	6	≥ 400m	
Oil resistance	none	1	**2**	3	4	highest			
Torsion	none	**1**	2	3	4	±360°			

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF210UL
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 2. The outer jacket material of this series complies with CF5.10.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	12.5	13.5	14.5
+15/+60	10	11	12
+60/+70	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 10m for gliding applications, Class 2
- Light oil influence, Class 2
- No torsion, Class 1
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

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UL-verified chainflex® guarantee ... www.igus.eu/ul-verified

CF210.UL
PVC
10 x d

Servo cable | PVC | chainflex® CF210.UL

Class 4.2.2.1

Basic requirements	low	1	2	3	**4**	5	6	7 highest
Travel distance	unsupported	1	**2**	3	4	5	6	≥ 400m
Oil resistance	none	1	**2**	3	4 highest			
Torsion	none	**1**	2	3	4 ±360°			

CF210.UL
PVC
10 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
1 control pair shielded				
CF210.UL.15.15.02.01	(4G1.5+(2x1.5)C)	12.5	154	245
CF210.UL.25.15.02.01	(4G2.5+(2x1.5)C)C	14.0	210	299
CF210.UL.40.15.02.01	(4G4.0+(2x1.5)C)C	15.0	255	383
CF210.UL.60.15.02.01	(4G6.0+(2x1.5)C)C	16.5	343	488
2 control pairs shielded				
CF210.UL.15.07.02.02	(4G1.5+2x(2x0.75)C)C	13.5	161	278
CF210.UL.25.15.02.02	(4G2.5+2x(2x1.5)C)C	16.0	244	381
CF210.UL.40.15.02.02	(4G4.0+2x(2x1.5)C)C	17.0	332	428
CF210.UL.60.15.02.02	(4G6.0+2x(2x1.5)C)C	19.0	403	598
without control pair				
CF210.UL.05.04	(4G0.5)C	7.0	34	63
CF210.UL.15.04	(4G1.5)C	10.0	86	140
CF210.UL.25.04	(4G2.5)C	11.5	146	209
CF210.UL.40.04	(4G4.0)C	13.0	195	288

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Order example: CF210.UL.40.15.02.01 - to your desired length (0.5m steps)
CF210.UL chainflex® series .40 Code nominal cross section .15 Code nominal cross section signal pairs
.02 Identification pairs .01 Number of pairs

Order online ▶ www.igus.eu/CF210UL

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Cables available in the chainflex® CASE
Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.
More on this on page 24/25 and online: www.igus.eu/cf-case



chainflex® servo cable in a vertical e-chain®

EPLAN download, configurators ▶ www.igus.eu/CF210UL

EU2024 igus

Servo cable | PVC | chainflex® CF21.UL

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For heavy duty applications
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5

Cable structure

Conductor
Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).

Core insulation
Mechanically high-quality, especially low-capacitance XLPE mixture.

Core structure
Power cores with control pair elements wound with elements for high tensile stresses.

Core identification
Power cores: Black cores with white numbers, one green-yellow core.
1. Core: U / L1 / C / L+
2. Core: V / L2
3. Core: W / L3 / D / L-
1 control pair: Black cores with white numbers.
1. Control core: 4 2. Control core: 5
2 control pairs: Black cores with white numbers.
1. Control core: 5 2. Control core: 6
3. Control core: 7 4. Control core: 8

Element shield
Extremely bending-resistant braiding made of tinned copper wires.

Inner jacket
PVC mixture adapted to suit the requirements in e-chains®.

Overall shield
Extremely bending-resistant braiding made of tinned copper wires.
Coverage linear approx. 70%, optical approx. 90%

Outer jacket
Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1).
Colour: Moss green (similar to RAL 6005)

CFRIP®
Strip cables faster: a tear strip is moulded into the inner jacket
Video ▶ www.igus.eu/CFRIP

EPLAN download, configurators ▶ www.igus.eu/CF21UL

Class 5.5.2.1

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	**2**	3	4				highest
Torsion	none	**1**	2	3	4				±360°

Electrical information

Nominal voltage
600/1,000V (following DIN VDE 0298-3)
1,000V (following UL)

Testing voltage
4,000V (following DIN EN 50395)

Properties and approvals

UV resistance
Medium

Oil resistance
Oil-resistant (following DIN EN 50363-4-1), Class 2

Flame-retardant
According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame

Silicone-free
Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)

PFAS-free
Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances

UL verified
Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"

UL/CSA AWM
See data sheet for details ▶ www.igus.eu/CF21UL

NFPA
Following NFPA 79-2018, chapter 12.9

REACH
In accordance with regulation (EC) No. 1907/2006 (REACH)

Lead-free
Following 2011/65/EC (RoHS-II/RoHS-III)

Cleanroom
According to ISO Class 2. The outer jacket material of this series complies with CF5.10.07 - tested by IPA according to standard DIN EN ISO 14644-1

CE
Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	10	11	12
+15/+60	7.5	8.5	9.5
+60/+70	10	11	12

* Higher number of double strokes? Service life calculation online ▶www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 100m for gliding applications, Class 5
- Light oil influence, Class 2
- No torsion, Class 1
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units, machining units/packaging machines, quick handling, indoor cranes

CF21.UL
PVC
7.5 x d

Servo cable | PVC | chainflex® CF21.UL

Class 5.5.2.1

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	**2**	3	4	highest			
Torsion	none	**1**	2	3	4	±360°			

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
1 control pair shielded				
CF21.07.05.02.01.UL	(4G0.75+(2x0.5)C)C	11.0	76	159
CF21.15.15.02.01.UL	(4G1.5+(2x1.5)C)	13.0	145	256
CF21.25.15.02.01.UL	(4G2.5+(2x1.5)C)C	14.5	199	330
CF21.40.15.02.01.UL	(4G4.0+(2x1.5)C)C	16.0	256	406
CF21.60.15.02.01.UL	(4G6.0+(2x1.5)C)C	18.0	343	546
CF21.100.15.02.01.UL	(4G10+(2x1.5)C)C	21.5	536	828
2 control pairs shielded				
CF21.07.03.02.02.UL	(4G0.75+2x(2x0.34)C)C	12.5	103	208
CF21.10.07.02.02.UL	(4G1.0+2x(2x0.75)C)	13.5	148	269
CF21.15.07.02.02.UL	(4G1.5+2x(2x0.75)C)C	14.5	167	309
CF21.25.15.02.02.UL	(4G2.5+2x(2x1.5)C)C	17.0	254	434
CF21.40.15.02.02.UL	(4G4.0+2x(2x1.5)C)C	18.0	308	515
CF21.60.15.02.02.UL	(4G6.0+2x(2x1.5)C)C	21.0	412	695
CF21.100.15.02.02.UL	(4G10+2x(2x1.5)C)C	23.0	592	925
CF21.160.15.02.02.UL	(4G16+2x(2x1.5)C)C	26.5	878	1287

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

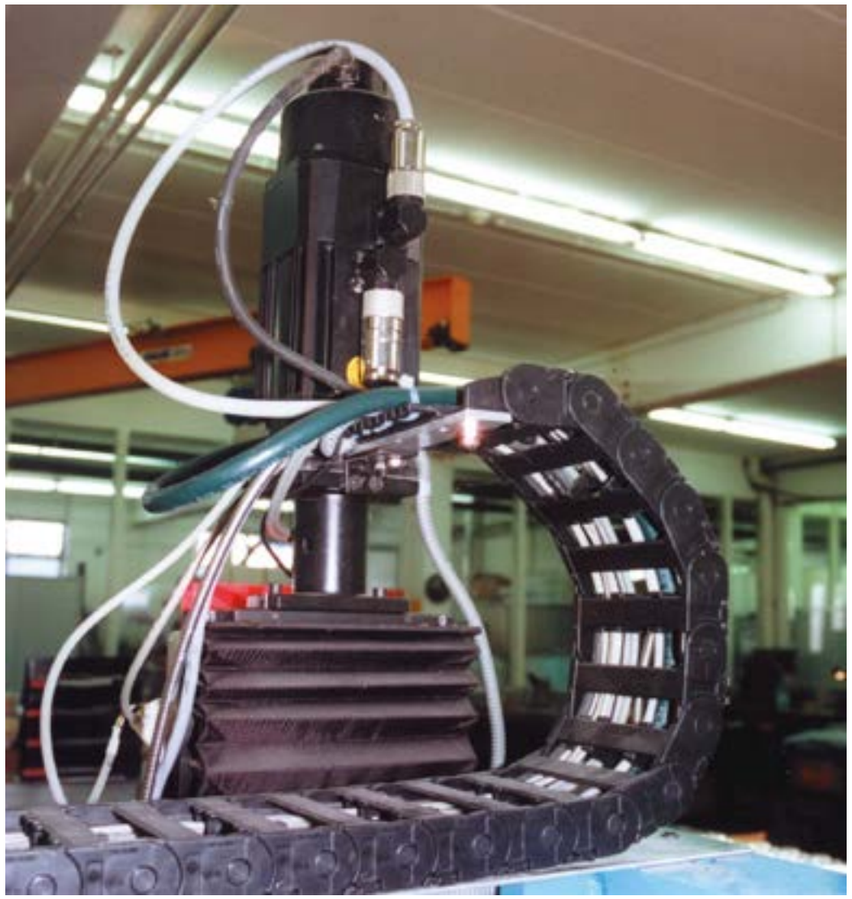
Order example: CF21.40.15.02.01.UL - to your desired length (0.5m steps)
CF21.UL **chainflex® series** .40 **Code nominal cross section** .15 **Code nominal cross section signal pairs**
.02 **Identification pairs** .01 **Number of pairs**

Order online ▶ www.igus.eu/CF21UL

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



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chainflex® CF21.UL: cables for energy supply systems in spinneret production. e-chain®: E2/000

EPLAN download, configurators ▶ www.igus.eu/CF21UL

CF21.UL
PVC
7.5 x d

Servo cable | iguPUR | chainflex® CF897



Example image

5 million
Double strokes guaranteed

15 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- iguPUR outer jacket
- Oil-resistant
- Shielded
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 15 x d
	flexible	minimum 12 x d
	fixed	minimum 8 x d
Temperature	**e-chain® linear**	-20°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance TPE mixture.
Core structure	Power cores and control pair elements wound together in an optimised pitch length.
Core identification	**Power cores:** Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L- **1 control pair:** Black cores with white numbers. 1. Control core: 5 2. Control core: 6 **2 control pairs:** Black cores with white numbers. 1. Control core: 5 2. Control core: 6 3. Control core: 7 4. Control core: 8
Element shield	Foil taping of optimised, bending-resistant foil shield.
Overall shield	Braiding made of tinned copper wires. Coverage approx. 60% optical
Outer jacket	Low-adhesion iguPUR mixture, adapted to suit the requirements in e-chains®. Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus.eu/CF897

Class 3.1.3.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF897
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-20/-10	17.5	18.5	19.5
-10/+70	15	16	17
+70/+80	17.5	18.5	19.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- With influence of oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
1 control pair shielded				
CF897.15.15.02.01	(4G1.5+(2x1.5)C)	12.5	124	201
CF897.25.15.02.01	(4G2.5+(2x1.5)C)C	13.5	182	248
CF897.40.15.02.01	(4G4.0+(2x1.5)C)C	14.5	236	329
2 control pairs shielded				
CF897.15.15.02.02	(4G1.5+2x(2x1.5)C)C	13.5	164	246

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

CF897
iguPUR
15 x d

PVC | iguPUR | **PUR** | TPE

Servo cable | PUR | chainflex® CF270.UL.D



Example image

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For medium duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Notch-resistant
- Flame-retardant
- Hydrolysis and microbe-resistant
- PVC and halogen-free

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	2m/s
a max.		50m/s²
Travel distance		Unsupported travels and up to 10m for gliding applications, Class 2

Cable structure

Conductor	**Multi core:** Stranded conductor in bending-resistant version consisting of bare copper wires (following DIN EN 60228). **Single core:** Conductor cable consisting of pre-leads (following DIN EN 60228).
Core insulation	**Multi core:** Mechanically high-quality, especially low-capacitance XLPE mixture. **Single core:** Mechanically high-quality TPE mixture.
Core structure	Power cores and control pair elements wound with a short pitch length around a high tensile strength centre element.
Core identification	**Power cores:** Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L- **1 control pair:** Black cores with white numbers. 1. Control core: 4 2. Control core: 5 **2 control pairs:** Black cores with white numbers. 1. Control core: 5 2. Control core: 6 3. Control core: 7 4. Control core: 8
Element shield	Bending-resistant braiding made of tinned copper wires.
Intermediate layer	Foil taping over the outer layer.
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Class 4.2.3.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	**2**	3	4	5	6	≥ 400m	
Oil resistance	none	1	2	**3**	4	highest			
Torsion	none	**1**	2	3	4	±360°			

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF270ULD
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-25/-15	12.5	13.5	14.5
-15/+70	10	11	12
+70/+80	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 10m for gliding applications, Class 2
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

CF270.UL.D
PUR
10 x d

PVC | iguPUR | **PUR** | TPE

Servo cable | PUR | chainflex® CF270.UL.D

Class 4.2.3.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	**2**	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°

CF270.UL.D
PUR
10 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
1 control pair shielded				
CF270.UL.15.15.02.01.D	(4G1.5+(2x1.5)C)	11.5	146	190
CF270.UL.25.15.02.01.D	(4G2.5+(2x1.5)C)C	13.0	195	248
CF270.UL.40.15.02.01.D	(4G4.0+(2x1.5)C)C	15.0	260	328
CF270.UL.60.15.02.01.D	(4G6.0+(2x1.5)C)C	16.5	350	430
CF270.UL.100.15.02.01.D	(4G10+(2x1.5)C)C	19.0	541	624
CF270.UL.160.15.02.01.D	(4G16+(2x1.5)C)C	22.0	786	900
2 control pairs shielded				
CF270.UL.07.03.02.02.D	(4G0.75+2x(2x0.34)C)C	11.0	96	151
CF270.UL.10.07.02.02.D	(4G1.0+2x(2x0.75)C)	12.5	139	200
CF270.UL.15.07.02.02.D	(4G1.5+2x(2x0.75)C)C	12.5	162	210
CF270.UL.25.15.02.02.D	(4G2.5+2x(2x1.5)C)C	15.5	265	322
CF270.UL.40.15.02.02.D	(4G4.0+2x(2x1.5)C)C	16.5	322	403
CF270.UL.60.15.02.02.D	(4G6.0+2x(2x1.5)C)C	18.5	407	505
CF270.UL.100.15.02.02.D	(4G10+2x(2x1.5)C)C	21.0	604	703
CF270.UL.160.15.02.02.D	(4G16+2x(2x1.5)C)C	24.0	857	997
CF270.UL.250.15.02.02.D	(4G25+2x(2x1.5)C)C	27.5	1219	1422
without control pair				
CF270.UL.07.04.D	(4G0.75)C	8.0	47	81
CF270.UL.10.06.D	(6G1.0)C	9.5	87	133
CF270.UL.15.04.D	(4G1.5)C	9.0	78	116
CF270.UL.25.04.D	(4G2.5)C	10.5	129	173
CF270.UL.40.04.D	(4G4.0)C	12.5	193	255
CF270.UL.60.04.D	(4G6.0)C	14.5	297	356
CF270.UL.100.04.D	(4G10)C	17.0	495	551
CF270.UL.160.04.D	(4G16)C	20.5	755	819
CF270.UL.250.04.D	(4G25)C	25.0	1117	1256
CF270.UL.350.04.D	(4G35)C	28.0	1597	1696
Spindle cable/Single core				
CF270.UL.60.01.D	(1x6.0)C	7.5	72	95
CF270.UL.100.01.D	(1x10)C	8.5	114	145
CF270.UL.160.01.D	(1x16)C	9.5	178	209
CF270.UL.250.01.D	(1x25)C	11.0	269	304
CF270.UL.350.01.D	(1x35)C	13.0	374	419
CF270.UL.500.01.D	(1x50)C	15.0	525	579
CF270.UL.700.01.D	(1x70)C	17.0	751	804

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Order example: CF270.UL.40.15.02.01.D - to your desired length (0.5m steps)
CF270.UL.D chainflex® series .40 Code nominal cross section .15 Code nominal cross section signal pairs .02 Identification pairs .01 Number of pairs

Order online ▶ www.igus.eu/CF270ULD

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

Cables available in the chainflex® CASE
Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.
More on this on page 24/25 and online: www.igus.eu/cf-case



Linear robot with chainflex® servo and measuring system cables, short travel distance

EPLAN download, configurators ▶ www.igus.eu/CF270ULD

PVC | iguPUR | **PUR** | TPE

Servo cable | PUR | chainflex® CF27.D



Example image

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For extremely heavy duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Notch-resistant
- Flame-retardant
- Hydrolysis and microbe-resistant
- PVC and halogen-free

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5

Cable structure

Conductor
Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).

Core insulation
Mechanically high-quality, especially low-capacitance XLPE mixture.

Core structure
Power cores with control pair elements wound with elements for high tensile stresses.

Core identification
Power cores: Black cores with white numbers, one green-yellow core.
1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L-
1 control pair: Black cores with white numbers.
1. Control core: 4 2. Control core: 5
2 control pairs: Black cores with white numbers.
1. Control core: 5 2. Control core: 6 3. Control core: 7 4. Control core: 8
Star quad: yellow, black, red, white

Element shield
Extremely bending-resistant braiding made of tinned copper wires.

Inner jacket
TPE mixture adapted to suit the requirements in e-chains®.

Overall shield
Extremely bending-resistant braiding made of tinned copper wires.
Coverage linear approx. 70%, optical approx. 90%

Outer jacket
Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2)
Colour: Pastel orange (similar to RAL 2003)

CFRIP®
Strip cables faster: a tear strip is moulded into the inner jacket
Video ▶ www.igus.eu/CFRIP

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Class 6.5.3.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF27D
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003XA
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-25/-15	10	11	12
-15/+70	7.5	8.5	9.5
+70/+80	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 100m for gliding applications, Class 5
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

CF27.D
PUR
7.5 x d

PVC | iguPUR | **PUR** | TPE

Servo cable | PUR | chainflex® CF27.D

Strip cables 50% faster with CFRIP® tear strip

Class 6.5.3.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
1 control pair shielded				
CF27.07.05.02.01.D	(4G0.75+(2x0.5)C)C	11.5	76	169
CF27.15.15.02.01.D	(4G1.5+(2x1.5)C)	13.0	145	244
CF27.25.15.02.01.D	(4G2.5+(2x1.5)C)C	14.5	199	306
CF27.40.15.02.01.D	(4G4.0+(2x1.5)C)C	16.0	256	403
CF27.60.15.02.01.D	(4G6.0+(2x1.5)C)C	17.5	343	505
CF27.100.15.02.01.D	(4G10+(2x1.5)C)C	21.0	536	746
CF27.160.15.02.01.D	(4G16+(2x1.5)C)C	24.0	797	1086
CF27.250.15.02.01.D	(4G25+(2x1.5)C)C	28.0	1173	1528
CF27.350.15.02.01.D	(4G35+(2x1.5)C)C	32.0	1618	1998
2 control pairs shielded				
CF27.07.03.02.02.D	(4G0.75+2x(2x0.34)C)C	12.5	103	196
CF27.10.07.02.02.D	(4G1.0+2x(2x0.75)C)	13.5	148	245
CF27.15.07.02.02.D	(4G1.5+2x(2x0.75)C)C	14.5	167	287
CF27.25.15.02.02.D	(4G2.5+2x(2x1.5)C)C	16.0	254	383
CF27.40.15.02.02.D	(4G4.0+2x(2x1.5)C)C	17.5	308	459
CF27.60.15.02.02.D	(4G6.0+2x(2x1.5)C)C	19.5	412	604
CF27.100.15.02.02.D	(4G10+2x(2x1.5)C)C	22.5	592	842
CF27.160.15.02.02.D	(4G16+2x(2x1.5)C)C	26.0	878	1223
CF27.250.15.02.02.D	(4G25+2x(2x1.5)C)C	31.0	1250	1699
1 star-quad shielded				
CF27.15.05.04.D	(4G1.5+(4x0.5)C)C	12.5	131	231
CF27.25.05.04.D	(4G2.5+(4x0.5)C)C	14.0	176	292
CF27.40.05.04.D	(4G4.0+(4x0.5)C)	16.0	244	376
without control pair				
CF27.07.04.D	(4G0.75)C	9.5	55	115
CF27.15.04.D	(4G1.5)C	11.0	90	165
CF27.25.04.D	(4G2.5)C	12.5	135	231
CF27.500.04.D	(4G50)C	37.0	2244	2817

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Order example: CF27.40.15.02.01.D - to your desired length (0.5m steps)
CF27.D **chainflex® series** .40 **Code nominal cross section** .10 **Code nominal cross section** .02 **Identification pairs** .01 **Number of pairs**

Order online ▶ www.igus.eu/CF27D

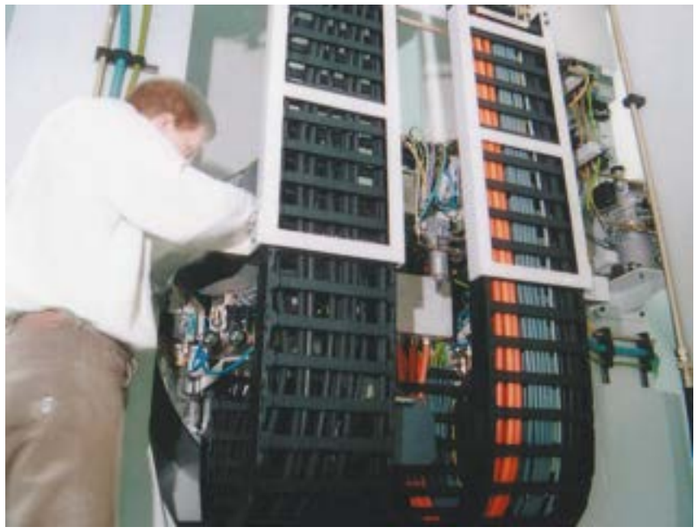
Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

cost down...

...life up

Reduce cost, improve technology, now!
Do the chainflex® price check ...
www.igus.eu/cf-price-check

… for example: reduce cost with CF21.UL ...



Modular design, easy to retrofit: igus® E4 e-chain® and chainflex® cables.

chainflex CASE

Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

EPLAN download, configurators ▶ www.igus.eu/CF27D

EU2024 igus®

Servo cable | TPE | chainflex® CF29.D



Example image

12.5 million
Double strokes guaranteed

6.8 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For heaviest duty applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant

Now available with UL approval & 25% longer service life

Dynamic information

Bend radius	**e-chain® linear**	minimum 6.8 x d
	flexible	minimum 5 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-35°C up to +100°C
	flexible	-50°C up to +100°C (following DIN EN 60811-504)
	fixed	-55°C up to +100°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Power cores with control pair elements wound with elements for high tensile stresses.
Core identification	**Power cores:** Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L- **1 control pair:** Black cores with white numbers. 1. Control core: 4 2. Control core: 5
Element shield	Extremely bending-resistant braiding made of tinned copper wires.
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Pastel orange (similar to RAL 2003)
CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ▶ www.igus.eu/CFRIP

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

EU2024

Class 7.6.4.1

Basic requirements	low	1	2	3	4	5	6	**7** highest
Travel distance	unsupported	1	2	3	4	5	**6**	≥ 400m
Oil resistance	none	1	2	3	**4** highest			
Torsion	none	**1**	2	3	4 ±360°			

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL AWM	See data sheet for details ▶ www.igus.eu/CF29D (from production date 01/2022)
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		12.5 million	
Temperature, from/to [°C]	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]
-35/-25	8.5	10	9.5	11	10.5	12
-25/+90	6.8	7.5	7.5	8.5	8.5	9.5
+90/+100	8.5	10	9.5	11	10.5	12

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 7
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant, Class 4
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
1 control pair shielded				
CF29.15.15.02.01.D	(4G1.5+(2x1.5)C)	13.0	145	231
CF29.25.15.02.01.D	(4G2.5+(2x1.5)C)C	14.0	199	291
CF29.40.15.02.01.D	(4G4.0+(2x1.5)C)C	15.5	256	367

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

CF29.D
TPE
6.8 x d

PVC | iguPUR | PUR | TPE

Hybrid servo cable | PVC | chainflex® CF220.UL.H

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For medium duty applications
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant

New cable suitable for Siemens SINAMICS S210

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	2m/s
a max.		50m/s²
Travel distance		Unsupported travels and up to 10m for gliding applications, Class 2

Cable structure

Conductor
Stranded conductor in bending-resistant version consisting of bare copper wires (following DIN EN 60228).

Core insulation
Mechanically high-quality, especially low-capacitance XLPE mixture.

Core structure
Power cores and control pair elements wound with a short pitch length around a high tensile strength centre element.

Core identification
According to Servo-Hybrid specification.
Current data sheet ▶ www.chainflex.eu/CF220ULH

Element shield
Bending-resistant braiding made of tinned copper wires.

Intermediate layer
Foil taping over the outer layer.

Overall shield
Bending-resistant braiding made of tinned copper wires.
Coverage linear approx. 55%, optical approx. 80%

Outer jacket
Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1).
Colour: Pastel orange (similar to RAL 2003)
Variants ▶ Product range table

Electrical information

Nominal voltage
600/1,000V (following DIN VDE 0298-3)
1,000V (following UL)
Variants ▶ Product range table

Testing voltage
4,000V (following DIN EN 50395)



Example image

EPLAN download, configurators ▶ www.igus.eu/CF220ULH

4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 4.2.2.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	**2**	3	4	5	6		≥ 400m
Oil resistance	none	1	**2**	3	4	highest			
Torsion	none	**1**	2	3	4	±360°			

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF220ULH
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 2. The outer jacket material of this series complies with CF5.10.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
Info	As hybrid cables are always designed for specific drive systems, additional electrotechnical data may need to be considered. You will find more information in the latest data sheet for the cable series.

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	12.5	13.5	14.5
+15/+60	10	11	12
+60/+70	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 10m for gliding applications, Class 2
- Light oil influence, Class 2
- No torsion, Class 1
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

CF220.UL.H
PVC
10 x d

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

EU2024

UL-verified chainflex® guarantee ... www.igus.eu/ul-verified

Hybrid servo cable | PVC | chainflex® CF220.UL.H

Class 4.2.2.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	**2**	3	4	5	6		≥ 400m
Oil resistance	none	1	**2**	3	4				highest
Torsion	none	**1**	2	3	4				±360°

CF220.UL.H
PVC
10 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
SICK (HIPERFACE DSL)				
CF220.UL.H100.07.04	(4G0.75+(2x0.34)C +(2xAWG22)C)C	12.0	110	214
CF220.UL.H101.10.04	(4G1.0+(2x0.75)C +(2xAWG22)C)C	12.0	133	202
CF220.UL.H101.15.04	(4G1.5+(2x0.75)C +(2xAWG22)C)C	13.0	156	230
CF220.UL.H102.25.04	(4G2.5+(2x1.0)C +(2xAWG22)C)C	14.5	203	348
CF220.UL.H102.40.04 [11)]	(4G4.0+(2x1.0)C +(2xAWG22)C)C	16.5	281	434
SEW cable type E/1.5				
CF220.UL.H203.15.04	(4G1.5+(3x1.0)C)C	11.5	133	219
SINAMICS S210				
CF220.UL.H300.03.04	(4Gx0.34+(2x0.34)C +(4xAWG26)C)C	10.0	78	139
CF220.UL.H301.07.04	(4Gx0.75+(2x0.5)C +(4xAWG26)C)C	11.0	100	168
CF220.UL.H304.15.04	(4G1.5+(2x1.5)C +(4xAWG26)C)C	13.0	159	233
HEIDENHAIN				
CF220.UL.H501.15.04	(4G1.5+(2x0.75)C +(2x2x0.14+2x0.25)C)C	13.5	170	239

Part No.	Hybrid technology	Hybrid manufacturer
SICK (HIPERFACE DSL)		
CF220.UL.H100.07.04	SICK (HIPERFACE DSL)	please see selection table on page 271
CF220.UL.H101.10.04	SICK (HIPERFACE DSL)	please see selection table on page 271
CF220.UL.H101.15.04	SICK (HIPERFACE DSL)	please see selection table on page 271
CF220.UL.H102.25.04	SICK (HIPERFACE DSL)	please see selection table on page 271
CF220.UL.H102.40.04 [11)]	SICK (HIPERFACE DSL)	please see selection table on page 271
SEW cable type E/1.5		
CF220.UL.H203.15.04	SEW cable type E/1.5	SEW
SINAMICS S210		
CF220.UL.H300.03.04	SINAMICS S210	Siemens
CF220.UL.H301.07.04	SINAMICS S210	Siemens
CF220.UL.H304.15.04	SINAMICS S210	Siemens
HEIDENHAIN		
CF220.UL.H501.15.04	HEIDENHAIN	B&R

[11)] Phase-out model

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Drilling machine for wooden plates equipped with latest hybrid cable technology with Hiperface DSL

EPLAN download, configurators ▶ www.igus.eu/CF220ULH



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

PVC | iguPUR | **PUR** | TPE

Hybrid servo cable | PUR | chainflex® CF280.UL.H



Example image

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For medium duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

New cable suitable for Bosch Rexroth ctrlX DRIVE

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	2m/s
a max.		50m/s²
Travel distance		Unsupported travels and up to 10m for gliding applications, Class 2

Cable structure

Conductor
Stranded conductor in bending-resistant version consisting of bare copper wires (following DIN EN 60228).

Core insulation
Mechanically high-quality, especially low-capacitance XLPE mixture.

Core structure
Power cores and control pair elements wound with a short pitch length around a high tensile strength centre element.

Core identification
According to Servo-Hybrid specification.
Current data sheet ▶ www.chainflex.eu/CF220ULH

Element shield
Bending-resistant braiding made of tinned copper wires.

Intermediate layer
Foil taping over the outer layer.

Overall shield
Bending-resistant braiding made of tinned copper wires.
Coverage linear approx. 55%, optical approx. 80%

Outer jacket
Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2)
Colour: Pastel orange (similar to RAL 2003)
Variants ▶ Product range table

Electrical information

Nominal voltage
600/1,000V (following DIN VDE 0298-3)
1,000V (following UL)
Variants ▶ Product range table

Testing voltage
4,000V (following DIN EN 50395)

CF280.UL.H
PUR
10 x d

Class 4.2.3.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	**2**	3	4	5	6	≥ 400m	
Oil resistance	none	1	2	**3**	4	highest			
Torsion	none	**1**	2	3	4	±360°			

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF280ULH
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU
Info	As hybrid cables are always designed for specific drive systems, additional electrotechnical data may need to be considered. You will find more information in the latest data sheet for the cable series.

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-25/-15	12.5	13.5	14.5
-15/+70	10	11	12
+70/+80	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 10m for gliding applications, Class 2
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

Hybrid servo cable | PUR | chainflex® CF280.UL.H

Class 4.2.3.1

Basic requirements	low	1	2	3	**4**	5	6	7 highest
Travel distance	unsupported	1	**2**	3	4	5	6	≥ 400m
Oil resistance	none	1	2	**3**	4	highest		
Torsion	none	**1**	2	3	4	±360°		

CF280.UL.H
PUR
10 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
SICK (HIPERFACE DSL)				
CF280.UL.H100.07.04.D	(4G0.75+(2x0.34)C +(2xAWG22)C)C	12.0	110	200
CF280.UL.H101.10.04.D	(4G1.0+(2x0.75)C +(2xAWG22)C)C	12.0	133	205
CF280.UL.H101.15.04.D	(4G1.5+(2x0.75)C +(2xAWG22)C)C	13.0	156	215
CF280.UL.H102.25.04.D	(4G2.5+(2x1.0)C +(2xAWG22)C)C	14.5	203	324
CF280.UL.H102.40.04.D [11]	(4G4.0+(2x1.0)C +(2xAWG22)C)C	16.5	281	431
CF280.UL.H102.60.04.D	(4G6.0+(2x1.0)C +(2xAWG22)C)C	17.5	364	499
SEW cable type A, B, C, D, E				
CF280.UL.H200.15.07.D [15]	(7x1.5+(2x0.75)C)C	16.0	202	354
CF280.UL.H200.25.07.D [15]	(7x2.5+(2x0.75)C)C	20.0	289	521
CF280.UL.H201.15.04.D [15]	4G1.5+(2x0.75)C +(3x0.75)C	14.0	139	272
CF280.UL.H201.25.04.D [15]	4G2.5+(2x0.75)C +(3x0.75)	14.5	183	318
CF280.UL.H203.15.04.D	(4G1.5+(3x1.0)C)C	12.0	158	253
CF280.UL.H203.25.04.D	(4G2.5+(3x1.0)C)C	13.5	197	277
CF280.UL.H204.15.04.D	(4G1.5+(2x0.75)C +(3x1.0)C)C	15.0	200	340
CF280.UL.H206.40.04.D	(4G4.0+(2x0.75)C +(3x1.5)C)C	17.5	339	482
CF280.UL.H206.60.04.D	(4G6.0+(2x0.75)C +(3x1.5)C)C	19.0	431	648
MOVILINK DDI				
CF280.UL.H207.15.04.D	(4G1.5+2x(2x1.0)C +HF50-0.9/2.95)C	15.5	191	303
CF280.UL.H207.25.04.D	(4G2.5+2x(2x1.0)C +HF50-0.9/2.95)C	16.5	232	351

Part No.	Hybrid technology	Hybrid manufacturer
SICK (HIPERFACE DSL)		
CF280.UL.H100.07.04.D	SICK (HIPERFACE DSL)	please see selection table on page 271
CF280.UL.H101.10.04.D	SICK (HIPERFACE DSL)	please see selection table on page 271
CF280.UL.H101.15.04.D	SICK (HIPERFACE DSL)	please see selection table on page 271
CF280.UL.H102.25.04.D	SICK (HIPERFACE DSL)	please see selection table on page 271
CF280.UL.H102.40.04.D [11]	SICK (HIPERFACE DSL)	please see selection table on page 271
CF280.UL.H102.60.04.D	SICK (HIPERFACE DSL)	please see selection table on page 271
SEW cable type A, B, C, D, E		
CF280.UL.H200.15.07.D [15]	SEW cable type A/1.5	SEW
CF280.UL.H200.25.07.D [15]	SEW cable type A/2.5	SEW
CF280.UL.H201.15.04.D [15]	SEW cable type B/1.5	SEW
CF280.UL.H201.25.04.D [15]	SEW cable type B/2.5	SEW
CF280.UL.H203.15.04.D	SEW cable type E/1.5	SEW
CF280.UL.H203.25.04.D	SEW cable type E/2.5	SEW
CF280.UL.H204.15.04.D	SEW cable type D/1.5	SEW
CF280.UL.H206.40.04.D	SEW cable type D/4.0	SEW
CF280.UL.H206.60.04.D	SEW cable type D/6.0	SEW
MOVILINK DDI		
CF280.UL.H207.15.04.D	MOVILINK DDI	SEW
CF280.UL.H207.25.04.D	MOVILINK DDI	SEW

[11] Phase-out model
[15] Colour outer jacket: Jet black (RAL 9005)

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Further cable types ▶ Page 302

EPLAN download, configurators ▶ www.igus.eu/CF280ULH

EU2024

Hybrid servo cable | PUR | chainflex® CF280.UL.H

Class 4.2.3.1

Basic requirements	low	1	2	3	**4**	5	6	7 highest
Travel distance	unsupported	1	**2**	3	4	5	6	≥ 400m
Oil resistance	none	1	2	**3**	4	highest		
Torsion	none	**1**	2	3	4	±360°		

CF280.UL.H
PUR
10 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
SINAMICS S210				
CF280.UL.H300.03.04.D	(4G0.34+(2x0.34)C +(4xAWG26)C)C	10.0	74	139
CF280.UL.H301.07.04.D	(4G0.75+(2x0.5)C +(4xAWG26)C)C	11.0	100	169
CF280.UL.H304.15.04.D	(4G1.5+(2x1.5)C +(4xAWG26)C)C	13.0	170	240
CF280.UL.H304.25.04.D	(4G2.5+(2x1.5)C +(4xAWG26)C)C	14.5	215	289
IndraDrive				
CF280.UL.H400.25.05.D	(5x2.5+(5x0,35) +(4xAWG22)C)C	17.0	240	389
ctrlX DRIVE				
CF280.UL.H401.07.04.D	(4G0.75+(2x0.5)C +(4xAWG24)C)C	13.0	144	220
HEIDENHAIN				
CF280.UL.H501.15.04.D	(4G1.5+(2x0.75)C +(2x2x0.14+2x0.25)C)C	15.0	181	281
CF280.UL.H502.40.04.D	(4G4.0+(2x1.0)C +(2x2x0.14+2x0.25)C)C	16.5	295	407

Part No.	Hybrid technology	Hybrid manufacturer
SINAMICS S210		
CF280.UL.H300.03.04.D	SINAMICS S210	Siemens
CF280.UL.H301.07.04.D	SINAMICS S210	Siemens
CF280.UL.H304.15.04.D	SINAMICS S210	Siemens
CF280.UL.H304.25.04.D	SINAMICS S210	Siemens
IndraDrive		
CF280.UL.H400.25.05.D	IndraDrive	Bosch Rexroth
ctrlX DRIVE		
CF280.UL.H401.07.04.D	ctrlX DRIVE	Bosch Rexroth
HEIDENHAIN		
CF280.UL.H501.15.04.D	HEIDENHAIN	B&R
CF280.UL.H502.40.04.D	HEIDENHAIN	B&R

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Further cable types ▶ Page 300



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this page 24/25 and online: www.igus.eu/cf-case

Order example: CF280.UL.H101.10.04 – to your desired length (0.5m steps)
CF280.UL.H **chainflex® series** .101.10.04 **Code hybrid bus element**

Order online ▶ www.igus.eu/CF280ULH

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

EPLAN download, configurators ▶ www.igus.eu/CF280ULH

Motor cables



chainflex® cable	Jacket	Shield	Minimum bend radius e-chain® [x d]	Temperature e-chain® from/to [°C]	Approvals and standards	Oil-resistant	Torsion-resistant	v max. [m/s] unsupported	v max. [m/s] gliding	a max.	Page
Motor cables											
CF885	PVC		15	+5/+70				3		20	310
CF886	PVC	✓	15	+5/+70				3		20	312
CF210.UL	PVC	✓	10	+5/+70		✓		10	2	50	314
CF30	PVC		7.5	+5/+70		✓	✓	10	5	80	316
CF31	PVC	✓	7.5	+5/+70		✓		10	5	80	320
CF33.UL	PVC	✓	7.5	+5/+70	UL LISTED	✓		10	5	80	324 New
CF895	iguPUR		15	-20/+80		✓		3		20	328
CF896	iguPUR	✓	15	-20/+80		✓		3		20	330
CF270.UL.D	PUR	✓	10	-25/+80		✓		10	2	50	332
CF27.D	PUR	✓	7.5	-25/+80		✓		10	5	80	336
CF34.UL.D	TPE		7.5	-35/+90		✓	✓	10	6	80	340
CF35.UL	TPE	✓	7.5	-35/+90		✓		10	6	80	344
CF37.D	TPE		7.5	-35/+90		✓	✓	10	6	80	348
CF38	TPE	✓	7.5	-35/+90		✓		10	6	80	352 New
Spindle cables/Single cores											
CF885	PVC		15	+5/+70				3		20	356
CF885.PE	PVC		15	+5/+70				3		20	358
CF886	PVC	✓	15	+5/+70				3		20	360
CF270.UL.D	PUR	✓	10	-25/+80		✓		10	2	50	362
CF300.UL.D	TPE		7.5	-35/+90		✓	✓	10	6	100	364
CFPE	TPE		7.5	-35/+90		✓	✓	10	6	100	368
CF310.UL	TPE	✓	7.5	-35/+90		✓		10	6	100	370
CF330.D	TPE		7.5	-35/+90		✓	✓	10	6	100	374 New
CF340	TPE	✓	7.5	-35/+90		✓		10	6	100	376 New
Medium voltage cables											
CFCRANE.PUR	PUR	✓	10	-20/+80		✓		10	6	50	378
CFCRANE	igupren	✓	10	-20/+80		✓		10	6	50	380
Twistable motor cables (twistable cables chapter ▶ Page 382)											
CFROBOT6	PUR		10	-25/+80		✓	✓				402
CFROBOT7	PUR	✓	10	-25/+80		✓	✓				404

4-years chainflex® guarantee
Guaranteed service life for predictable reliability
▶ Selection table from page 306

www.igus.eu/chainflexlife

chainflex® guarantee ▶▶ Guaranteed service life (1)

	chainflex® cable	Temperature, from/to [°C]	v max. [m/s] unsupported	v max. [m/s] gliding	a max. [m/s²]	Travel distance [m]	Minimum bend radius [x d] 5 million (1 million) double strokes *	Minimum bend radius [x d] 7.5 million (3 million) double strokes *	Minimum bend radius [x d] 10 million (5 million) double strokes *	Page
Motor cables										
	CF885	+5 / +15 +15 / +60 +60 / +70	3	-	20	≤ 10	17.5 15 17.5	18.5 16 18.5	19.5 17 19.5	310
	CF886	+5 / +15 +15 / +60 +60 / +70	3	-	20	≤ 10	17.5 15 17.5	18.5 16 18.5	19.5 17 19.5	312
	CF210.UL	+5 / +15 +15 / +60 +60 / +70	10	2	50	≤ 10	12.5 10 12.5	13.5 11 13.5	14.5 12 14.5	314
	CF30	+5 / +15 +15 / +60 +60 / +70	10	5	80	≤ 100	10 7.5 10	11 8.5 11	12 9.5 12	316
	CF31	+5 / +15 +15 / +60 +60 / +70	10	5	80	≤ 100	10 7.5 10	11 8.5 11	12 9.5 12	320
	CF33.UL New!	+5 / +15 +15 / +60 +60 / +70	10	5	80	≤ 50	10 7.5 10	11 8.5 11	12 9.5 12	324
	CF895	-20 / -10 -10 / +70 +70 / +80	3	-	20	≤ 10	17.5 15 17.5	18.5 16 18.5	19.5 17 19.5	328
	CF896	-20 / -10 -10 / +70 +70 / +80	3	-	20	≤ 10	17.5 15 17.5	18.5 16 18.5	19.5 17 19.5	330
	CF270.UL.D	-25 / -15 -15 / +70 +70 / +80	10	2	50	≤ 10	12.5 10 12.5	13.5 11 13.5	14.5 12 14.5	332
	CF27.D	-25 / -15 -15 / +70 +70 / +80	10	5	80	≤ 100	10 7.5 10	11 8.5 11	12 8.5 12	336
	CF34.UL.D	-35 / -25 -25 / +80 +80 / +90	10	6	80	≤ 400	10 7.5 10	11 8.5 11	12 9.5 12	340
	CF35.UL	-35 / -25 -25 / +80 +80 / +90	10	6	80	≤ 400	10 7.5 10	11 8.5 11	12 9.5 12	344
							5 million	7.5 million	12.5 million	
	CF37.D	-35 / -25 -25 / +80 +80 / +90	10	6	80	≤ 400	10 7.5 10	11 8.5 11	12 9.5 12	348
	CF38 New!	-35 / -25 -25 / +80 +80 / +90	10	6	80	≤ 400	10 7.5 10	11 8.5 11	12 9.5 12	352

(1) Guaranteed service life for these series (details ▶ see page 28-29)

* Higher number of double strokes? Calculate service life online: ▶ www.igus.eu/chainflexlife
Values in brackets apply to the CF885/CF886 and CF895/CF896 series

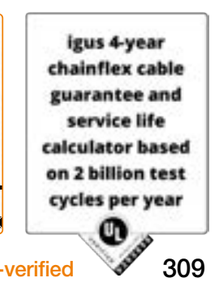
chainflex® guarantee ▶▶ Guaranteed service life (1)

	chainflex® cable	Temperature, from/to [°C]	v max. [m/s] unsupported	v max. [m/s] gliding	a max. [m/s²]	Travel distance [m]	Minimum bend radius [x d] 5 million (1 million) double strokes *	Minimum bend radius [x d] 7.5 million (3 million) double strokes *	Minimum bend radius [x d] 10 million (5 million) double strokes *	Page
Spindle cables/Single cores										
	CF885	+5 / +15	3	-	20	≤ 10	17.5	18.5	19.5	356
		+15 / +60					15	16	17	
		+60 / +70					17.5	18.5	19.5	
	CF885.PE	+5 / +15	3	-	20	≤ 10	17.5	18.5	19.5	358
		+15 / +60					15	16	17	
		+60 / +70					17.5	18.5	19.5	
	CF886	+5 / +15	3	-	20	≤ 10	17.5	18.5	19.5	360
		+15 / +60					15	16	17	
		+60 / +70					17.5	18.5	19.5	
	CF270.UL.D	-25 / -15	10	2	50	≤ 10	12.5	13.5	14.5	362
		-15 / +70					10	11	12	
		+70 / +80					12.5	13.5	14.5	
	CF300.UL.D	-35 / -25	10	6	100	≤ 400	10	11	12	364
		-25 / +80					7.5	8.5	9.5	
		+80 / +90					10	11	12	
	CFPE	-35 / -25	10	6	100	≤ 400	10	11	12	368
		-25 / +80					7.5	8.5	9.5	
		+80 / +90					10	11	12	
	CF310.UL	-35 / -25	10	6	100	≤ 400	10	11	12	370
		-25 / +80					7.5	8.5	9.5	
		+80 / +90					10	11	12	
							5 million	7.5 million	12.5 million	
	CF330.D New!	-35 / -25	10	6	100	≤ 400	10	11	12	374
		-25 / +80					7.5	8.5	9.5	
		+80 / +90					10	11	12	
	CF340 New!	-35 / -25	10	6	100	≤ 400	10	11	12	376
		-25 / +80					7.5	8.5	9.5	
		+80 / +90					10	11	12	
Medium voltage cables										
	CFCRANE.PUR	-20 / -10	10	6	50	≤ 400	12.5	13.5	14.5	378
		-10 / +70					10	11	12	
		+70 / +80					12.5	13.5	14.5	
	CFCRANE	-20 / -10	10	6	50	≤ 400	12.5	13.5	14.5	380
		-10 / +70					10	11	12	
		+70 / +80					12.5	13.5	14.5	

(1) Guaranteed service life for these series (details ▶ see page 28-29)

* Higher number of double strokes? Calculate service life online: ▶ www.igus.eu/chainflexlife
Figures in brackets refer to series CF885 and CF886





Motor cable | PVC | chainflex® CF885



Example image

5 million Double strokes guaranteed

15 x d Bend radius, e-chain®

10m Travel distance, e-chain®

- For flexing applications
- PVC outer jacket
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 15 x d
	flexible	minimum 12 x d
	fixed	minimum 8 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance TPE mixture.
Core structure	Cores wound with an optimised pitch length.
Core identification	Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L-
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains®. Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances

EPLAN download, configurators ▶ www.igus.eu/CF885

Class 3.1.1.1

Basic requirements	low 1 2 **3** 4 5 6 7 highest
Travel distance	unsupported **1** 2 3 4 5 6 ≥ 400m
Oil resistance	none **1** 2 3 4 highest
Torsion	none **1** 2 3 4 ±360°

UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶**www.igus.eu/CF885**
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	17.5	18.5	19.5
+15/+60	15	16	17
+60/+70	17.5	18.5	19.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- No torsion, Class 1
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF885.15.04	4G1.5	8.0	67	105
CF885.25.04	4G2.5	10.0	110	163
CF885.40.04	4G4.0	11.5	175	244
CF885.60.04	4G6.0	13.5	237	360
CF885.100.04	4G10	17.0	412	514
CF885.160.04	4G16	20.0	690	857

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

CF885
PVC
15 x d

Motor cable | PVC | chainflex® CF886



Example image

5 million Double strokes guaranteed

15 x d Bend radius, e-chain®

10m Travel distance, e-chain®

- For flexing applications
- PVC outer jacket
- Shielded
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 15 x d
	flexible	minimum 12 x d
	fixed	minimum 8 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance TPE mixture.
Core structure	Cores wound with an optimised pitch length.
Core identification	Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L-
Overall shield	Braiding made of tinned copper wires. Coverage approx. 60% optical
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains®. Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus.eu/CF886

Class 3.1.1.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6	≥ 400m	
Oil resistance	none	**1**	2	3	4	highest			
Torsion	none	**1**	2	3	4	±360°			

Properties and approvals

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶www.igus.eu/CF886
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	17.5	18.5	19.5
+15/+60	15	16	17
+60/+70	17.5	18.5	19.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- No torsion, Class 1
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF886.15.04	(4G1.5)C	9.0	82	119
CF886.25.04	(4G2.5)C	10.5	132	181
CF886.40.04	(4G4.0)C	12.0	204	263
CF886.60.04	(4G6.0)C	14.5	269	377
CF886.100.04	(4G10)C	18.5	458	577
CF886.160.04	(4G16)C	21.0	760	829

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

CF886
PVC
15 x d

Motor cable | PVC | chainflex® CF210.UL



Example image

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For medium duty applications
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	2m/s
a max.		50m/s²
Travel distance		Unsupported travels and up to 10m for gliding applications, Class 2

Cable structure

Conductor	Stranded conductor in bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Cores wound with high tensile strength centre elements.
Core identification	Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L-
Intermediate layer	Foil taping over the outer layer.
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Class 4.2.2.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	**2**	3	4	5	6	≥ 400m	
Oil resistance	none	1	**2**	3	4	highest			
Torsion	none	**1**	2	3	4	±360°			

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF210UL
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 2. The outer jacket material of this series complies with CF5.10.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	12.5	13.5	14.5
+15/+60	10	11	12
+60/+70	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 10m for gliding applications, Class 2
- Light oil influence, Class 2
- No torsion, Class 1
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF210.UL.05.04	(4G0.5)C	7.0	34	63
CF210.UL.15.04	(4G1.5)C	10.0	86	140
CF210.UL.25.04	(4G2.5)C	11.5	146	209
CF210.UL.40.04	(4G4.0)C	13.0	195	288

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

CF210.UL
PVC
10 x d

Motor cable | PVC | chainflex® CF30

Example image

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For heavy duty applications
- PVC outer jacket
- Oil-resistant
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5
Torsion		Torsion ±90°, with 1m cable length, Class 2

Cable structure

Conductor	**Cores <10mm²:** Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228). **Cores ≥ 10mm²:** Conductor cable consisting of pre-leads (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Cores wound with a short pitch length around a high tensile strength centre element.
Core identification	Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L- 4. Core: 4 / N
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: jet black (similar to RAL 9005)
CFRIP®	Strip cables faster: a tear strip is moulded into the outer jacket Video ▶ www.igus.eu/CFRIP

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus.eu/CF30

4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

EU2024

Class 5.5.2.2

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6	≥ 400m	
Oil resistance	none	1	**2**	3	4	highest		
Torsion	none	1	**2**	3	4	±360°		

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶www.igus.eu/CF30
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 2. The outer jacket material of this series complies with CF5.10.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	10	11	12
+15/+60	7.5	8.5	9.5
+60/+70	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 100m for gliding applications, Class 5
- Light oil influence, Class 2
- Torsion ±90°, with 1m cable length, Class 2
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units, machining units/packaging machines, quick handling, indoor cranes

CF30
PVC
7.5 x d

Motor cable | PVC | chainflex® CF30

Class 5.5.2.2

Basic requirements: low 1 2 3 4 **5** 6 7 highest
Travel distance: unsupported 1 2 3 4 **5** 6 ≥ 400m
Oil resistance: none 1 **2** 3 4 highest
Torsion: none 1 **2** 3 4 ±360°

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF30.15.04	4G1.5	8.0	61	104
CF30.25.04	4G2.5	10.0	100	166
CF30.25.05	5G2.5	11.0	124	203
CF30.40.04	4G4.0	11.5	163	249
CF30.40.05	5G4.0	12.5	204	302
CF30.60.04	4G6.0	13.5	237	343
CF30.60.05	5G6.0	15.0	297	410
CF30.100.04	4G10	16.5	407	548
CF30.100.05	5G10	19.5	515	684
CF30.160.04	4G16	20.0	646	826
CF30.160.05	5G16	23.5	815	1067
CF30.250.04	4G25	25.0	1014	1320
CF30.350.04	4G35	28.5	1439	1795
CF30.500.04 [11)]	4G50	34.0	2061	2528

[11)] Phase-out model

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Order example: CF30.15.04 – to your desired length (0.5m steps)
CF30 chainflex® series .15 Code nominal cross section .04 Number of cores

Order online ▶ www.igus.eu/CF30

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

cost down...
...life up

Reduce cost, improve technology, now!
Do the chainflex® price check ...
www.igus.eu/cf-price-check

… for example: reduce cost with CF885 ...



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

EPLAN download, configurators ▶ www.igus.eu/CF30

Motor cable | PVC | chainflex® CF31



Example image

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For heavy duty applications
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5

Cable structure

Conductor	**Cores <10mm²:** Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228). **Cores ≥ 10mm²:** Conductor cable consisting of pre-leads (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Cores wound with a short pitch length around a high tensile strength centre element.
Core identification	Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L- 4. Core: 4 / N
Inner jacket	PVC mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: jet black (similar to RAL 9005)
CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ▶ www.igus.eu/CFRIP

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus.eu/CF31

EU2024

Class 5.5.2.1

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	**2**	3	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF31
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 2. The outer jacket material of this series complies with CF5.10.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	10	11	12
+15/+60	7.5	8.5	9.5
+60/+70	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 100m for gliding applications, Class 5
- Light oil influence, Class 2
- No torsion, Class 1
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units, machining units/packaging machines, quick handling, indoor cranes

CF31
PVC
7.5 x d

Motor cable | PVC | chainflex® CF31

Class 5.5.2.1

Basic requirements	low	1 2 3 4 **5** 6 7 highest
Travel distance	unsupported	1 2 3 4 **5** 6 ≥ 400m
Oil resistance	none	1 **2** 3 4 highest
Torsion	none	**1** 2 3 4 ±360°

CF31
PVC
7.5 x d

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF31.15.04	(4G1.5)C	10.0	89	157
CF31.25.04	(4G2.5)C	11.5	133	221
CF31.25.05	(5G2.5)C	13.0	163	271
CF31.40.04	(4G4.0)C	13.0	203	300
CF31.40.05	(5G4.0)C	14.5	258	354
CF31.60.04	(4G6.0)C	16.0	288	455
CF31.60.05	(5G6.0)C	17.0	356	532
CF31.100.04	(4G10)C	18.5	468	670
CF31.100.05	(5G10)C	21.5	609	857
CF31.160.04	(4G16)C	23.0	738	1035
CF31.250.04	(4G25)C	27.5	1153	1586
CF31.350.04	(4G35)C	31.0	1592	2104
CF31.500.04	(4G50)C	36.5	2224	2902
CF31.700.04	(4G70)C	43.0	3203	4173

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



chainflex® CF31 motor cable in a fast picker

Order example: CF31.15.04 – to your desired length (0.5m steps)
CF31 chainflex® series .15 Code nominal cross section .04 Number of cores

Order online ▶ www.igus.eu/CF31

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

EPLAN download, configurators ▶ www.igus.eu/CF31

PVC | iguPUR | PUR | TPE

New

Motor cable | PVC | chainflex® CF33.UL

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

50m
Travel distance, e-chain®

- For heavy duty applications
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant
- Flexible Motor Supply Cable according to UL 2277

UL:
- Flexible Motor Supply Cable UL 2277
- XHHW-2 UL 44 ≥2.5mm²
- FFHH-2 UL 66 ≤1.5mm²
- TC UL 1277
- AWM 20886

Specifications:
- OIL RES I / SUN RES I
- 90°C wet ≥2.5mm²
- 90°C dry ≥2.5mm²
- 75°C dry ≤1.5mm²
- DIR BUR ≥2.5mm²

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 50m for gliding applications, Class 4

Cable structure

Conductor	**Cores <10mm²:** Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228). **Cores ≥ 10mm²:** Conductor cable consisting of pre-leads (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Cores wound with a short pitch length around a high tensile strength centre element.
Core identification	Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L- 4. Core: 4 / N
Inner jacket	PVC mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: jet black (similar to RAL 9005)
CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ▶ www.igus.eu/CFRIP

Electrical information

Nominal voltage	600/1,000 V (following DIN VDE 0298-3) 1,000V TC, 1,000V AWM
Testing voltage	4,000V (following DIN EN 50395)



Example image

EPLAN download, configurators ▶ www.igus.eu/CF33UL

4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

EU2024

Class 5.4.2.1

Basic requirements	low	1	2	3	4	**5**	6	7 highest
Travel distance	unsupported	1	2	3	**4**	5	6	≥ 400m
Oil resistance	none	1	**2**	3	4	highest		
Torsion	none	**1**	2	3	4	±360°		

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year”
UL listed	Flexible Motor Supply Cable UL 2277, XHHW-2 UL 44, FFHH-2 UL 66, TC UL 1277
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF33UL
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 2. The outer jacket material of this series complies with CF5.10.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	10	11	12
+15/+60	7.5	8.5	9.5
+60/+70	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- Flexible Motor Supply Cable according to UL 2277 for continuous movement in energy chains
- For heavy-duty applications, Class 5
- Unsupported travels and up to 50m for gliding applications, Class 4
- Light oil influence, Class 2
- No torsion, Class 1
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units, machining units/packaging machines, quick handling, indoor cranes

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

CF33.UL
PVC
7.5 x d

PVC | iguPUR | PUR | TPE

New

Motor cable | PVC | chainflex® CF33.UL

Strip cables 50% faster with CFRIP® tear strip

Class 5.4.2.1

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	**4**	5	6		≥ 400m
Oil resistance	none	1	**2**	3	4		highest		
Torsion	none	**1**	2	3	4		±360°		



Example image

	Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
New	**CF33.UL.15.04**	(4G1.5)C	12.5	99	214
New	**CF33.UL.25.04**	(4G2.5)C	13.5	144	279
New	**CF33.UL.40.04**	(4G4.0)C	16.5	211	391
New	**CF33.UL.60.04**	(4G6.0)C	20.0	320	605
New	**CF33.UL.100.04**	(4G10)C	24.0	500	870
New	**CF33.UL.160.04**	(4G16)C	28.0	781	1276
New	**CF33.UL.250.04**	(4G25)C	32.0	1173	1783

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Order example: CF33.UL.15.04 – to your desired length (0.5m steps)
CF33.UL chainflex® series .15 Code nominal cross section .04 Number of cores

Order online ▶ www.igus.eu/CF33UL

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

The first listed motor cable for the e-chain®

There is always a lot of confusion in the market when it comes to “UL for cables”. There are basically two terms that need to be distinguished:

UR = UL Recognized (AWM)
UL = UL Listing

The good thing that can be said, however, is that “UL Recognized” or AWM cables are no better or worse than UL-listed cables. AWM is another type of UL certification. This allows a greater variance than UL-listed cables. And this variety of AWM cables enables customers to better cover a wide range of applications, especially in the moving/dynamic application area.

This is completely different from the UL-listed cables. These certifications offer a very limited structure and therefore less application variance. This is because the cables are usually only defined and certified for very specific applications. In Europe, this can be compared very well with the term “harmonised cables”. Here too, there are clear standards and application limitations. In order to meet customer requests for listed motor cables, igus® is now offering a UL-listed shielded motor cable for the first time.

This so-called “Flexible Motor Supply Cable according to UL 2277” has additionally been developed and tested for continuous use in the energy chain.

What is special about the igus® solution?
Actually, these listed cables are often only intended for fixed installation or occasional movement. UL approval for continuously moving energy chain cables has not existed up to now!

The chainflex® design in combination with the special approvals, now offers for the first time a listed TC-UL-2277 motor cable for continuous motion in an energy chain!

The advantage is that once the energy chain has been installed, the customer can simply continue laying the cable on the cable rack. And you no longer have to provide an interface between the energy chain and the cable tray, as was the case in the past.

The CF33.UL motor cable expands the chainflex® range of shielded PVC motor cables. And thanks to the 3,800m²-large chainflex® test laboratory, you will also receive precise information about the service life of the energy chain for this cable with a four-year chainflex® guarantee! Unlike all other UL-listed cables available on the market.

UL® LISTED

EPLAN download, configurators ▶ www.igus.eu/CF33UL

CF33.UL
PVC
7.5 x d

Motor cable | iguPUR | chainflex® CF895



Example image

5 million
Double strokes guaranteed

15 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- iguPUR outer jacket
- Oil-resistant
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 15 x d
	flexible	minimum 12 x d
	fixed	minimum 8 x d
Temperature	**e-chain® linear**	-20°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance TPE mixture.
Core structure	Cores wound with an optimised pitch length.
Core identification	Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L-
Outer jacket	Low-adhesion iguPUR mixture, adapted to suit the requirements in e-chains®. Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus.eu/CF895

Class 3.1.3.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6	≥ 400m	
Oil resistance	none	1	2	**3**	4	highest			
Torsion	none	**1**	2	3	4	±360°			

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF895
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-20/-10	17.5	18.5	19.5
-10/+70	15	16	17
+70/+80	17.5	18.5	19.5

* Higher number of double strokes? Service life calculation online ▶www.igus.eu/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- With influence of oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF895.15.04	4G1.5	8.0	67	101
CF895.25.04	4G2.5	10.0	110	153
CF895.40.04	4G4.0	11.5	175	239
CF895.60.04	4G6.0	13.5	262	353
CF895.100.04	4G10	17.0	436	543
CF895.160.04	4G16	20.0	653	824

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

CF895
iguPUR
15 x d

Motor cable | iguPUR | chainflex® CF896



Example image

5 million
Double strokes guaranteed

15 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- iguPUR outer jacket
- Oil-resistant
- Shielded
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 15 x d
	flexible	minimum 12 x d
	fixed	minimum 8 x d
Temperature	**e-chain® linear**	-20°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance TPE mixture.
Core structure	Cores wound with an optimised pitch length.
Core identification	Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L-
Overall shield	Braiding made of tinned copper wires. Coverage approx. 60% optical
Outer jacket	Low-adhesion iguPUR mixture, adapted to suit the requirements in e-chains®. Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus.eu/CF896

Class 3.1.3.1

Basic requirements	low	1	2	**3**	4	5	6	7 highest
Travel distance	unsupported	**1**	2	3	4	5	6	≥ 400m
Oil resistance	none	1	2	**3**	4	highest		
Torsion	none	**1**	2	3	4	±360°		

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF896
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-20/-10	17.5	18.5	19.5
-10/+70	15	16	17
+70/+80	17.5	18.5	19.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- With influence of oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF896.07.04	(4G0.75)C	7.5	52	79
CF896.15.04	(4G1.5)C	9.0	82	122
CF896.25.04	(4G2.5)C	10.5	132	173
CF896.40.04	(4G4.0)C	12.0	204	257
CF896.60.04	(4G6.0)C	14.5	306	378
CF896.100.04	(4G10)C	18.5	458	653
CF896.160.04	(4G16)C	21.0	709	835

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

CF896
iguPUR
15 x d

PVC | iguPUR | **PUR** | TPE

Motor cable | PUR | chainflex® CF270.UL.D



Example image

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For medium duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Notch-resistant
- Flame-retardant
- Hydrolysis and microbe-resistant
- PVC and halogen-free

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	2m/s
a max.		50m/s²
Travel distance		Unsupported travels and up to 10m for gliding applications, Class 2

Cable structure

Conductor	Stranded conductor in bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Cores wound with high tensile strength centre elements.
Core identification	Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L-
Intermediate layer	Foil taping over the outer layer.
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus.eu/CF270ULD

4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 4.2.3.1

Basic requirements	low	1	2	3	**4**	5	6	7 highest
Travel distance	unsupported	1	**2**	3	4	5	6	≥ 400m
Oil resistance	none	1	2	**3**	4	highest		
Torsion	none	**1**	2	3	4	±360°		

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ **www.igus.eu/CF270ULD**
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-25/-15	12.5	13.5	14.5
-15/+70	10	11	12
+70/+80	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 10m for gliding applications, Class 2
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

UL-verified chainflex® guarantee ... www.igus.eu/ul-verified

CF270.UL.D
PUR
10 x d

PVC | iguPUR | **PUR** | TPE

Motor cable | PUR | chainflex® CF270.UL.D

Class 4.2.3.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	**2**	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°

CF270.UL.D
PUR
10 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF270.UL.07.04.D	(4G0.75)C	8.0	47	81
CF270.UL.10.06.D	(6G1.0)C	9.5	87	133
CF270.UL.15.04.D	(4G1.5)C	9.0	78	116
CF270.UL.25.04.D	(4G2.5)C	10.5	129	173
CF270.UL.40.04.D	(4G4.0)C	12.5	193	255
CF270.UL.60.04.D	(4G6.0)C	14.5	297	356
CF270.UL.100.04.D	(4G10)C	17.0	495	551
CF270.UL.160.04.D	(4G16)C	20.5	755	819
CF270.UL.250.04.D	(4G25)C	25.0	1117	1256
CF270.UL.350.04.D	(4G35)C	28.0	1597	1696

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



chainflex® CF270.UL.D motor cable in a system for sharpening knives

Order example: CF270.UL.07.04.D – to your desired length (0.5m steps)
CF270.UL.D chainflex® series .07 Code nominal cross section .04 Number of cores

Order online ▶ www.igus.eu/CF270ULD

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

chainflex CASE

Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

cost down...
...life up

Reduce cost, improve technology, now!
Do the chainflex® price check ...
www.igus.eu/cf-price-check

… for example: reduce cost with CF31 ...

EPLAN download, configurators ▶ www.igus.eu/CF270ULD

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Motor cable | PUR | chainflex® CF27.D



Example image

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For extremely heavy duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Notch-resistant
- Flame-retardant
- Hydrolysis and microbe-resistant
- PVC and halogen-free

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Cores wound around a high tensile strength centre element.
Core identification	Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L-
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Pastel orange (similar to RAL 2003)
CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ▶ www.igus.eu/CFRIP

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

EU2024

Class 6.5.3.1

Basic requirements	low	1	2	3	4	5	**6**	7 highest
Travel distance	unsupported	1	2	3	4	**5**	6	≥ 400m
Oil resistance	none	1	2	**3**	4	highest		
Torsion	none	**1**	2	3	4	±360°		

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF27D
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003XA
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-25/-15	10	11	12
-15/+70	7.5	8.5	9.5
+70/+80	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 100m for gliding applications, Class 5
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

CF27.D
PUR
7.5 x d

PVC | iguPUR | **PUR** | TPE

Motor cable | PUR | chainflex® CF27.D

Strip cables 50% faster with CFRIP® tear strip

Class 6.5.3.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6	≥ 400m	
Oil resistance	none	1	2	**3**	4	highest			
Torsion	none	**1**	2	3	4	±360°			



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF27.07.04.D	(4G0.75)C	9.5	55	115
CF27.15.04.D	(4G1.5)C	11.0	90	165
CF27.25.04.D	(4G2.5)C	12.5	135	231
CF27.500.04.D	(4G50)C	37.0	2244	2817

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Order example: CF27.07.04.D – to your desired length (0.5m steps)
CF27.D chainflex® series .07 Code nominal cross section .04 Number of cores

Order online ▶ www.igus.eu/CF27D

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

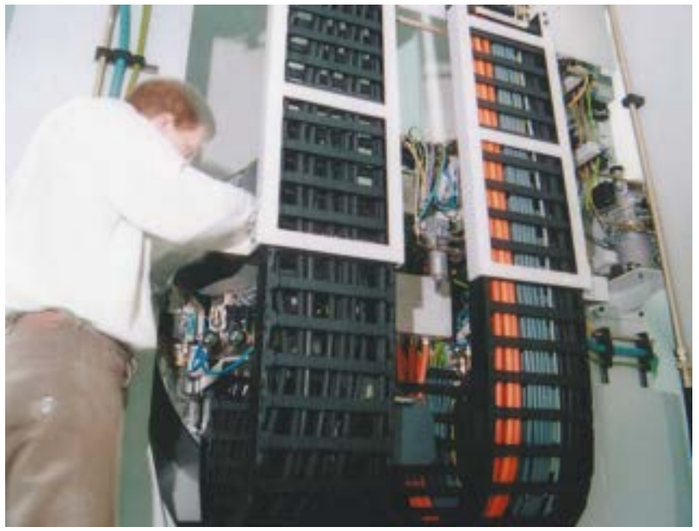
cost down...



...life up

Reduce cost, improve technology, now!
Do the chainflex® price check ...
www.igus.eu/cf-price-check

... here's an idea for you: highest abrasion resistance with CF38 ...



Modular design, easy to retrofit: igus® E4 e-chain® and chainflex® cables.

EPLAN download, configurators ▶ www.igus.eu/CF27D

Motor cable | TPE | chainflex® CF34.UL.D

Example image

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For extremely heavy duty applications
- TPE outer jacket
- Oil and bio-oil-resistant
- Flame-retardant
- UV-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-45°C up to +90°C (following DIN EN 60811-504)
	fixed	-50°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6
Torsion		Torsion ±90°, with 1m cable length, Class 2

Cable structure

Conductor	**Cores <10mm²:** Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228). **Cores ≥ 10mm²:** Conductor cable consisting of pre-leads (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Cores wound with a short pitch length around a high tensile strength centre element.
Core identification	Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L- 4. Core: 4 / N
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Signal black (similar to RAL 9004)
CFRIP®	Strip cables faster: a tear strip is moulded into the outer jacket Video ▶www.igus.eu/CFRIP

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus.eu/CF34ULD

Class 6.6.4.2

Basic requirements	low	1	2	3	4	5	**6**	7 highest
Travel distance	unsupported	1	2	3	4	5	**6**	≥ 400m
Oil resistance	none	1	2	3	**4**	highest		
Torsion	none	1	**2**	3	4	±360°		

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF34ULD
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003X9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1, material/cable tested by IPA according to DIN EN ISO standard 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-35/-25	10	11	12
-25/+80	7.5	8.5	9.5
+80/+90	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 1m cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

Motor cable | TPE | chainflex® CF34.UL.D

Strip cables 50% faster with CFRIP® tear strip

Basic requirements: low 1 2 3 4 5 **6** 7 highest
Travel distance: unsupported 1 2 3 4 5 **6** ≥ 400m
Oil resistance: none 1 2 3 **4** highest
Torsion: none 1 **2** 3 4 ±360°

Class 6.6.4.2



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF34.UL.15.04.D	4G1.5	8.0	61	102
CF34.UL.25.04.D	4G2.5	10.0	100	159
CF34.UL.40.04.D	4G4.0	11.5	163	236
CF34.UL.60.04.D	4G6.0	13.5	237	332
CF34.UL.60.05.D	5G6.0	15.0	297	406
CF34.UL.100.04.D	4G10	16.5	407	537
CF34.UL.100.05.D	5G10	19.5	515	670
CF34.UL.160.04.D	4G16	20.0	646	819
CF34.UL.160.05.D	5G16	22.5	815	1009
CF34.UL.250.04.D	4G25	24.5	1014	1271

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Order example: CF34.UL.15.04.D - to your desired length (0.5m steps)
CF34.UL.D chainflex® series .15 Code nominal cross section .04 Number of cores

Order online ▶ www.igus.eu/CF34ULD

Delivery time 24hrs or today.
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cost down...
...life up

Reduce cost, improve technology, now!
Do the chainflex® price check ...
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… for example: reduce cost with CF300.UL.D ...

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Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.
More on this on page 24/25 and online: www.igus.eu/cf-case

EPLAN download, configurators ▶ www.igus.eu/CF34ULD

CF34.UL.D
TPE
7.5 x d

Motor cable | TPE | chainflex® CF35.UL



Example image

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For extremely heavy duty applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- Flame-retardant
- UV-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-45°C up to +90°C (following DIN EN 60811-504)
	fixed	-50°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6

Cable structure

Conductor	**Cores <10mm²:** Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228). **Cores ≥ 10mm²:** Conductor cable consisting of pre-leads (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Cores wound with a short pitch length around a high tensile strength centre element.
Core identification	Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L- 4. Core: 4 / N
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Signal black (similar to RAL 9004)
CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ▶ www.igus.eu/CFRIP

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus.eu/CF35UL

CF35.UL
TPE
7.5 x d

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	**6**	7 highest
Travel distance	unsupported	1	2	3	4	5	**6**	≥ 400m
Oil resistance	none	1	2	3	**4**	highest		
Torsion	none	**1**	2	3	4	±360°		

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF35UL
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003X9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF34.UL.25.04.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-35/-25	10	11	12
-25/+80	7.5	8.5	9.5
+80/+90	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

Motor cable | TPE | chainflex® CF35.UL

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	5	**6**		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	**1**	2	3	4				±360°

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF35.UL.05.04	(4G0.5)C	7.5	42	79
CF35.UL.07.04	(4G0.75)C	8.0	58	90
CF35.UL.15.04	(4G1.5)C	10.0	89	146
CF35.UL.25.04	(4G2.5)C	11.5	133	207
CF35.UL.40.04	(4G4.0)C	13.0	203	290
CF35.UL.60.04	(4G6.0)C	16.0	288	423
CF35.UL.100.04	(4G10)C	18.5	468	632
CF35.UL.160.04	(4G16)C	23.0	738	974
CF35.UL.250.04	(4G25)C	27.5	1153	1481
CF35.UL.60.03.O.PE [11)]	(3x6.0)C	14.5	229	344
CF35.UL.250.03.O.PE [11)]	(3x25)C	24.5	880	1163

[11)] Phase-out model

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Order example: CF35.UL.05.04 - to your desired length (0.5m steps)
CF35.UL chainflex® series .05 Code nominal cross section .04 Number of cores

Order online ▶ www.igus.eu/CF35UL

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...life up

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… for example: reduce cost with CF310.UL ...



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EPLAN download, configurators ▶ www.igus.eu/CF35UL

CF35.UL
TPE
7.5 x d

PVC | iguPUR | PUR | **TPE**

Motor cable | TPE | chainflex® CF37.D

12.5 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For heaviest duty applications
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant

Now available with UL approval & 25% longer service life



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-50°C up to +90°C (following DIN EN 60811-504)
	fixed	-55°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6
Torsion		Torsion ±90°, with 1m cable length, Class 2

Cable structure

Conductor
Cores <10mm²: Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Cores ≥ 10mm²: Conductor cable consisting of pre-leads (following DIN EN 60228).

Core insulation
Mechanically high-quality, especially low-capacitance XLPE mixture.

Core structure
Cores wound with a short pitch length around a high tensile strength centre element.

Core identification
Black cores with white numbers, one green-yellow core.
1. Core: U / L1 / C / L+ 2. Core: V / L2
3. Core: W / L3 / D / L- 4. Core: 4 / N

Outer jacket
Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®.
Colour: jet black (similar to RAL 9005)

CFRIP®
Strip cables faster: a tear strip is moulded into the outer jacket
Video ▶ www.igus.eu/CFRIP

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus.eu/CF37D

EU2024

Class 7.6.4.2

Basic requirements	low	1	2	3	4	5	6	**7**	highest
Travel distance	unsupported	1	2	3	4	5	**6**	≥ 400m	
Oil resistance	none	1	2	3	**4**	highest			
Torsion	none	1	**2**	3	4	±360°			

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL AWM	See data sheet for details ▶ www.igus.eu/CF37D
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	12.5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-35/-25	10	11	12
-25/+80	7.5	8.5	9.5
+80/+90	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 7
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 1m cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

CF37.D
TPE
7.5 x d

Motor cable | TPE | chainflex® CF37.D

Class 7.6.4.2

Basic requirements	low	1	2	3	4	5	6	**7**	highest
Travel distance	unsupported	1	2	3	4	5	**6**		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	1	**2**	3	4				±360°

CF37.D
TPE
7.5 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF37.15.04.D	4G1.5	8.0	61	95
CF37.25.04.D	4G2.5	10.0	100	149
CF37.40.04.D	4G4.0	11.5	163	221
CF37.60.04.D	4G6.0	13.5	237	317
CF37.60.05.D	5G6.0	15.0	297	387
CF37.100.04.D	4G10	16.5	407	503
CF37.100.05.D	5G10	19.0	515	634
CF37.160.04.D	4G16	20.0	646	773
CF37.160.05.D	5G16	22.5	815	963
CF37.250.04.D	4G25	24.0	1014	1203
CF37.500.03.O.PE.D [11)]	3x50	30.0	1530	1826

[11)] Phase-out model **Note:** The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Order example: CF37.15.04.D - to your desired length (0.5m steps)
CF37.D chainflex® series .15 Code nominal cross section .04 Number of cores

Order online ▶ www.igus.eu/CF37D

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Delivery time means time until goods are shipped.



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EPLAN download, configurators ▶ www.igus.eu/CF37D

PVC | iguPUR | PUR | **TPE**

New

Motor cable | TPE | chainflex® CF38



Example image

12.5 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For heaviest duty applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-50°C up to +90°C (following DIN EN 60811-504)
	fixed	-55°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6

Cable structure

Conductor
Cores <10mm²: Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Cores ≥ 10mm²: Conductor cable consisting of pre-leads (following DIN EN 60228).

Core insulation
Mechanically high-quality, especially low-capacitance XLPE mixture.

Core structure
Cores wound with a short pitch length around a high tensile strength centre element.

Core identification
Black cores with white numbers, one green-yellow core.
1. Core: U / L1 / C / L+ 2. Core: V / L2
3. Core: W / L3 / D / L- 4. Core: 4 / N

Inner jacket
TPE mixture adapted to suit the requirements in e-chains®.

Overall shield
Extremely bending-resistant braiding made of tinned copper wires.
Coverage linear approx. 70%, optical approx. 90%

Outer jacket
Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®.
Colour: jet black (similar to RAL 9005)

CFRIP®
Strip cables faster: a tear strip is moulded into the inner jacket
Video ▶ www.igus.eu/CFRIP

Electrical information

Nominal voltage
600/1,000V (following DIN VDE 0298-3)
1,000V (following UL)

Testing voltage
4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus.eu/CF38

EU2024

Class 7.6.4.1

Basic requirements	low	1	2	3	4	5	6	**7**	highest
Travel distance	unsupported	1	2	3	4	5	**6**		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL AWM	See data sheet for details ▶www.igus.eu/CF38
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	12.5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-35/-25	10	11	12
-25/+80	7.5	8.5	9.5
+80/+90	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 7
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

CF38
TPE
7.5 x d

PVC | iguPUR | PUR | TPE

Motor cable | TPE | chainflex® CF38

New

Class 7.6.4.1

Basic requirements	low	1	2	3	4	5	6	**7**	highest
Travel distance	unsupported	1	2	3	4	5	**6**		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	**1**	2	3	4				±360°

CF38
TPE
7.5 x d



Example image

	Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
	CF38.15.04	(4G1.5)C	10.0	89	140
	CF38.25.04	(4G2.5)C	11.5	133	198
	CF38.40.04	(4G4.0)C	13.0	203	280
	CF38.60.04	(4G6.0)C	16.0	288	409
	CF38.100.04	(4G10)C	18.5	468	613
	CF38.160.04	(4G16)C	23.0	738	943
	CF38.250.04	(4G25)C	27.0	1153	1432
New	**CF38.60.03.O.PE**	(3x6.0)C	14.5	229	328
	CF38.100.03.O.PE	(3x10)C	17.0	358	494
	CF38.160.03.O.PE	(3x16)C	20.5	565	762
New	**CF38.250.03.O.PE**	(3x25)C	24.5	879	1121
	CF38.500.03.O.PE	(3x50)C	33.0	1714	2129

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Order example: CF38.15.04 - to your desired length (0.5m steps)
CF38 chainflex® series .15 Code nominal cross section .04 Number of cores

Order online ▶ www.igus.eu/CF38

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Cables available in the chainflex® CASE

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More on this page 24/25 and online: www.igus.eu/cf-case

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Spindle cable/Single core | PVC | chainflex® CF885

5 million
Double strokes guaranteed

15 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- PVC outer jacket
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 15 x d
	flexible	minimum 12 x d
	fixed	minimum 8 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality PVC mixture.
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains®. Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 600V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF885
NFPA	Following NFPA 79-2018, chapter 12.9



Example image

EPLAN download, configurators ▶ www.igus.eu/CF885

Class 3.1.1.1

Basic requirements	low	1	2	**3**	4	5	6	7 highest
Travel distance	unsupported	**1**	2	3	4	5	6	≥ 400m
Oil resistance	none	**1**	2	3	4	highest		
Torsion	none	**1**	2	3	4	±360°		

REACH — In accordance with regulation (EC) No. 1907/2006 (REACH)

Lead-free — Following 2011/65/EC (RoHS-II/RoHS-III)

CE — Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	17.5	18.5	19.5
+15/+60	15	16	17
+60/+70	17.5	18.5	19.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- No torsion, Class 1
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF885.40.01	1x4.0	7.5	41	78
CF885.60.01	1x6.0	8.0	61	100
CF885.100.01	1x10	9.5	100	157
CF885.160.01	1x16	11.5	159	237
CF885.250.01	1x25	12.5	248	325
CF885.350.01	1x35	15.0	347	474
CF885.500.01	1x50	16.5	495	644
CF885.700.01	1x70	18.5	686	844
CF885.950.01	1x95	20.5	931	1024

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this page 24/25 and online: www.igus.eu/cf-case

Spindle cable/Single core | PVC | chainflex® CF885.PE

5 million
Double strokes guaranteed

15 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- PVC outer jacket
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 15 x d
	flexible	minimum 12 x d
	fixed	minimum 8 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality PVC mixture.
Core identification	Green-yellow
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains®. Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 600V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF885PE

EPLAN download, configurators ▶ www.igus.eu/CF885PE

4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 3.1.1.1

Basic requirements	low 1 2 **3** 4 5 6 7 highest
Travel distance	unsupported **1** 2 3 4 5 6 ≥ 400m
Oil resistance	none **1** 2 3 4 highest
Torsion	none **1** 2 3 4 ±360°

NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	17.5	18.5	19.5
+15/+60	15	16	17
+60/+70	17.5	18.5	19.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- No torsion, Class 1
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF885.PE.25.01	1G2.5	6.5	25	59
CF885.PE.40.01	1G4.0	7.5	61	83
CF885.PE.60.01	1G6.0	8.0	61	100
CF885.PE.100.01	1G10	9.5	100	155
CF885.PE.160.01	1G16	11.0	159	226
CF885.PE.250.01	1G25	12.5	248	342

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

chainflex CASE

Cables available in the chainflex® CASE

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Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

CF885.PE
PVC
15 x d

Spindle cable/Single core | PVC | chainflex® CF886

5 million
Double strokes guaranteed

15 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- PVC outer jacket
- Shielded
- Flame-retardant



Example image

Dynamic information

Bend radius	e-chain® linear	minimum 15 x d
	flexible	minimum 12 x d
	fixed	minimum 8 x d
Temperature	e-chain® linear	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	unsupported	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality PVC mixture.
Overall shield	Braiding made of tinned copper wires. Coverage approx. 60% optical
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains®. Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 600V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"

EPLAN download, configurators ▶ www.igus.eu/CF886

EU2024

Class 3.1.1.1

Basic requirements	low	1	2	**3**	4	5	6	7 highest
Travel distance	unsupported	**1**	2	3	4	5	6	≥ 400m
Oil resistance	none	**1**	2	3	4	highest		
Torsion	none	**1**	2	3	4	±360°		

UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF886
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	17.5	18.5	19.5
+15/+60	15	16	17
+60/+70	17.5	18.5	19.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- No torsion, Class 1
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF886.160.01	(1x16)C	11.5	186	262
CF886.250.01	(1x25)C	13.0	280	363
CF886.350.01	(1x35)C	15.5	394	535

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

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Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

CF886
PVC
15 x d

PVC | iguPUR | **PUR** | TPE

Spindle cable/Single core | PUR | chainflex® CF270.UL.D

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For medium duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Notch-resistant
- Flame-retardant
- Hydrolysis and microbe-resistant
- PVC and halogen-free



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	2m/s
a max.		50m/s²
Travel distance		Unsupported travels and up to 10m for gliding applications, Class 2

Cable structure

Conductor	Conductor cable consisting of pre-leads (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)

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EU2024

Class 4.2.3.1

Basic requirements	low 1 2 3 **4** 5 6 7 highest
Travel distance	unsupported 1 **2** 3 4 5 6 ≥ 400m
Oil resistance	none 1 2 **3** 4 highest
Torsion	none **1** 2 3 4 ±360°

Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CF270ULD
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-25/-15	12.5	13.5	14.5
-15/+70	10	11	12
+70/+80	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 10m for gliding applications, Class 2
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF270.UL.60.01.D	(1x6.0)C	7.5	72	95
CF270.UL.100.01.D	(1x10)C	8.5	114	145
CF270.UL.160.01.D	(1x16)C	9.5	178	209
CF270.UL.250.01.D	(1x25)C	11.0	269	304
CF270.UL.350.01.D	(1x35)C	13.0	374	419
CF270.UL.500.01.D	(1x50)C	15.0	525	579
CF270.UL.700.01.D	(1x70)C	17.0	751	804

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

CF270.UL.D
PUR
10 x d

Spindle cable/Single core | TPE | chainflex® CF300.UL.D

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For extremely heavy duty applications
- TPE outer jacket
- Oil and bio-oil-resistant
- Flame-retardant
- UV-resistant
- Hydrolysis and microbe-resistant



Example image

Dynamic information

Bend radius	e-chain® linear	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	e-chain® linear	-35°C up to +90°C
	flexible	-45°C up to +90°C (following DIN EN 60811-504)
	fixed	-50°C up to +90°C (following DIN EN 50305)
v max.	unsupported	10m/s
	gliding	6m/s
a max.		100m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6
Torsion		Torsion ±90°, with 1m cable length, Class 2

Cable structure

Conductor	Conductor cable consisting of pre-leads (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Signal black (similar to RAL 9004)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus.eu/CF300ULD

Class 6.6.4.2

Basic requirements	low	1	2	3	4	5	**6**	7 highest
Travel distance	unsupported	1	2	3	4	5	**6**	≥ 400m
Oil resistance	none	1	2	3	**4**	highest		
Torsion	none	1	**2**	3	4	±360°		

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ **www.igus.eu/CF300ULD**
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003XC
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF34.UL.25.04.D - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-35/-25	10	11	12
-25/+80	7.5	8.5	9.5
+80/+90	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 1m cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

CF300.UL.D
TPE
7.5 x d

Spindle cable/Single core | TPE | chainflex® CF300.UL.D

Class 6.6.4.2

Basic requirements	low	1	2	3	4	5	**6**	7 highest
Travel distance	unsupported	1	2	3	4	5	**6**	≥ 400m
Oil resistance	none	1	2	3	**4**	highest		
Torsion	none	1	**2**	3	4	±360°		

CF300.UL.D
TPE
7.5 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF300.UL.40.01.D	1x4.0	6.0	41	59
CF300.UL.60.01.D	1x6.0	7.0	61	83
CF300.UL.100.01.D	1x10	7.5	100	124
CF300.UL.160.01.D	1x16	9.5	159	195
CF300.UL.250.01.D	1x25	11.5	248	294
CF300.UL.350.01.D	1x35	12.5	347	395
CF300.UL.500.01.D	1x50	14.5	495	551
CF300.UL.700.01.D	1x70	16.5	710	769
CF300.UL.950.01.D	1x95	20.0	936	1042
CF300.UL.1200.01.D	1x120	21.5	1184	1295
CF300.UL.1500.01.D	1x150	23.5	1469	1579
CF300.UL.1850.01.D	1x185	26.5	1928	2052

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Order example: CF300.UL.40.01.D - to your desired length (0.5m steps)
CF300.UL.D chainflex® series .40 Code nominal cross section .01 Number of cores

Order online ▶ www.igus.eu/CF300ULD

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

EPLAN download, configurators ▶ www.igus.eu/CF300ULD

Spindle cable/Single core | TPE | chainflex® CFPE

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For extremely heavy duty applications
- TPE outer jacket
- Oil and bio-oil-resistant
- Flame-retardant
- UV-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-45°C up to +90°C (following DIN EN 60811-504)
	fixed	-50°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		100m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6
Torsion		Torsion ±90°, with 1m cable length, Class 2

Cable structure

Conductor	Conductor cable consisting of pre-leads (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core identification	Green-yellow
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Signal black (similar to RAL 9004)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances



Example image

EPLAN download, configurators ▶ www.igus.eu/CFPE

Class 6.6.4.2

Basic requirements	low	1 2 3 4 5 **6** 7 highest
Travel distance	unsupported	1 2 3 4 5 **6** ≥ 400m
Oil resistance	none	1 2 3 **4** highest
Torsion	none	1 **2** 3 4 ±360°

UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year" See data sheet for details ▶**www.igus.eu/CFPEE**
UL/CSA AWM	
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003XC
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF34.UL.25.04.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-35/-25	10	11	12
-25/+80	7.5	8.5	9.5
+80/+90	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 1m cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFPE.15.01	1G1.5	4.5	16	31
CFPE.25.01	1G2.5	5.5	25	42
CFPE.40.01	1G4.0	6.0	41	59
CFPE.60.01	1G6.0	7.0	61	83
CFPE.100.01	1G10	7.5	100	124
CFPE.160.01	1G16	9.5	159	195
CFPE.250.01	1G25	11.5	248	294
CFPE.350.01	1G35	12.5	347	395
CFPE.500.01	1G50	14.5	495	551
CFPE.700.01	1G70	16.5	725	813
CFPE.950.01	1G95	20.0	936	1080

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

CFPE
TPE
7.5 x d

Spindle cable/Single core | TPE | chainflex® CF310.UL

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For extremely heavy duty applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- Flame-retardant
- UV-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-45°C up to +90°C (following DIN EN 60811-504)
	fixed	-50°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		100m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6

Cable structure

Conductor	Conductor cable consisting of pre-leads (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Signal black (similar to RAL 9004)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)



Example image

EPLAN download, configurators ▶ www.igus.eu/CF310UL

4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	**6**	7 highest
Travel distance	unsupported	1	2	3	4	5	**6**	≥ 400m
Oil resistance	none	1	2	3	**4**	highest		
Torsion	none	**1**	2	3	4	±360°		

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ **www.igus.eu/CF310UL**
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003XC
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF34.UL.25.04.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-35/-25	10	11	12
-25/+80	7.5	8.5	9.5
+80/+90	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

CF310.UL
TPE
7.5 x d

UL-verified chainflex® guarantee ... www.igus.eu/ul-verified

Spindle cable/Single core | TPE | chainflex® CF310.UL

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	5	**6**		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	**1**	2	3	4				±360°

CF310.UL
TPE
7.5 x d



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF310.UL.25.01	(1x2.5)C	6.0	41	58
CF310.UL.40.01	(1x4.0)C	6.5	57	77
CF310.UL.60.01	(1x6.0)C	7.0	80	101
CF310.UL.100.01	(1x10)C	8.5	121	146
CF310.UL.160.01	(1x16)C	10.0	184	223
CF310.UL.250.01	(1x25)C	12.0	280	329
CF310.UL.350.01	(1x35)C	13.0	395	444
CF310.UL.500.01	(1x50)C	15.0	536	587
CF310.UL.700.01	(1x70)C	18.0	779	851
CF310.UL.950.01	(1x95)C	21.0	1015	1125
CF310.UL.1200.01	(1x120)C	22.0	1270	1378
CF310.UL.1500.01	(1x150)C	24.5	1592	1700
CF310.UL.1850.01	(1x185)C	27.5	2066	2189

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Order example: CF310.UL.25.01 - to your desired length (0.5m steps)
CF310.UL chainflex® series .25 Code nominal cross section .01 Number of cores

Order online ▶ www.igus.eu/CF310UL

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

EPLAN download, configurators ▶ www.igus.eu/CF310UL

PVC | iguPUR | PUR | TPE

Spindle cable/Single core | TPE | chainflex® CF330.D

New

12.5 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For heaviest duty applications
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant

Now available with UL approval & 25% longer service life



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-50°C up to +90°C (following DIN EN 60811-504)
	fixed	-55°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.	100m/s²	
Travel distance	Unsupported travels and up to 400m and more for gliding applications, Class 6	
Torsion	Torsion ±90°, with 1m cable length, Class 2	

Cable structure

Conductor — Conductor cable consisting of pre-leads (following DIN EN 60228).

Core insulation — Mechanically high-quality TPE mixture.

Outer jacket — Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®.
Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage — 600/1,000V (following DIN VDE 0298-3)
1,000V (following UL)

Testing voltage — 4,000V (following DIN EN 50395)

Properties and approvals

UV resistance — High

Oil resistance — Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4

Silicone-free — Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)

Halogen-free — Following DIN EN 60754

PFAS-free — Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances

Class 7.6.4.2

Basic requirements	low 1 2 3 4 5 6 **7** highest
Travel distance	unsupported 1 2 3 4 5 **6** ≥ 400m
Oil resistance	none 1 2 3 **4** highest
Torsion	none 1 **2** 3 4 ±360°

UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year" See data sheet for details ▶ **www.igus.eu/CF330D**
UL AWM	
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	12.5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-35/-25	10	11	12
-25/+80	7.5	8.5	9.5
+80/+90	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 7
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 1m cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

	Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
	CF330.60.01.D	1x6.0	7.0	61	77
	CF330.100.01.D	1x10	7.5	100	119
	CF330.160.01.D	1x16	9.5	159	181
	CF330.250.01.D	1x25	11.5	248	284
	CF330.350.01.D	1x35	12.5	347	385
	CF330.500.01.D	1x50	14.5	495	534
	CF330.700.01.D	1x70	16.5	710	754
	CF330.950.01.D	1x95	20.0	936	1015
	CF330.1200.01.D	1x120	21.5	1184	1265
	CF330.1500.01.D	1x150	23.5	1469	1548
	CF330.1850.01.D	1x185	26.5	1928	2016
New	**CF330.2400.01.D**	1x240	29.5	2351	2436

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

CF330.D
TPE
7.5 x d

PVC | iguPUR | PUR | TPE

Spindle cable/Single core | TPE | chainflex® CF340

New

12.5 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For heaviest duty applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant

Now available with UL approval & 25% longer service life

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-50°C up to +90°C (following DIN EN 60811-504)
	fixed	-55°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		100m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6

Cable structure

Conductor — Conductor cable consisting of pre-leads (following DIN EN 60228).

Core insulation — Mechanically high-quality TPE mixture.

Overall shield — Extremely bending-resistant braiding made of tinned copper wires.
Coverage linear approx. 70%, optical approx. 90%

Outer jacket — Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®.
Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage — 600/1,000V (following DIN VDE 0298-3)
1,000V (following UL)

Testing voltage — 4,000V (following DIN EN 50395)

Properties and approvals

UV resistance — High

Oil resistance — Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4

Silicone-free — Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)

Halogen-free — Following DIN EN 60754

PFAS-free — Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances



Example image

Class 7.6.4.1

Basic requirements	low 1 2 3 4 5 6 **7** highest
Travel distance	unsupported 1 2 3 4 5 **6** ≥ 400m
Oil resistance	none 1 2 3 **4** highest
Torsion	none **1** 2 3 4 ±360°

UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year" See data sheet for details ▶ www.igus.eu/CF340
UL AWM	
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	12.5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-35/-25	10	11	12
-25/+80	7.5	8.5	9.5
+80/+90	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 7
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF340.40.01	(1x4.0)C	6.5	57	73
New **CF340.100.01**	(1x10)C	8.5	121	148
CF340.160.01	(1x16)C	10.0	184	215
CF340.250.01	(1x25)C	12.0	280	319
CF340.350.01	(1x35)C	13.0	395	433
CF340.500.01	(1x50)C	15.0	536	574
CF340.700.01	(1x70)C	17.5	779	832
CF340.950.01	(1x95)C	21.0	1015	1093
CF340.1200.01	(1x120)C	22.0	1270	1341
CF340.1500.01	(1x150)C	24.5	1592	1642
CF340.1850.01	(1x185)C	27.5	2066	2157
CF340.2400.01	(1x240)C	30.5	2566	2731

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

CF340
TPE
7.5 x d

Medium voltage cable | PUR | chainflex® CFCRANE.PUR

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For maximum voltages and outputs
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-20°C up to +80°C
	flexible	-25°C up to +80°C (following DIN EN 60811-504)
	fixed	-30°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.	50m/s²	
Travel distance	Unsupported travels and up to 400m and more for gliding applications, Class 6	

Cable structure

Conductor
Highly-flexible cable consisting of bare copper wires (according to DIN EN 60228).

Core insulation
Inner and outer semiconducting layer made of conductive rubber. Insulating sheath made of highly-quality, heat-resistant and ozone-proof ethylene propylene rubber (EPR).

Overall shield
Extremely bending-resistant wrapping made of tinned copper wires
Coverage approx. 85% optical

Outer jacket
Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2)
Colour: Flame red (similar to RAL 3000)

Electrical information

Nominal voltage
6/10kV or 8.7/15kV (following DIN VDE 0250),
further voltages upon request.

Testing voltage
24kV (following DIN VDE 0250, Part 813)

Properties and approvals

UV resistance
Medium

Oil resistance
Oil-resistant (following DIN EN 50363-10-2), Class 3

Flame-retardant
According to IEC 60332-1-2

Silicone-free
Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)



Example image

EPLAN download, configurators ▶ www.igus.eu/CFCRANEPUR

4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 6.6.3.1

Basic requirements	low	1	2	3	4	5	**6**	7 highest
Travel distance	unsupported	1	2	3	4	5	**6**	≥ 400m
Oil resistance	none	1	2	**3**	4	highest		
Torsion	none	**1**	2	3	4	±360°		

Halogen-free — Following DIN EN 60754

PFAS-free — Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances

UL verified — Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"

REACH — In accordance with regulation (EC) No. 1907/2006 (REACH)

Lead-free — Following 2011/65/EC (RoHS-II/RoHS-III)

CE — Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-20/-10	12.5	13.5	14.5
-10/+70	10	11	12
+70/+80	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For maximum voltages and outputs, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Ship to shore, crane applications, conveyor technology

Part No.	Number of cores and conductor nominal cross section	Outer diameter (d) max.	Copper index	Weight
	[mm²]	[mm]	[kg/km]	[kg/km]
CFCRANE.PUR.350.01.6/10kV	(1x35/16)C	26.0	568	852
CFCRANE.PUR.500.01.6/10kV	(1x50/16)C	27.0	722	1025
CFCRANE.PUR.700.01.6/10kV	(1x70/16)C	29.0	941	1249
CFCRANE.PUR.950.01.6/10kV	(1x95/16)C	31.0	1166	1523

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

CFCRANE
PUR
10 x d

UL-verified chainflex® guarantee ... www.igus.eu/ul-verified

Medium voltage cable | igupren | chainflex® CFCRANE

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For maximum voltages and outputs
- igupren outer jacket
- Shielded
- Oil-resistant
- Flame-retardant

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-20°C up to +80°C
	flexible	-25°C up to +80°C (following DIN EN 60811-504)
	fixed	-30°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		50m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6

Cable structure

Conductor	Highly-flexible cable consisting of tinned copper wires (following DIN EN 60228).
Core insulation	Inner and outer semiconducting layer made of conductive rubber. Insulating sheath made of highly-quality, heat-resistant and ozone-proof ethylene propylene rubber (EPR).
Overall shield	Extremely bending-resistant, tinned copper shield. Coverage approx. 95% optical
Outer jacket	Low-adhesion iguprene mixture, especially abrasion resistant, adapted to suit the requirements in e-chains® (following VDE 0207, Part 21). Colour: Flame red (similar to RAL 3000)

Electrical information

Nominal voltage	6/10kV (following DIN VDE 0250), other voltages upon request.
Testing voltage	17kV (following DIN VDE 0250, Part 813)

Example image

Class 6.6.3.1

Basic requirements	low	1	2	3	4	5	**6**	7 highest
Travel distance	unsupported	1	2	3	4	5	**6**	≥ 400m
Oil resistance	none	1	2	**3**	4	highest		
Torsion	none	**1**	2	3	4	±360°		

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404)
Flame-retardant	According to IEC 60332-1-2
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-20/-10	12.5	13.5	14.5
-10/+70	10	11	12
+70/+80	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For maximum voltages and outputs, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Ship to shore, crane applications, conveyor technology

This cable series will be individually manufactured for your special project. Due to this we do not have this cable on stock, but can offer it exactly for your special demands.

Medium voltage cables available from stock (CFCRANE.PUR) ▶ Page 378

CFCRANE
igupren
10 x d

Twistable cables



chainflex® cable	Jacket	Shield	Minimum bend radius e-chain® [x d]	Temperature e-chain® from/to [°C]	Approvals and standards	Oil-resistant	Torsion-resistant	v max. [°/s] twisted	a max. [°/s²] twisted	Page
Twistable cables										
Information about twistable cables										384
Control cables										
CF77.UL.D	PUR		6.8	-25/+80		✓	✓	180	60	384
CFROBOT2	PUR	✓	10	-25/+80		✓	✓	180	60	388
Data cable										
CFROBOT3	PUR	✓	10	-25/+80		✓	✓	180	60	394
Measuring system cable										
CFROBOT4	PUR	✓	10	-25/+80		✓	✓	180	60	396
Fibre Optic Cable										
CFROBOT5	TPE		10	-35/+80		✓	✓	180	60	400
Motor cables										
CFROBOT6	PUR		10	-25/+80		✓	✓	180	60	402
CFROBOT7	PUR	✓	10	-25/+80		✓	✓	180	60	404
Spindle cable/Single core										
CFROBOT	TPE	✓	10	-35/+90		✓	✓	180	60	408
Bus cables										
CFROBOT8	PUR	✓	10	-25/+70		✓	✓	180	60	410
CFROBOT8.PLUS	PUR	✓	10	-25/+70		✓	✓	360	60	414 New
Hybrid cable										
CFROBOT9	PUR	✓	10	-25/+80		✓	✓			418

4-years chainflex® guarantee

Guaranteed service life for predictable reliability

▶ Selection table page 386

With the help of the chainflex® service life calculator, you can quickly and easily calculate the expected service life of chainflex® cables specifically for your application:

www.igus.eu/chainflexlife

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

chainflex® cables for robots

Ever more complex sequences of movements in industrial applications demand twistable or multi-axis flexible cables with a long service life, similar to the classic chainflex® cables for use in linear e-chain systems®. Stranding, structure, shields and jacket materials must compensate both for major changes in bending load and changes in diameter due to torsional movements. To achieve this, different “soft” structural elements e.g. rayon fibres, PTFE elements or filling elements that absorb torsion forces are used in chainflex® CFROBOT cables.

Special demands are made on the braided shielding in torsion cables. Torsion-optimised shield structures are chosen that allow compensatory movements thanks to special PTFE gliding films.

With twistable bus cables in particular, the transmission characteristics such as attenuation, cable capacitance and signal quality must remain within very tight tolerance ranges over the whole service life. This is achieved through the use of particularly torsion optimised insulating materials and mechanical attenuation elements with matching capacitance values.

The highly abrasion-resistant, halogen-free and flame-resistant PUR jacket material in motor, hybrid/control cables and bus cables protects the torsion-optimised stranded elements from possible damage.
The highly abrasion-resistant, halogen-free TPE jacket achieves the special requirements of the twistable FOC and individual as well as the single core cables.

Unlike cables for linear e-chain systems®, the mechanical stress on these cables is in the combination of bending, torsion and centrifugal forces that cannot usually be determined by design or during use by means of measurement. For this reason, and unlike the situation with linear e-chain® applications, a clear “yes/no” statement cannot be made about the use of a particular cable in torsion applications.
To enable evaluation to take place, based on sensible and comparable test results, the igus® “torsion test standard” was developed.

According to this standard, all chainflex® CFROBOT cables of a triflex® energy chain are twisted with a fixed point distance of one metre and a torsion of +/- 180° at least 3 million times.

In addition, a test is carried out on a test bench with a chain length of approx. 2,500mm with 270° torsion with an extreme load through centrifugal forces and heavy blows such as those that can occur on an industrial robot.







All the non-shielded, gusset-filled extruded standard chainflex® control cables of the series CF130.UL, CF5, CF9 and CF9.UL correspond to the above igus® standard and have been approved for use in torsion applications.

The following twistable CFROBOT cable types are currently available:

- Control cable (shielded and unshielded)
- Data and measuring system cables
- Fibre optic cables
- Motor and servo cables
- Bus cables
- Hybrid cables

We can also offer you chainflex® CFROBOT cables pre-harnessed with the connectors of your choice as a readycable®, or as a ready-to-install readychain® system.





Test data ▶ Page 51

chainflex® guarantee ▶▶ Guaranteed service life (1)

	chainflex® cables	Temperature, from/to [°C]	v max. [°/s] twisted	a max. [°/s²] twisted	Minimum bend radius [x d] 5 million cycles *	Minimum bend radius [x d] 7.5 million cycles *	Minimum bend radius [x d] 10 million cycles *	Page
Twistable cables								
Control cables								
	CF77.UL.D	-25 / -15 -15 / +70 +70 / +80	180	60	±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	388
	CFROBOT2	-25 / -15 -15 / +70 +70 / +80	180	60	±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	392
Data cable								
	CFROBOT3	-25 / -15 -15 / +70 +70 / +80	180	60	±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	394
Measuring system cable								
	CFROBOT4	-25 / -15 -15 / +70 +70 / +80	180	60	±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	396
Fibre Optic Cable								
	CFROBOT5	-25 / -15 -15 / +70 +70 / +80	180	60	±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	400
Motor cables								
	CFROBOT6	-25 / -15 -15 / +70 +70 / +80	180	60	±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	402
	CFROBOT7	-25 / -15 -15 / +70 +70 / +80	180	60	±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	404
Spindle cable/Single core								
	CFROBOT	-35 / -25 -15 / +80 +80 / +90	180	60	±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	408
Bus cables								
	CFROBOT8	-25 / -15 -15 / +60 +60 / +70	180	60	±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	410
	CFROBOT8.PLUS New!	-25 / -15 -15 / +60 +60 / +70	360	60	±330 ±360 ±330	±240 ±270 ±240	±150 ±180 ±150	414
Hybrid cable								
	CFROBOT9	-25 / -15 -15 / +70 +70 / +80	180	60	±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	418

(1) Guaranteed service life for these series (details ▶ see page 28-29)

* Higher number of double strokes? Calculate service life online: ▶ www.igus.eu/chainflexlife

Control cable | PUR | chainflex® CF77.UL.D



Example image

10 million Cycles guaranteed

6.8 x d Bend radius, e-chain®

±180°/m Torsion angle

- For torsion applications
- PUR outer jacket
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**flexible twisted**	minimum 6.8 x d
	fixed	minimum 4 x d
Temperature	**flexible twisted**	-25°C up to +80°C
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**twisted**	180°/s
a max.	**twisted**	60°/s²
Travel distance	Robots and 3D movements, Class 1	
Torsion	Torsion ±180°, with 1m cable length, Class 3 (except for 5-core types ≥ 4.0mm² ▶ Product range table)	

Cable structure

Conductor Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).

Core insulation Mechanically high-quality TPE mixture.

Core structure **Number of cores < 12:** Cores wound in a layer with short pitch length. **Number of cores ≥ 12:** Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.

Core identification **Cores < 0.5mm²:** Colour code in accordance with DIN 47100. **Cores ≥ 0.5mm²:** Black cores with white numbers, one green-yellow core. **CF77.UL.02.03.INI:** brown, blue, black **CF77.UL.03.04.INI:** brown, blue, black, white **CF77.UL.03.05.INI:** brown, blue, black, white, green-yellow

Outer jacket Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Window-grey (similar to RAL 7040) Variants ▶ Product range table

Electrical information

Nominal voltage 300/500V (following DIN VDE 0298-3) **Number of cores < 12:** **Cores < 0.5mm²:** 300V (following UL) **Cores ≥ 0.5mm²:** 1000V (following UL) **Number of cores ≥ 12:** 1000V (following UL)

Testing voltage 2,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus.eu/CF77ULD

4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 5.1.3.3

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4	highest			
Torsion	none	1	2	**3**	4	±360°			

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: „igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year" See data sheet for details ▶ www.igus.eu/CF77ULD
UL/CSA AWM	
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003X1
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1, material/cable tested by IPA according to DIN EN ISO standard 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°C]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-25/-15	±150	±90	±30
-15/+70	±180	±120	±60
+70/+80	±150	±90	±30

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 5
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 1m cable length, Class 3
- Indoor and outdoor applications with average sun radiation
- Robots, handling, spindle drives

EU2024

CF77.UL.D
PUR
±180°/m

Control cable | PUR | chainflex® CF77.UL.D

Class 5.1.3.3

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	1	2	**3**	4				±360°

CF77.UL.D
PUR
±180°/m



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF77.UL.02.03.INI [12]	3x0.25	5.0	9	29
CF77.UL.02.04.D	4x0.25	5.5	11	35
CF77.UL.02.05.D	5x0.25	6.0	13	39
CF77.UL.02.07.D	7x0.25	6.5	18	51
CF77.UL.02.12.D	12x0.25	9.0	32	78
CF77.UL.02.18.D	18x0.25	10.5	47	127
CF77.UL.02.25.D	25x0.25	11.5	63	155
CF77.UL.03.04.INI [12]	4x0.34	6.0	14	37
CF77.UL.03.05.INI [12]	5x0.34	6.0	18	36
CF77.UL.03.05.INI.D	5x0.34	6.0	18	36
CF77.UL.05.04.D	4G0.5	6.0	21	46
CF77.UL.05.05.D	5G0.5	6.5	26	53
CF77.UL.05.07.D	7G0.5	7.5	39	78
CF77.UL.05.12.D	12G0.5	10.0	63	130
CF77.UL.05.18.D	18G0.5	12.0	94	184
CF77.UL.05.25.D	25G0.5	14.0	129	243
CF77.UL.05.30.D	30G0.5	15.0	155	315
CF77.UL.07.03.D	3G0.75	6.5	23	52
CF77.UL.07.04.D	4G0.75	7.0	31	59
CF77.UL.07.05.D	5G0.75	7.5	38	71
CF77.UL.07.07.D	7G0.75	8.5	54	100
CF77.UL.07.12.D	12G0.75	12.0	91	180
CF77.UL.07.18.D	18G0.75	13.5	134	239
CF77.UL.07.20.D	20G0.75	14.5	149	269
CF77.UL.07.25.D	25G0.75	16.0	186	336
CF77.UL.07.36.D	36G0.75	19.0	279	506
CF77.UL.07.42.D	42G0.75	21.0	341	580
CF77.UL.10.02.D	2x1.0	6.5	21	51
CF77.UL.10.03.D	3G1.0	6.5	31	58
CF77.UL.10.04.D	4G1.0	7.0	41	73
CF77.UL.10.05.D	5G1.0	8.0	50	90
CF77.UL.10.07.D	7G1.0	9.0	71	120
CF77.UL.10.12.D	12G1.0	12.5	120	220
CF77.UL.10.18.D	18G1.0	15.0	179	314
CF77.UL.10.25.D	25G1.0	17.5	248	431
CF77.UL.10.42.D	42G1.0	22.5	433	699

[12] Colour outer jacket: Colza yellow (similar to RAL 1021)

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF77.UL.15.03.D	3G1.5	7.0	46	71
CF77.UL.15.04.D	4G1.5	7.5	61	88
CF77.UL.15.05.D	5G1.5	8.0	75	105
CF77.UL.15.07.D [17]	7G1.5	9.5	105	152
CF77.UL.15.12.D	12G1.5	13.0	179	297
CF77.UL.15.18.D	18G1.5	17.0	268	405
CF77.UL.15.25.D	25G1.5	19.5	297	564
CF77.UL.15.36.D	36G1.5	23.5	551	848
CF77.UL.25.03.D	3G2.5	8.5	75	132
CF77.UL.25.04.D	4G2.5	9.5	95	167
CF77.UL.25.05.D	5G2.5	10.0	124	196
CF77.UL.25.07.D [17]	7G2.5	12.0	174	270
CF77.UL.25.12.D	12G2.5	17.0	297	479

[17] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this page 24/25 and online: www.igus.eu/cf-case

Order example: CF77.UL.02.04.D - to your desired length (0.5m steps)
CF77.UL.D chainflex® series .02 Code nominal cross section .04 Number of cores

Order online ▶ www.igus.eu/CF77ULD

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

EPLAN download, configurators ▶ www.igus.eu/CF77ULD

Control cable | PUR | chainflex® CFROBOT2



Example image

10 million Cycles guaranteed

10 x d Bend radius, e-chain®

±180°/m Torsion angle

- For torsion applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**flexible twisted**	minimum 10 x d
	fixed	minimum 5 x d
Temperature	**flexible twisted**	-25°C up to +80°C
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**twisted**	180°/s
a max.	**twisted**	60°/s²
Travel distance		Robots and 3D movements, Class 1
Torsion		Torsion ±180°, with 1m cable length, Class 3

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core identification	Black cores with white numbers, one green-yellow core.
Overall shield	Extremely torsion-resistant tinned wound copper shield. Coverage approx. 85% optical
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754

EPLAN download, configurators ▶ www.igus.eu/CFROBOT2

Class 6.1.3.3

Basic requirements	low 1 2 3 4 5 **6** 7 highest
Travel distance	unsupported **1** 2 3 4 5 6 ≥ 400m
Oil resistance	none 1 2 **3** 4 highest
Torsion	none 1 2 **3** 4 ±360°

PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: „igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CFROBOT2
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°C]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-25/-15	±150	±90	±30
-15/+70	±180	±120	±60
+70/+80	±150	±90	±30

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heaviest duty applications with torsion movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 1m cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, handling, spindle drives

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFROBOT2.07.04.C	(4G0.75)C	8.0	43	78
CFROBOT2.07.05.C	(5G0.75)C	8.5	51	90
CFROBOT2.07.07.C	(7G0.75)C	10.0	71	120
CFROBOT2.07.12.C	(12G0.75)C	14.0	122	214
CFROBOT2.07.18.C	(18G0.75)C	16.5	185	301

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

CFROBOT2
PUR
±180°/m

Data cable | PUR | chainflex® CFROBOT3



Example image

10 million Cycles guaranteed

10 x d Bend radius, e-chain®

±180°/m Torsion angle

- For torsion applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**flexible twisted**	minimum 10 x d
	fixed	minimum 5 x d
Temperature	**flexible twisted**	-25°C up to +80°C
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**twisted**	180°/s
a max.	**twisted**	60°/s²
Travel distance	Robots and 3D movements, Class 1	
Torsion	Torsion ±180°, with 1m cable length, Class 3	

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores twisted in pairs with a short pitch length, core pairs then wound with short pitch lengths.
Core identification	Colour code in accordance with DIN 47100.
Overall shield	Extremely torsion-resistant tinned wound copper shield. Coverage approx. 85% optical
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754

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Class 6.1.3.3

Basic requirements	low 1 2 3 4 5 **6** 7 highest
Travel distance	unsupported **1** 2 3 4 5 6 ≥ 400m
Oil resistance	none 1 2 **3** 4 highest
Torsion	none 1 2 **3** 4 ±360°

PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: „igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CFROBOT3
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°C]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-25/-15	±150	±90	±30
-15/+70	±180	±120	±60
+70/+80	±150	±90	±30

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heaviest duty applications with torsion movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 1m cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, handling, spindle drives

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFROBOT3.02.03.02	(3x(2x0.25))C	9.0	33	84
CFROBOT3.02.04.02	(4x(2x0.25))C	10.5	38	103
CFROBOT3.02.06.02	(6x(2x0.25))C	11.5	52	127
CFROBOT3.02.08.02 [11)]	(8x(2x0.25))C	13.5	66	170
CFROBOT3.05.05.02	(5x(2x0.5))C	12.5	80	170

[11)] Phase-out model
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

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More on this on page 24/25 and online: www.igus.eu/cf-case

CFROBOT3
PUR
±180°/m

Measuring system cable | PUR | chainflex® CFROBOT4

Class 6.1.3.3

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	1	2	**3**	4				±360°

10 million Cycles guaranteed

10 x d Bend radius, e-chain®

±180°/m Torsion angle

- For torsion applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**flexible twisted**	minimum 10 x d
	fixed	minimum 5 x d
Temperature	**flexible twisted**	-25°C up to +80°C
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**twisted**	180°/s
a max.	**twisted**	60°/s²
Travel distance		Robots and 3D movements, Class 1
Torsion		Torsion ±180°, with 1m cable length, Class 3

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of tinned copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core identification	According to measuring system specification. ▶ Product range table
Element shield	Extremely torsion-resistant tinned wound copper shield.
Overall shield	Extremely torsion-resistant tinned wound copper shield. Coverage approx. 80% optical
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Steel blue (similar to RAL 5011) Variants ▶ Product range table

Electrical information

Nominal voltage	50V 30V (following UL)
Testing voltage	500V

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: „igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CFROBOT4
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°C]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-25/-15	±150	±90	±30
-15/+70	±180	±120	±60
+70/+80	±150	±90	±30

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heaviest duty applications with torsion movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 1m cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, handling, spindle drives



Example image

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4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

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UL-verified chainflex® guarantee ... www.igus.eu/ul-verified

CFROBOT4
PUR
±180°/m

PVC | iguPUR | **PUR** | TPE

Measuring system cable | PUR | chainflex® CFROBOT4

Class 6.1.3.3

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	1	2	**3**	4				±360°

CFROBOT4
PUR
±180°/m



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFROBOT4.001	(3x(2x0.14)C +(4x0.14)+(2x0.5))C	10.5	62	115
CFROBOT4.006	(3x(2x0.14C+(4x0.14) +(4x0.22)+(2x0.5))C	11.5	74	135
CFROBOT4.009	(4x(2x0.25)+(2x0.5))C	9.0	48	90
CFROBOT4.015	(4x(2x0.14)+4x0.5)C	9.0	49	91
CFROBOT4.028 [13)]	(2x(2x0.20)+(2x0.38))C	7.5	44	72

Part No.	Core group	Colour code
CFROBOT4.001	3x(2x0.14)C	green/yellow, black/brown, red/orange
	4x0.14	grey/blue/white-yellow/white-black
	2x0.5	brown-red/brown-blue
CFROBOT4.006	3x(2x0.14)C	green/yellow, black/brown, red/orange
	(4x0.14)	grey/blue/white-yellow/white-black
	(4x0.22)	yellow-brown/grey-brown/green-black/green-red
	(2x0.5)	brown-red/brown-blue
CFROBOT4.009	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x0.5	white, brown
CFROBOT4.015	4x(2x0.14)	brown/green, yellow/violet, grey/pink, red/black
	4x0.5	blue, white, brown-green, white-green
CFROBOT4.028 [13)]	2x(2x0.20)	green/yellow, pink/blue
	(2x0.38)	red/black

[13)] Colour outer jacket: Yellow-green (RAL 6018)

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

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Order example: CFROBOT4.009 – to your desired length (0.5m steps)
CFROBOT4 chainflex® series .009 Code measuring system type

Order online ▶ www.igus.eu/CFROBOT4

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

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Fibre Optic Cable | TPE | chainflex® CFROBOT5



Example image

10 million Cycles guaranteed

10 x d Bend radius, e-chain®

±180°/m Torsion angle

- For torsion applications
- TPE outer jacket
- Oil and bio-oil-resistant
- UV-resistant
- Low-temperature-flexible
- Hydrolysis and microbe-resistant
- PVC and halogen-free

Dynamic information

Bend radius	**flexible twisted**	minimum 10 x d
	fixed	minimum 5 x d
Temperature	**flexible twisted**	-25°C up to +80°C
	fixed	-55°C up to +80°C (following DIN EN 50305)
v max.	**twisted**	180°/s
a max.	**twisted**	60°/s²
Travel distance	Robots and 3D movements, Class 1	
Torsion	Torsion ±180°, with 1m cable length, Class 3	

Cable structure

Conductor	50/125µm, 62.5/125µm bending-resistant solid glass fibre optic cores, with aramid strain relief elements.
Core structure	FOC cores wound with high-tensile aramid dampers around a glass-fibre reinforced plastic central element.
Core identification	▶ Product range table
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: jet black (similar to RAL 9005)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: „igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)

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Class 6.1.4.3

Basic requirements	low 1 2 3 4 5 **6** 7 highest
Travel distance	unsupported **1** 2 3 4 5 6 ≥ 400m
Oil resistance	none 1 2 3 **4** highest
Torsion	none 1 2 **3** 4 ±360°

Lead-free Following 2011/65/EC (RoHS-II/RoHS-III)

Cleanroom According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1

CE Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°C]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-35/-25	±150	±90	±30
-25/+70	±180	±120	±60
+70/+80	±150	±90	±30

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heaviest duty applications with torsion movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±180°, with 1m cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, handling

Part No.	Number of fibres/ Fibre diameter/ Conductor nominal cross section	Outer diameter (d) max. [mm]	Weight [kg/km]
CFROBOT5.500 [11]	2x62.5/125	8.5	53
CFROBOT5.501	2x50/125	8.5	53

[11] Phase-out model

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Part No.	Bandwidth [MHz x km] @ 650nm	Attenuation [dB/km] @ 650nm	Bandwidth [MHz x km] @ 850nm	Attenuation [dB/km] @ 850nm	Fibre identification
CFROBOT5.500 [11]	≥ 200	≤ 3.0	≥ 500	≤ 0.7	orange with white numbers
CFROBOT5.501	≥ 500	≤ 2.5	≥ 500	≤ 0.7	blue with white numbers



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CFROBOT5
TPE
±180°/m

Motor cable | PUR | chainflex® CFROBOT6



Example image

10 million Cycles guaranteed

10 x d Bend radius, e-chain®

±180°/m Torsion angle

- For torsion applications
- PUR outer jacket
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**flexible twisted**	minimum 10 x d
	fixed	minimum 5 x d
Temperature	**flexible twisted**	-25°C up to +80°C
	fixed	-55°C up to +80°C (following DIN EN 50305)
v max.	**twisted**	180°/s
a max.	**twisted**	60°/s²
Travel distance	Robots and 3D movements, Class 1	
Torsion	Torsion ±180°, with 1m cable length, Class 3	

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core identification	Black cores with white numbers 1-2, one green-yellow core.
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754

EPLAN download, configurators ▶ www.igus.eu/CFROBOT6

4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 6.1.3.3

Basic requirements	low 1 2 3 4 5 **6** 7 highest
Travel distance	unsupported **1** 2 3 4 5 6 ≥ 400m
Oil resistance	none 1 2 **3** 4 highest
Torsion	none 1 2 **3** 4 ±360°

PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: „igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CFROBOT6
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°C]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-25/-15	±150	±90	±30
-15/+70	±180	±120	±60
+70/+80	±150	±90	±30

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heaviest duty applications with torsion movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 1m cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, handling, spindle drives

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFROBOT6.160.03 [11)]	3G16	18.0	475	578
CFROBOT6.250.03 [11)]	3G25	22.0	737	896

[11)] Phase-out model

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

CFROBOT6
PUR
±180°/m

Motor cable | PUR | chainflex® CFROBOT7



Example image

10 million Cycles guaranteed

10 x d Bend radius, e-chain®

±180°/m Torsion angle

- For torsion applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**flexible twisted**	minimum 10 x d
	fixed	minimum 5 x d
Temperature	**flexible twisted**	-25°C up to +80°C
	fixed	-55°C up to +80°C (following DIN EN 50305)
v max.	**twisted**	180°/s
a max.	**twisted**	60°/s²
Travel distance	Robots and 3D movements, Class 1	
Torsion	Torsion ±180°, with 1m cable length, Class 3	

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core identification	**Power cores:** Black cores with white numbers, one green-yellow core. **2 control pairs:** Black cores with white numbers. 1. Control core: 5 2. Control core: 6 3. Control core: 74. Control core: 8 **4 Control pairs:** Colour code in accordance with DIN 47100
Overall shield	Extremely torsion-resistant tinned wound copper shield. Coverage approx. 85% optical
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Class 6.1.3.3

Basic requirements	low	1	2	3	4	5	**6**	7 highest
Travel distance	unsupported	**1**	2	3	4	5	6	≥ 400m
Oil resistance	none	1	2	**3**	4	highest		
Torsion	none	1	2	**3**	4	±360°		

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: „igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CFROBOT7
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°C]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-25/-15	±150	±90	±30
-15/+70	±180	±120	±60
+70/+80	±150	±90	±30

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heaviest duty applications with torsion movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 1m cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, handling, spindle drives

CFROBOT7
PUR
±180°/m

EPLAN download, configurators ▶ www.igus.eu/CFROBOT7

Motor cable | PUR | chainflex® CFROBOT7

Class 6.1.3.3

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	1	2	**3**	4				±360°

CFROBOT7
PUR
±180°/m



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
2 control pairs				
CFROBOT7.07.03.02.02.C [11)]	(4G0.75+2x(2x0.34)C)C	11.5	88	155
CFROBOT7.15.15.02.02.C	(4G1.5+2x(2x1.5)C)C	16.5	197	304
CFROBOT7.25.15.02.02.C	(4G2.5+2x(2x1.5)C)C	16.5	243	349
4 control pairs				
CFROBOT7.40.02.02.04.C	(4G4.0+4x(2x0.25)C)C	17.0	253	366
without control pair				
CFROBOT7.15.03.C	(3G1.5)C	8.5	61	98
CFROBOT7.15.04.C	(4G1.5)C	9.5	77	120
CFROBOT7.25.03.C	(3G2.5)C	10.0	93	142
CFROBOT7.25.04.C	(4G2.5)C	11.0	119	173
CFROBOT7.60.04.C	(4G6.0)C	15.0	278	374

[11)] Phase-out model

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Order example: CFROBOT7.15.03.C – to your desired length (0.5m steps)
CFROBOT7 chainflex® series .15 Code nominal cross section .03 Number of cores

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Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



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EPLAN download, configurators ▶ www.igus.eu/CFROBOT7

Spindle cable/Single core | TPE | chainflex® CFROBOT

10 million
Cycles guaranteed

10 x d
Bend radius, e-chain®

±180°/m
Torsion angle

- For torsion applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- PVC-free
- UV-resistant
- Flame-retardant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**flexible twisted**	minimum 10 x d
	fixed	minimum 5 x d
Temperature	**flexible twisted**	-35°C up to +90°C
	fixed	-50°C up to +100°C (following DIN EN 50305)
v max.	**twisted**	180°/s
a max.	**twisted**	60°/s²
Travel distance	Robots and 3D movements, Class 1	
Torsion	Torsion ±180°, with 1m cable length, Class 3	

Cable structure

Conductor	Extremely bend-resistant cable.
Core insulation	Mechanically high-quality TPE mixture.
Overall shield	Extremely torsion-resistant tinned wound copper shield. Coverage approx. 90% optical
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. V293650: „igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"



Example image

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4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 6.1.4.3

Basic requirements	low 1 2 3 4 5 **6** 7 highest
Travel distance	unsupported **1** 2 3 4 5 6 ≥ 400m
Oil resistance	none 1 2 3 **4** highest
Torsion	none 1 2 **3** 4 ±360°

UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CFROBOT
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF34.UL.25.04.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°C]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-35/-25	±150	±90	±30
-25/+70	±180	±120	±60
+70/+80	±150	±90	±30

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heaviest duty applications with torsion movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±180°, with 1m cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, handling, spindle drives

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFROBOT.035	(1x10)C	10.5	125	194
CFROBOT.036	(1x16)C	12.0	189	269
CFROBOT.037	(1x25)C	14.5	298	392
CFROBOT.038	(1x35)C	15.5	403	528

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



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CFROBOT
TPE
±180°/m

Bus cable | PUR | chainflex® CFROBOT8



Example image

10 million Cycles guaranteed

10 x d Bend radius, e-chain®

±180°/m Torsion angle

- For torsion applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**flexible twisted**	minimum 10 x d
	fixed	minimum 5 x d
Temperature	**flexible twisted**	-25°C up to +70°C
	fixed	-50°C up to +70°C (following DIN EN 50305)
v max.	**twisted**	180°/s
a max.	**twisted**	60°/s²
Travel distance	Robots and 3D movements, Class 1	
Torsion	Torsion ±180°, with 1m cable length, Class 3	

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of tinned or bare copper wires (following DIN EN 60228).
Core insulation	According to bus specification.
Core structure	According to bus specification.
Core identification	According to bus specification. ▶ Product range table
Intermediate layer	Foil taping over the outer layer.
Overall shield	Torsion resistant tinned braided copper shield. Coverage approx. 80% optical
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	50V 300V (following UL)
Testing voltage	500V

Class 6.1.3.3

Basic requirements	low 1 2 3 4 5 **6** 7 highest
Travel distance	unsupported **1** 2 3 4 5 6 ≥ 400m
Oil resistance	none 1 2 **3** 4 highest
Torsion	none 1 2 **3** 4 ±360°

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: „igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CFROBOT8
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°C]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-25/-15	±150	±90	±30
-15/+60	±180	±120	±60
+60/+70	±150	±90	±30

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heaviest duty applications with torsion movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 1m cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, handling, spindle drives

CFROBOT8
PUR
±180°/m

EPLAN download, configurators ▶ www.igus.eu/CFROBOT

PVC | iguPUR | **PUR** | TPE

Bus cable | PUR | chainflex® CFROBOT8

Class 6.1.3.3

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	1	2	**3**	4				±360°

CFROBOT8
PUR
±180°/m



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
Profibus (1x2x0.64mm)				
CFROBOT8.001 [11]	(2x0.35)C	8.0	28	63
CAN-Bus				
CFROBOT8.022 [11]	(4x0.5)C	7.5	41	78
DeviceNet				
CFROBOT8.030	(2xAWG24)C +(2xAWG22)C	9.5	31	77
Ethernet/CAT5e/PoE				
CFROBOT8.045	4x(2x0.15)C	9.5	48	96
Ethernet/CAT6/PoE				
CFROBOT8.049	4x(2x0.15)C	9.5	48	96
Ethernet/CAT6A				
CFROBOT8.050 [11]	4x(2x0.15)C	10.5	51	134
Ethernet/CAT7				
CFROBOT8.052 [11]	4x(2x0.15)C	10.5	51	134
Profinet				
CFROBOT8.060 [11]	(2x(2x0.34))C	8.5	34	74

Part No.	Characteristic wave impedance approx. [Ω]	Core group	Colour code
Profibus (1x2x0.64mm)			
CFROBOT8.001	150	2x0.35	red, green
CAN-Bus			
CFROBOT8.022	120	4x0.5	white, green, brown, yellow (star-quad)
DeviceNet			
CFROBOT8.030	120	(2xAWG24)C	white/blue
		(2xAWG22)C	red/black
Ethernet/CAT5e/PoE			
CFROBOT8.045	100	4x(2x0.15)C	white-green/green, white-orange/orange, white-blue/blue, white-brown/brown
Ethernet/CAT6/PoE			
CFROBOT8.049	100	4x(2x0.15)C	white-green/green, white-orange/orange, white-blue/blue, white-brown/brown
Ethernet/CAT6A			
CFROBOT8.050	100	4x(2x0.15)C	white-green/green, white-orange/orange, white-blue/blue, white-brown/brown
Ethernet/CAT7			
CFROBOT8.052	100	4x(2x0.15)C	white-green/green, white-orange/orange, white-blue/blue, white-brown/brown
Profinet			
CFROBOT8.060	100	2x(2x0.34)	white/blue, yellow/orange

[11] Phase-out model (New generation CFROBOT8.PLUS ▶ Page 414)

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

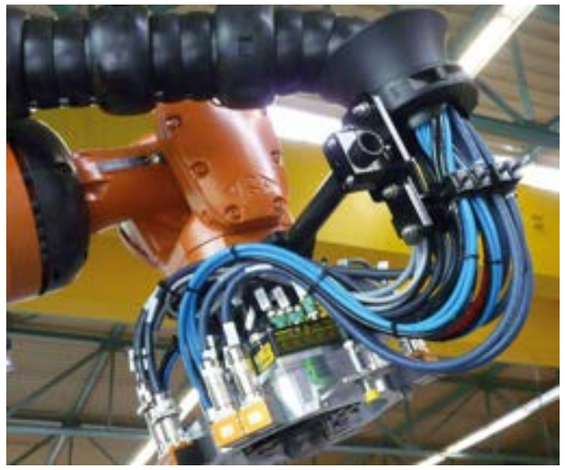


Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

Technical note on bus cables
chainflex® bus cables have been specially developed and tested for continuously moving use in e-chains®. Depending on the material used for the outer jacket and on the underlying construction principle, the bus cables are designed for different mechanical requirements and resistance to diverse media.
The cables have been electrically designed in such a way that, on the one hand, the electrical requirements of the respective bus specification are reliably met and, on the other, that greater value is placed on a high degree of EMC reliability.
It is also ensured that the electrical values remain stable over the long term in spite of permanent movement.
The overall quality of transmission in a complete bus communication system, however, is not solely dependent on the cable used. What is also essential is that all components (electronic parts, connecting system and cable) are precisely matched to each other and that the maximum transmission lengths, which are dependent on the respective system, are adhered to with regard to the data transmission rates needed. A cable is thus not solely responsible for the reliable transmission of signals.
igus® advises you when you are designing your bus system to take all these factors into account and, with extensive tests, helps you to ensure the process reliability of your system from the very beginning.



CFROBOT® cables used in robots for the automated systems in fuel tank production. These are supplied as fully harnessed readychain® systems.

PVC | iguPUR | **PUR** | TPE

New

Bus cable | PUR | chainflex® CFROBOT8.PLUS



Example image

10 million Cycles guaranteed

10 x d Bend radius, e-chain®

±360°/m Torsion angle

- For torsion applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**flexible twisted**	minimum 10 x d
	fixed	minimum 5 x d
Temperature	**flexible twisted**	-25°C up to +70°C
	fixed	-50°C up to +70°C (following DIN EN 50305)
v max.	**twisted**	360°/s
a max.	**twisted**	60°/s²
Travel distance	Robots and 3D movements, Class 1	
Torsion	Torsion ±360°, with 1m cable length, Class 4	

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	According to bus specification.
Core structure	According to bus specification.
Core identification	According to bus specification. ▶ Product range table
Intermediate layer	Foil taping over the outer layer.
Overall shield	Torsion resistant tinned braided copper shield. Coverage approx. 80% optical
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	50V 30V (following UL)
Testing voltage	500V

Class 6.1.3.4

Basic requirements	low	1	2	3	4	5	**6**	7 highest
Travel distance	unsupported	**1**	2	3	4	5	6	≥ 400m
Oil resistance	none	1	2	**3**	4	highest		
Torsion	none	1	2	3	**4**	±360°		

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: „igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CFROBOT8PLUS
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°C]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-25/-15	±330	±240	±150
-15/+60	±360	±270	±180
+60/+70	±330	±240	±150

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heaviest duty applications with torsion movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, Class 3
- Torsion ±360°, with 1m cable length, Class 4
- Indoor and outdoor applications, UV-resistant
- Robots, handling, spindle drives

EPLAN download, configurators ▶ www.igus.eu/CFROBOT8PLUS

CFROBOT8.
PLUS
PUR
±360°/m

PVC | iguPUR | **PUR** | TPE

Bus cable | PUR | chainflex® CFROBOT8.PLUS

New

Class 6.1.3.4

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6	≥ 400m
Oil resistance	none	1	2	**3**	4			highest
Torsion	none	1	2	3	**4**			±360°

CFROBOT8.
PLUS
PUR
±360°/m



Example image

	Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
	Profibus (1x2x0.64mm)				
PROFIBUS	**CFROBOT8.PLUS.001**	(2x0.25)C	9.0	30	80
	CAN-Bus				
	CFROBOT8.PLUS.022	(4x0.5)C	9.0	47	103
	Ethernet/CAT5e/PoE				
	CFROBOT8.PLUS.045	(4x(2x0.15))C	7.5	32	67
	Ethernet/CAT6/PoE				
	CFROBOT8.PLUS.049	(4x(2x0.15))C	7.5	32	67
	Ethernet/CAT6A				
	CFROBOT8.PLUS.050	4x(2x0.15)C	10.5	49	115
	Ethernet/CAT7				
New	**CFROBOT8.PLUS.052**	4x(2x0.15)C	10.5	49	115
	Profinet				
PROFINET EtherCAT	**CFROBOT8.PLUS.060** 2)	(4x0.34)C	7.0	32	64

	Part No.	Characteristic wave impedance approx. [Ω]	Core group	Colour code
	Profibus (1x2x0.64mm)			
	CFROBOT8.PLUS.001	150	2x0.25	red, green
	CAN-Bus			
	CFROBOT8.PLUS.022	120	4x0.5	white, green, brown, yellow (star-quad)
	Ethernet/CAT5e/PoE			
	CFROBOT8.PLUS.045	100	4x(2x0.15)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
	Ethernet/CAT6/PoE			
	CFROBOT8.PLUS.049	100	4x(2x0.15)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
	Ethernet/CAT6A			
	CFROBOT8.PLUS.050	100	4x(2x0.15)C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
	Ethernet/CAT7			
	CFROBOT8.PLUS.052	100	4x(2x0.15)C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
	Profinet			
	CFROBOT8.PLUS.060 2)	100	4x0.34	white, orange, blue, yellow (star-quad)

The chainflex® types marked with 2) are cables designed as a star-quad.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

Technical note on bus cables
chainflex® bus cables have been specially developed and tested for continuously moving use in e-chains®. Depending on the material used for the outer jacket and on the underlying construction principle, the bus cables are designed for different mechanical requirements and resistance to diverse media.
The cables have been electrically designed in such a way that, on the one hand, the electrical requirements of the respective bus specification are reliably met and, on the other, that greater value is placed on a high degree of EMC reliability.
It is also ensured that the electrical values remain stable over the long term in spite of permanent movement.
The overall quality of transmission in a complete bus communication system, however, is not solely dependent on the cable used. What is also essential is that all components (electronic parts, connecting system and cable) are precisely matched to each other and that the maximum transmission lengths, which are dependent on the respective system, are adhered to with regard to the data transmission rates needed. A cable is thus not solely responsible for the reliable transmission of signals.
igus® advises you when you are designing your bus system to take all these factors into account and, with extensive tests, helps you to ensure the process reliability of your system from the very beginning.

Order example: CFROBOT8.PLUS.060 – to your desired length (0.5m steps)
CFROBOT8.PLUS chainflex® series .060 Code bus type

Order online ▶ www.igus.eu/CFROBOT8PLUS

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

EPLAN download, configurators ▶ www.igus.eu/CFROBOT8PLUS

EU2024 igus®

Hybrid cable | PUR | chainflex® CFROBOT9

Example image

10 million Cycles guaranteed

10 x d Bend radius, e-chain®

±180°/m Torsion angle

- For torsion applications
- PUR outer jacket
- Unshielded/shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® twisted**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® twisted**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**twisted**	180°/s
a max.	**twisted**	60°/s²
Travel distance		Robots and 3D movements, Class 1
Torsion		Torsion ±180°, with 1m cable length, Class 3

Cable structure

Conductor Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).

Core insulation Mechanically high-quality TPE mixture.

Core identification ▶ Product range table

Element shield Extremely torsion-resistant tinned wound copper shield.
Coverage approx. 85% optical

Outer jacket Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2)
Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

Class 6.1.3.3

Basic requirements	low	1	2	3	4	5	**6**	7 highest
Travel distance	unsupported	**1**	2	3	4	5	6	≥ 400m
Oil resistance	none	1	2	**3**	4	highest		
Torsion	none	1	2	**3**	4	±360°		

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL verified	Certificate No. V293650: „igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CFROBOT9
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°C]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-25/-15	±150	±90	±30
-15/+70	±180	±120	±60
+70/+80	±150	±90	±30

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heaviest duty applications with torsion movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 1m cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, handling, spindle drives

CFROBOT9
PUR
±180°/m

Hybrid cable | PUR | chainflex® CFROBOT9

Class 6.1.3.3

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	1	2	**3**	4				±360°

CFROBOT9
PUR
±180°/m



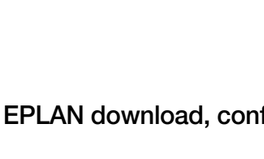
Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFROBOT9.007 [11]	(15x(2x0.25)C+(4x0.25)C)C	18.5	229	369
CFROBOT9.010 [11]	(4x(2x0.25)C)C	10.5	63	116

[11] Phase-out model

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

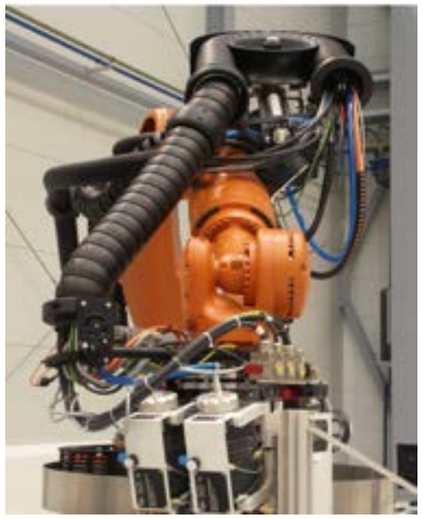
Part No.	Core group	Colour code
CFROBOT9.007 [11]	15x(2x0.25)C	colour code in accordance with DIN 47100
	(4x0.25)C	white/green/brown/yellow (CAN-Bus)
CFROBOT9.010 [11]	4x(2x0.25)C	white/brown, green/yellow, grey/pink, blue/red



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this page 24/25 and online: www.igus.eu/cf-case



igus® chainflex® cables in a triflex® R multi-dimensionally moving energy supply system for 6-axis robots

EPLAN download, configurators ▶ www.igus.eu/CFROBOT9

cables

Special c



chainflex® cable		Approvals and standards	Page
Special cables			
CFTHERMO	Thermocouple cable		424
CFFLAT	Single core flat cable		426
CFSPECIAL.182	Bus cable for hanging applications		428
CFSPECIAL.192	Hybrid cable for hanging applications		430
CFSPECIAL.532	Data cable for top drive applications		432
CFSPECIAL.562.PE	Motor cable for top drive applications		434
CFSPECIAL.572	Motor cable for top drive applications		436
CFSPECIAL.592	Hybrid cable for top drive applications		438
CFSPECIAL.792	Cable for axis 7 on robots		440

The following chapter of special cables offers solutions for moving applications going beyond standard energy supply.

The constantly growing program of special cables is in response to our customer requirements.

At the same time this can be an inspiration for users. igus® can make cables for special applications using many different materials and production processes.

Use our comprehensive knowledge about cables plus the experience of 2 billion test cycles that are annually achieved in the company's chainflex® laboratory.

The technical and material details of the CFSPECIAL families are documented in data sheets and are available on the internet. The respective web links can be recalled on the summary pages of the CFSPECIAL cables.

We look forward to hearing about your requirements!

chainflex® guarantee

As these are special cables for special applications, we ask you to contact us for information on the guaranteed lifetime:

Phone +49-2203 9649-0, info@igus.de

Thermocouple cable | PUR | chainflex® CFTHERMO

Class 5.4.3.1

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	**4**	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°



Example image

- For heavy duty applications
- PUR outer jacket
- Oil-resistant and coolant-resistant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 12.5 x d
	flexible	minimum 10 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	2m/s
	gliding	1m/s
a max.		20m/s²
Travel distance		Unsupported travels and up to 50m for gliding applications, Class 4

Cable structure

Conductor	Conductor consisting of a flexible special alloy. ▶ Product range table
Core insulation	Mechanically high-quality TPE mixture.
Core structure	The individual cores are wound in layers with a short pitch length.
Core identification	According to thermo specification. ▶ Product range table
Intermediate layer	Fleece taping over the external layer.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: According to thermo specification ▶ Product range table

Electrical information

Nominal voltage	300/300V (following DIN VDE 0298-3)
Testing voltage	1,500V

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 50m for gliding applications, Class 4
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications with average sun radiation
- Machining units/machine tools, storage and retrieval units for high-bay warehouses, packaging industry, quick handling, refrigerating sector

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFTHERMO.J.001	(2x0.23)C	5.5	9	36
CFTHERMO.K.001	(2x0.23)C	5.5	9	37
CFTHERMO.K.002 *	(2x0.23)C+3G0.5	7.5	24	67

* The cross-section of the copper conductor is equivalent to the electrically effective cross-section.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Part No.	Jacket colour	Thermo materials	Core group	Colour code
CFTHERMO.J.001 *	black	Fe-CuNi	(2x0.23)C	+ black, - white
CFTHERMO.K.001	green	NiCr-Ni	(2x0.23)C	+ green, - white
CFTHERMO.K.002	green	NiCr-Ni	(2x0.23)C	+ green, - white
		Cu	3G0.5	brown, blue, yellow-green

Single core flat cable | TPE | chainflex® CFFLAT

Example image

- For heaviest duty applications
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 5 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-50°C up to +90°C (following DIN EN 60811-504)
	fixed	-55°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		100m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5

Cable structure

Conductor	Highly flexible braided special conductor.
Core insulation	Mechanically high-quality TPE mixture.
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3)
Testing voltage	4,000V (following DIN EN 50395)

Class 7.5.4.1

Basic requirements	low	1	2	3	4	5	6	**7**	highest
Travel distance	unsupported	1	2	3	4	**5**	6	≥ 400m	
Oil resistance	none	1	2	3	**4**	highest			
Torsion	none	**1**	2	3	4	±360°			

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Typical application areas

- For heavy-duty applications, Class 7
- Unsupported travels and up to 100m for gliding applications, Class 5
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, for small installation spaces and bend radii, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, low-temperature applications

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer dimensions [mm]	Copper index [kg/km]	Weight [kg/km]
CFFLAT.40.01	1x4.0	14.0x5.5	48	117

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Bus cable for hanging applications | PUR

chainflex® CFSPECIAL.182



Example image

- For high tensile loads
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		100m/s²
Travel distance		For hanging applications up to 50 m

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	According to bus specification.
Core structure	According to bus specification.
Core identification	According to bus specification.
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	**1. Outer jacket:** PUR mixture adapted to suit the requirements in e-chains®. **Reinforcement:** High tensile strength aramid braid embedded in the outer jacket. **2. Outer jacket:** Low-adhesion, halogen-free PUR mixture, highly abrasion and bending-resistant, adapted to suit the requirements in hanging applications (following DIN EN 50363-10-2). Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	50V 300V (following UL)
Testing voltage	500V

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (in accordance with DIN EN 50363-10-2)
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CFSPECIAL182
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU

Typical application areas

- For high tensile loads
- For hanging applications up to 50 m
- Almost unlimited resistance to oil
- Storage and retrieval units, hanging control units, lifts

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFSPECIAL.182.045	(4x(2x0.15))C	9.5	42	136
CFSPECIAL.182.060 [11) 13)] PROFINET EtherCAT	(4x0.38)C	8.5	37	125

[11)] Phase-out model
[13)] Colour outer jacket: Yellow-green (RAL 6018)

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Part No.	Characteristic wave impedance approx. [Ω]	Core group	Colour code
Ethernet/CAT5e/PoE			
CFSPECIAL.182.045	100	(4x(2x0.15))C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Profinet			
CFSPECIAL.182.060	100	(4x0.38)C	white, orange, blue, yellow (star-quad)

PVC | iguPUR | **PUR** | TPE

Hybrid cable for hanging applications | PUR

chainflex® CFSPECIAL.192



- For high tensile loads
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Especially for MOVILINK® DDI technology from SEW-EURODRIVE

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	2m/s
a max.		50m/s²
Travel distance		For hanging applications up to 50 m

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture. **HF50-0.9/2.95:** Special PE mixture.
Core structure	Power cores and control pair elements wound with a short pitch length around a high tensile strength centre element.
Core identification	According to Servo-Hybrid specification. Current data sheet ▶ **www.igus.eu/CFSPECIAL192**
Element shield	Bending-resistant braiding made of tinned copper wires.
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	**1. Outer jacket:** PUR mixture adapted to suit the requirements in e-chains®. **Reinforcement:** High tensile strength aramid braid embedded in the outer jacket. **2. Outer jacket:** Low-adhesion, halogen-free PUR mixture, highly abrasion and bending-resistant, adapted to suit the requirements in hanging applications (following DIN EN 50363-10-2). Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Example image

Properties and approvals

Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL/CSA AWM	See data sheet for details ▶ **www.igus.eu/CFSPECIAL192**
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU

Typical application areas

- For high tensile loads
- For hanging applications up to 50 m
- Almost unlimited resistance to oil
- Storage and retrieval units, hanging control units, lifts

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFSPECIAL.192.H207.15.04.D	(4G1.5+2x(2x1.0)C +HF50-0.9/2.95)C	17.0	199	377

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

CFSP.192
PUR
10 x d

Data cable for top drive applications| PUR

chainflex® CFSPECIAL.532

Example image

- For top drive applications
- For heavy duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant

Now with DNV approval for top drive hanging applications up to 50m

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	sliding	2m/s
a max.		50m/s²
Travel distance		For top drive hanging applications up to 50m

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Cores twisted in pairs with a short pitch length, core pairs then wound with short pitch lengths.
Core identification	Black cores with white numbers.
Inner jacket	Mechanically high-quality TPE mixture.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	**1. Outer jacket:** PUR mixture adapted to suit the requirements in e-chains®. **Reinforcement:** High tensile strength aramid braid embedded in the outer jacket. **2. Outer jacket:** Low-adhesion, halogen-free PUR mixture, highly abrasion and bending-resistant, adapted to suit the requirements in top drive hanging applications (following DIN EN 50363-10-2). Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (in accordance with DIN EN 50363-10-2)
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CFSPECIAL532
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00004G4
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II)
CE	Following 2014/35/EU

Typical application areas

- For high tensile loads
- Almost unlimited resistance to oil
- For top drive hanging applications up to 50m

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFSPECIAL.532.15.08.02	(8x(2x1.5)C)C	30.0	513	1014
CFSPECIAL.532.15.16.02	(16x(2x1.5)C)C	36.5	972	1669

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

EPLAN download, configurators ▶ www.igus.eu/CFSPECIAL532

CFSP.532
PUR
10 x d

Motor cable for top drive applications | PUR

chainflex® CFSPECIAL.562.PE

- For top drive applications
- For heavy duty applications
- PUR outer jacket
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant

Now with DNV approval for top drive hanging applications up to 50m

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	sliding	2m/s
a max.		50m/s²
Travel distance		For top drive hanging applications up to 50m

Cable structure

Conductor	Conductor cable consisting of pre-leads (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core identification	Green-yellow
Outer jacket	**1. Outer jacket:** PUR mixture adapted to suit the requirements in e-chains®. **Reinforcement:** High tensile strength aramid braid embedded in the outer jacket. **2. Outer jacket:** Low-adhesion, halogen-free PUR mixture, highly abrasion and bending-resistant, adapted to suit the requirements in top drive hanging applications (following DIN EN 50363-10-2). Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)



Example image

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (in accordance with DIN EN 50363-10-2)
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CFSPECIAL562PE
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00004G3
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II)
CE	Following 2014/35/EU

Typical application areas

- For high tensile loads
- Almost unlimited resistance to oil
- For top drive hanging applications up to 50m

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFSPECIAL.562.PE.700.01	1G70	19.5	713	867

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

CFSP.562.
PE
PUR
10 x d

Motor cable for top drive applications | PUR

chainflex® CFSPECIAL.572

- For top drive applications
- For heavy duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant

Now with DNV approval for top drive hanging applications up to 50m

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	sliding	2m/s
a max.		50m/s²
Travel distance		For top drive hanging applications up to 50m

Cable structure

Conductor	Conductor cable consisting of pre-leads (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	**1. Outer jacket:** PUR mixture adapted to suit the requirements in e-chains®. **Reinforcement:** High tensile strength aramid braid embedded in the outer jacket. **2. Outer jacket:** Low-adhesion, halogen-free PUR mixture, highly abrasion and bending-resistant, adapted to suit the requirements in top drive hanging applications (following DIN EN 50363-10-2). Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (in accordance with DIN EN 50363-10-2)
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CFSPECIAL572
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00004G3
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II)
CE	Following 2014/35/EU

Typical application areas

- For high tensile loads
- Almost unlimited resistance to oil
- For top drive hanging applications up to 50m

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFSPECIAL.572.2400.01	(1x240)C	34.5	2581	3081
CFSPECIAL.572.3000.01	(1x300)C	37.5	3189	3799
CFSPECIAL.572.4000.01	(1x400)C	42.0	4269	5007

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Example image

CFSP.572
PUR
10 x d

PVC | iguPUR | **PUR** | TPE

Hybrid cable for top drive applications | PUR

chainflex® CFSPECIAL.592



Example image

- For top drive applications
- For heavy duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant

Now with DNV approval for top drive hanging applications up to 50m

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	sliding	2m/s
a max.		50m/s²
Travel distance		For top drive hanging applications up to 50m

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Inner jacket	Mechanically high-quality TPE mixture.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	**1. Outer jacket:** PUR mixture adapted to suit the requirements in e-chains®. **Reinforcement:** High tensile strength aramid braid embedded in the outer jacket. **2. Outer jacket:** Low-adhesion, halogen-free PUR mixture, highly abrasion and bending-resistant, adapted to suit the requirements in top drive hanging applications (following DIN EN 50363-10-2). Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (in accordance with DIN EN 50363-10-2)
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CFSPECIAL592
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00004KR
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II)
CE	Following 2014/35/EU

Typical application areas

- For high tensile loads
- Almost unlimited resistance to oil
- For top drive hanging applications up to 50m

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFSPECIAL.592.001	(30G4.0+4x(2x2.5)C)C	44.0	1,750	2630

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

CFSP.592
PUR
10 x d

PVC | iguPUR | **PUR** | TPE

Cable for axis 7 on robots | PUR | CFSPECIAL.792

Example image

- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
	gliding	2m/s
a max.		20m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5

Cable structure

Conductor	Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core identification	▶ Product range table
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 50%, optical approx. 80%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CFSPECIAL792
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU

Typical application areas

- Reliable e-chain® cable for the seventh robot axis
- Electrical properties in line with Kuka (.011/.013/.014), ABB (.012) and Fanuc (.015/.016)

PVC | iguPUR | **PUR** | TPE

Cable for axis 7 on robots | PUR | CFSPECIAL.792



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
ABB				
CFSPECIAL.792.012	(18G2.5)C	25.5	545	882
Fanuc				
CFSPECIAL.792.015	(7x(6x2.0))C	36.5	999	1747
CFSPECIAL.792.016	(5x(4x0.25)+10x(3x0.75))C	26.5	422	877
KUKA				
CFSPECIAL.792.011	(5x(2x6.0+2x2.5)+2x(6x1.0)C)C	35.5	1250	2033
CFSPECIAL.792.013	((6x1.5)C+3x(3x4)+1G6)C	28.0	679	1220
CFSPECIAL.792.014	(2x(3x1.5)C+3x(3x10)+1G10)C	35.5	1340	2122

Part No.	Core group	Colour code
ABB		
CFSPECIAL.792.012	(18G2.5)C	Black cores with white numbers 1-17, one green-yellow core
Fanuc		
CFSPECIAL.792.015	(7x(6x2.0))C	Black cores with white numbers 1-29 Blue cores with white numbers 1-4 Yellow cores with black numbers 1-9
CFSPECIAL.792.016	5x(4x0.25)	(blue/violet/brown/green), (grey/violet/yellow/brown), (grey/blue/brown/green), (grey/blue/green/yellow), (green/violet/brown/yellow)
	10x(3x0.75)	Brown cores with white numbers 1, 7, 24 & 30 Black cores with white numbers 16-21 Blue cores with white numbers 2, 8 & 25 Green cores with black numbers 3, 9 & 26 Yellow cores with black numbers 5, 22 & 28 Red cores with white numbers 11-15 Violet cores with white numbers 4, 10 & 27 Grey cores with black numbers 6, 23 & 29
KUKA		
CFSPECIAL.792.011	10x6.0	Black cores with white numbers 1-9, one green-yellow core
	10x2.5	Black cores with white numbers 10-18, one green-yellow core
	2x(6x1.0)C	Black cores with white numbers 19-30
CFSPECIAL.792.013	(6x1.5)C	Black cores with white numbers 10-15
	3x(3x4)	Black cores with white numbers 1-9
	1G6	Green-yellow core
CFSPECIAL.792.014	2x(3x1.5)C	Black cores with white numbers 10-15
	3x(3x10)	Black cores with white numbers 1-9
	1G10	Green-yellow core

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

CFCLEAN

Cables for cleanroom applications



chainflex® cable	Minimum bend radius e-skin® flat [x d]	Temperature e-skin® flat from/to [°C]	Approvals and standards	v max. [m/s] unsupported	a max.	Page	
CFCLEAN elements for cleanroom applications							
Information about e-skin® flat with chainflex® CFCLEAN						446	
Control elements							
CFCLEAN1	70	-10/+80		2	40	450	New
Coax elements							
CFCLEAN2	70	-10/+80		2	40	452	New
Data elements							
CFCLEAN3	70	-10/+80		2	40	454	New
Measuring system elements							
CFCLEAN4	70	-10/+80		2	40	456	New
Motor elements							
CFCLEAN7	70	-10/+80		2	40	458	New
Bus elements							
CFCLEAN8	70	-10/+80		2	40	460	New

chainflex® guarantee

These series are solutions for special applications, please contact igus® for information about the service life guarantee:

Phone +49-2203 9649-0, info@igus.de

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

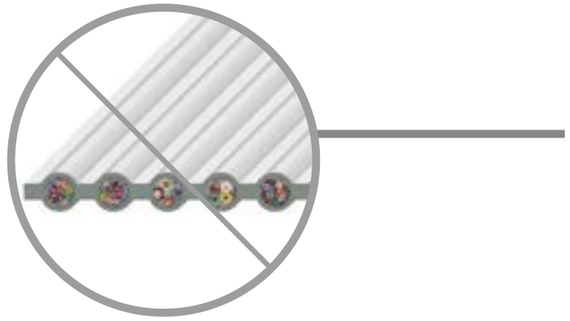
igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

UL-verified chainflex® guarantee ... www.igus.eu/ul-verified

e-skin® flat ...

... increases your overall effectiveness
... generates higher production yields
... modular and compact
... resource- and maintenance-friendly
... www.igus.eu/e-skin-flat

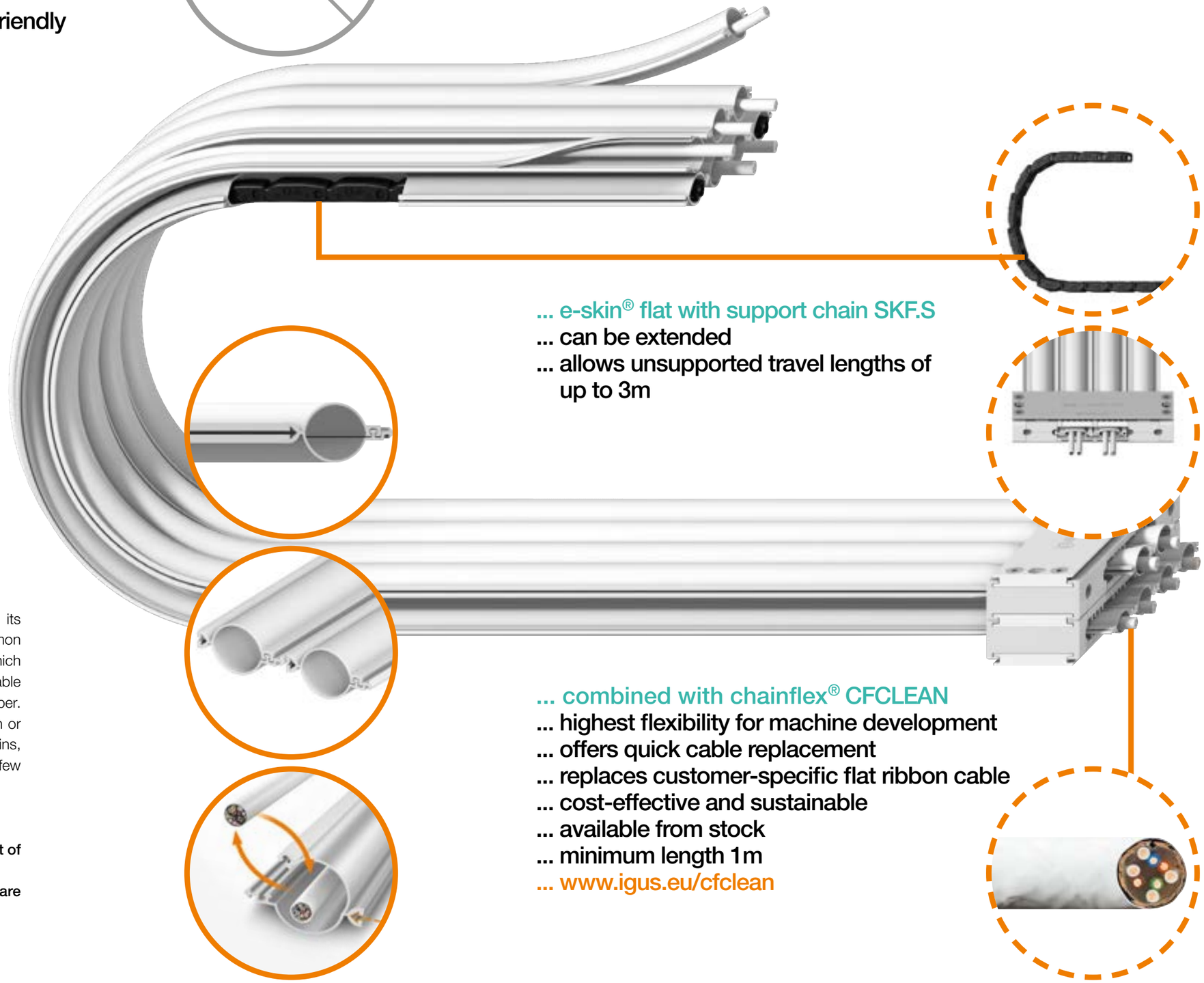
clean-room



Commercially available ribbon cables with permanently integrated cable elements: the entire system must be replaced if damaged.

Fraunhofer IPA TESTED DEVICE

e-skin® flat system certified according to EN ISO Class 1
Report IG 2102-1212



... e-skin® flat with support chain SKF.S
... can be extended
... allows unsupported travel lengths of up to 3m

... combined with chainflex® CFCLEAN
... highest flexibility for machine development
... offers quick cable replacement
... replaces customer-specific flat ribbon cable
... cost-effective and sustainable
... available from stock
... minimum length 1m
... www.igus.eu/cfclean

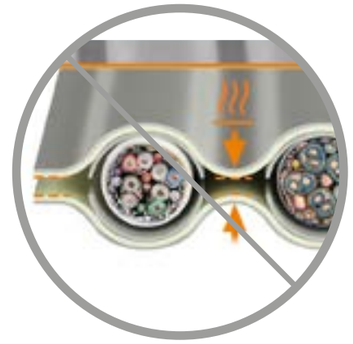
The main advantages of the e-skin® flat are its modularity and ease of maintenance. Unlike common solutions that use defined flat ribbon cables, in which stranded elements are firmly fixed, the e-skin® flat cable guide system is designed with an openable chamber. Flexible chainflex® CFCLEAN cable elements (with or without connectors), e-skin® flat with support chains, hoses, etc. can now be replaced or added in a few minutes.

- **Highly efficient in prototype phases**
- **Maximum availability due to easy replacement of individual elements**
- **Saving resources, as only individual elements are replaced in case of damage**

chainflex® CFCLEAN ...

... made for the e-skin® flat
... great flexural strength thanks to special very finely stranded conductors
... protected by highly abrasion-resistant heat-sealed film
... no outer jacket, so it is small and lightweight
... for energy, bus and data
... available from stock ...
... www.igus.eu/cfclean

Commercially available ribbon cables
with permanently welded cable elements





e-skin® flat cable guide systems combined with chainflex® CFCLEAN cables, constitute the further development of the conventional PTFE trackless cables for cables guides in the production environment of displays, semiconductors and OLEDs as well as in medical technology. The strengths of the PTFE ribbon cable have been enhanced and the intrinsic weaknesses eliminated. The new e-skin® flat cable guide system is the result of this refinement.

- Stiff cable jackets prevent system bending
- Low restoring forces:
  ... due to highly flexible stranded structures
  ... special conductors
  ... no outer jacket required
- CFCLEAN chainflex® adapted to the application with up to 21% less weight than conventional cables
- About 16% smaller diameter than standard cables with jacket
- Minimum order length 1m
- All standard core/cross section combinations: data, bus, control, motor – available from stock, with a guarantee of up to 4 years

clean-room

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

New

Control elements | chainflex® CFCLEAN1

Example image

40 million
Double strokes guaranteed

Min. 70mm
bend radius e-skin® flat

3m
travel distance e-skin® flat

- **For heaviest duty applications in e-skin® flat**
- **PTFE foil wrap**
- **Shielded**
- **Highly abrasion-resistant**
- **PVC-free**

Now with double the service life

Dynamic information

Bend radius	**e-skin® flat linear**	min. 70mm (further radii in preparation, please see data sheet)
	fixed	minimum 3 x d
Temperature	**e-skin® linear**	-10°C up to +80°C
	fixed	-25°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	2m/s
a max.		40m/s²
Travel distance		Short, very fast applications with small radii and restricted installation space in an e-skin® flat

Cable structure

Conductor	Very finely stranded special conductors with especially soft and bending resistant design, made of bare copper wires.
Core insulation	Mechanically high-quality FEP mixture.
Core structure	Cores wound in a layer with especially short pitch length.
Core identification	**Cores < 0.5mm²:** Colour code in accordance with DIN 47100. **Cores ≥ 0.5mm²:** White cores with black numbers, one green-yellow core.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer film	Low-adhesion, extremely abrasion-resistant and highly flexible PTFE wrap, adapted to suit the requirements in e-skin® flat. Colour: White

Electrical information

Nominal voltage	300/300V 300V (following UL)
Testing voltage	2,000V

Properties and approvals

Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year”
UL AWM	See data sheet for details ▶ **www.igus.eu/CFCLEAN1**
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	Air Purity Class 1, material/stranded structure tested by IPA according to ISO 14644-14, test report IG 2107-1242
CE	Following 2014/35/EU

Typical application areas

- For heaviest duty applications and especially small radii in cleanroom with e-skin® flat
- Especially for short, very fast applications with small radii and restricted installation space
- Indoor applications with e-skin® flat
- Semi-conductor/OLED manufacturing, medical cleanroom

chainflex® CFCLEAN are not cables in the sense of the standards for wires and cables. Due to the absence of the outer jacket in CFCLEAN, which provides mechanical protection for cables, the use of chainflex® CFCLEAN is only permitted in e-skin® flat.

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFCLEAN1.02.04	(4x0.25)C	3.5	21	27
CFCLEAN1.03.02	(2x0.34)C	3.5	17	22
CFCLEAN1.03.07	(7x0.34)C	5.0	40	50
CFCLEAN1.05.04	(4G0.5)C	5.0	36	49
CFCLEAN1.07.04	(4G0.75)C	5.0	50	63
CFCLEAN1.07.05	(5G0.75)C	5.5	58	74
CFCLEAN1.10.02	(2x1.0)C	5.0	37	49

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

New

Coax elements | chainflex® CFCLEAN2



Example image

40 million
Double strokes guaranteed

Min. 70mm
bend radius e-skin® flat

3m
travel distance e-skin® flat

- **For heaviest duty applications in e-skin® flat**
- **PTFE foil wrap**
- **Shielded**
- **Highly abrasion-resistant**
- **PVC-free**

Now with double the service life

Dynamic information

Bend radius	**e-skin® flat linear**	minimum 70mm (further radii in preparation, please see data sheet)
	fixed	minimum 3 x d
Temperature	**e-skin® linear**	-10°C up to +80°C
	fixed	-25°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	2m/s
a max.		40m/s²
Travel distance		Short, very fast applications with small radii and restricted installation space in an e-skin® flat

Cable structure

Conductor	Very finely stranded special conductors with especially soft and bending resistant design, made of bare copper wires.
Core insulation	Mechanically high-quality PTFE mixture.
Core structure	Cores wound in a layer with especially short pitch length.
Core identification	White core with black imprint ▶ Product range table
Element shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer film	Low-adhesion, extremely abrasion-resistant and highly flexible PTFE wrap, adapted to suit the requirements in e-skin® flat. Colour: White

Electrical information

Nominal voltage	300/300V
Testing voltage	2,000V

Properties and approvals

Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year”
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	Air Purity Class 1, material/stranded structure tested by IPA according to ISO 14644-14, test report IG 2107-1242
CE	Following 2014/35/EU

Typical application areas

- For heaviest duty applications and especially small radii in cleanroom with e-skin® flat
- Especially for short, very fast applications with small radii and restricted installation space
- Indoor applications with e-skin® flat
- Semi-conductor/OLED manufacturing, medical cleanroom

chainflex® CFCLEAN are not cables in the sense of the normal standards for cables. Due to the absence of the outer jacket in CFCLEAN, which provides mechanical protection for cables, the use of chainflex® CFCLEAN is only permitted inside e-skin® flat.

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFCLEAN2.KOAX1.03	3xHF75-0.3/1.6	6.5	23	57

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Part No.	Characteristic wave impedance approx. [Ω]	Core identification
CFCLEAN2.KOAX1.03	75	Coax 75Ohm -1-, Coax 75Ohm -2-, Coax 75Ohm -3-

New

Data elements | chainflex® CFCLEAN3



Example image

40 million
Double strokes guaranteed

Min. 70mm
bend radius e-skin® flat

3m
travel distance e-skin® flat

- For heaviest duty applications in e-skin® flat
- PTFE foil wrap
- Shielded
- Highly abrasion-resistant
- PVC-free

Now with double the service life

Dynamic information

Bend radius	**e-skin® flat linear**	minimum 70mm (further radii in preparation, please see data sheet)
	fixed	minimum 3 x d
Temperature	**e-skin® linear**	-10°C up to +80°C
	fixed	-25°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	2m/s
a max.		40m/s²
Travel distance		Short, very fast applications with small radii and restricted installation space in an e-skin® flat

Cable structure

Conductor	Very finely stranded special conductors with especially soft and bending resistant design, made of bare copper wires.
Core insulation	Mechanically high-quality FEP mixture.
Core structure	Cores twisted in pairs with a short pitch length, core pairs then wound with short pitch lengths.
Core identification	▶ Product range table
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer film	Low-adhesion, extremely abrasion-resistant and highly flexible PTFE wrap, adapted to suit the requirements in e-skin® flat. Colour: White

Electrical information

Nominal voltage	300/300V 300V (following UL)
Testing voltage	2,000V

Properties and approvals

Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year”
UL AWM	See data sheet for details ▶ www.igus.eu/CFCLEAN3
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	Air Purity Class 1, material/stranded structure tested by IPA according to ISO 14644-14, test report IG 2107-1242
CE	Following 2014/35/EU

Typical application areas

- For heaviest duty applications and especially small radii in cleanroom with e-skin® flat
- Especially for short, very fast applications with small radii and restricted installation space
- Indoor applications with e-skin® flat
- Semi-conductor/OLED manufacturing, medical cleanroom

chainflex® CFCLEAN are not cables in the sense of the normal standards for cables. Due to the absence of the outer jacket in CFCLEAN, which provides mechanical protection for cables, the use of chainflex® CFCLEAN is only permitted inside e-skin® flat.

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFCLEAN3.01.05.02	(5x(2x0.14))C	5.0	33	43
CFCLEAN3.01.06.02	(6x(2x0.14))C	5.5	36	50
CFCLEAN3.01.08.02	(8x(2x0.14))C	6.0	47	61
CFCLEAN3.02.03.02	(3x(2x0.25))C	5.0	34	44
CFCLEAN3.02.04.02	(4x(2x0.25))C	5.5	42	58
CFCLEAN3.02.05.02	(5x(2x0.25))C	5.5	50	63
CFCLEAN3.02.06.02	(6x(2x0.25))C	6.0	52	70

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Part No.	Core identification
CFCLEAN3.01.05.02	brown/white, green/white, yellow/white, grey/white, pink/white
CFCLEAN3.01.06.02	brown/white, green/white, yellow/white, grey/white, pink/white, blue/white
CFCLEAN3.01.08.02	brown/white, green/white, yellow/white, grey/white, pink/white, blue/white, red/white black/white
CFCLEAN3.02.03.02	brown/white, green/white, yellow/white
CFCLEAN3.02.04.02	brown/white, green/white, yellow/white, grey/white
CFCLEAN3.02.05.02	brown/white, green/white, yellow/white, grey/white, pink/white
CFCLEAN3.02.06.02	brown/white, green/white, yellow/white, grey/white, pink/white, blue/white

CFCLEAN3

Measuring system elements | chainflex® CFCLEAN4

New



40 million
Double strokes guaranteed

Min. 70mm
bend radius e-skin® flat

3m
travel distance e-skin® flat

- For heaviest duty applications in e-skin® flat
- PTFE foil wrap
- Shielded
- Highly abrasion-resistant
- PVC-free

Now with double the service life

Dynamic information

Bend radius	**e-skin® flat linear**	minimum 70mm (further radii in preparation, please see data sheet)
	fixed	minimum 3 x d
Temperature	**e-skin® linear**	-10°C up to +80°C
	fixed	-25°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	2m/s
a max.		40m/s²
Travel distance		Short, very fast applications with small radii and restricted installation space in an e-skin® flat

Cable structure

Conductor	Very finely stranded special conductors with especially soft and bending resistant design, made of bare copper wires.
Core insulation	Mechanically high-quality FEP mixture.
Core structure	According to measuring system specification.
Core identification	According to measuring system specification.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer film	Low-adhesion, extremely abrasion-resistant and highly flexible PTFE wrap, adapted to suit the requirements in e-skin® flat. Colour: White

Electrical information

Nominal voltage	300/300V 300V (following UL)
Testing voltage	2,000V

Example image

Properties and approvals

Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year”
UL AWM	See data sheet for details ▶ www.igus.eu/CFCLEAN4
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	Air Purity Class 1, material/stranded structure tested by IPA according to ISO 14644-14, test report IG 2107-1242
CE	Following 2014/35/EU

Typical application areas

- For heaviest duty applications and especially small radii in cleanroom with e-skin® flat
- Especially for short, very fast applications with small radii and restricted installation space
- Indoor applications with e-skin® flat
- Semi-conductor/OLED manufacturing, medical cleanroom

chainflex® CFCLEAN are not cables in the sense of the normal standards for cables. Due to the absence of the outer jacket in CFCLEAN, which provides mechanical protection for cables, the use of chainflex® CFCLEAN is only permitted inside e-skin® flat.

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFCLEAN4.015	(4x(2x0.14)+4x0.5)C	6.5	60	77

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Part No.	Core group	Colour code
CFCLEAN4.015	4x(2x0.14)	brown/green, yellow/violet, grey/pink, red/black
	4x0.5	blue, white, brown-green, white-green

CFCLEAN4

igus® chainflex® CFCLEAN4

New

Motor elements | chainflex® CFCLEAN7



Example image

40 million
Double strokes guaranteed

Min. 70mm
bend radius e-skin® flat

3m
travel distance e-skin® flat

- For heaviest duty applications in e-skin® flat
- PTFE foil wrap
- Shielded
- Highly abrasion-resistant
- PVC-free

Now with double the service life

Dynamic information

Bend radius	**e-skin® flat linear**	minimum 70mm (further radii in preparation, please see data sheet)
	fixed	minimum 3 x d
Temperature	**e-skin® linear**	-10°C up to +80°C
	fixed	-25°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	2m/s
a max.		40m/s²
Travel distance		Short, very fast applications with small radii and restricted installation space in an e-skin® flat

Cable structure

Conductor	Very finely stranded special conductors with especially soft and bending resistant design, made of bare copper wires.
Core insulation	Mechanically high-quality FEP mixture.
Core structure	Cores wound in a layer with especially short pitch length.
Core identification	**Power cores:** White cores with black numbers 1-3, one green-yellow core. **1 Control pair:** white, black
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer film	Low-adhesion, extremely abrasion-resistant and highly flexible PTFE wrap, adapted to suit the requirements in e-skin® flat. Colour: White

Electrical information

Nominal voltage	600/1,000V 600V (following UL)
Testing voltage	3,000V

Properties and approvals

Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year”
UL AWM	See data sheet for details ▶ www.igus.eu/CFCLEAN7
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	Air Purity Class 1, material/stranded structure tested by IPA according to ISO 14644-14, test report IG 2107-1242
CE	Following 2014/35/EU

Typical application areas

- For heaviest duty applications and especially small radii in cleanroom with e-skin® flat
- Especially for short, very fast applications with small radii and restricted installation space
- Indoor applications with e-skin® flat
- Semi-conductor/OLED manufacturing, medical cleanroom

chainflex® CFCLEAN are not cables in the sense of the normal standards for cables. Due to the absence of the outer jacket in CFCLEAN, which provides mechanical protection for cables, the use of chainflex® CFCLEAN is only permitted inside e-skin® flat.

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFCLEAN7.15.03.02.01	(4G1.5+(2x0.34)C)C	9.5	126	176
CFCLEAN7.15.04	(4G1.5)C	8.0	94	131
CFCLEAN7.PE.25.01	(1G2.5)C	4.5	41	73

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

New

Bus elements | chainflex® CFCLEAN8



Example image

40 million
Double strokes guaranteed

Min. 70mm
bend radius e-skin® flat

3m
travel distance e-skin® flat

- **For heaviest duty applications in e-skin® flat**
- **PTFE foil wrap**
- **Shielded**
- **Highly abrasion-resistant**
- **PVC-free**

Now with double the service life

Dynamic information

Bend radius	**e-skin® flat linear**	minimum 70mm (further radii in preparation, please see data sheet)
	fixed	minimum 3 x d
Temperature	**e-skin® linear**	-10°C up to +80°C
	fixed	-25°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	2m/s
a max.		40m/s²
Travel distance		Short, very fast applications with small radii and restricted installation space in an e-skin® flat

Cable structure

Conductor	Very finely stranded special conductors with especially soft and bending resistant design, made of bare copper wires.
Core insulation	Mechanically high-quality FEP mixture.
Core structure	According to bus specification.
Core identification	According to bus specification. ▶ Product range table
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer film	Low-adhesion, extremely abrasion-resistant and highly flexible PTFE wrap, adapted to suit the requirements in e-skin® flat. Colour: White

Electrical information

Nominal voltage	300/300V
Testing voltage	2,000V

Properties and approvals

Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. V293650: “igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year”
UL AWM	See data sheet for details ▶ www.igus.eu/CFCLEAN8
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	Air Purity Class 1, material/stranded structure tested by IPA according to ISO 14644-14, test report IG 2107-1242
CE	Following 2014/35/EU

Typical application areas

- For heaviest duty applications and especially small radii in cleanroom with e-skin® flat
- Especially for short, very fast applications with small radii and restricted installation space
- Indoor applications with e-skin® flat
- Semi-conductor/OLED manufacturing, medical cleanroom

chainflex® CFCLEAN are not cables in the sense of the normal standards for cables. Due to the absence of the outer jacket in CFCLEAN, which provides mechanical protection for cables, the use of chainflex® CFCLEAN is only permitted inside e-skin® flat.

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
Ethernet/CAT5e				
CFCLEAN8.045	(4x(2x0.14))C	5.5	34	47

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Part No.	Characteristic wave impedance approx. [Ω]	Core group	Colour code
Ethernet/CAT5e			
CFCLEAN8.045	100	4x(2x0.14)	white/blue, white/orange, white/green, white/brown

Pneumatic hose | PUR | chainflex® CFAIR



- For heaviest duty applications
- PUR hose
- Oil-resistant and coolant-resistant
- Abrasion-resistant
- Outside-toleranced
- PVC and halogen-free

Dynamic information

Bend radius	**flexible**	minimum 10 x d
	fixed	minimum 7.5 x d
Temperature	**flexible**	-25°C up to +80°C
	fixed	-40°C up to +85°C
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		50m/s²

Technical data

Material	Abrasion-resistant polyurethane adapted to suit the requirements in e-chains®. Colour: Blue
Dimensions	Outside-toleranced
Operating pressure	12 bar at 20°C
Vacuum	-1 bar at 20°C

Properties and approvals

Oil resistance	Oil-resistant
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
Lead-free	Following 2011/65/EC (RoHS-II)

Part No.	Max. package length [km]	Inner diameter [mm]	Wall thickness [mm]	Outer diameter (d) max. [mm]	Weight [g/m]
CAPU.A.04.0	1.0	2.7	0.65	4.0	8
CAPU.A.06.0	0.5	4.0	1.00	6.0	19
CAPU.A.08.0	0.5	5.7	1.15	8.0	30
CAPU.A.10.0	0.3	7.0	1.5	10.0	48
CAPU.A.12.0	0.2	8.0	2.00	12.0	76
CAPU.A.16.0	0.1	11.0	2.50	16.0	127



igus® chainflex® CFAir pneumatic hoses were tested over several million bending cycles in e-chains®. Their outstanding features include flexibility, high abrasion resistance and very good resistance to oil and coolants.

Example image

Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case

Pneumatic hose | PE | chainflex® CFCleanAIR



- For heaviest duty applications
- PE hose
- Oil-resistant and coolant-resistant
- Highly abrasion-resistant
- Outside-toleranced
- PVC and halogen-free

Dynamic information

Bend radius	**flexible**	minimum 10 x d
	fixed	minimum 7.5 x d
Temperature	**flexible**	-25°C up to +60°C
	fixed	-30°C up to +65°C
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		50m/s²

Technical data

Material	Highly abrasion-resistant polyethylene adapted to suit the requirements in e-chains®. Colour: White
Dimensions	Outside-toleranced
Operating pressure	10 bar at 20°C
Vacuum	-0.95 bar at 20°C

Properties and approvals

Oil resistance	Oil-resistant
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
Lead-free	Following 2011/65/EC (RoHS-II)
Cleanroom	According to ISO Class 1, material/hose tested by IPA according to DIN EN ISO standard 14644-1

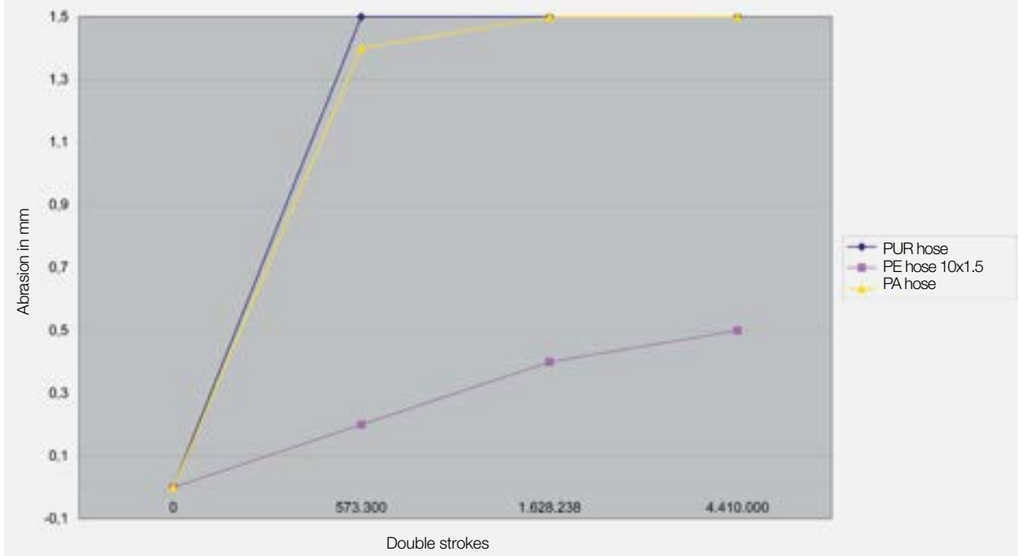
Example image

Part No.	Max. package length [km]	Inner diameter [mm]	Wall thickness [mm]	Outer diameter (d) max. [mm]	Weight [g/m]
CAPE.A.04.0	1.0	2.7	0.65	4.0	8
CAPE.A.06.0	0.5	4.0	1.00	6.0	15
CAPE.A.08.0	0.5	5.7	1.15	8.0	21
CAPE.A.10.0	0.3	7.0	1.5	10.0	38
CAPE.A.12.0	0.2	8.0	2.00	12.0	54
CAPE.A.16.0	0.1	11.0	2.50	16.0	90



igus® material abrasion test

Comparison: Abrasion of pneumatic hoses PUR, PE und PA in combination with igus® e-chain® (with crossbar 450.30)





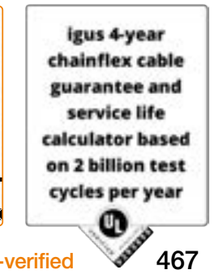
Camera

Video / vision / bus technology

chainflex® readycable®

	Cable type		Jacket	Page
Harnessed bus cables				
	FireWire	Pre-harnessed cable	TPE	468
	USB 2.0	Pre-harnessed cable	PVC/PUR/TPE	470
	USB 3.0	Pre-harnessed cable	PVC/PUR	471
	GigE	Pre-harnessed cable	PUR-ROBOT/TPE	472
	DVI-D/HDMI	Pre-harnessed cable	TPE	473
Harnessed coax cables				
	Coax	Pre-harnessed cable (BNC/SMA)	TPE	474
	VGA	Pre-harnessed cable	TPE	477





Harnessed bus cable | FireWire

* Technical information on the cable quality:
TPE
Page 196

Harnessed bus cables, FireWire, to your required length					
Cable quality	**Part No.**	**chainflex® cable**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Socket A/Socket A Pre-harnessed at both ends					
TPE	**MAT9048160**	**CFBUS.055**	2x(2x0.15)C+2x(0.34)C	8.0	12.5
Socket A/Pin A Pre-harnessed at both ends					
TPE	**MAT9048621**	**CFBUS.055**	2x(2x0.15)C+2x(0.34)C	8.0	12.5
Socket A/Socket B Pre-harnessed at both ends					
TPE	**MAT9048623**	**CFBUS.055**	2x(2x0.15)C+2x(0.34)C	8.0	12.5
Socket A/Pin B Pre-harnessed at both ends					
TPE	**MAT9048625**	**CFBUS.055**	2x(2x0.15)C+2x(0.34)C	8.0	12.5
Pin B/Pin B Pre-harnessed at both ends					
TPE	**MAT9048627**	**CFBUS.055**	2x(2x0.15)C+2x(0.34)C	8.0	12.5
Pin A/Pin A Pre-harnessed at both ends					
TPE	**MAT9048620**	**CFBUS.055**	2x(2x0.15)C+2x(0.34)C	8.0	12.5
Pin A/Socket B Pre-harnessed at both ends					
TPE	**MAT9048622**	**CFBUS.055**	2x(2x0.15)C+2x(0.34)C	8.0	12.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ► Page 961

Harnessed bus cables, FireWire, to your required length					
Cable quality	**Part No.**	**chainflex® cable**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Pin A/Pin B Pre-harnessed at both ends					
TPE	**MAT9048624**	**CFBUS.055**	2x(2x0.15)C+2x(0.34)C	8.0	12.5
Socket B/Socket B Pre-harnessed at both ends					
TPE	**MAT9048626**	**CFBUS.055**	2x(2x0.15)C+2x(0.34)C	8.0	12.5
Socket B/Pin B Pre-harnessed at both ends					
TPE	**MAT9048628**	**CFBUS.055**	2x(2x0.15)C+2x(0.34)C	8.0	12.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ► Page 961

Harnessed with these connectors	
Socket A (connector body), with clip	
Pin A (pin body), with clip	
Socket B (moulded connector), without clip	
Pin B (Moulded connector), without clip	

Maximum transmission length: 10m

Harnessed bus cables | USB 2.0

* Technical information on the cable quality:

TPE
Page 196

Harnessed bus cables, USB 2.0, to your required length

Cable quality	Part No.	chainflex® cable	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
USB type A/open cable end					
Pre-harnessed at one end					
TPE	**USB9040001**	**CFBUS.065**	((2xAWG28)+2xAWG20)C	5.5	12.5
TPE	**USB9040201** [1]	**CFBUS.065**	((2xAWG28)+2xAWG20)C	5.5	12.5
USB type A/A					
Pre-harnessed at both ends					
TPE	**USB9040010**	**CFBUS.065**	((2xAWG28)+2xAWG20)C	5.5	12.5
TPE	**USB9040210** [1]	**CFBUS.066**	((2xAWG24)+2xAWG20)C	6.5	12.5
USB type B/open cable end					
Pre-harnessed at one end					
TPE	**USB9040020**	**CFBUS.065**	((2xAWG28)+2xAWG20)C	5.5	12.5
TPE	**USB9040220** [1]	**CFBUS.066**	((2xAWG24)+2xAWG20)C	6.5	12.5
USB type B/B					
Pre-harnessed at both ends					
TPE	**USB9040030**	**CFBUS.065**	((2xAWG28)+2xAWG20)C	5.5	12.5
TPE	**USB9040230** [1]	**CFBUS.066**	((2xAWG24)+2xAWG20)C	6.5	12.5
USB type A/B					
Pre-harnessed at both ends					
TPE	**USB9040040**	**CFBUS.065**	((2xAWG28)+2xAWG20)C	5.5	12.5
TPE	**USB9040240** [1]	**CFBUS.066**	((2xAWG24)+2xAWG20)C	6.5	12.5
USB type A/A (socket)					
Pre-harnessed at both ends					
TPE	**USB9040060**	**CFBUS.065**	((2xAWG28)+2xAWG20)C	5.5	12.5
TPE	**USB9040260** [1]	**CFBUS.066**	((2xAWG24)+2xAWG20)C	6.5	12.5

[1]CFBUS.066 is delivered with heat shrink tubing over USB housing.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed with these connectors

USB 2.0 type A



USB 2.0 type B



USB 2.0 type A (socket)



Maximum transmission length: 5m up to 10m

Harnessed bus cables | USB 3.0

* Technical information on the cable quality:

PVC OIL
Page 184

PUR
Page 192

Harnessed bus cables, USB 3.0, in fixed lengths

Cable quality	Part No.	chainflex® cable	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]	Cable length [m]
USB 3.0 type A/open cable end						
Pre-harnessed at one end						
PVC, oil-res.	**USB9640200**	**CFBUS.PVC.068**	(2x(2xAWG28)+2x(2xAWG28)C)C	7.0	12.5	3
PVC, oil-res.	**USB9640201**	**CFBUS.PVC.068**	(2x(2xAWG28)+2x(2xAWG28)C)C	7.0	12.5	5
PVC, oil-res.	**USB9640202**	**CFBUS.PVC.068**	(2x(2xAWG28)+2x(2xAWG28)C)C	7.0	12.5	7
PUR	**USB9540200**	**CFBUS.PUR.068**	(2x(2xAWG28)+2x(2xAWG28)C)C	7.0	12.5	3
PUR	**USB9540201**	**CFBUS.PUR.068**	(2x(2xAWG28)+2x(2xAWG28)C)C	7.0	12.5	5
PUR	**USB9540202**	**CFBUS.PUR.068**	(2x(2xAWG28)+2x(2xAWG28)C)C	7.0	12.5	7
USB 3.0 type A/USB 3.0 micro-B						
Pre-harnessed at both ends						
PVC, oil-res.	**USB9640203**	**CFBUS.PVC.068**	(2x(2xAWG28)+2x(2xAWG28)C)C	7.0	12.5	2.5
PUR	**USB9540203**	**CFBUS.PUR.068**	(2x(2xAWG28)+2x(2xAWG28)C)C	7.0	12.5	2.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Maximum transmission length: 3m
*igus® GmbH was able to successfully implement customer applications with excess length. Try us out!

Harnessed with these connectors

USB 3.0 type A



USB 3.0 type micro-B



Harnessed bus cables | GigE

* Technical information on the cable quality:

PUR-ROBOT Page 410 **TPE** Page 196

Harnessed bus cables, GigE, to your required length

Cable quality	Part No.	chainflex® cable	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
RJ45 metal/RJ45 metal					
Pre-harnessed at both ends					
TPE	**GIG9040001**	**CFBUS.045**	(4x(2x0.15))C	8.5	10
PUR-ROBOT	**GIG9045001**	**CFROBOT8.045**	4x(2x0.15)C	9.5	10
RJ45 metal/RJ45 plastic					
Pre-harnessed at both ends					
TPE	**GIG9040002**	**CFBUS.045**	(4x(2x0.15))C	8.5	10
PUR-ROBOT	**GIG9045002**	**CFROBOT8.045**	4x(2x0.15)C	9.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed with these connectors

RJ45 metal



RJ45 plastic, knurled screws



Maximum transmission length: 50m

Harnessed DVI-D/HDMI cables | DVI/HDMI

* Technical information on the cable quality:

TPE Page 196

Harnessed DVI-D/HDMI cables, to your required length

Cable quality	Part No.	chainflex® cable	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
DVI-D Pin/ DVI-D Pin					
Pre-harnessed at both ends					
TPE	**MAT90455657**	**CFBUS.070**	(4x(2xAWG28)C+(2xAWG28) +3xAWG28)C	9.0	12.5
DVI-D Pin/HDMI Pin					
Pre-harnessed at both ends					
TPE	**MAT90478691**	**CFBUS.070**	(4x(2xAWG28)C+(2xAWG28) +3xAWG28)C	9.0	12.5
HDMI Pin/HDMI Pin					
Pre-harnessed at both ends					
TPE	**MAT90478692**	**CFBUS.070**	(4x(2xAWG28)C+(2xAWG28) +3xAWG28)C	9.0	12.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed with these connectors

DVI-D Pin



HDMI Pin



Video transmission only (no audio signals)
Maximum transmission length: 7.5m

Harnessed coax cable | CFKoax

* Technical information on the cable quality:
TPE
Page 168

Harnessed coax cables, CFKoax 50Ω, to your required length						
Cable quality	**Part No.**	**chainflex® cable**	Coax type	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
BNC Connector/Connector Pre-harnessed at both ends						
TPE	**MAT90455662**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10
BNC Connector/Socket Pre-harnessed at both ends						
TPE	**MAT90455663**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10
BNC Socket/Socket Pre-harnessed at both ends						
TPE	**MAT90455664**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10
BNC Connector/open cable end Pre-harnessed at one end						
TPE	**MAT90455665**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10
BNC Socket/open cable end Pre-harnessed at one end						
TPE	**MAT90455666**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10
SMA Connector/Connector Pre-harnessed at both ends						
TPE	**MAT90455667**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10
SMA Connector/Socket Pre-harnessed at both ends						
TPE	**MAT90455668**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10
SMA Socket/Socket Pre-harnessed at both ends						
TPE	**MAT90455669**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10
SMA Connector/open cable end Pre-harnessed at one end						
TPE	**MAT90455670**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10
SMA Socket/open cable end Pre-harnessed at one end						
TPE	**MAT90455671**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed coax cables, CFKoax 50Ω, to your required length						
Cable quality	**Part No.**	**chainflex® cable**	Coax type	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
BNC Connector/SMA Connector Pre-harnessed at both ends						
TPE	**MAT90478758**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10
BNC Connector/SMA Socket Pre-harnessed at both ends						
TPE	**MAT90478759**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10
BNC Socket/SMA Connector Pre-harnessed at both ends						
TPE	**MAT90478760**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10
BNC Socket/SMA Socket Pre-harnessed at both ends						
TPE	**MAT90478761**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed with these connectors	
BNC Connector	
BNC Socket	
SMA Connector	
SMA Socket	

Maximum transmission length: 50m

Harnessed coax cable | CFKoax

* Technical information on the cable quality:
TPE
Page 168

Harnessed Coax cables, CFKoax 75Ω, to your required length

Cable quality	Part No.	chainflex® cable	Coax type	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
BNC Connector/Socket Pre-harnessed at both ends						
TPE	**MAT90423400**	**CFKoax1.01**	RG179	1xHF75-0.3/1.6	4.5	10
BNC Connector/Connector Pre-harnessed at both ends						
TPE	**MAT90423401**	**CFKoax1.01**	RG179	1xHF75-0.3/1.6	4.5	10
BNC Socket/Socket Pre-harnessed at both ends						
TPE	**MAT90423402**	**CFKoax1.01**	RG179	1xHF75-0.3/1.6	4.5	10
BNC Connector/open cable end Pre-harnessed at one end						
TPE	**MAT90423403**	**CFKoax1.01**	RG179	1xHF75-0.3/1.6	4.5	10
BNC Socket/open cable end Pre-harnessed at one end						
TPE	**MAT90423404**	**CFKoax1.01**	RG179	1xHF75-0.3/1.6	4.5	10
BNC Connector/Socket Pre-harnessed at both ends						
TPE	**MAT90423405**	**CFKoax1.05**	RG179	5xHF75-0.3/1.6	10.0	10
BNC Connector/Connector Pre-harnessed at both ends						
TPE	**MAT90423406**	**CFKoax1.05**	RG179	5xHF75-0.3/1.6	10.0	10
BNC Socket/Socket Pre-harnessed at both ends						
TPE	**MAT90423407**	**CFKoax1.05**	RG179	5xHF75-0.3/1.6	10.0	10
BNC Connector/open cable end Pre-harnessed at one end						
TPE	**MAT90423408**	**CFKoax1.05**	RG179	5xHF75-0.3/1.6	10.0	10
BNC Socket/open cable end Pre-harnessed at one end						
TPE	**MAT90423409**	**CFKoax1.05**	RG179	5xHF75-0.3/1.6	10.0	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed coax cables, CFKoax 75Ω, VGA/SUB-D, to your required length

Cable quality	Part No.	chainflex® cable	Coax type	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
SUB-D Pin/SUB-D Pin Pre-harnessed at both ends						
TPE	**MAT90455658**	**CFKoax1.05**	RG179	5xHF75-0.3/1.6	10.0	10
SUB-D Pin/ SUB-D Socket Pre-harnessed at both ends						
TPE	**MAT90455659**	**CFKoax1.05**	RG179	5xHF75-0.3/1.6	10.0	10
SUB-D Pin/BNC Connector Pre-harnessed at both ends						
TPE	**MAT90455660**	**CFKoax1.05**	RG179	5xHF75-0.3/1.6	10.0	10
SUB-D Socket/BNC Connector Pre-harnessed at both ends						
TPE	**MAT90455661**	**CFKoax1.05**	RG179	5xHF75-0.3/1.6	10.0	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed with these connectors

BNC Connector



BNC Socket



SUB-D Pin



SUB-D Socket



Maximum transmission length: 50m

Network

Network / Ethernet / Fieldbus



chainflex® readycable®

	Series	Jacket	Page
Harnessed Ethernet cables			
	**CAT5** Straight	PVC/PUR/TPE	481
	**SPE** Single Pair Ethernet	PUR	481
	**CAT5e** Straight	PVC/PUR/TPE	482
	**CAT5e** Straight	PVC/PUR/TPE	485
	**CAT5e** Crossover	PVC/PUR/TPE	486
	**CAT5e** with 615 connectors	PVC/PUR/TPE	487
	**CAT5e** with angled connectors (L/T angle)	PVC/PUR/TPE	488
	**CAT6** Straight	PVC/PUR/TPE	492
	**CAT6** Straight/Crossover	TPE	494
	**CAT6A** with M12 connectors	PVC/PUR/TPE	495
	**CAT7** Straight	PUR/TPE	497
	**Industrial Ethernet** moulded	PVC/PUR	498
Harnessed Profibus cables			
	**Profibus**	PVC/PUR/TPE	500
Harnessed Profinet cables			
	**Profinet**	PVC/PUR/TPE	506
	**Industrial Profinet** moulded	PVC/PUR	510
	**Profinet** with moulded connectors	PVC/PUR/TPE	512
Harnessed DevicNet cable			
	**DeviceNet** with Binder M12 a-coded	TPE	513

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

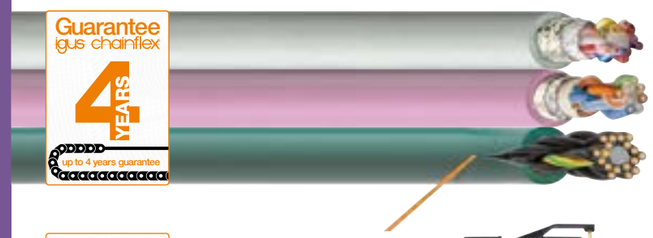
igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

chainflex® Ethernet cables | Overview

Electrical performance

	CF888 PVC 15 x d	CFBUS.PVC PVC, oil-res. 12.5 x d	CF898 iguPUR 15 x d	CFBUS.PUR PUR 12.5 x d	CFBUS TPE UL 10 x d	CFBUS.LB TPE Hal 7.5 x d	CFROBOT8 PUR ± 180°/m	CFROBOT8.PLUS PUR ± 360°/m	Special cables
CAT7 10GBit 600MHz		chainflex® CFBUS.PVC.052 Page 186		chainflex® CFBUS.PUR.052 Page 194	chainflex® CFBUS.052 Page 200		chainflex® CFROBOT8.052 Page 412	NEW chainflex® CFROBOT8. PLUS.052 Page 416	
CAT6A 10GBit 500MHz		chainflex® CFBUS.PVC.050 Page 186		chainflex® CFBUS.PUR.050 Page 194	chainflex® CFBUS.050 Page 200		chainflex® CFROBOT8.050 Page 412	chainflex® CFROBOT8. PLUS.050 Page 416	
CAT6 1GBit 250MHz		chainflex® CFBUS.PVC.049 Page 186		chainflex® CFBUS.PUR.049 Page 194	chainflex® CFBUS.049 Page 200	chainflex® CFBUS.LB.049 Page 204	chainflex® CFROBOT8.049 Page 412	chainflex® CFROBOT8. PLUS.049 Page 416	
CAT5e 1GBit 100MHz	chainflex® CF888.045 Page 182	chainflex® CFBUS.PVC.045 Page 186	chainflex® CF898.045 Page 190	chainflex® CFBUS.PUR.045 Page 194	chainflex® CFBUS.045 Page 200	chainflex® CFBUS.LB.045 Page 204	chainflex® CFROBOT8.045 Page 412	chainflex® CFROBOT8. PLUS.045 Page 416	CFSPECIAL. 182.045 p. 428 CFCLEAN8.045 Page 460
SPE 1GBit 600MHz				chainflex® CFBUS.PUR.042 Page 194					
Profinet 100MBit 100MHz	chainflex® CF888.060 Page 182	chainflex® CFBUS.PVC.060 Page 186	CF898.060 Page 190 CF898.061.FC Page 190	chainflex® CFBUS.PUR.060 Page 194	chainflex® CFBUS.060 Page 200	chainflex® CFBUS.LB.060 Page 204	chainflex® CFROBOT8.060 Page 412	chainflex® CFROBOT8. PLUS.060 Page 416	
CAT5 100MBit 100MHz		chainflex® CFBUS.PVC.040 Page 186		chainflex® CFBUS.PUR.040 Page 194	chainflex® CFBUS.040 Page 200	chainflex® CFBUS.LB.040 Page 204			

Mechanical performance



Highly flexible chainflex® cables
- More than 1,350 cables from stock
- Tested, and in seven jacket materials
- No cutting charges, from 1m
- 4-years or 10 million double stroke guarantee*
- Approvals and certificates



Harnessed cables readycable®
- More than 400 harnessed Ethernet cables
- In seven jacket materials
- 4-years or 10 million double stroke guarantee*
- Shipped in 24hrs**
- To your desired length, with centimetre accuracy



harnessed e-chain® systems readychain®
- Customised and ready-to-connect to your specifications
- From the basic solution to complex systems
- Optional assembly rack
- From batch size 1 to series production
- Installation service

* Whichever is first. Up to 5 million double strokes for the highly affordable chainflex® M cables. The number of double strokes depends on installation and cable quality. This is described in the current catalogue, in the data sheets and in the service life calculator at www.igus.eu/chainflexlife.

** Means time until shipping of goods.

Harnessed Ethernet cables | CAT5

* Technical information on the cable quality:

PVC, oil-res.	PUR	TPE
Page 184	Page 192	Page 196

Harnessed Ethernet cables, CAT5, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Harting RJ45 (CAT5)/ Harting RJ45 (CAT5)				
PVC, oil-res.	**CAT9311001**	(4x0.25)C	6.5	12.5
PUR	**CAT9411001**	(4x0.25)C	6.5	12.5
TPE	**CAT9511001**	(4x0.25)C	7.0	10
Harting Han3A RJ45 (CAT6)/ Harting Han3A RJ45 (CAT6)				
PVC, oil-res.	**CAT9311002**	(4x0.25)C	6.5	12.5
PUR	**CAT9411002**	(4x0.25)C	6.5	12.5
TPE	**CAT9511002**	(4x0.25)C	7.0	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed Single Pair Ethernet cable | SPE

* Technical information on the cable quality:

PUR
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Harnessed Single Pair Ethernet (SPE) cable, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Harting T1 Single Pair Ethernet Connector/ Harting T1 Single Pair Ethernet Connector				
PUR	**CAT9471001**	(2x0.15)C	5.5	12.5

SPE

Single Pair Ethernet is the infrastructure foundation that makes IIoT and Industry 4.0 possible. In order to promote Single Pair Ethernet technology for the rapidly growing IIoT market, igus is participating in the SPE Industrial Partner Networks with other established partners such as HARTING and TE Connectivity.

More information: www.igus.eu/info/n20-single-pair-ethernet-spe

Harnessed Ethernet cables | CAT5e

* Technical information on the cable quality:

PVC	PVC, oil-res.	iguPUR	PUR	PUR-ROBOT	PUR-SPECIAL	TPE
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Harnessed Ethernet cables, CAT5e, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Telegärtner RJ45 (CAT6A)/ Telegärtner RJ45 (CAT6A)				
PVC	**CAT9121002**	(4x(2x0.14))C	7.0	15
PVC, oil-res.	**CAT9321002**	(4x(2x0.15))C	7.5	12.5
iguPUR	**CAT9221002**	(4x(2x0.14))C	7.0	15
PUR	**CAT9421002**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9621002**	4x(2x0.15)C	9.5	10
PUR-SPECIAL	**CAT9721001**	(4x(2x0.15))C	9.5	10
TPE	**CAT9521002**	(4x(2x0.15))C	8.5	10
Harting RJ45 (CAT6A)/ Harting RJ45 (CAT6A)				
PVC	**CAT9121003**	(4x(2x0.14))C	7.0	15
PVC, oil-res.	**CAT9321003**	(4x(2x0.15))C	7.5	12.5
iguPUR	**CAT9221003**	(4x(2x0.14))C	7.0	15
PUR	**CAT9421003**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9621003**	4x(2x0.15)C	9.5	10
PUR-SPECIAL	**CAT9721002**	(4x(2x0.15))C	9.5	10
TPE	**CAT9521003**	(4x(2x0.15))C	8.5	10
Telegärtner RJ45 (CAT6)/ Telegärtner RJ45 (CAT6)				
PVC	**CAT9121004**	(4x(2x0.14))C	7.0	15
PVC, oil-res.	**CAT9321004**	(4x(2x0.15))C	7.5	12.5
iguPUR	**CAT9221004**	(4x(2x0.14))C	7.0	15
PUR	**CAT9421004**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9621004**	4x(2x0.15)C	9.5	10
PUR-SPECIAL	**CAT9721003**	(4x(2x0.15))C	9.5	10
TPE	**CAT9521004**	(4x(2x0.15))C	8.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

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Harnessed Ethernet cables | CAT5e

* Technical information on the cable quality:

PVC	PVC, oil-res.	iguPUR	PUR	PUR-ROBOT	PUR-SPECIAL	TPE
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Harnessed Ethernet cables, CAT5e, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Telegärtner RJ45 (CAT6)/ Telegärtner RJ45 angled (CAT6A)				
PVC	**CAT9121005**	(4x(2x0.14))C	7.0	15
PVC, oil-res.	**CAT9321005**	(4x(2x0.15))C	7.5	12.5
iguPUR	**CAT9221005**	(4x(2x0.14))C	7.0	15
PUR	**CAT9421005**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9621005**	4x(2x0.15)C	9.5	10
PUR-SPECIAL	**CAT9721004**	(4x(2x0.15))C	9.5	10
TPE	**CAT9521005**	(4x(2x0.15))C	8.5	10
Telegärtner RJ45 (CAT6)/ Telegärtner M12 x-coded (CAT6)				
PVC	**CAT9121006**	(4x(2x0.14))C	7.0	15
PVC, oil-res.	**CAT9321006**	(4x(2x0.15))C	7.5	12.5
iguPUR	**CAT9221006**	(4x(2x0.14))C	7.0	15
PUR	**CAT9421006**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9621006**	4x(2x0.15)C	9.5	10
PUR-SPECIAL	**CAT9721005**	(4x(2x0.15))C	9.5	10
TPE	**CAT9521006**	(4x(2x0.15))C	8.5	10
Telegärtner M12 x-coded (CAT6A)/ Telegärtner M12 x-coded (CAT6A)				
PVC	**CAT9121007**	(4x(2x0.14))C	7.0	15
PVC, oil-res.	**CAT9321007**	(4x(2x0.15))C	7.5	12.5
iguPUR	**CAT9221007**	(4x(2x0.14))C	7.0	15
PUR	**CAT9421007**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9621007**	4x(2x0.15)C	9.5	10
PUR-SPECIAL	**CAT9721006**	(4x(2x0.15))C	9.5	10
TPE	**CAT9521007**	(4x(2x0.15))C	8.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed Ethernet cables | CAT5e

* Technical information on the cable quality:

PVC	PVC, oil-res.	iguPUR	PUR	PUR-ROBOT	PUR-SPECIAL	TPE
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Harnessed Ethernet cables, CAT5e, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Phoenix Contact RJ45 (CAT6A)/ Phoenix Contact RJ45 (CAT6A)				
PVC	**CAT9121010**	(4x(2x0.14))C	7.0	15
PVC, oil-res.	**CAT9321010**	(4x(2x0.15))C	7.5	12.5
iguPUR	**CAT9221010**	(4x(2x0.14))C	7.0	15
PUR	**CAT9421010**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9621010**	4x(2x0.15)C	9.5	10
TPE	**CAT9521010**	(4x(2x0.15))C	8.5	10
Phoenix Contact M12 x-coded (CAT6A)/ Phoenix Contact M12 x-coded (CAT6A)				
PVC	**CAT9121013**	(4x(2x0.14))C	7.0	15
PVC, oil-res.	**CAT9321013**	(4x(2x0.15))C	7.5	12.5
iguPUR	**CAT9221013**	(4x(2x0.14))C	7.0	15
PUR	**CAT9421013**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9621013**	4x(2x0.15)C	9.5	10
PUR-SPECIAL	**CAT9721011**	(4x(2x0.15))C	9.5	10
TPE	**CAT9521013**	(4x(2x0.15))C	8.5	10
Harting M12 x-coded Socket (CAT6A)/ Harting M12 x-coded Pin (CAT6A)				
PVC	**CAT9121014**	(4x(2x0.14))C	7.0	15
PVC, oil-res.	**CAT9321014**	(4x(2x0.15))C	7.5	12.5
iguPUR	**CAT9221014**	(4x(2x0.14))C	7.0	15
PUR	**CAT9421014**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9621014**	4x(2x0.15)C	9.5	10
TPE	**CAT9521014**	(4x(2x0.15))C	8.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

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Harnessed Ethernet cables | CAT5e

* Technical information on the cable quality:

PVC, oil-res.	PUR	PUR-ROBOT	TPE
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Harnessed Ethernet cables, CAT5e Straight, 4 and 8-pole, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Harting RJ45 (CAT5)/ Harting RJ45 (CAT5)				
TPE	**CAT9040001**	(4x0.25)C	7.0	10
Harting RJ45 (CAT5e)/ Harting RJ45 (CAT5e)				
PVC, oil-res.	**CAT9340020**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9240020**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9440020**	4x(2x0.15)C	9.5	10
TPE	**CAT9040020**	(4x(2x0.15))C	8.5	10
Yamaichi RJ45 (CAT5)/ Yamaichi RJ45 (CAT5)				
PVC, oil-res.	**CAT9340060**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9240060**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9440060**	4x(2x0.15)C	9.5	10
TPE	**CAT9040060**	(4x(2x0.15))C	8.5	10
Phoenix Contact RJ45 (CAT5e)/ Phoenix Contact RJ45 (CAT5e)				
PVC, oil-res.	**CAT9340100**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9240100**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9440100**	4x(2x0.15)C	9.5	10
TPE	**CAT9040100**	(4x(2x0.15))C	8.5	10
Yamaichi RJ45 (CAT5) in Hummel M23 housing/ Yamaichi RJ45 (CAT5) in Hummel M23 housing				
PVC, oil-res.	**CAT9340140**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9240140**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9440140**	4x(2x0.15)C	9.5	10
TPE	**CAT9040140**	(4x(2x0.15))C	8.5	10
Yamaichi RJ45 (CAT5) in Hummel M23 housing/ Yamaichi RJ45 (CAT5) in Hummel M23 coupling housing				
PVC, oil-res.	**CAT9340180**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9240180**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9440180**	4x(2x0.15)C	9.5	10
TPE	**CAT9040180**	(4x(2x0.15))C	8.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed Ethernet cables | CAT5e

* Technical information on the cable quality:

PVC, oil-res.	PUR	PUR-ROBOT	TPE
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Harnessed Ethernet cables, CAT5e Crossover, 8-pole, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Harting RJ45 (CAT5e)/ Harting RJ45 (CAT5e)				
PVC, oil-res.	**CAT9340040**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9240040**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9440040**	4x(2x0.15)C	9.5	10
TPE	**CAT9040040**	(4x(2x0.15))C	8.5	10
Yamaichi RJ45 (CAT5)/ Yamaichi RJ45 (CAT5)				
PVC, oil-res.	**CAT9340080**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9240080**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9440080**	4x(2x0.15)C	9.5	10
TPE	**CAT9040080**	(4x(2x0.15))C	8.5	10
Phoenix Contact RJ45 (CAT5e)/ Phoenix Contact RJ45 (CAT5e)				
PVC, oil-res.	**CAT9340120**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9240120**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9440120**	4x(2x0.15)C	9.5	10
TPE	**CAT9040120**	(4x(2x0.15))C	8.5	10
Yamaichi RJ45 (CAT5) in Hummel M23 housing/Yamaichi RJ45 (CAT5) in Hummel M23 housing				
PVC, oil-res.	**CAT9340160**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9240160**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9440160**	4x(2x0.15)C	9.5	10
TPE	**CAT9040160**	(4x(2x0.15))C	8.5	10
Yamaichi RJ45 (CAT5) in Hummel M23 housing/Yamaichi RJ45 (CAT5) in Hummel M23 coupling housing				
PVC, oil-res.	**CAT9340200**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9440200**	4x(2x0.15)C	9.5	10
TPE	**CAT9040200**	(4x(2x0.15))C	8.5	10
PUR	**CAT9240200**	(4x(2x0.15))C	7.5	12.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
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Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

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Harnessed Ethernet cables | CAT5e

* Technical information on the cable quality:

PVC, oil-res.	PUR	PUR-ROBOT	TPE
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Harnessed Ethernet cables, CAT5e, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Hirose RJ45 (CAT5e)/ TE Intercontec 615 signal connector				
PVC, oil-res.	**CAT9340800**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9240800**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9440800**	4x(2x0.15)C	9.5	10
TPE	**CAT9040800**	(4x(2x0.15))C	8.5	10
TE Intercontec 615 signal coupling/ TE Intercontec 615 signal connector				
PVC, oil-res.	**CAT9340810**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9240810**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9440810**	4x(2x0.15)C	9.5	10
TPE	**CAT9040810**	(4x(2x0.15))C	8.5	10
TE Intercontec 615 signal coupling/ Hirose RJ45 (CAT5e)				
PVC, oil-res.	**CAT9340820**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9240820**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9440820**	4x(2x0.15)C	9.5	10
TPE	**CAT9040820**	(4x(2x0.15))C	8.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed Ethernet cables | CAT5e

PVC oil-res. with Hirose connectors

* Technical information on the cable quality:
PVC, oil-res.
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Harnessed Ethernet cables, CAT5e, PVC, with Hirose connectors, 8-pole, to your required length				
Harnessing with connector combination	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Straight				
1 | 2	**CAT9340380**	(4x(2x0.15))C	7.5	12.5
1 | 3	**CAT9340540**	(4x(2x0.15))C	7.5	12.5
1 | 4	**CAT9340560**	(4x(2x0.15))C	7.5	12.5
1 | 5	**CAT9340320**	(4x(2x0.15))C	7.5	12.5
2 | 1	**CAT9340360**	(4x(2x0.15))C	7.5	12.5
2 | 2	**CAT9340340**	(4x(2x0.15))C	7.5	12.5
2 | 3	**CAT9340500**	(4x(2x0.15))C	7.5	12.5
2 | 4	**CAT9340520**	(4x(2x0.15))C	7.5	12.5
2 | 5	**CAT9340300**	(4x(2x0.15))C	7.5	12.5
3 | 3	**CAT9340440**	(4x(2x0.15))C	7.5	12.5
3 | 4	**CAT9340480**	(4x(2x0.15))C	7.5	12.5
3 | 5	**CAT9340400**	(4x(2x0.15))C	7.5	12.5
4 | 4	**CAT9340460**	(4x(2x0.15))C	7.5	12.5
4 | 5	**CAT9340420**	(4x(2x0.15))C	7.5	12.5
Crossover				
1 | 2	**CAT9340390**	(4x(2x0.15))C	7.5	12.5
1 | 3	**CAT9340550**	(4x(2x0.15))C	7.5	12.5
1 | 4	**CAT9340570**	(4x(2x0.15))C	7.5	12.5
1 | 5	**CAT9340330**	(4x(2x0.15))C	7.5	12.5
2 | 1	**CAT9340370**	(4x(2x0.15))C	7.5	12.5
2 | 2	**CAT9340350**	(4x(2x0.15))C	7.5	12.5
2 | 3	**CAT9340510**	(4x(2x0.15))C	7.5	12.5
2 | 4	**CAT9340530**	(4x(2x0.15))C	7.5	12.5
2 | 5	**CAT9340310**	(4x(2x0.15))C	7.5	12.5
3 | 3	**CAT9340450**	(4x(2x0.15))C	7.5	12.5
3 | 4	**CAT9340490**	(4x(2x0.15))C	7.5	12.5
3 | 5	**CAT9340410**	(4x(2x0.15))C	7.5	12.5
4 | 4	**CAT9340470**	(4x(2x0.15))C	7.5	12.5
4 | 5	**CAT9340430**	(4x(2x0.15))C	7.5	12.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed with these connectors				
Connector 1	Connector 2	Connector 3	Connector 4	Connector 5
L angle curve lower	L angle curve upper	T angle curve outer	T angle curve inner	straight



Harnessed Ethernet cables | CAT5e

PUR with Hirose connector

* Technical information on the cable quality:
PUR
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Harnessed Ethernet cables, CAT5e, PUR, with Hirose connectors, 8-pole, to your required length				
Harnessing with connector combination	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Straight				
1 | 2	**CAT9240380**	(4x(2x0.15))C	7.5	12.5
1 | 3	**CAT9240540**	(4x(2x0.15))C	7.5	12.5
1 | 4	**CAT9240560**	(4x(2x0.15))C	7.5	12.5
1 | 5	**CAT9240320**	(4x(2x0.15))C	7.5	12.5
2 | 1	**CAT9240360**	(4x(2x0.15))C	7.5	12.5
2 | 2	**CAT9240340**	(4x(2x0.15))C	7.5	12.5
2 | 3	**CAT9240500**	(4x(2x0.15))C	7.5	12.5
2 | 4	**CAT9240520**	(4x(2x0.15))C	7.5	12.5
2 | 5	**CAT9240300**	(4x(2x0.15))C	7.5	12.5
3 | 3	**CAT9240440**	(4x(2x0.15))C	7.5	12.5
3 | 4	**CAT9240480**	(4x(2x0.15))C	7.5	12.5
3 | 5	**CAT9240400**	(4x(2x0.15))C	7.5	12.5
4 | 4	**CAT9240460**	(4x(2x0.15))C	7.5	12.5
4 | 5	**CAT9240420**	(4x(2x0.15))C	7.5	12.5
Crossover				
1 | 2	**CAT9240390**	(4x(2x0.15))C	7.5	12.5
1 | 3	**CAT9240550**	(4x(2x0.15))C	7.5	12.5
1 | 4	**CAT9240570**	(4x(2x0.15))C	7.5	12.5
1 | 5	**CAT9240330**	(4x(2x0.15))C	7.5	12.5
2 | 1	**CAT9240370**	(4x(2x0.15))C	7.5	12.5
2 | 2	**CAT9240350**	(4x(2x0.15))C	7.5	12.5
2 | 3	**CAT9240510**	(4x(2x0.15))C	7.5	12.5
2 | 4	**CAT9240530**	(4x(2x0.15))C	7.5	12.5
2 | 5	**CAT9240310**	(4x(2x0.15))C	7.5	12.5
3 | 3	**CAT9240450**	(4x(2x0.15))C	7.5	12.5
3 | 4	**CAT9240490**	(4x(2x0.15))C	7.5	12.5
3 | 5	**CAT9240410**	(4x(2x0.15))C	7.5	12.5
4 | 4	**CAT9240470**	(4x(2x0.15))C	7.5	12.5
4 | 5	**CAT9240430**	(4x(2x0.15))C	7.5	12.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed with these connectors				
Connector 1	Connector 2	Connector 3	Connector 4	Connector 5
L angle curve lower	L angle curve upper	T angle curve outer	T angle curve inner	straight



Harnessed Ethernet cables | CAT5e

PUR-ROBOT with Hirose connectors

* Technical information on the cable quality:
PUR-ROBOT
Page 410

Harnessed Ethernet cables, CAT5e, PUR-ROBOT, with Hirose connectors, 8-pole, to your required length				
Harnessing with connector combination	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Straight				
1 | 2	**CAT9440380**	4x(2x0.15)C	9.5	10
1 | 3	**CAT9440540**	4x(2x0.15)C	9.5	10
1 | 4	**CAT9440560**	4x(2x0.15)C	9.5	10
1 | 5	**CAT9440320**	4x(2x0.15)C	9.5	10
2 | 1	**CAT9440360**	4x(2x0.15)C	9.5	10
2 | 2	**CAT9440340**	4x(2x0.15)C	9.5	10
2 | 3	**CAT9440500**	4x(2x0.15)C	9.5	10
2 | 4	**CAT9440520**	4x(2x0.15)C	9.5	10
2 | 5	**CAT9440300**	4x(2x0.15)C	9.5	10
3 | 3	**CAT9440440**	4x(2x0.15)C	9.5	10
3 | 4	**CAT9440480**	4x(2x0.15)C	9.5	10
3 | 5	**CAT9440400**	4x(2x0.15)C	9.5	10
4 | 4	**CAT9440460**	4x(2x0.15)C	9.5	10
4 | 5	**CAT9440420**	4x(2x0.15)C	9.5	10
Crossover				
1 | 2	**CAT9440390**	4x(2x0.15)C	9.5	10
1 | 3	**CAT9440550**	4x(2x0.15)C	9.5	10
1 | 4	**CAT9440570**	4x(2x0.15)C	9.5	10
1 | 5	**CAT9440330**	4x(2x0.15)C	9.5	10
2 | 1	**CAT9440370**	4x(2x0.15)C	9.5	10
2 | 2	**CAT9440350**	4x(2x0.15)C	9.5	10
2 | 3	**CAT9440510**	4x(2x0.15)C	9.5	10
2 | 4	**CAT9440530**	4x(2x0.15)C	9.5	10
2 | 5	**CAT9440310**	4x(2x0.15)C	9.5	10
3 | 3	**CAT9440450**	4x(2x0.15)C	9.5	10
3 | 4	**CAT9440490**	4x(2x0.15)C	9.5	10
3 | 5	**CAT9440410**	4x(2x0.15)C	9.5	10
4 | 4	**CAT9440470**	4x(2x0.15)C	9.5	10
4 | 5	**CAT9440430**	4x(2x0.15)C	9.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed with these connectors				
Connector 1	Connector 2	Connector 3	Connector 4	Connector 5
L angle curve lower	L angle curve upper	T angle curve outer	T angle curve inner	straight



Harnessed Ethernet cables | CAT5e

TPE with Hirose connectors

* Technical information on the cable quality:
TPE
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Harnessed Ethernet cables, CAT5e, TPE, with Hirose connectors, 8-pole, to your required length				
Harnessing with connector combination	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Straight				
1 | 2	**CAT9040380**	(4x(2x0.15))C	8.5	10
1 | 3	**CAT9040540**	(4x(2x0.15))C	8.5	10
1 | 4	**CAT9040560**	(4x(2x0.15))C	8.5	10
1 | 5	**CAT9040320**	(4x(2x0.15))C	8.5	10
2 | 1	**CAT9040360**	(4x(2x0.15))C	8.5	10
2 | 2	**CAT9040340**	(4x(2x0.15))C	8.5	10
2 | 3	**CAT9040500**	(4x(2x0.15))C	8.5	10
2 | 4	**CAT9040520**	(4x(2x0.15))C	8.5	10
2 | 5	**CAT9040300**	(4x(2x0.15))C	8.5	10
3 | 3	**CAT9040440**	(4x(2x0.15))C	8.5	10
3 | 4	**CAT9040480**	(4x(2x0.15))C	8.5	10
3 | 5	**CAT9040400**	(4x(2x0.15))C	8.5	10
4 | 4	**CAT9040460**	(4x(2x0.15))C	8.5	10
4 | 5	**CAT9040420**	(4x(2x0.15))C	8.5	10
Crossover				
1 | 2	**CAT9040390**	(4x(2x0.15))C	8.5	10
1 | 3	**CAT9040550**	(4x(2x0.15))C	8.5	10
1 | 4	**CAT9040570**	(4x(2x0.15))C	8.5	10
1 | 5	**CAT9040330**	(4x(2x0.15))C	8.5	10
2 | 1	**CAT9040370**	(4x(2x0.15))C	8.5	10
2 | 2	**CAT9040350**	(4x(2x0.15))C	8.5	10
2 | 3	**CAT9040510**	(4x(2x0.15))C	8.5	10
2 | 4	**CAT9040530**	(4x(2x0.15))C	8.5	10
2 | 5	**CAT9040310**	(4x(2x0.15))C	8.5	10
3 | 3	**CAT9040450**	(4x(2x0.15))C	8.5	10
3 | 4	**CAT9040490**	(4x(2x0.15))C	8.5	10
3 | 5	**CAT9040410**	(4x(2x0.15))C	8.5	10
4 | 4	**CAT9040470**	(4x(2x0.15))C	8.5	10
4 | 5	**CAT9040430**	(4x(2x0.15))C	8.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed with these connectors				
Connector 1	Connector 2	Connector 3	Connector 4	Connector 5
L angle curve lower	L angle curve upper	T angle curve outer	T angle curve inner	straight



Harnessed Ethernet cables | CAT6

* Technical information on the cable quality:

PVC, oil-res.	PUR	TPE
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Harnessed Ethernet cables, CAT6, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Telegärtner RJ45 (CAT6A)/ Telegärtner RJ45 (CAT6A)				
PVC, oil-res.	**CAT9331002**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9431002**	(4x(2x0.15))C	7.5	12.5
TPE	**CAT9531002**	(4x(2x0.15))C	8.5	10
Harting RJ45 (CAT6A)/ Harting RJ45 (CAT6A)				
PVC, oil-res.	**CAT9331003**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9431003**	(4x(2x0.15))C	7.5	12.5
TPE	**CAT9531003**	(4x(2x0.15))C	8.5	10
Telegärtner RJ45 (CAT6)/ Telegärtner RJ45 (CAT6)				
PVC, oil-res.	**CAT9331004**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9431004**	(4x(2x0.15))C	7.5	12.5
TPE	**CAT9531004**	(4x(2x0.15))C	8.5	10
Telegärtner RJ45 (CAT6)/ Telegärtner M12 x-coded				
PVC, oil-res.	**CAT9331005**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9431005**	(4x(2x0.15))C	7.5	12.5
TPE	**CAT9531005**	(4x(2x0.15))C	8.5	10
Telegärtner RJ45 (CAT6)/ Telegärtner RJ45 angled (CAT6A)				
PVC, oil-res.	**CAT9331006**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9431006**	(4x(2x0.15))C	7.5	12.5
TPE	**CAT9531006**	(4x(2x0.15))C	8.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Network
Ethernet
CAT6

Harnessed Ethernet cables | CAT6

* Technical information on the cable quality:

PVC, oil-res.	PUR	TPE
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Harnessed Ethernet cables, CAT6, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Phoenix Contact RJ45 (CAT6A)/ Phoenix Contact RJ45 (CAT6A)				
PVC, oil-res.	**CAT9331009**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9431009**	(4x(2x0.15))C	7.5	12.5
TPE	**CAT9531009**	(4x(2x0.15))C	8.5	10
Phoenix Contact M12 x-coded (CAT6A)/ Phoenix Contact M12 x-coded (CAT6A)				
PVC, oil-res.	**CAT9331012**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9431012**	(4x(2x0.15))C	7.5	12.5
TPE	**CAT9531012**	(4x(2x0.15))C	8.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed Ethernet cables | CAT6

* Technical information on the cable quality:

TPE
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Harnessed Ethernet cables, CAT6, 8-pole, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Straight				
Hirose RJ45 (CAT6A)/ Hirose RJ45 (CAT6A)				
TPE	**CAT9040600**	(4x(2x0.15)C)C	10.5	12.5
Metz RJ45 E-DAT IP67/ Metz RJ45 E-DAT IP67				
TPE	**CAT9040640**	(4x(2x0.15)C)C	10.5	12.5
Harting Han3A RJ45 (CAT6)/ Harting Han3A RJ45 (CAT6)				
TPE	**CAT9040680**	(4x(2x0.15)C)C	10.5	12.5
Crossover				
Hirose RJ45 (CAT6A)/ Hirose RJ45 (CAT6A)				
TPE	**CAT9040620**	(4x(2x0.15)C)C	10.5	12.5
Metz RJ45 E-DAT IP67/ Metz RJ45 E-DAT IP67				
TPE	**CAT9040660**	(4x(2x0.15)C)C	10.5	12.5
Harting Han3A RJ45 (CAT6)/ Harting Han3A RJ45 (CAT6)				
TPE	**CAT9040700**	(4x(2x0.15)C)C	10.5	12.5
M12 x-coded				
Telegärtner M12 x-coded (CAT6A)/ Telegärtner M12 x-coded (CAT6A)				
TPE	**CAT9040720**	(4x(2x0.15)C)C	10.5	12.5
Telegärtner M12 x-coded (CAT6A)/ open cable end				
TPE	**CAT9040760**	(4x(2x0.15)C)C	10.5	12.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed Ethernet cables | CAT6A

* Technical information on the cable quality:

PVC, oil-res. Page 184
PUR Page 192
PUR-ROBOT Page 410
TPE Page 196

Harnessed Ethernet cables, CAT6A, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Telegärtner RJ45 (CAT6A)/ Telegärtner RJ45 (CAT6A)				
PUR-ROBOT	**CAT9641001**	4x(2x0.15)C	10.5	10
TPE	**CAT9541001**	(4x(2x0.15)C)C	10.5	12.5
Harting RJ45 (CAT6A)/ Harting RJ45 (CAT6A)				
PUR-ROBOT	**CAT9641002**	4x(2x0.15)C	10.5	10
TPE	**CAT9541002**	(4x(2x0.15)C)C	10.5	12.5
Telegärtner RJ45 (CAT6A)/ Telegärtner RJ45 (CAT6A)				
PVC, oil-res.	**CAT9341016**	4x(2x0.20)C	10.0	12.5
PUR	**CAT9441016**	4x(2x0.20)C	10.0	12.5
PUR-ROBOT	**CAT9641015**	4x(2x0.15)C	10.5	10
TPE	**CAT9541015**	(4x(2x0.15)C)C	10.5	12.5
Telegärtner RJ45 (CAT6A)/ Telegärtner M12 x-coded				
PVC, oil-res.	**CAT9341017**	4x(2x0.20)C	10.0	12.5
PUR	**CAT9441017**	4x(2x0.20)C	10.0	12.5
PUR-ROBOT	**CAT9641016**	4x(2x0.15)C	10.5	10
TPE	**CAT9541016**	(4x(2x0.15)C)C	10.5	12.5
Telegärtner RJ45 (CAT6A)/ Telegärtner RJ45 angled (CAT6A)				
PVC, oil-res.	**CAT9341018**	4x(2x0.20)C	10.0	12.5
PUR	**CAT9441018**	4x(2x0.20)C	10.0	12.5
PUR-ROBOT	**CAT9641017**	4x(2x0.15)C	10.5	10
TPE	**CAT9541017**	(4x(2x0.15)C)C	10.5	12.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed Ethernet cables | CAT6A

* Technical information on the cable quality:

PVC, oil-res.	PUR	PUR-ROBOT	TPE
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Harnessed Ethernet cables, CAT6A, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Phoenix Contact M12 x-coded (CAT6A)/ Phoenix Contact M12 x-coded (CAT6A)				
PVC, oil-res.	**CAT9341010**	4x(2x0.20)C	10.0	12.5
PUR	**CAT9441010**	4x(2x0.20)C	10.0	12.5
PUR-ROBOT	**CAT9641009**	4x(2x0.15)C	10.5	10
TPE	**CAT9541009**	(4x(2x0.15)C)C	10.5	12.5
Harting M12 x-coded Socket (CAT6A)/ Harting M12 x-coded Pin (CAT6A)				
PVC, oil-res.	**CAT9341019**	4x(2x0.20)C	10.0	12.5
PUR	**CAT9441019**	4x(2x0.20)C	10.0	12.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed Ethernet cables | CAT7

* Technical information on the cable quality:

PUR-ROBOT	TPE
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Harnessed Ethernet cables, CAT7, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Telegärtner RJ45 (CAT6A)/ Telegärtner RJ45 (CAT6A)				
PUR-ROBOT	**CAT9651002**	4x(2x0.15)C	10.5	10
TPE	**CAT9551002**	(4x(2x0.15)C)C	10.5	12.5
Harting RJ45 (CAT6A)/ Harting RJ45 (CAT6A)				
PUR-ROBOT	**CAT9651003**	4x(2x0.15)C	10.5	10
TPE	**CAT9551003** [1]	(4x(2x0.15)C)C	10.5	12.5
Telegärtner RJ45 (CAT6A)/ Telegärtner RJ45 (CAT6A)				
PUR-ROBOT	**CAT9651004**	4x(2x0.15)C	10.5	10
TPE	**CAT9551004**	(4x(2x0.15)C)C	10.5	12.5
Telegärtner RJ45 (CAT6A)/ Telegärtner RJ45 angled (CAT6A)				
PUR-ROBOT	**CAT9651005**	4x(2x0.15)C	10.5	10
TPE	**CAT9551005**	(4x(2x0.15)C)C	10.5	12.5
Phoenix Contact M12 x-coded (CAT6A)/ Phoenix Contact M12 x-coded (CAT6A)				
PUR-ROBOT	**CAT9651009**	4x(2x0.15)C	10.5	10
TPE	**CAT9551009**	(4x(2x0.15)C)C	10.5	12.5
Dätwyler Module PS-TERA (CAT7A)/ Dätwyler Connector PS-TERA (CAT7A)				
PUR-ROBOT	**CAT9651010**	4x(2x0.15)C	10.5	10
TPE	**CAT9551010**	(4x(2x0.15)C)C	10.5	12.5
Dätwyler Module PS-TERA (CAT7A)/ Dätwyler Connector PS-TERA (CAT7A)				
PUR-ROBOT	**CAT9651011**	4x(2x0.15)C	10.5	10
TPE	**CAT9551011**	(4x(2x0.15)C)C	10.5	12.5

[1] This cable must be stripped before the connector and covered with a shrink-on tube so that the patch plug can be fitted.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Industrial Ethernet
moulded

* Technical information on the cable quality:

PVC, oil-res.	PUR
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Industrial Ethernet moulded, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
M8 cable socket/ M8 cable connector				
PVC, oil-res.	**MAT904125450**	(4x0.25)C	6.5	12.5
PUR	**MAT904125410**	(4x0.25)C	6.5	12.5
M8 cable connector/ M8 cable connector				
PVC, oil-res.	**MAT904125451**	(4x0.25)C	6.5	12.5
PUR	**MAT904125411**	(4x0.25)C	6.5	12.5
M8 angled socket/ open cable end				
PVC, oil-res.	**MAT904125452**	(4x0.25)C	6.5	12.5
PUR	**MAT904125412**	(4x0.25)C	6.5	12.5
M8 cable socket/ RJ45 straight				
PVC, oil-res.	**MAT904125453**	(4x0.25)C	6.5	12.5
PUR	**MAT904125413**	(4x0.25)C	6.5	12.5
M12 cable connector d-coded/ M12 cable connector d-coded				
PVC, oil-res.	**MAT904125454**	(4x0.25)C	6.5	12.5
PUR	**MAT904125414**	(4x0.25)C	6.5	12.5
M12 angled connector d-coded Pin/ open cable end				
PVC, oil-res.	**MAT904125455**	(4x0.25)C	6.5	12.5
PUR	**MAT904125415**	(4x0.25)C	6.5	12.5
M12 cable connector d-coded/ open cable end				
PVC, oil-res.	**MAT904125456**	(4x0.25)C	6.5	12.5
PUR	**MAT904125416**	(4x0.25)C	6.5	12.5

Special production cables ▶ delivery time upon request
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends ▶ TIA56A**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Industrial Ethernet
moulded

* Technical information on the cable quality:

PVC, oil-res.	PUR
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Industrial Ethernet moulded, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
M12 cable connector d-coded/ RJ45 straight				
PVC, oil-res.	**MAT904125457**	(4x0.25)C	6.5	12.5
PUR	**MAT904125417**	(4x0.25)C	6.5	12.5
M12 angled connector d-coded RJ45 straight				
PVC, oil-res.	**MAT904125458**	(4x0.25)C	6.5	12.5
PUR	**MAT904125418**	(4x0.25)C	6.5	12.5
M12 cable connector d-coded/ M8 cable connector				
PVC, oil-res.	**MAT904125459**	(4x0.25)C	6.5	12.5
PUR	**MAT904125419**	(4x0.25)C	6.5	12.5
RJ45 straight/ RJ45 straight				
PVC, oil-res.	**MAT904125460**	(4x0.25)C	6.5	12.5
PUR	**MAT904125420**	(4x0.25)C	6.5	12.5
RJ45 straight/ open cable end				
PVC, oil-res.	**MAT904125461**	(4x0.25)C	6.5	12.5
PUR	**MAT904125421**	(4x0.25)C	6.5	12.5
M12 cable socket d-coded/ M12 cable connector d-coded				
PVC, oil-res.	**MAT904125462**	(4x0.25)C	6.5	12.5
PUR	**MAT904125422**	(4x0.25)C	6.5	12.5
M12 cable socket d-coded/ M12 angled connector d-coded				
PVC, oil-res.	**MAT904125463**	(4x0.25)C	6.5	12.5
PUR	**MAT904125423**	(4x0.25)C	6.5	12.5

Special production cables ▶ delivery time upon request
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
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Harnessing **RJ45 at both ends ▶ TIA56A**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed Profibus cables | PVC

Network
Profibus
PVC

* Technical information on the cable quality:
PVC, oil-res.
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Harnessed Profibus cables, PVC, to your required length				
Harnessing with connector combination	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
1 | 1	**BUS9041004**	(2x0.25)C	8.5	12.5
1 | 2	**BUS9041001**	(2x0.25)C	8.5	12.5
1 | 5	**BUS9041011**	(2x0.25)C	8.5	12.5
1 | 6	**BUS9041006**	(2x0.25)C	8.5	12.5
1 | 13	**BUS9041005**	(2x0.25)C	8.5	12.5
2 | 2	**BUS9041002**	(2x0.25)C	8.5	12.5
2 | 5	**BUS9041013**	(2x0.25)C	8.5	12.5
2 | 6	**BUS9041007**	(2x0.25)C	8.5	12.5
2 | 7	**BUS9041054**	(2x0.25)C	8.5	12.5
2 | 8	**BUS9041059**	(2x0.25)C	8.5	12.5
2 | 9	**BUS9041062**	(2x0.25)C	8.5	12.5
2 | 10	**BUS9041055**	(2x0.25)C	8.5	12.5
2 | 13	**BUS9041003**	(2x0.25)C	8.5	12.5
3 | 4	**BUS9041066**	(2x0.25)C	8.5	12.5
3 | 13	**BUS9041064**	(2x0.25)C	8.5	12.5
4 | 13	**BUS9041065**	(2x0.25)C	8.5	12.5
5 | 5	**BUS9041014**	(2x0.25)C	8.5	12.5
5 | 6	**BUS9041010**	(2x0.25)C	8.5	12.5
5 | 13	**BUS9041012**	(2x0.25)C	8.5	12.5
6 | 6	**BUS9041009**	(2x0.25)C	8.5	12.5
6 | 13	**BUS9041008**	(2x0.25)C	8.5	12.5
7 | 2	**BUS9041053** [1)]	(2x0.25)C	8.5	12.5
7 | 13	**BUS9041056**	(2x0.25)C	8.5	12.5
8 | 2	**BUS9041061** [1)]	(2x0.25)C	8.5	12.5
9 | 2	**BUS9041060** [1)]	(2x0.25)C	8.5	12.5
9 | 13	**BUS9041063**	(2x0.25)C	8.5	12.5
10 | 2	**BUS9041052** [1)]	(2x0.25)C	8.5	12.5
10 | 13	**BUS9041057**	(2x0.25)C	8.5	12.5
11 | 13	**BUS9041058** [1)]	(2x0.25)C	8.5	12.5
12 | 2	**BUS9041051** [1)]	(2x0.25)C	8.5	12.5

[1)]For connectors with IN and OUT connection, the connection is always made on the IN side when the cable is connected. Other configurations upon request.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Connector 1	Connector 2	Connector 3	Connector 4	Connector 5
M12, 5 poles, Socket, straight	**M12, 5 poles, Pin, straight**	**M12, 5 poles, Pin, angled**	**M12, 5 poles, Socket, angled**	**M12, 5 poles, Socket, angled**
				

Connector 6	Connector 7	Connector 8	Connector 9	Connector 10
M12, 5 poles, Pin, angled	**SUB-D, 9 poles, Pin, straight**	**SUB-D, 9 poles, Pin, end plug, 90°**	**SUB-D, 9 poles, Pin, 45°, IP67**	**SUB-D, 9 poles, Pin, end plug, 45°**
				

Connector 11	Connector 12	Connector 13
SUB-D, 9 poles, Socket/Pin, pass, angled 45°	**SUB-D, 9 poles, Socket/Pin, pass, angled 90°**	**open cable end**
		

* For connectors with IN and OUT connection, the connection is always made on the IN side when the cable is connected. Other configurations upon request.

Harnessed Profibus cables | PUR

* Technical information on the cable quality:
PUR
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Harnessed Profibus cables, PUR, to your required length				
Harnessing with connector combination	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
1 | 1	**BUS9041104**	(2x0.25)C	8.5	12.5
1 | 2	**BUS9041101**	(2x0.25)C	8.5	12.5
1 | 5	**BUS9041111**	(2x0.25)C	8.5	12.5
1 | 6	**BUS9041106**	(2x0.25)C	8.5	12.5
1 | 13	**BUS9041105**	(2x0.25)C	8.5	12.5
2 | 2	**BUS9041102**	(2x0.25)C	8.5	12.5
2 | 5	**BUS9041113**	(2x0.25)C	8.5	12.5
2 | 6	**BUS9041107**	(2x0.25)C	8.5	12.5
2 | 7	**BUS9041154**	(2x0.25)C	8.5	12.5
2 | 8	**BUS9041159**	(2x0.25)C	8.5	12.5
2 | 9	**BUS9041162**	(2x0.25)C	8.5	12.5
2 | 10	**BUS9041155**	(2x0.25)C	8.5	12.5
2 | 13	**BUS9041103**	(2x0.25)C	8.5	12.5
3 | 4	**BUS9041166**	(2x0.25)C	8.5	12.5
3 | 13	**BUS9041164**	(2x0.25)C	8.5	12.5
4 | 13	**BUS9041165**	(2x0.25)C	8.5	12.5
5 | 5	**BUS9041114**	(2x0.25)C	8.5	12.5
5 | 6	**BUS9041110**	(2x0.25)C	8.5	12.5
5 | 13	**BUS9041112**	(2x0.25)C	8.5	12.5
6 | 6	**BUS9041109**	(2x0.25)C	8.5	12.5
6 | 13	**BUS9041108**	(2x0.25)C	8.5	12.5
7 | 2	**BUS9041153** [1)]	(2x0.25)C	8.5	12.5
7 | 13	**BUS9041156**	(2x0.25)C	8.5	12.5
8 | 2	**BUS9041161** [1)]	(2x0.25)C	8.5	12.5
9 | 2	**BUS9041160** [1)]	(2x0.25)C	8.5	12.5
9 | 13	**BUS9041163**	(2x0.25)C	8.5	12.5
10 | 2	**BUS9041152** [1)]	(2x0.25)C	8.5	12.5
10 | 13	**BUS9041157**	(2x0.25)C	8.5	12.5
11 | 13	**BUS9041158** [1)]	(2x0.25)C	8.5	12.5
12 | 2	**BUS9041151** [1)]	(2x0.25)C	8.5	12.5

[1)]For connectors with IN and OUT connection, the connection is always made on the IN side when the cable is connected. Other configurations upon request.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Connector 1	Connector 2	Connector 3	Connector 4	Connector 5
M12, 5 poles, Socket, straight	**M12, 5 poles, Pin, straight**	**M12, 5 poles, Pin, angled**	**M12, 5 poles, Socket, angled**	**M12, 5 poles, Socket, angled**
				

Connector 6	Connector 7	Connector 8	Connector 9	Connector 10
M12, 5 poles, Pin, angled	**SUB-D, 9 poles, Pin, straight**	**SUB-D, 9 poles, Pin, end plug, 90°**	**SUB-D, 9 poles, Pin, 45°, IP67**	**SUB-D, 9 poles, Pin, end plug, 45°**
				

Connector 11	Connector 12	Connector 13
SUB-D, 9 poles, Socket/Pin, pass, angled 45°	**SUB-D, 9 poles, Socket/Pin, pass, angled 90°**	**open cable end**
		

* For connectors with IN and OUT connection, the connection is always made on the IN side when the cable is connected. Other configurations upon request.

EU2024 igus

Harnessed Profibus cables | TPE

* Technical information on the cable quality:
TPE
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Harnessed Profibus cables, TPE, to your required length				
Harnessing with connector combination	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
1 | 1	**BUS9041204**	(2x0.25)C	9.0	10
1 | 2	**BUS9041201**	(2x0.25)C	9.0	10
1 | 5	**BUS9041211**	(2x0.25)C	9.0	10
1 | 6	**BUS9041206**	(2x0.25)C	9.0	10
1 | 13	**BUS9041205**	(2x0.25)C	9.0	10
2 | 2	**BUS9041202**	(2x0.25)C	9.0	10
2 | 5	**BUS9041213**	(2x0.25)C	9.0	10
2 | 6	**BUS9041207**	(2x0.25)C	9.0	10
2 | 7	**BUS9041254**	(2x0.25)C	9.0	10
2 | 8	**BUS9041259**	(2x0.25)C	9.0	10
2 | 9	**BUS9041262**	(2x0.25)C	9.0	10
2 | 10	**BUS9041255**	(2x0.25)C	9.0	10
2 | 13	**BUS9041203**	(2x0.25)C	9.0	10
3 | 4	**BUS9041266**	(2x0.25)C	9.0	10
3 | 13	**BUS9041264**	(2x0.25)C	9.0	10
4 | 13	**BUS9041265**	(2x0.25)C	9.0	10
5 | 5	**BUS9041214**	(2x0.25)C	9.0	10
5 | 6	**BUS9041210**	(2x0.25)C	9.0	10
5 | 13	**BUS9041212**	(2x0.25)C	9.0	10
6 | 6	**BUS9041209**	(2x0.25)C	9.0	10
6 | 13	**BUS9041208**	(2x0.25)C	9.0	10
7 | 2	**BUS9041253** [1)]	(2x0.25)C	9.0	10
7 | 13	**BUS9041256**	(2x0.25)C	9.0	10
8 | 2	**BUS9041261** [1)]	(2x0.25)C	9.0	10
9 | 2	**BUS9041260** [1)]	(2x0.25)C	9.0	10
9 | 13	**BUS9041263**	(2x0.25)C	9.0	10
10 | 2	**BUS9041252** [1)]	(2x0.25)C	9.0	10
10 | 13	**BUS9041257**	(2x0.25)C	9.0	10
11 | 13	**BUS9041258** [1)]	(2x0.25)C	9.0	10
12 | 2	**BUS9041251** [1)]	(2x0.25)C	9.0	10

[1)]For connectors with IN and OUT connection, the connection is always made on the IN side when the cable is connected. Other configurations upon request.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Connector 1	Connector 2	Connector 3	Connector 4	Connector 5
M12, 5 poles, Socket, straight	**M12, 5 poles, Pin, straight**	**M12, 5 poles, Pin, angled**	**M12, 5 poles, Socket, angled**	**M12, 5 poles, Socket, angled**
				

Connector 6	Connector 7	Connector 8	Connector 9	Connector 10
M12, 5 poles, Pin, angled	**SUB-D, 9 poles, Pin, straight**	**SUB-D, 9 poles, Pin, end plug, 90°**	**SUB-D, 9 poles, Pin, 45°, IP67**	**SUB-D, 9 poles, Pin, end plug, 45°**
				

Connector 11	Connector 12	Connector 13
SUB-D, 9 poles, Socket/Pin, pass, angled 45°	**SUB-D, 9 poles, Socket/Pin, pass, angled 90°**	**open cable end**
		

* For connectors with IN and OUT connection, the connection is always made on the IN side when the cable is connected. Other configurations upon request.

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Harnessed Profinet cables

* Technical information on the cable quality:

PVC	PVC, oil-res.	iguPUR	PUR	PUR-ROBOT	TPE
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Harnessed Profinet cables, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Yamaichi RJ45 (Profinet)/ Yamaichi RJ45 (Profinet)				
PVC	**CAT9161001**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361001**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261001**	(4x0.34)C	7.0	15
PUR	**CAT9461001**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661001**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561001**	(4x0.38)C	7.5	10
Harting Han3A RJ45 (Profinet)/ Harting Han3A RJ45 (Profinet)				
PVC	**CAT9161002**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361002**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261002**	(4x0.34)C	7.0	15
PUR	**CAT9461002**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661002**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561002**	(4x0.38)C	7.5	10
Harting RJ45 (Profinet)/ Harting RJ45 (Profinet)				
PVC	**CAT9161003**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361003**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261003**	(4x0.34)C	7.0	15
PUR	**CAT9461003**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661003**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561003**	(4x0.38)C	7.5	10
Telegärtner RJ45 (Profinet)/ Telegärtner RJ45 (Profinet)				
PVC	**CAT9161004**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361004**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261004**	(4x0.34)C	7.0	15
PUR	**CAT9461004**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661004**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561004**	(4x0.38)C	7.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Network
Profinet
Harnessed Profinet cables

* Technical information on the cable quality:

PVC	PVC, oil-res.	iguPUR	PUR	PUR-ROBOT	TPE
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Harnessed Profinet cables, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Telegärtner RJ45 (Profinet)/ Telegärtner RJ45 (Profinet)				
PVC	**CAT9161005**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361005**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261005**	(4x0.34)C	7.0	15
PUR	**CAT9461005**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661005**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561005**	(4x0.38)C	7.5	10
Telegärtner RJ45 (Profinet)/ Telegärtner M12 x-coded (Profinet)				
PVC	**CAT9161006**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361006**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261006**	(4x0.34)C	7.0	15
PUR	**CAT9461006**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661006**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561006**	(4x0.38)C	7.5	10
Telegärtner M12 x-coded (Profinet)/ Telegärtner M12 x-coded (Profinet)				
PVC	**CAT9161007**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361007**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261007**	(4x0.34)C	7.0	15
PUR	**CAT9461007**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661007**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561007**	(4x0.38)C	7.5	10
Telegärtner RJ45 (Profinet)/ Binder M12 d-coded (Profinet)				
PVC	**CAT9161008**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361008**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261008**	(4x0.34)C	7.0	15
PUR	**CAT9461008**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661008**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561008**	(4x0.38)C	7.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed Profinet cables

* Technical information on the cable quality:

PVC	PVC, oil-res.	iguPUR	PUR	PUR-ROBOT	TPE
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Harnessed Profinet cables, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Telegärtner RJ45 (Profinet)/ Binder M12 d-coded angled (Profinet)				
PVC	**CAT9161009**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361009**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261009**	(4x0.34)C	7.0	15
PUR	**CAT9461009**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661009**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561009**	(4x0.38)C	7.5	10
Phoenix Contact RJ45 (Profinet)/ Phoenix Contact RJ45 (Profinet)				
PVC	**CAT9161012**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361012**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261012**	(4x0.34)C	7.0	15
PUR	**CAT9461012**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661012**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561012**	(4x0.38)C	7.5	10
Phoenix Contact M12 x-coded (Profinet)/Phoenix Contact M12 x-coded (Profinet)				
PVC	**CAT9161014**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361014**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261014**	(4x0.34)C	7.0	15
PUR	**CAT9461014**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661014**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561014**	(4x0.38)C	7.5	10
Siemens RJ45 (Profinet)/ Siemens RJ45 (Profinet)				
PVC	**CAT9161015**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361015**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261015**	(4x0.34)C	7.0	15
PUR	**CAT9461015**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661015**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561015**	(4x0.38)C	7.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Network
Profinet
Harnessed Profinet cables

* Technical information on the cable quality:

PVC	PVC, oil-res.	iguPUR	PUR	PUR-ROBOT	TPE
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Harnessed Profinet cables, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Siemens RJ45 (Profinet)/ Siemens RJ45 angled (Profinet)				
PVC	**CAT9161016**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361016**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261016**	(4x0.34)C	7.0	15
PUR	**CAT9461016**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661016**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561016**	(4x0.38)C	7.5	10
Binder M12 cable connector d-coded/ Binder M12 cable connector d-coded				
PVC	**CAT9161017**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361017**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261017**	(4x0.34)C	7.0	15
PUR	**CAT9461017**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661017**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561017**	(4x0.38)C	7.5	10
Binder cable connector M12 d-coded/ Binder cable socket M12 d-coded				
PVC	**CAT9161018**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361018**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261018**	(4x0.34)C	7.0	15
PUR	**CAT9461018**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661018**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561018**	(4x0.38)C	7.5	10

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Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Industrial Profinet cables
with moulded connectors

* Technical information on the cable quality:

PVC, oil-res.	PUR
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Industrial Profinet moulded, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
M8 cable socket/ M8 cable connector				
PVC, oil-res.	**MAT904125470**	(4x0.38)C	7.0	12.5
PUR	**MAT904125430**	(4x0.38)C	7.0	12.5
M8 cable connector/ M8 cable connector				
PVC, oil-res.	**MAT904125471**	(4x0.38)C	7.0	12.5
PUR	**MAT904125431**	(4x0.38)C	7.0	12.5
M8 angled socket/ open cable end				
PVC, oil-res.	**MAT904125472**	(4x0.38)C	7.0	12.5
PUR	**MAT904125432**	(4x0.38)C	7.0	12.5
M8 cable socket/ RJ45 straight				
PVC, oil-res.	**MAT904125473**	(4x0.38)C	7.0	12.5
PUR	**MAT904125433**	(4x0.38)C	7.0	12.5
M12 cable connector d-coded/ M12 cable connector d-coded				
PVC, oil-res.	**MAT904125474**	(4x0.38)C	7.0	12.5
PUR	**MAT904125434**	(4x0.38)C	7.0	12.5
M12 angled connector d-coded/ open cable end				
PVC, oil-res.	**MAT904125475**	(4x0.38)C	7.0	12.5
PUR	**MAT904125435**	(4x0.38)C	7.0	12.5
M12 cable connector d-coded/ open cable end				
PVC, oil-res.	**MAT904125476**	(4x0.38)C	7.0	12.5
PUR	**MAT904125436**	(4x0.38)C	7.0	12.5

Special production cables ▶ delivery time upon request
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Network Profinet

Industrial Profinet cables
moulded

* Technical information on the cable quality:

PVC, oil-res.	PUR
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Industrial Profinet moulded, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
M12 cable connector d-coded/ RJ45 straight				
PVC, oil-res.	**MAT904125477**	(4x0.38)C	7.0	12.5
PUR	**MAT904125437**	(4x0.38)C	7.0	12.5
M12 angled connector d-coded RJ45 straight				
PVC, oil-res.	**MAT904125478**	(4x0.38)C	7.0	12.5
PUR	**MAT904125438**	(4x0.38)C	7.0	12.5
M12 cable connector d-coded/ M8 cable connector				
PVC, oil-res.	**MAT904125479**	(4x0.38)C	7.0	12.5
PUR	**MAT904125439**	(4x0.38)C	7.0	12.5
RJ45 straight/ RJ45 straight				
PVC, oil-res.	**MAT904125480**	(4x0.38)C	7.0	12.5
PUR	**MAT904125440**	(4x0.38)C	7.0	12.5
RJ45 straight/ open cable end				
PVC, oil-res.	**MAT904125481**	(4x0.38)C	7.0	12.5
PUR	**MAT904125441**	(4x0.38)C	7.0	12.5
M12 cable socket d-coded/ M12 cable connector d-coded				
PVC, oil-res.	**MAT904125482**	(4x0.38)C	7.0	12.5
PUR	**MAT904125442**	(4x0.38)C	7.0	12.5
M12 cable socket d-coded/ M12 cable connector d-coded				
PVC, oil-res.	**MAT904125483**	(4x0.38)C	7.0	12.5
PUR	**MAT904125443**	(4x0.38)C	7.0	12.5

Special production cables ▶ delivery time upon request
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Harnessing **RJ45 at both ends▶TIA56A**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed Profinet cables
with moulded connectors

* Technical information on the cable quality:

PVC	PVC, oil-res.	iguPUR	PUR	PUR-ROBOT	TPE
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Harnessed Profinet cables with moulded M12 connectors, in fixed lengths

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]	Cable length [m]
M12 cable connector d-coded/ M12 cable connector d-coded					
PVC, oil-res.	**BUS9041070**	(4x0.38)C	7.0	12.5	3
PVC, oil-res.	**BUS9041071**	(4x0.38)C	7.0	12.5	5
PUR	**BUS9041170**	(4x0.38)C	7.0	12.5	3
PUR	**BUS9041171**	(4x0.38)C	7.0	12.5	5
TPE	**BUS9041270**	(4x0.38)C	7.5	10	3
TPE	**BUS9041271**	(4x0.38)C	7.5	10	5
M12 cable connector d-coded/ open cable end					
PVC, oil-res.	**BUS9041072**	(4x0.38)C	7.0	12.5	3
PVC, oil-res.	**BUS9041073**	(4x0.38)C	7.0	12.5	5
PUR	**BUS9041172**	(4x0.38)C	7.0	12.5	3
PUR	**BUS9041173**	(4x0.38)C	7.0	12.5	5
TPE	**BUS9041272**	(4x0.38)C	7.5	10	3
TPE	**BUS9041273**	(4x0.38)C	7.5	10	5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
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Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed DeviceNet cable
with Binder M12 A-coded

* Technical information on the cable quality:

TPE
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Harnessed DeviceNet cable, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Binder cable connector M12 A-coded/ Binder cable socket M12 A-coded				
TPE	**CAT9581001**	((2xAWG24)C+2xAWG22)C	7.0	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
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Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Connectors for network technology | Overview

Network connectors

		igus® Part No.	Manufacturer	Cable diameter mm	Protection class	Number of contacts	Connection method	Bus type	Conductor cross section [mm²]	Cable quality	matching chainflex® cables	Maximum cable diameter mm	Number of cores and conductor nominal cross section
		**MAT01717352**	HARTING	4.5-9.0	IP20	8	Cutting clamps	CAT6	0.14-0.34	PVC	CFBUS.PVC.049	7.5	(4x(2x0.15))C
										PUR	CFBUS.PUR.049	7.5	(4x(2x0.15))C
										TPE	CFBUS.049	8.5	(4x(2x0.15))C
										PUR-Robot	CFROBOT8.049	8.5	4x(2x0.14)C
		**MAT01713662**	HARTING	6.0-6.9	IP20	8	Hand tool needed	CAT6	0.09-0.25	PVC	CFBUS.PVC.049*	7.5	(4x(2x0.15))C
										PUR	CFBUS.PUR.049*	7.5	(4x(2x0.15))C
		**MAT0176869**	Phoenix Contact	4.5-8.0	IP20	8	Cutting clamps	CAT5e	0.14-0.25	PVC	CF888.045	7.5	(4x(2x0.15))C
										PVC	CFBUS.PVC.045	7.5	(4x(2x0.15))C
										iguPUR	CF898.045	7.5	(4x(2x0.15))C
										PUR	CFBUS.PUR.045	7.5	(4x(2x0.15))C
										TPE	CFBUS.045*	8.5	(4x(2x0.15))C
										PUR-Robot	CFROBOT8.045*	8.5	4x(2x0.14)C
		**MAT01733149**	Telegärtner	5.5-7.3	IP20	8	Hand tool needed	CAT6A CAT6	0.14-0.25	TPE	CFBUS.050*	10.5	4x(2x0.15)C)C
										PUR-Robot	CFROBOT8.050*	10.5	4x(2x0.15)C
										PVC	CFBUS.PVC.049	7.5	(4x(2x0.15))C
										PUR	CFBUS.PUR.049	7.5	(4x(2x0.15))C
		MAT01733150	Telegärtner	max. 7.0	IP20	-	-	-	-	TPE	CFBUS.049*	8.5	(4x(2x0.15))C
										PUR-Robot	CFROBOT8.049*	8.5	4x(2x0.14)C
		**MAT0176370**	Yamaichi	-	IP20	8	Hand tool needed	CAT6	0.14-0.25	PVC	CFBUS.PVC.049	7.5	(4x(2x0.15))C
		MAT0176371	Yamaichi	max. 7.5	IP20	-	-	-	-	PUR	CFBUS.PUR.049	7.5	(4x(2x0.15))C
										TPE	CFBUS.049*	8.5	(4x(2x0.15))C
		MAT0176372	Yamaichi	-	-	-	-	-	-	PUR-Robot	CFROBOT8.049*	8.5	4x(2x0.14)C
		**MAT01717477**	WEIDMÜLLER	5.5-8.5	IP20	8	Cutting clamps	Cat.6 (CAT6A acc. to data sheet)	0.14-0.34	PVC	CFBUS.PVC.049	7.5	(4x(2x0.15))C
										PUR	CFBUS.PUR.049	7.5	(4x(2x0.15))C
										TPE	CFBUS.049	8.5	(4x(2x0.15))C
										PUR-Robot	CFROBOT8.049	8.5	4x(2x0.14)C
		**MAT01730294**	Telegärtner	5.5-10.0	IP20	8	Cutting clamps	CAT6A	0.14-0.34	PVC	CFBUS.PVC.050	9.5	4x(2x0.20)C
										PUR	CFBUS.PUR.050	9.5	4x(2x0.20)C
										TPE	CFBUS.050*	10.5	(4x(2x0.15)C)C
										PUR-Robot	CFROBOT8.050*	10.5	4x(2x0.15)C
		**MAT0173509**	HARTING	6.0-7.0	IP20	4	Cutting clamps	CAT5/ Profinet	0.14-0.34	PVC	CF888.060	7	(4x0.38)C
										PVC	CFBUS.PVC.040	6.5	(4x0.25)C
										PVC	CFBUS.PVC.060	7	(4x0.38)C
										iguPUR	CF898.060	7	(4x0.38)C
										PUR	CFBUS.PUR.040	6.5	(4x0.25)C
										PUR	CFBUS.PUR.060	7	(4x0.38)C
										TPE	CFBUS.040	7	(4x0.25)C
										TPE	CFBUS.060*	7.5	(4x0.38)C
										PUR-Robot	CFROBOT8.060*	8.5	(2x(2x0.34))C
		**MAT01733547**	Dätwyler	max. 8.9	IP20	8	Cutting clamps	CAT7A	0.15-0.34	PVC	CFBUS.PVC.052*	9.5	(4x(2x0.15)C)C
										PUR	CFBUS.PUR.052*	9.5	(4x(2x0.15)C)C
										TPE	CFBUS.052*	10.5	(4x(2x0.15)C)C
										PUR-Robot	CFROBOT8.052*	10.5	4x(2x0.15)C
		**MAT01733548**	Dätwyler	max. 6.3	IP20	8	Cutting clamps	CAT7A	0.15-0.34	PVC	CFBUS.PVC.052*	9.5	(4x(2x0.15)C)C
										PUR	CFBUS.PUR.052*	9.5	(4x(2x0.15)C)C
										TPE	CFBUS.052*	10.5	(4x(2x0.15)C)C
										PUR-Robot	CFROBOT8.052*	10.5	4x(2x0.15)C
		**MAT0179875**	Binder	6.0-8.0	IP67	4	Screw clamps	CAT5/ Profinet	max. 0.75	PVC	CF888.060	7	(4x0.38)C
										PVC	CFBUS.PVC.040	6.5	(4x0.25)C
										PVC	CFBUS.PVC.060	7	(4x0.38)C
										iguPUR	CF898.060	7	(4x0.38)C
										PUR	CFBUS.PUR.040	6.5	(4x0.25)C
										PUR	CFBUS.PUR.060	7	(4x0.38)C
										TPE	CFBUS.040	7	(4x0.25)C
										TPE	CFBUS.060	7.5	(4x0.38)C
										PUR-Robot	CFROBOT8.060*	8.5	(2x(2x0.34))C

All connectors are downward compatible. Please note the outer diameter of the cable and the conductor cross section.

* According to data sheet, the connectors do not match these cables but the cables can nevertheless be manually modified/tapered.

Connectors for network technology | Overview

Network connectors

		igus® Part No.	Manufacturer	Cable diameter mm	Protection class	Number of contacts	Connection method	Bus type	Conductor cross section [mm²]	Cable quality	matching chainflex® cables	Maximum cable diameter mm	Number of cores and conductor nominal cross section
		**Series 615 connector, socket**	TE/Intercontec	4.5-10.5 (plastic clamp ring) 4.5-12mm (metal clamp ring)	IP67	12	Hand tool needed	CAT5e/ Profinet	0.05-0.75	PVC	CF888.060	7	(4x0.38)C
										PVC	CFBUS.PVC.040	6.5	(4x0.25)C
										PVC	CFBUS.PVC.060	7	(4x0.38)C
										iguPUR	CF898.060	7	(4x0.38)C
										PUR	CFBUS.PUR.040	6.5	(4x0.25)C
										PUR	CFBUS.PUR.060	7	(4x0.38)C
										TPE	CFBUS.040	7	(4x0.25)C
										TPE	CFBUS.060	7.5	(4x0.38)C
										PUR-Robot	CFROBOT8.060*	8.5	(2x(2x0.34))C
		**615 Coupling**	TE/Intercontec	4.5-10.5 (plastic clamp ring) 4.5-12mm (metal clamp ring)	IP67	12	Hand tool needed	CAT5e/ Profinet	0.05-0.75	PVC	CF888.060	7	(4x0.38)C
										PVC	CFBUS.PVC.040	6.5	(4x0.25)C
										PVC	CFBUS.PVC.060	7	(4x0.38)C
										iguPUR	CF898.060	7	(4x0.38)C
										PUR	CFBUS.PUR.040	6.5	(4x0.25)C
										PUR	CFBUS.PUR.060	7	(4x0.38)C
										TPE	CFBUS.040	7	(4x0.25)C
										TPE	CFBUS.060	7.5	(4x0.38)C
										PUR-Robot	CFROBOT8.060*	8.5	(2x(2x0.34))C
		**MAT01733199**	Phoenix Contact	5.0-9.7	IP67	8	Cutting clamps	CAT6A/ Ethernet	0.14-0.34	PVC	CFBUS.PVC.050	9.5	4x(2x0.20)C
										PUR	CFBUS.PUR.050	9.5	4x(2x0.20)C
										TPE	CFBUS.050*	10.5	(4x(2x0.15)C)C
										PUR-Robot	CFROBOT8.050*	10.5	4x(2x0.15)C
		**MAT01733200**	Phoenix Contact	5.0-9.7	IP67	8	Cutting clamps	CAT6A/ Profinet	0.25-0.5	PVC	CF888.060	7	(4x0.38)C
										PVC	CFBUS.PVC.040	6.5	(4x0.25)C
										PVC	CFBUS.PVC.060	7	(4x0.38)C
										iguPUR	CF898.060	7	(4x0.38)C
										PUR	CFBUS.PUR.040	6.5	(4x0.25)C
										PUR	CFBUS.PUR.060	7	(4x0.38)C
										TPE	CFBUS.040	7	(4x0.25)C
										TPE	CFBUS.060	7.5	(4x0.38)C
										PUR-Robot	CFROBOT8.060	8.5	(2x(2x0.34))C
		**MAT01734849**	Phoenix Contact	5.0-9.7	IP67	8	Cutting clamps	CAT6A/ Ethernet	0.14-0.34	PVC	CFBUS.PVC.050	9.5	4x(2x0.20)C
										PUR	CFBUS.PUR.050	9.5	4x(2x0.20)C
										TPE	CFBUS.050*	10.5	(4x(2x0.15)C)C
										PUR-Robot	CFROBOT8.050*	10.5	4x(2x0.15)C
		**MAT01735081**	Phoenix Contact	5.0-9.7	IP67	8	Cutting clamps	CAT6A/ Profinet	0.25-0.5	PVC	CF888.060	7	(4x0.38)C
										PVC	CFBUS.PVC.040	6.5	(4x0.25)C
										PVC	CFBUS.PVC.060	7	(4x0.38)C
										iguPUR	CF898.060	7	(4x0.38)C
										PUR	CFBUS.PUR.040	6.5	(4x0.25)C
										PUR	CFBUS.PUR.060	7	(4x0.38)C
										TPE	CFBUS.040	7	(4x0.25)C
										TPE	CFBUS.060	7.5	(4x0.38)C
										PUR-Robot	CFROBOT8.060	8.5	(2x(2x0.34))C
		**MAT01716619**	Siemens	6.5-6.5	IP20	4	Cutting clamps	CAT5/ Profinet	0.14-0.38	PVC	CF888.060	7	(4x0.38)C
										PVC	CFBUS.PVC.040	6.5	(4x0.25)C
										PVC	CFBUS.PVC.060	7	(4x0.38)C
										iguPUR	CF898.060	7	(4x0.38)C
										PUR	CFBUS.PUR.040	6.5	(4x0.25)C
										PUR	CFBUS.PUR.060	7	(4x0.38)C
										TPE	CFBUS.040	7	(4x0.25)C
										TPE	CFBUS.060*	7.5	(4x0.38)C
		**MAT01721074**	Siemens	8.0-8.0	IP20	8	Cutting clamps	CAT6	0.14-0.25	PVC	CFBUS.PVC.049	7.5	(4x(2x0.15))C
										PUR	CFBUS.PUR.049	7.5	(4x(2x0.15))C
										TPE	CFBUS.049*	8.5	(4x(2x0.15))C
										PUR-Robot	CFROBOT8.049*	8.5	4x(2x0.14)C

All connectors are downward compatible. Please note the outer diameter of the cable and the conductor cross section.

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FOC

Harnessed Fibre Optic Cables



chainflex® readycable®

		Material	Page
Harnessed Fibre Optic Cables for video			
	FOC 2 fibres	PVC/TPE	520
	FOC 4 fibres	TPE	521
Harnessed Fibre Optic Cables for network			
	FOC 6 fibres	TPE	522
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Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Harnessed Fibre Optic Cables for video

* Technical information on the cable quality:

PVC	TPE	TPE-ROBOT
From page 214	From page 220	From page 400

Harnessed Fibre Optic Cables, glass-fibre, 2 fibres, to your required length

ST/ST Connector

Pre-harnessed at both ends



Cable quality	Part No.	chainflex® cable	No. of fibres	Fibre diameter	Ø [mm]	Bend radius [x d]
PVC	LWL99230001	CFLG88.2.50/125	2	50/125	7.0	7.5
PVC	LWL99230002	CFLG88.2.62.5/125	2	62.5/125	7.0	7.5
TPE H*	LWL90412394	CFLG.2LB.50/125	2	50/125	8.5	5
TPE H*	LWL90412397	CFLG.2LB.62.5/125	2	62.5/125	8.5	5
TPE H*	LWL9040086	CFLG.4LB.50/125	4	50/125	9.0	5
TPE H*	LWL9040085	CFLG.4LB.62.5/125	4	62.5/125	9.0	5
TPE Robot	LWL90422492	CFROBOT5.501	2	50/125	8.5	10
TPE Robot	LWL90422495	CFROBOT5.500	2	62.5/125	8.5	10

ST/LC Connector

Pre-harnessed at both ends



PVC	LWL99230007	CFLG88.2.50/125	2	50/125	7.0	7.5
PVC	LWL99230008	CFLG88.2.62.5/125	2	62.5/125	7.0	7.5
TPE H*	LWL90412393 [1)]	CFLG.2LB.50/125	2	50/125	8.5	5
TPE H*	LWL90412396 [1)]	CFLG.2LB.62.5/125	2	62.5/125	8.5	5
TPE H*	LWL9040093	CFLG.4LB.50/125	4	50/125	9.0	5
TPE H*	LWL9040094	CFLG.4LB.62.5/125	4	62.5/125	9.0	5
TPE Robot	LWL90422491 [1)]	CFROBOT5.501	2	50/125	8.5	10
TPE Robot	LWL90422494	CFROBOT5.500	2	62.5/125	8.5	10

LC/LC Connector

Pre-harnessed at both ends



PVC	LWL99230005	CFLG88.2.50/125	2	50/125	7.0	7.5
PVC	LWL99230006	CFLG88.2.62.5/125	2	62.5/125	7.0	7.5
TPE H*	LWL90412395	CFLG.2LB.50/125	2	50/125	8.5	5
TPE H*	LWL90412398	CFLG.2LB.62.5/125	2	62.5/125	8.5	5
TPE H*	LWL90425050	CFLG.4LB.50/125	4	50/125	9.0	5
TPE H*	LWL9040092	CFLG.4LB.62.5/125	4	62.5/125	9.0	5
TPE Robot	LWL90422493	CFROBOT5.501	2	50/125	8.5	10
TPE Robot	LWL90422496	CFROBOT5.500	2	62.5/125	8.5	10

[1)]When installing this cable as an extension, 2 ST connectors (MAT0176314) must also be ordered.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ► Page 961

FOC
Camera
Glass fibre

Harnessed Fibre Optic Cables for video

* Technical information on the cable quality:

PVC	TPE	TPE-ROBOT
From page 214	From page 220	From page 400

Harnessed Fibre Optic Cables, glass-fibre, 2 fibres, to your required length

SC/SC Connector

Pre-harnessed at both ends



Cable quality	Part No.	chainflex® cable	No. of fibres	Fibre diameter	Ø [mm]	Bend radius [x d]
PVC	LWL99230003	CFLG88.2.50/125	2	50/125	7.0	7.5
PVC	LWL99230004	CFLG88.2.62.5/125	2	62.5/125	7.0	7.5

ST/SC Connector

Pre-harnessed at both ends



PVC	LWL99230009	CFLG88.2.50/125	2	50/125	7.0	7.5
PVC	LWL99230010	CFLG88.2.62.5/125	2	62.5/125	7.0	7.5

LC/SC Connector

Pre-harnessed at both ends



PVC	LWL99230011	CFLG88.2.50/125	2	50/125	7.0	7.5
PVC	LWL99230012	CFLG88.2.62.5/125	2	62.5/125	7.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ► Page 961

Harnessed with these connectors

Connector



Tube sinking

Tube sinking



LWL90428935	Closed corrugated tube to feed in Fibre Optic Cables (shown cut open)

Harnessed Fibre Optic Cables for network | TPE

* Technical information on the cable quality:
TPE
From page 220

Harnessed Fibre Optic Cables, glass-fibre, 6/12 fibres, to your required length

Cable quality	Part No.	No. of fibres	Fibre diameter	Ø [mm]	Bend radius [x d]
ST/ST Connector					
Pre-harnessed at both ends					
TPE H*	**LWL9040091**	6	50/125	11.0	5
TPE H*	**LWL9040090**	6	62.5/125	11.0	5
TPE H*	**LWL90428938**	12	50/125	14.0	5
TPE H*	**LWL90428937**	12	62.5/125	14.0	5
LC/LC Connector					
Pre-harnessed at both ends					
TPE H*	**LWL90428946**	6	50/125	11.0	5
TPE H*	**LWL90428945**	6	62.5/125	11.0	5
TPE H*	**LWL90428942**	12	50/125	14.0	5
TPE H*	**LWL90428941**	12	62.5/125	14.0	5
SC/SC Connector					
Pre-harnessed at both ends					
TPE H*	**LWL90428944**	6	50/125	11.0	5
TPE H*	**LWL90428943**	6	62.5/125	11.0	5
TPE H*	**LWL90428940**	12	50/125	14.0	5
TPE H*	**LWL90428939**	12	62.5/125	14.0	5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example images.
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed with these connectors

Connec-tor SC ST LC

Tube sinking

Tube sinking

LWL90428935	Closed corrugated tube to feed in Fibre Optic Cables (shown cut open)

FOC
Network
Glass fibre

Harnessed Fibre Optic Cables for network | TPE

* Technical information on the cable quality:
TPE
From page 220

Harnessed Fibre Optic Cables, glass-fibre, 6/12 fibres, to your required length

Cable quality	Part No.	No. of fibres	Fibre diameter	Ø [mm]	Bend radius [x d]
ST/ST Connector					
Pre-harnessed at both ends					
	LWL9040030	6	50/125	10.0	10
	LWL9040045	6	62.5/125	10.0	10
incl. conversion to SC	**LWL9040032**	6	50/125	10.0	10
incl. conversion to SC	**LWL9040047**	6	62.5/125	10.0	10
incl. conversion to LC	**LWL9040031**	6	50/125	10.0	10
incl. conversion to LC	**LWL9040046**	6	62.5/125	10.0	10
ST/ST Connector					
Pre-harnessed at both ends					
	LWL9040060	12	50/125	10.0	10
	LWL9040075	12	62.5/125	10.0	10
incl. conversion to SC	**LWL9040062**	12	50/125	10.0	10
incl. conversion to SC	**LWL9040077**	12	62.5/125	10.0	10
incl. conversion to LC	**LWL9040061**	12	50/125	10.0	10
incl. conversion to LC	**LWL9040076**	12	62.5/125	10.0	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Harnessed with these connectors

Connec-tor ST

Tube sinking

Tube sinking

LWL90428936	Closed corrugated tube to feed in Fibre Optic Cables (shown cut open)

Fibre identification

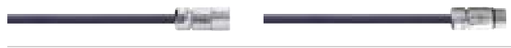
Part No.	Fibre identification	Hollow core identification
CFLG.6G.62,5/125.TC	ecru, yellow, green, red, violet, blue	orange
CFLG.6G.50/125.TC	ecru, yellow, green, red, violet, blue	blue
CFLG.12G.62,5/125.TC	ecru, yellow, green, red, violet, blue, light blue, grey, brown, black, orange, pink	orange
CFLG.12G.50/125.TC	ecru, yellow, green, red, violet, blue, light blue, grey, brown, black, orange, pink	blue



CF.INI

Sensor/actuator

chainflex® readycable®

	Cable type	Jacket	Page
Sensor/actuator CF9 - CF.INI (minimum bend radius 5 x d)			
	Connection cable M12 x 1, straight/angled	TPE	527
	Linking cable M12 x 1, straight/angled	TPE	527
	Connection cable M12 x 1, straight/angled, LED	TPE	529
	Connection cable M8 x 1, straight/angled	TPE	531
	Linking cable M8 x 1, straight/angled	TPE	531
	Connection cable M8 x 1, angled, LED	TPE	533
Sensor/actuator CF10 - CF.INI (minimum bend radius 5 x d) 360° shielded			
	Connection cable M12 x 1, straight/angled	TPE	535
	Linking cable M12 x 1, straight/angled	TPE	535
Sensor/actuator CF98 - CF.INI (minimum bend radius 4 x d)			
	Connection cable M12 x 1, straight/angled	TPE	537
	Linking cable M12 x 1, straight/angled	TPE	537
	Connection cable M8 x 1, straight/angled	TPE	539
	Linking cable M8 x 1, straight/angled	TPE	539
chainflex® cables for actuator/sensor distribution box			
	Connection cable M23, straight	TPE	540
	Linking cable M23, straight/angled	TPE	540
	Connection cable M12, straight	TPE	541

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Harnessed sensor/actuator cables

Connection and Linking cables M12 x 1
Bend radius, e-chain®: minimum 5 x d

Electrical information

Number of poles	5-pole	4-pole
Ampacity	4A	4A
Rated voltage	60V	250V
Insulating resistance	≥ 10^9 Ω	≥ 10^9Ω
Contact resistance	≤ 5mΩ	≤ 5mΩ
Pollution degree	3/2	3/2
Ambient temperature	-35°C up to+105°C	-35°C up to +105°C
Protection class	IP69K, in screwed state	IP69K, in screwed state
Mechanical service life	max. 100 insertion cycles	max. 100 insertion cycles

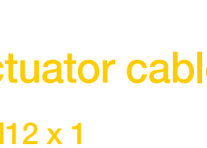
Technical data

Design	Coupling	Connector
Connector	Coupling, M12 x 1	Connector, M12 x 1
Handle base	Plastic, PP, black	Plastic, PP, black
Union nut/screw	Metal, CuZn, nickel-plated	Metal, CuZn, nickel-plated
Contact base	Plastic, PP, black	Plastic, TPU, black
Contacts	Metal, CuZn, gold-plated	Metal, CuZn, gold-plated
Seal	Plastic, FPM (Viton)	

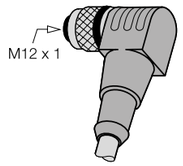
Harnessed with these connectors

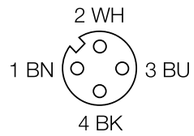
Cable socket M12-BG

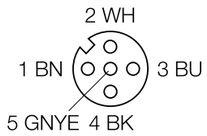




Angled socket M12-BW

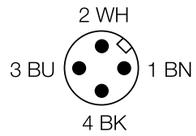


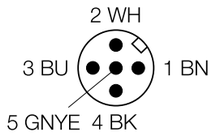




Cable connector M12-SG







Example images/illustrations

CF.INI.
CF9
M12

Type	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Cable length [m]
Connection cable M12				
Cable socket M12/ open cable end				
CF.INI-P4-M12-BG-3	MAT9043700	4x0.34	5.0	3
CF.INI-P4-M12-BG-5	MAT9043701	4x0.34	5.0	5
CF.INI-P4-M12-BG-7	MAT9043702	4x0.34	5.0	7
CF.INI-P4-M12-BG-10	MAT9043703	4x0.34	5.0	10
CF.INI-P4-M12-BG-15	MAT9049426	4x0.34	5.0	15
CF.INI-P5-M12-BG-3	MAT9043737	5x0.34	5.5	3
CF.INI-P5-M12-BG-5	MAT9043738	5x0.34	5.5	5
CF.INI-P5-M12-BG-7	MAT9043739	5x0.34	5.5	7
CF.INI-P5-M12-BG-10	MAT9043740	5x0.34	5.5	10
CF.INI-P5-M12-BG-15	MAT90410077	5x0.34	5.5	15
Angled socket M21/ open cable end				
CF.INI-P4-M12-BW-3	MAT9043704	4x0.34	5.0	3
CF.INI-P4-M12-BW-5	MAT9043705	4x0.34	5.0	5
CF.INI-P4-M12-BW-7	MAT9043706	4x0.34	5.0	7
CF.INI-P4-M12-BW-10	MAT9043707	4x0.34	5.0	10
CF.INI-P4-M12-BW-15	MAT9049430	4x0.34	5.0	15
CF.INI-P5-M12-BW-3	MAT9043742	5x0.34	5.5	3
CF.INI-P5-M12-BW-5	MAT9043743	5x0.34	5.5	5
CF.INI-P5-M12-BW-7	MAT9043744	5x0.34	5.5	7
CF.INI-P5-M12-BW-10	MAT9043745	5x0.34	5.5	10
CF.INI-P5-M12-BW-15	MAT90410078	5x0.34	5.5	15
Linking cable M12				
Cable socket M12/ cable connector M12				
CF.INI-P4-M12-BG/M12-SG-2	MAT90410312 [1]	4x0.34	5.0	2
CF.INI-P4-M12-BG/M12-SG-5	MAT90410313 [1]	4x0.34	5.0	5
CF.INI-P4-M12-BG/M12-SG-10	MAT90410314 [1]	4x0.34	5.0	10
CF.INI-P5-M12-BG/M12-SG-2	MAT90410339 [1]	5x0.34	5.5	2
CF.INI-P5-M12-BG/M12-SG-5	MAT90410340 [1]	5x0.34	5.5	5
CF.INI-P5-M12-BG/M12-SG-10	MAT90410341 [1]	5x0.34	5.5	10
Cable socket M12/ cable connector M12				
CF.INI-P4-M12-BW/M12-SG-2	MAT90410315 [1]	4x0.34	5.0	2
CF.INI-P4-M12-BW/M12-SG-5	MAT90410316 [1]	4x0.34	5.0	5
CF.INI-P4-M12-BW/M12-SG-10	MAT90410317 [1]	4x0.34	5.0	10
CF.INI-P5-M12-BW/M12-SG-2	MAT90410342 [1]	5x0.34	5.5	2
CF.INI-P5-M12-BW/M12-SG-5	MAT90410343 [1]	5x0.34	5.5	5
CF.INI-P5-M12-BW/M12-SG-10	MAT90410344 [1]	5x0.34	5.5	10

[1]Delivery time upon request

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
Also sold by the meter to your required length, unassembled.
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Example images/illustrations

Harnessed sensor/actuator cables

Connection cable with LED M12 x 1: Bend radius, e-chain®: minimum 5 x d

Electrical information

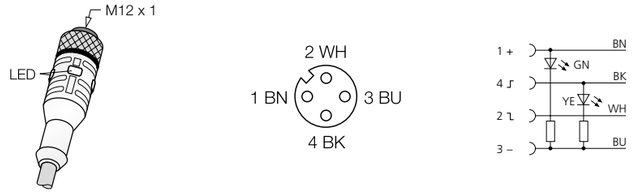
Number of poles	**4-pole**
Ampacity	4A
Rated voltage	30V
Insulating resistance	≥ 10^9 Ω
Contact resistance	≤ 5mΩ
Pollution degree	3/2
Operating voltage display	LED green
Switching state display	LED yellow/yellow
Switching function	pnp
Ambient temperature	-35°C up to+105°C
Protection class	IP66, in screwed state
Mechanical service life	max. 100 insertion cycles

Technical data

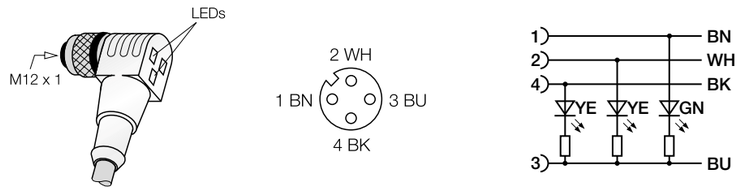
Design	**Coupling**
Connector	Coupling, M12 x 1
Handle base	Plastic, TPU, transparent
Union nut/screw	Metal, CuZn, nickel-plated
Contact base	Plastic, PA6GF, transparent
Contacts	Metal, CuZn, gold-plated
Seal	Plastic, FPM (Viton)

Harnessed with these connectors

Cable socket with LED M12-BGL



Angled socket with LED M12-BWL



Example images/illustrations

Type	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Cable length [m]
Connection cable M12				
Cable socket M12 with LED/ open cable end				
CF.INI-P4-M12-BGL2-3	MAT9043708	4x0.34	5.0	3
CF.INI-P4-M12-BGL2-5	MAT9043709	4x0.34	5.0	5
CF.INI-P4-M12-BGL2-7	MAT9043710	4x0.34	5.0	7
CF.INI-P4-M12-BGL2-10	MAT9043711	4x0.34	5.0	10
CF.INI-P4-M12-BGL2-15	MAT90410087	4x0.34	5.0	15
Angled socket M12 with LED/ open cable end				
CF.INI-P4-M12-BWL3-3	MAT9043712	4x0.34	5.0	3
CF.INI-P4-M12-BWL3-5	MAT9043713	4x0.34	5.0	5
CF.INI-P4-M12-BWL3-7	MAT9043714	4x0.34	5.0	7
CF.INI-P4-M12-BWL3-10	MAT9043715	4x0.34	5.0	10
CF.INI-P4-M12-BWL3-15	MAT90410088	4x0.34	5.0	15





Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
Also sold by the meter to your required length, unassembled.
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Example images/illustrations

Harnessed sensor/actuator cables

Connection and linking cables M8 x 1: Bend radius, e-chain®: minimum 5 x d

Electrical information

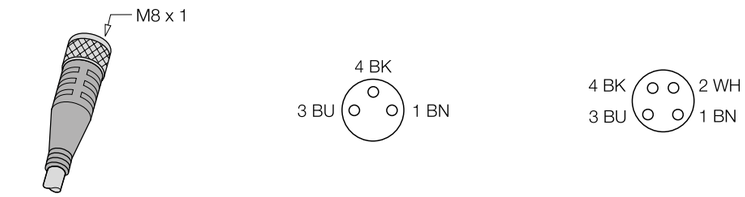
Number of poles	3-pole	4-pole
Ampacity	4A	4A
Rated voltage	60V	30V
Insulating resistance	≥ 10^9 Ω	≥ 10^9 Ω
Contact resistance	≤ 5mΩ	≤ 5mΩ
Pollution degree	3/2	3/2
Ambient temperature	-35°C up to+105°C	-35°C up to+105°C
Protection class	IP69K, in screwed state	IP69K, in screwed state
Mechanical service life	max. 100 insertion cycles	max. 100 insertion cycles

Technical data

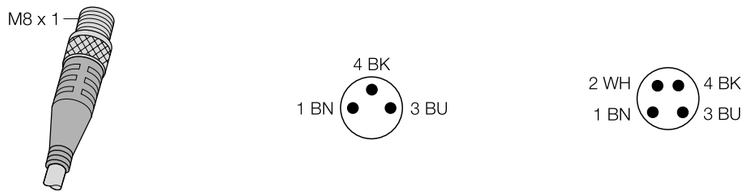
Design	Coupling	Connector
Connector	Coupling, M8 x 1	Connector, M8 x 1
Handle base	Plastic, PP, black	Plastic, PP, black
Union nut/screw	Metal, CuZn, nickel-plated	Metal, CuZn, nickel-plated
Contact base	Plastic, PP, black	Plastic, PP, black
Contacts	Metal, CuZn, gold-plated	Metal, CuZn, gold-plated
Seal	Plastic, FPM (Viton)	

Harnessed with these connectors

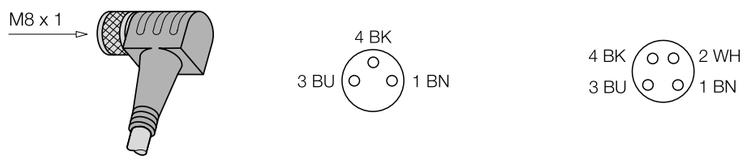
Cable socket M8-BG



Cable connector M8-SG



Angled socket M8-BW



Example images/illustrations

CF.INI
CF9
M8

Type	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Cable length [m]
Connection cable M8				
Cable socket M8/ open cable end				
CF.INI-P3-M8-BG-3	MAT9043716	3x0.25	4.5	3
CF.INI-P3-M8-BG-5	MAT9043717	3x0.25	4.5	5
CF.INI-P3-M8-BG-7	MAT9043718	3x0.25	4.5	7
CF.INI-P3-M8-BG-10	MAT9043719	3x0.25	4.5	10
CF.INI-P3-M8-BG-15	MAT9049416	3x0.25	4.5	15
CF.INI-P4-M8-BG-3	MAT9043728	4x0.34	5.0	3
CF.INI-P4-M8-BG-5	MAT9043729	4x0.34	5.0	5
CF.INI-P4-M8-BG-7	MAT9043730	4x0.34	5.0	7
CF.INI-P4-M8-BG-10	MAT9043731	4x0.34	5.0	10
CF.INI-P4-M8-BG-15	MAT9049466	4x0.34	5.0	15
Angled socket M8/ open cable end				
CF.INI-P3-M8-BW-3	MAT9043724	3x0.25	4.5	3
CF.INI-P3-M8-BW-5	MAT9043725	3x0.25	4.5	5
CF.INI-P3-M8-BW-7	MAT9043726	3x0.25	4.5	7
CF.INI-P3-M8-BW-10	MAT9043727	3x0.25	4.5	10
CF.INI-P3-M8-BW-15	MAT9049419	3x0.25	4.5	15
CF.INI-P4-M8-BW-3	MAT9043732	4x0.34	5.0	3
CF.INI-P4-M8-BW-5	MAT9043733	4x0.34	5.0	5
CF.INI-P4-M8-BW-7	MAT9043734	4x0.34	5.0	7
CF.INI-P4-M8-BW-10	MAT9043735	4x0.34	5.0	10
CF.INI-P4-M8-BW-15	MAT9049467	4x0.34	5.0	15
Linking cable M8				
M8 cable socket/ M8 cable connector				
CF.INI-P3-M8-BG/M8-SG-2	MAT90410324 [1]	3x0.25	4.5	2
CF.INI-P3-M8-BG/M8-SG-5	MAT90410325 [1]	3x0.25	4.5	5
CF.INI-P3-M8-BG/M8-SG-10	MAT90410326 [1]	3x0.25	4.5	10
CF.INI-P4-M8-BG/M8-SG-2	MAT90410333 [1]	4x0.34	5.0	2
CF.INI-P4-M8-BG/M8-SG-5	MAT90410334 [1]	4x0.34	5.0	5
CF.INI-P4-M8-BG/M8-SG-10	MAT90410335 [1]	4x0.34	5.0	10
Angled socket M8/ cable connector M8				
CF.INI-P3-M8-BW/M8-SG-2	MAT90410330 [1]	3x0.25	4.5	2
CF.INI-P3-M8-BW/M8-SG-5	MAT90410331 [1]	3x0.25	4.5	5
CF.INI-P3-M8-BW/M8-SG-10	MAT90410332 [1]	3x0.25	4.5	10
CF.INI-P4-M8-BW/M8-SG-2	MAT90410336 [1]	4x0.34	5.0	2
CF.INI-P4-M8-BW/M8-SG-5	MAT90410337 [1]	4x0.34	5.0	5
CF.INI-P4-M8-BW/M8-SG-10	MAT90410338 [1]	4x0.34	5.0	10

[1] Delivery time upon request

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
Also sold by the meter to your required length, unassembled.
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Example images/illustrations

Harnessed sensor/actuator cables

Connection cables with LED M8 x 1: Bend radius, e-chain®: minimum 5 x d

Electrical information

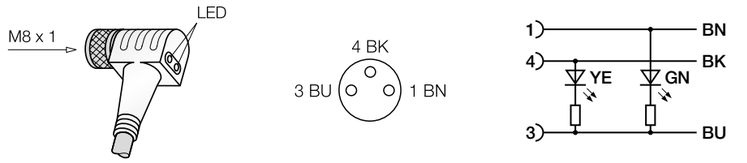
Number of poles	**3-pole**
Ampacity	4A
Rated voltage	30V
Insulating resistance	≥ 10^9 Ω
Contact resistance	≤ 5mΩ
Pollution degree	3/2
Operating voltage display	LED green
Switching state display	LED yellow/yellow
Switching function	pnp
Ambient temperature	-35°C up to+105°C
Protection class	IP66, in screwed state
Mechanical service life	max. 100 insertion cycles

Technical data

Design	**Coupling**
Connector	Coupling, M8 x 1
Handle base	Plastic, TPU, transparent
Union nut/screw	Metal, CuZn, nickel-plated
Contact base	Plastic, PA6GF, black
Contacts	Metal, CuZn, gold-plated
Seal	Plastic, FPM (Viton)

Harnessed with these connectors

Angled socket with LED M8-BWL



Example images/illustrations

Type	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Cable length [m]
Connection cable M8				
Angled socket M8 with LED/ open cable end				
CF.INI-P3-M8-BWL2-3	MAT9043720	3x0.25	4.5	3
CF.INI-P3-M8-BWL2-5	MAT9043721	3x0.25	4.5	5
CF.INI-P3-M8-BWL2-7	MAT9043722	3x0.25	4.5	7
CF.INI-P3-M8-BWL2-10	MAT9043723	3x0.25	4.5	10
CF.INI-P3-M8-BWL2-15	MAT90410196	3x0.25	4.5	15

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
Also sold by the meter to your required length, unassembled.
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Example images/illustrations

Harnessed sensor/actuator cables

Connection and linking cables 360° shielded, M12 x 1: Bend radius, e-chain®: minimum 5 x d

Electrical information

Number of poles	**5-pole (4-pole + PE)**
Ampacity	4A
Rated voltage	60V
Insulating resistance	≥ 10^9 Ω
Contact resistance	≤ 5mΩ
Pollution degree	3/2
Ambient temperature	-35°C up to+105°C
Protection class	IP69K, in screwed state
Mechanical service life	max. 100 insertion cycles

Technical data

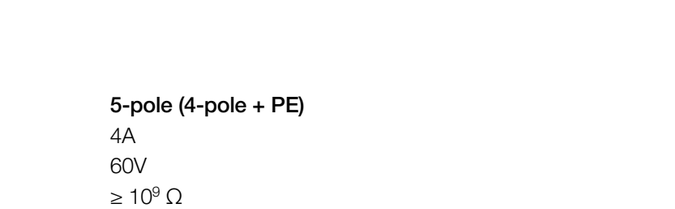
Design	**Coupling**
Connector	Coupling, M12 x 1
Handle base	Plastic, PP, black
Union nut/screw	Metal, CuZn, nickel-plated
Contact base	Plastic, PP, black
Contacts	Metal, CuZn, gold-plated
Seal	Plastic, FPM (Viton)

Harnessed with these connectors

Cable socket M12-BG



Cable connector M12-SG



Angled socket M12-BW



Example images/illustrations

Type	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Cable length [m]
Connection cable M12				
Cable socket M12/ open cable end				
CF10.INI-P5-C-M12-BG-3	MAT90424072	(5x0.34)C	7.0	3
CF10.INI-P5-C-M12-BG-5	MAT90424073	(5x0.34)C	7.0	5
CF10.INI-P5-C-M12-BG-7	MAT90424074	(5x0.34)C	7.0	7
CF10.INI-P5-C-M12-BG-10	MAT90424075	(5x0.34)C	7.0	10
CF10.INI-P5-C-M12-BG-15	MAT90424076	(5x0.34)C	7.0	15
Angled socket M21/ open cable end				
CF10.INI-P5-C-M12-BW-3	MAT90424077	(5x0.34)C	7.0	3
CF10.INI-P5-C-M12-BW-5	MAT90424078	(5x0.34)C	7.0	5
CF10.INI-P5-C-M12-BW-7	MAT90424079	(5x0.34)C	7.0	7
CF10.INI-P5-C-M12-BW-10	MAT90424080	(5x0.34)C	7.0	10
CF10.INI-P5-C-M12-BW-15	MAT90424081	(5x0.34)C	7.0	15
Linking cable M12				
Cable socket M12/ cable connector M12				
CF10.INI-P5-C-M12-BG/M12-SG-2	MAT90424082 [1]	(5x0.34)C	7.0	2
CF10.INI-P5-C-M12-BG/M12-SG-5	MAT90424083 [1]	(5x0.34)C	7.0	5
CF10.INI-P5-C-M12-BG/M12-SG-10	MAT90424084 [1]	(5x0.34)C	7.0	10
Cable socket M12/ cable connector M12				
CF10.INI-P5-C-M12-BW/M12-SG-2	MAT90424085 [1]	(5x0.34)C	7.0	2
CF10.INI-P5-C-M12-BW/M12-SG-5	MAT90424086 [1]	(5x0.34)C	7.0	5
CF10.INI-P5-C-M12-BW/M12-SG-10	MAT90424087 [1]	(5x0.34)C	7.0	10

[1]Delivery time upon request

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
Also sold by the meter to your required length, unassembled.
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Example images/illustrations

Harnessed sensor/actuator cables

Connection and linking cables M12 x 1: Bend radius, e-chain®: minimum 4 x d

Electrical information

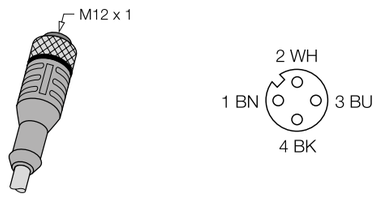
Number of poles	**4-pole**
Ampacity	4A
Rated voltage	250V
Insulating resistance	≥ 10^9 Ω
Contact resistance	≤ 5mΩ
Pollution degree	3/2
Ambient temperature	-35°C up to+105°C
Protection class	IP69K, in screwed state
Mechanical service life	max. 100 insertion cycles

Technical data

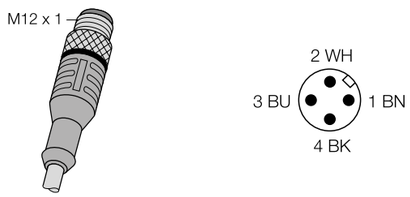
Design	**Coupling**	**Connector**
Connector	Coupling, M12 x 1	Connector, M12x1
Handle base	Plastic, PP, black	Plastic, PP, black
Union nut/screw	Metal, CuZn, nickel-plated	Metal, CuZn, nickel-plated
Contact base	Plastic, TPU, black	Plastic, TPU, black
Contacts	Metal, CuZn, gold-plated	Metal, CuZn, gold-plated
Seal	Plastic, FPM (Viton)	

Harnessed with these connectors

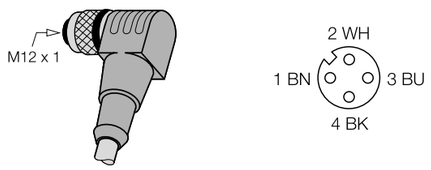
Cable socket M12-BG



Cable connector M12-SG



Angled socket M12-BW



Example images/illustrations

Type	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Cable length [m]
Connection cable M12				
Cable socket M12/ open cable end				
CF98.INI-P4-M12-BG-3	MAT90410235 [1]	4x0.34	6.0	3
CF98.INI-P4-M12-BG-5	MAT90410236 [1]	4x0.34	6.0	5
CF98.INI-P4-M12-BG-7	MAT90410237 [1]	4x0.34	6.0	7
CF98.INI-P4-M12-BG-10	MAT90410238 [1]	4x0.34	6.0	10
CF98.INI-P4-M12-BG-15	MAT90410239 [1]	4x0.34	6.0	15
Angled socket M21/ open cable end				
CF98.INI-P4-M12-BW-3	MAT90410240 [1]	4x0.34	6.0	3
CF98.INI-P4-M12-BW-5	MAT90410241 [1]	4x0.34	6.0	5
CF98.INI-P4-M12-BW-7	MAT90410242 [1]	4x0.34	6.0	7
CF98.INI-P4-M12-BW-10	MAT90410243 [1]	4x0.34	6.0	10
CF98.INI-P4-M12-BW-15	MAT90410244 [1]	4x0.34	6.0	15
Linking cable M12				
Cable socket M12/ cable connector M12				
CF98.INI-P4-M12-BG/M12-SG-2	MAT90410300 [1]	4x0.34	6.0	2
CF98.INI-P4-M12-BG/M12-SG-5	MAT90410301 [1]	4x0.34	6.0	5
CF98.INI-P4-M12-BG/M12-SG-10	MAT90410302 [1]	4x0.34	6.0	10
Cable socket M12/ cable connector M12				
CF98.INI-P4-M12-BW/M12-SG-2	MAT90410303 [1]	4x0.34	6.0	2
CF98.INI-P4-M12-BW/M12-SG-5	MAT90410304 [1]	4x0.34	6.0	5
CF98.INI-P4-M12-BW/M12-SG-10	MAT90410305 [1]	4x0.34	6.0	10

[1] Delivery time upon request

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
Also sold by the meter to your required length, unassembled.
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Example images/illustrations

Harnessed sensor/actuator cables

Connection and linking cables M8 x 1: Bend radius, e-chain®: minimum 4 x d

Electrical information

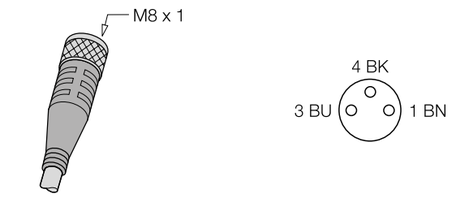
Number of poles	**3-pole**
Ampacity	4A
Rated voltage	60V
Insulating resistance	≥ 10^9 Ω
Contact resistance	≤ 5mΩ
Pollution degree	3/2
Ambient temperature	-35°C up to+105°C
Protection class	IP69K, in screwed state
Mechanical service life	max. 100 insertion cycles

Technical data

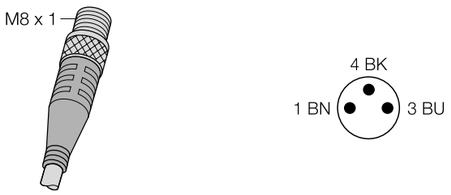
Design	**Coupling**	**Connector**
Connector	Coupling, M8 x 1	Connector, M8x1
Handle base	Plastic, PP, black	Plastic, PP, black
Union nut/screw	Metal, CuZn, nickel-plated	Metal, CuZn, nickel-plated
Contact base	Plastic, TPU, black	Plastic, TPU, black
Contacts	Metal, CuZn, gold-plated	Metal, CuZn, gold-plated
Seal	Plastic, FPM (Viton)	

Harnessed with these connectors

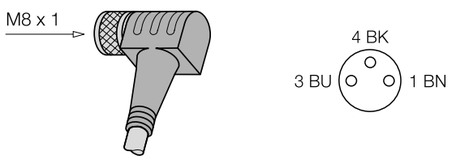
Cable socket M8-BG



Cable connector M8-SG



Angled socket M8-BW



Example images/illustrations

Type	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Cable length [m]
Connection cable M8				
Cable socket M8/ open cable end				
CF98.INI-P3-M8-BG-3	MAT90410245 [1]	3x0.25	5.0	3
CF98.INI-P3-M8-BG-5	MAT90410246 [1]	3x0.25	5.0	5
CF98.INI-P3-M8-BG-7	MAT90410247 [1]	3x0.25	5.0	7
CF98.INI-P3-M8-BG-10	MAT90410248 [1]	3x0.25	5.0	10
CF98.INI-P3-M8-BG-15	MAT90410249 [1]	3x0.25	5.0	15
Angled socket M8/ open cable end				
CF98.INI-P3-M8-BW-3	MAT90410250 [1]	3x0.25	5.0	3
CF98.INI-P3-M8-BW-5	MAT90410251 [1]	3x0.25	5.0	5
CF98.INI-P3-M8-BW-7	MAT90410252 [1]	3x0.25	5.0	7
CF98.INI-P3-M8-BW-10	MAT90410253 [1]	3x0.25	5.0	10
CF98.INI-P3-M8-BW-15	MAT90410254 [1]	3x0.25	5.0	15
Linking cable M8				
M8 cable socket/ M8 cable connector				
CF98.INI-P3-M8-BG/M8-SG-2	MAT90410306 [1]	3x0.25	5.0	2
CF98.INI-P3-M8-BG/M8-SG-5	MAT90410307 [1]	3x0.25	5.0	5
CF98.INI-P3-M8-BG/M8-SG-10	MAT90410308 [1]	3x0.25	5.0	10
Angled socket M8/ cable connector M8				
CF98.INI-P3-M8-BW/M8-SG-2	MAT90410309 [1]	3x0.25	5.0	2
CF98.INI-P3-M8-BW/M8-SG-5	MAT90410310 [1]	3x0.25	5.0	5
CF98.INI-P3-M8-BW/M8-SG-10	MAT90410311 [1]	3x0.25	5.0	10

[1] Delivery time upon request

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
Also sold by the meter to your required length, unassembled.
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Example images/illustrations

EU2024

Sensor/actuator distribution box

To connect sensor/actuator distribution boxes

Connection cable M23:
Socket/Pin at the cable front, cable ends cut

Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Connection cable M23		
Socket M23/ open cable end		
MAT90436630 [1)]	16x0.34+3x0.75	11.0
Connector M23/ open cable end		
MAT90436631 [1)]	16x0.34+3x0.75	11.0
Connection cable M23		
Connector M23/ angled socket M23		
MAT90436629	16x0.34+3x0.75	11.0
Connector M23/ socket M23		
MAT90436628	16x0.34+3x0.75	11.0

[1)] igus® gladly pre-harnesses the cable according to your technical guidelines.

All cables available to your required length.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example images.
* igus® gladly pre-harnesses the cable according to your technical guidelines.
G = with green-yellow earth core **x** = without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Example images/illustrations

Sensor/actuator distribution box

To connect sensor/actuator distribution boxes

Connection cable M12:
Socket at the cable front, Pin at the cable end

Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Connection cable M12		
Socket M12, A-coded/ Connector M12 , A-coded		
MAT90478773	8x0.25	6.5
MAT90478776	12x0.25	8.0
Socket M12, A-coded/ open cable end		
MAT90478774	8x0.25	6.5
MAT90478777	12x0.25	8.0
Connector M12, A-coded/ open cable end		
MAT90478775	8x0.25	6.5
MAT90478778	12x0.25	8.0

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example images.
G = with green-yellow earth core **x** = without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

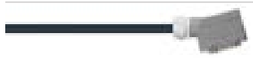
Example images/illustrations

Industry

chainflex® cables with industrial connectors



chainflex® readycable®

	Cable type	Page
chainflex® cables with industrial connectors		
	Han 6B	Harnessed cable, single locking lever at both ends, straight	544
	Han 6B	Harnessed cable, single locking lever at both ends, angled	544
	Han 10B	Harnessed cable, single locking lever at both ends, straight	546
	Han 10B	Harnessed cable, single locking lever at both ends, angled	546
	Han 10B	Harnessed cable, double locking lever at both ends, straight	546
	Han 10B	Harnessed cable, double locking lever at both ends, angled	546
	Han 16B	Harnessed cable, single locking lever at both ends, straight	548
	Han 16B	Harnessed cable, single locking lever at both ends, angled	548
	Han 16B	Harnessed cable, double locking lever at both ends, straight	548
	Han 16B	Harnessed cable, double locking lever at both ends, angled	548
	Han 24B	Harnessed cable, single locking lever at both ends, straight	550
	Han 24B	Harnessed cable, single locking lever at both ends, angled	550
	Han 24B	Harnessed cable, double locking lever at both ends, straight	550
	Han 24B	Harnessed cable, double locking lever at both ends, angled	550

HARTING Connector sets (Connectors chapter page 786)		
	Connector sets with pin inserts	836
	Connector sets Premium (pin + socket)	838

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

HARTING
Han 6B

Harnessed control cables | HARTING Han 6B

Harnessed control cables, HARTING Han 6B, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Copper index	Weight	Bend radius [x d]	chainflex® cable	Insert 1 HARTING Part No.	Housing 1 HARTING Part No.	Insert 2 HARTING Part No.	Housing 2 HARTING Part No.
Han 6B connector housing (pin) to Han 6B connector housing (socket), single locking lever at both ends, straight											
PVC	**MAT90489360**	7G1.5	10.0	109	167	12.5	CF880.15.07	09330062702	19300061440	09330062602	19300061440
PVC	**MAT90489361**	7G1.5	10.5	105	166	7.5	CF130.15.07.UL	09330062702	19300061440	09330062602	19300061440
PVC, oil-res.	**MAT90489362**	7G1.5	10.5	105	180	6.8	CF5.15.07	09330062702	19300061440	09330062602	19300061440
iguPUR	**MAT90489363**	7G1.5	10.0	109	163	12.5	CF890.15.07	09330062702	19300061440	09330062602	19300061440
PUR	**MAT90489364**	7G1.5	9.5	105	152	6.8	CF77.UL.15.07.D	09330062702	19300061440	09330062602	19300061440
PUR-ROBOT	**MAT90489367**	5G1.0+(2x1.0)C	10.0	82	136	10	CFROBOT9.001	09330062702	19300061440	09330062602	19300061440
TPE H*	**MAT90489365**	7G1.5	9.5	107	157	5	CF9.15.07	09330062702	19300061440	09330062602	19300061440
TPE F	**MAT90489366**	7G1.5	10.0	104	167	5	CF9.UL.15.07	09330062702	19300061440	09330062602	19300061440
Han 6B connector housing (pin) to Han 6B connector housing (socket), single locking lever at both ends, angled											
PVC	**MAT90489368**	7G1.5	10.0	109	167	12.5	CF880.15.07	09330062702	19300061541	09330062602	19300061541
PVC	**MAT90489369**	7G1.5	10.5	105	166	7.5	CF130.15.07.UL	09330062702	19300061540	09330062602	19300061540
PVC, oil-res.	**MAT90489370**	7G1.5	10.5	105	180	6.8	CF5.15.07	09330062702	19300061540	09330062602	19300061540
iguPUR	**MAT90489371**	7G1.5	10.0	109	163	12.5	CF890.15.07	09330062702	19300061541	09330062602	19300061541
PUR	**MAT90489372**	7G1.5	10.0	109	163	6.8	CF77.UL.15.07.D	09330062702	19300061540	09330062602	19300061540
PUR-ROBOT	**MAT90489375**	5G1.0+(2x1.0)C	10.0	82	136	10	CFROBOT9.001	09330062702	19300061540	09330062602	19300061540
TPE H*	**MAT90489373**	7G1.5	9.5	107	157	5	CF9.15.07	09330062702	19300061540	09330062602	19300061540
TPE F	**MAT90489374**	7G1.5	10.0	104	167	5	CF9.UL.15.07	09330062702	19300061540	09330062602	19300061540

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

igus EU2024 EU2024 igus 100 % digitally tested ... to your required length, no minimum order quantity ... 4-years chainflex® guarantee

HARTING Han 10B

Harnessed control cables | HARTING Han 10B

Harnessed control cables, Harting Han 10B, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Copper index	Weight	Bend radius [x d]	chainflex® cable	Insert 1 HARTING Part No.	Housing 1 HARTING Part No.	Insert 2 HARTING Part No.	Housing 2 HARTING Part No.
Han 10B connector housing (pin) to Han 10B connector housing (socket), single locking lever at both ends, straight											
PVC	**MAT90489376**	12G1.5	12.0	186	260	12.5	CF880.15.12	09330102702	19300101441	09330102602	19300101441
PVC	**MAT90489377**	12G1.5	13.0	179	288	7.5	CF130.15.12.UL	09330102702	19300101441	09330102602	19300101441
PVC, oil-res.	**MAT90489378**	12G1.5	13.0	179	288	7.5	CF130.15.12.UL	09330102702	19300101441	09330102602	19300101441
iguPUR	**MAT90489379**	12G1.5	12.0	186	256	12.5	CF890.15.12	09330102702	19300101441	09330102602	19300101441
PUR	**MAT90489380**	12G1.5	13.0	179	297	6.8	CF77.UL.15.12.D	09330102702	19300101441	09330102602	19300101441
PUR-ROBOT	**MAT90489383**	16G1.0+(2x1.0)C	15.5	194	307	10	CFROBOT9.004	09330102702	19300101441	09330102602	19300101441
TPE H*	**MAT90489381**	12G1.5	13.0	179	284	5	CF9.15.12	09330102702	19300101441	09330102602	19300101441
TPE F	**MAT90489382**	12G1.5	13.5	178	307	5	CF9.UL.15.12	09330102702	19300101441	09330102602	19300101441
Han 10B connector housing (pin) to Han 10B connector housing (socket), single locking lever at both ends, angled											
PVC	**MAT90489384**	12G1.5	12.0	186	260	12.5	CF880.15.12	09330102702	19300101541	09330102602	19300101541
PVC	**MAT90489385**	12G1.5	13.0	179	288	7.5	CF130.15.12.UL	09330102702	19300101541	09330102602	19300101541
PVC, oil-res.	**MAT90489386**	12G0.5	11.0	61	131	6.8	CF130.15.12.UL	09330102702	19300101541	09330102602	19300101541
iguPUR	**MAT90489387**	12G1.5	12.0	186	256	12.5	CF890.15.12	09330102702	19300101541	09330102602	19300101541
PUR	**MAT90489388**	12G1.5	13.0	179	297	6.8	CF77.UL.15.12.D	09330102702	19300101541	09330102602	19300101541
PUR-ROBOT	**MAT90489391**	16G1.0+(2x1.0)C	15.5	194	307	10	CFROBOT9.004	09330102702	19300101541	09330102602	19300101541
TPE H*	**MAT90489389**	12G1.5	13.0	179	284	5	CF9.15.12	09330102702	19300101541	09330102602	19300101541
TPE F	**MAT90489390**	12G1.5	13.5	178	307	5	CF9.UL.15.12	09330102702	19300101541	09330102602	19300101541
Han 10B connector housing (pin) to Han 10B connector housing (socket), double locking lever at both ends, straight											
PVC	**MAT90489392**	12G1.5	12.0	186	260	12.5	CF880.15.12	09330102702	19300101421	09330102602	19300101421
PVC	**MAT90489393**	12G1.5	13.0	179	288	7.5	CF130.15.12.UL	09330102702	19300101421	09330102602	19300101421
PVC, oil-res.	**MAT90489394**	12G1.5	15.0	179	264	6.8	CF130.15.12.UL	09330102702	19300101421	09330102602	19300101421
iguPUR	**MAT90489395**	12G1.5	12.0	186	256	12.5	CF890.15.12	09330102702	19300101421	09330102602	19300101421
PUR	**MAT90489396**	12G1.5	13.0	179	297	6.8	CF77.UL.15.12.D	09330102702	19300101421	09330102602	19300101421
PUR-ROBOT	**MAT90489399**	16G1.0+(2x1.0)C	15.5	194	307	10	CFROBOT9.004	09330102702	19300101421	09330102602	19300101421
TPE H*	**MAT90489397**	12G1.5	13.0	179	284	5	CF9.15.12	09330102702	19300101421	09330102602	19300101421
TPE F	**MAT90489398**	12G1.5	13.5	178	307	5	CF9.UL.15.12	09330102702	19300101421	09330102602	19300101421
Han 10B connector housing (pin) to Han 10B connector housing (socket), double locking lever at both ends, angled											
PVC	**MAT90489400**	12G1.5	12.0	186	260	12.5	CF880.15.12	09330102702	19300101521	09330102602	19300101521
PVC	**MAT90489401**	12G1.5	13.0	179	288	7.5	CF130.15.12.UL	09330102702	19300101521	09330102602	19300101521
PVC, oil-res.	**MAT90489402**	12G1.5	15.0	179	264	6.8	CF130.15.12.UL	09330102702	19300101521	09330102602	19300101521
iguPUR	**MAT90489403**	12G1.5	12.0	186	256	12.5	CF890.15.12	09330102702	19300101521	09330102602	19300101521
PUR	**MAT90489404**	12G1.5	13.0	179	297	6.8	CF77.UL.15.12.D	09330102702	19300101521	09330102602	19300101521
PUR-ROBOT	**MAT90489407**	16G1.0+(2x1.0)C	15.5	194	307	10	CFROBOT9.004	09330102702	19300101521	09330102602	19300101521
TPE H*	**MAT90489405**	12G1.5	13.0	179	284	5	CF9.15.12	09330102702	19300101521	09330102602	19300101521
TPE F	**MAT90489406**	12G1.5	13.5	178	307	5	CF9.UL.15.12	09330102702	19300101521	09330102602	19300101521

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

HARTING
Han 16B

Harnessed control cables | HARTING Han 16B

Harnessed control cables, Harting Han 16B, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Copper index	Weight	Bend radius [x d]	chainflex® cable	Insert 1 HARTING Part No.	Housing 1 HARTING Part No.	Insert 2 HARTING Part No.	Housing 2 HARTING Part No.
Han 16B connector housing (pin) to Han 16B connector housing (socket), single locking lever at both ends, straight											
PVC	**MAT90489408**	18G1.5	14.5	279	370	12.5	CF880.15.18	09330162702	19300161442	09330162602	19300161442
PVC	**MAT90489409**	18G1.5	17.0	268	438	7.5	CF130.15.18.UL	09330162702	19300161442	09330162602	19300161442
PVC, oil-res.	**MAT90489410**	18G1.5	19.5	267	478	6.8	CF5.15.18	09330162702	19300161442	09330162602	19300161442
iguPUR	**MAT90489411**	18G1.5	14.5	279	362	12.5	CF890.15.18	09330162702	19300161442	09330162602	19300161442
PUR	**MAT90489412**	18G1.5	17.0	268	405	6.8	CF77.UL.15.18.D	09330162702	19300161442	09330162602	19300161442
PUR-ROBOT	**MAT90489415**	16G1.0+(2x1.0)C	15.5	194	307	10	CFROBOT9.004	09330162702	19300161442	09330162602	19300161442
TPE H*	**MAT90489413**	18G1.5	16.0	268	422	5	CF9.15.18	09330162702	19300161442	09330162602	19300161442
TPE F	**MAT90489414**	18G1.5	16.0	267	448	5	CF9.UL.15.18	09330162702	19300161442	09330162602	19300161442
Han 16B connector housing (pin) to Han 16B connector housing (socket), single locking lever at both ends, angled											
PVC	**MAT90489416**	18G1.5	14.5	279	370	12.5	CF880.15.18	09330162702	19300161542	09330162602	19300161542
PVC	**MAT90489417**	18G1.5	17.0	268	438	7.5	CF130.15.18.UL	09330162702	19300161542	09330162602	19300161542
PVC, oil-res.	**MAT90489418**	18G1.5	19.5	267	478	6.8	CF5.15.18	09330162702	19300161542	09330162602	19300161542
iguPUR	**MAT90489419**	18G1.5	14.5	279	362	12.5	CF890.15.18	09330162702	19300161542	09330162602	19300161542
PUR	**MAT90489420**	18G1.5	17.0	268	405	6.8	CF77.UL.15.18.D	09330162702	19300161542	09330162602	19300161542
PUR-ROBOT	**MAT90489423**	16G1.0+(2x1.0)C	15.5	194	307	10	CFROBOT9.004	09330162702	19300161542	09330162602	19300161542
TPE H*	**MAT90489421**	18G1.5	16.0	268	422	5	CF9.15.18	09330162702	19300161542	09330162602	19300161542
TPE F	**MAT90489422**	18G1.5	16.0	267	448	5	CF9.UL.15.18	09330162702	19300161542	09330162602	19300161542
Han 16B connector housing (pin) to Han 16B connector housing (socket), double locking lever at both ends, straight											
PVC	**MAT90489424**	18G1.5	14.5	279	370	12.5	CF880.15.18	09330162702	19300161422	09330162602	19300161422
PVC	**MAT90489425**	18G1.5	17.0	268	438	7.5	CF130.15.18.UL	09330162702	19300161422	09330162602	19300161422
PVC, oil-res.	**MAT90489426**	18G1.5	19.5	267	478	6.8	CF5.15.18	09330162702	19300161422	09330162602	19300161422
iguPUR	**MAT90489427**	18G1.5	14.5	279	362	12.5	CF890.15.18	09330162702	19300161422	09330162602	19300161422
PUR	**MAT90489428**	18G1.5	17.0	268	405	6.8	CF77.UL.15.18.D	09330162702	19300161422	09330162602	19300161422
PUR-ROBOT	**MAT90489431**	16G1.0+(2x1.0)C	15.5	194	307	10	CFROBOT9.004	09330162702	19300161422	09330162602	19300161422
TPE H*	**MAT90489429**	18G1.5	16.0	268	422	5	CF9.15.18	09330162702	19300161422	09330162602	19300161422
TPE F	**MAT90489430**	18G1.5	16.0	267	448	5	CF9.UL.15.18	09330162702	19300161422	09330162602	19300161422
Han 16B connector housing (pin) to Han 16B connector housing (socket), double locking lever at both ends, angled											
PVC	**MAT90489432**	18G1.5	14.5	279	370	12.5	CF880.15.18	09330162702	19300161522	09330162602	19300161522
PVC	**MAT90489433**	18G1.5	17.0	268	438	7.5	CF130.15.18.UL	09330162702	19300161522	09330162602	19300161522
PVC, oil-res.	**MAT90489434**	18G1.5	19.5	267	478	6.8	CF5.15.18	09330162702	19300161522	09330162602	19300161522
iguPUR	**MAT90489435**	18G1.5	14.5	279	362	12.5	CF890.15.18	09330162702	19300161522	09330162602	19300161522
PUR	**MAT90489436**	18G1.5	17.0	268	405	6.8	CF77.UL.15.18.D	09330162702	19300161522	09330162602	19300161522
PUR-ROBOT	**MAT90489439**	16G1.0+(2x1.0)C	15.5	194	307	10	CFROBOT9.004	09330162702	19300161522	09330162602	19300161522
TPE H*	**MAT90489437**	18G1.5	16.0	268	422	5	CF9.15.18	09330162702	19300161522	09330162602	19300161522
TPE F	**MAT90489438**	18G1.5	16.0	267	448	5	CF9.UL.15.18	09330162702	19300161522	09330162602	19300161522

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

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HARTING
Han 24B

Harnessed control cables | HARTING Han 24B

Harnessed control cables, Harting Han 24B, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Copper index	Weight	Bend radius [x d]	chainflex® cable	Insert 1 HARTING Part No.	Housing 1 HARTING Part No.	Insert 2 HARTING Part No.	Housing 2 HARTING Part No.
Han 24B connector housing (pin) to Han 24B connector housing (socket), single locking lever at both ends, straight											
PVC	**MAT90489440**	25G1.5	17.5	387	514	12.5	CF880.15.25	09330242702	19300241442	09330242602	19300241442
PVC	**MAT90489441**	25G1.5	19.5	371	563	7.5	CF130.15.25.UL	09330242702	19300241442	09330242602	19300241442
PVC, oil-res.	**MAT90489442**	25G1.5	21.5	371	645	6.8	CF5.15.25	09330242702	19300241442	09330242602	19300241442
iguPUR	**MAT90489443**	25G1.5	17.5	387	502	12.5	CF890.15.25	09330242702	19300241442	09330242602	19300241442
PUR	**MAT90489444**	25G1.5	19.5	297	564	6.8	CF77.UL.15.25.D	09330242702	19300241442	09330242602	19300241442
PUR-ROBOT	**MAT90489447**	23G1.0+(2x1.0)C	19.5	268	444	10	CFROBOT9.005	09330242702	19300241442	09330242602	19300241442
TPE H*	**MAT90489445**	25G1.5	19.0	371	600	5	CF9.15.25	09330242702	19300241442	09330242602	19300241442
TPE F	**MAT90489446**	25G1.5	19.0	371	652	5	CF9.UL.15.25	09330242702	19300241442	09330242602	19300241442
Han 24B connector housing (pin) to Han 24B connector housing (socket), single locking lever at both ends, angled											
PVC	**MAT90489448**	25G1.5	17.5	387	514	12.5	CF880.15.25	09330242702	19300241542	09330242602	19300241542
PVC	**MAT90489449**	25G1.5	19.5	371	563	7.5	CF130.15.25.UL	09330242702	19300241542	09330242602	19300241542
PVC, oil-res.	**MAT90489450**	25G1.5	21.5	371	645	6.8	CF5.15.25	09330242702	19300241542	09330242602	19300241542
iguPUR	**MAT90489451**	25G1.5	17.5	387	502	12.5	CF890.15.25	09330242702	19300241542	09330242602	19300241542
PUR	**MAT90489452**	25G1.5	19.5	297	564	6.8	CF77.UL.15.25.D	09330242702	19300241542	09330242602	19300241542
PUR-ROBOT	**MAT90489455**	23G1.0+(2x1.0)C	19.5	268	444	10	CFROBOT9.005	09330242702	19300241542	09330242602	19300241542
TPE H*	**MAT90489453**	25G1.5	19.0	371	600	5	CF9.15.25	09330242702	19300241542	09330242602	19300241542
TPE F	**MAT90489454**	25G1.5	19.0	371	652	5	CF9.UL.15.25	09330242702	19300241542	09330242602	19300241542
Han 24B connector housing (pin) to Han 24B connector housing (socket), double locking lever at both ends, straight											
PVC	**MAT90489456**	25G1.5	17.5	387	514	12.5	CF880.15.25	09330242702	19300241422	09330242602	19300241422
PVC	**MAT90489457**	25G1.5	19.5	371	563	7.5	CF130.15.25.UL	09330242702	19300241422	09330242602	19300241422
PVC, oil-res.	**MAT90489458**	25G1.5	21.5	371	645	6.8	CF5.15.25	09330242702	19300241422	09330242602	19300241422
iguPUR	**MAT90489459**	25G1.5	17.5	387	502	12.5	CF890.15.25	09330242702	19300241422	09330242602	19300241422
PUR	**MAT90489460**	25G1.5	19.5	297	564	6.8	CF77.UL.15.25.D	09330242702	19300241422	09330242602	19300241422
PUR-ROBOT	**MAT90489463**	23G1.0+(2x1.0)C	19.5	268	444	10	CFROBOT9.005	09330242702	19300241422	09330242602	19300241422
TPE H*	**MAT90489461**	25G1.5	19.0	371	600	5	CF9.15.25	09330242702	19300241422	09330242602	19300241422
TPE F	**MAT90489462**	25G1.5	19.0	371	652	5	CF9.UL.15.25	09330242702	19300241422	09330242602	19300241422
Han 24B connector housing (pin) to Han 24B connector housing (socket), double locking lever at both ends, angled											
PVC	**MAT90489464**	25G1.5	17.5	387	514	12.5	CF880.15.25	09330242702	19300241522	09330242602	19300241522
PVC	**MAT90489465**	25G1.5	19.5	371	563	7.5	CF130.15.25.UL	09330242702	19300241522	09330242602	19300241522
PVC, oil-res.	**MAT90489466**	25G1.5	21.5	371	645	6.8	CF5.15.25	09330242702	19300241522	09330242602	19300241522
iguPUR	**MAT90489467**	25G1.5	17.5	387	502	12.5	CF890.15.25	09330242702	19300241522	09330242602	19300241522
PUR	**MAT90489468**	25G1.5	19.5	297	564	6.8	CF77.UL.15.25.D	09330242702	19300241522	09330242602	19300241522
PUR-ROBOT	**MAT90489471**	23G1.0+(2x1.0)C	19.5	268	444	10	CFROBOT9.005	09330242702	19300241522	09330242602	19300241522
TPE H*	**MAT90489469**	25G1.5	19.0	371	600	5	CF9.15.25	09330242702	19300241522	09330242602	19300241522
TPE F	**MAT90489470**	25G1.5	19.0	371	652	5	CF9.UL.15.25	09330242702	19300241522	09330242602	19300241522

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
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igus® GmbH defines cable length as entire length including connectors or open harnessing. ► Page 961

Robot

Harnessed dress packs and cables for robots



chainflex® readycable®

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Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

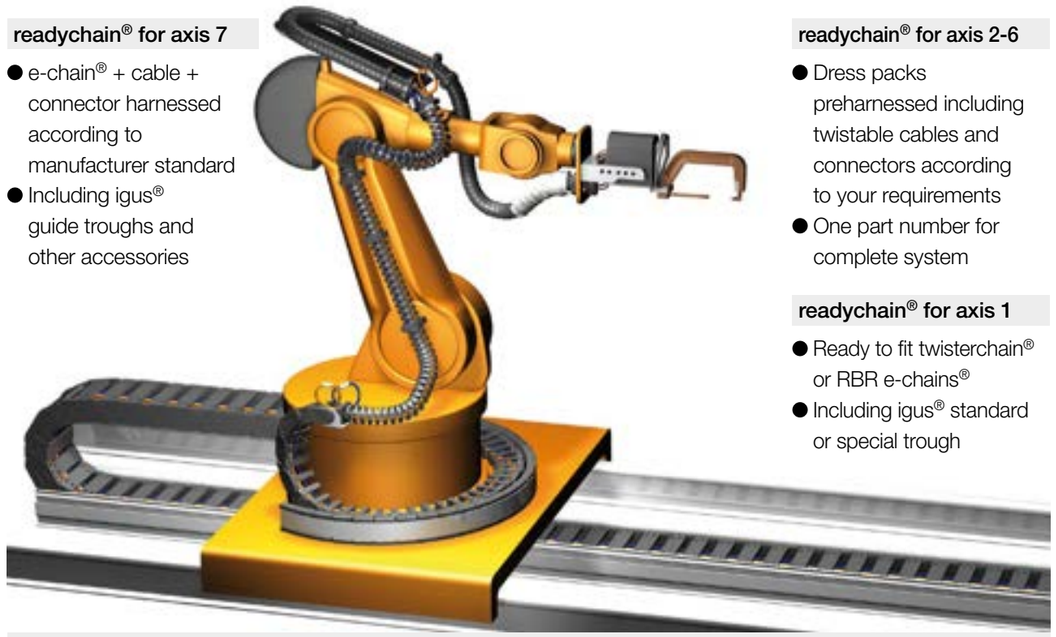
readychain® Robot

Ready-to-install harnessed e-chain systems® for robots

Assembled energy supply systems, connectors and cables from igus®. Everything from one source. Directly from the manufacturer. Quick delivery to your robot, delivered in 1-10 days

readychain® for axis 7

- e-chain® + cable + connector harnessed according to manufacturer standard
- Including igus® guide troughs and other accessories



readychain® for axis 2-6

- Dress packs preharnessed including twistable cables and connectors according to your requirements
- One part number for complete system

readychain® for axis 1

- Ready to fit twisterchain® or RBR e-chains®
- Including igus® standard or special trough

Additional services for you

- Survey of existing systems on your robot by our sales engineers
- Optional system guarantee
- Worldwide readychain® specialists and 11 production sites for fast maintenance and spare part support

Moving energy made easy – even for robot applications

The modular igus® robot construction kit comprises over 5,000 different items. We can offer you the optimum, customised solution for almost any robot application. Our "Quick Robot" online tool can be used to create the ideal configuration in seconds – try it for yourself:
www.igus.eu/quickrobot

All igus® robotic components are tested in our laboratory and have already been reliably used in real applications for many years. Our primary aim is to design a reliable energy supply system for your robot. We do not simply focus on mechanical protection but instead look at the entire application including the cables that have been specially developed for use on the robot. We will gladly find a solution for your application too – and look forward to receiving your enquiry.



Matthias Meyer
Head of Industry Management
Automotive & Robotics
Phone.: +49-2203 9649-161
mmeyer@igus.de

triflex® readychain® dress packs

Product range dress packs for welding robots	
Product range **Part No.**	Dress pack

Welding axis 1-3

(1 m projection/side + 1 m e-chain® for each)



RRC.S.001

Consisting of:
- 1m TRLF.85.135.0, including mounting brackets
- Welding cable (2x35mm² + 1x25mm²) including multicontact TSB and TSS welding connector
- Control cable (18x0.75mm² + 5x0.75mm²) including rectangular connector on both ends
- Welding control cable (5x2x0.5mm²) including rectangular connector on both ends
- 3x hoses - DN12 red, green, blue - including fixture at both ends

Welding axis 3-6

(1 m projection/side + 1 m e-chain® for each)



RRC.S.002

Consisting of:
- 1m TRC.85.135.0 including protectors and mounting brackets
- Welding cable (2x35mm² + 1x25mm²) including multicontact TSB and TSS welding connector
- Control cable (18x0.75mm² + 5x0.75mm²) including round connector and rectangular connector
- Welding control cable (5x2x0.5mm²) including rectangular connector on both ends
- 3x hoses - DN12 red, green, blue - including fixture at both ends

igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed cables for robots
KUKA Quantec

Harnessed cables for KUKA Quantec, to your required length

Part No.	chainflex® cable	Manufacturer description	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Motor cable (straight socket)				
				
MAT904105003	**CFSPECIAL.792.011**	X30/X30.1	(5x(2x6.0+2x2.5)+2x(6x1.0)C)C	35.5
Motor cable (angled socket)				
				
MAT904105004	**CFSPECIAL.792.011**	X30/X30.1	(5x(2x6.0+2x2.5)+2x(6x1.0)C)C	35.5
Data cable				
				
MAT904105005	**CFBUS.PUR.H01.060**	X31/X31.1	((4x0.38)C+4x1.5)C	11.5
Motor cable single axis (axis 7)				
				
MAT904105006	**CF270.UL.25.15.02.01.D**	XM.../X...	(4G2.5+(2x1.5)C)C	14.0
MAT904105007	**CF270.UL.40.15.02.01.D**	XM.../X...	(4G4.0+(2x1.5)C)C	15.0
Motor cable single axis (axis 7)				
				
MAT904105008	**CF270.UL.60.15.02.01.D**	XM.../X...	(4G6.0+(2x1.5)C)C	16.5
Control cable (axis 7)				
				
MAT904105009	**CF112.02.04.02**	Control cable single axis	(4x(2x0.25)C)C	11.0
Earth-core				
				
MAT904105010	**CFPE.160.01**	Connector plate/robot	1G16	9.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Robot
KUKA
Quantec

Direct connection cables for robots
KUKA Quantec

Direct connection cables for KUKA Quantec, to your required length

Part No.	chainflex® cable	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Motor cable (direct connection cable)			
			
MAT904141225	**CFSPECIAL.792.011**	(5x(2x6.0+2x2.5)+2x(6x1.0)C)C	35.5
Motor cable (direct connection cable)			
			
MAT904141226	**CFSPECIAL.792.011**	(5x(2x6.0+2x2.5)+2x(6x1.0)C)C	35.5
Signal cable (direct connection cable)			
			
MAT904141227	**CFBUS.PUR.H01.060**	((4x0.38)C+4x1.5)C	11.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

EU2024

Harnessed cables for robots
KUKA Fortec

Harnessed cables for KUKA Fortec, to your required length

Part No.	chainflex® cable	Manufacturer description	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Motor cable (angled socket)				
MAT904105011	**CFSPECIAL.792.014**	X30.1/X30.1.1	(2x(3x1.5)C+3x(3x10)+1G10)C	35.5
MAT904105012	**CFSPECIAL.792.013**	X30.4/X30.4.1	((6x1.5)C+3x(3x4)+1G6)C	28.0
Data cable				
MAT904105005	**CFBUS.PUR.H01.060**	X31/X31.1	((4x0.38)C+4x1.5)C	11.5
Motor cable single axis (axis 7)				
MAT904105006	**CF270.UL.25.15.02.01.D**	XM.../X...	(4G2.5+(2x1.5)C)C	14.0
MAT904105007	**CF270.UL.40.15.02.01.D**	XM.../X...	(4G4.0+(2x1.5)C)C	15.0
Motor cable single axis (axis 7)				
MAT904105008	**CF270.UL.60.15.02.01.D**	XM.../X...	(4G6.0+(2x1.5)C)C	16.5
Control cable (axis 7)				
MAT904105013	**CF112.02.04.02**	Control cable single axis	(4x(2x0.25)C)C	11.0
Earth-core				
MAT904105010	**CFPE.160.01**	Connector plate/robot	1G16	9.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Direct connection cables for robots
KUKA Fortec

Robot
KUKA
Fortec

Direct connection cables for KUKA Fortec, to your required length

Part No.	chainflex® cable	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Motor cable (direct connection cable)			
MAT904141228	**CFSPECIAL.792.014**	(2x(3x1.5)C+3x(3x10)+1G10)C	35.5
MAT904141229	**CFSPECIAL.792.013**	((6x1.5)C+3x(3x4)+1G6)C	28.0
Signal cable (direct connection cable)			
MAT904141227	**CFBUS.PUR.H01.060**	((4x0.38)C+4x1.5)C	11.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed cables for robots
KUKA Titan

Harnessed cables for KUKA Titan, to your required length				
Part No.	**chainflex® cable**	Manufacturer description	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Motor cable (angled socket)				
MAT904105011	**CFSPECIAL.792.014**	X30.1/X30.1.1	(2x(3x1.5)C+3x(3x10)+1G10)C	35.5
MAT904105014	**CFSPECIAL.792.014**	X30.2/X30.2.1	(2x(3x1.5)C+3x(3x10)+1G10)C	35.5
MAT904105015	**CFSPECIAL.792.014**	X30.3/X30.3.1	(2x(3x1.5)C+3x(3x10)+1G10)C	35.5
Data cable				
MAT904105005	**CFBUS.PUR.H01.060**	X31/X31.1	((4x0.38)C+4x1.5)C	11.5
Motor cable single axis (axis 7)				
MAT904105006	**CF270.UL.25.15.02.01.D**	XM.../X...	(4G2.5+(2x1.5)C)C	14.0
MAT904105007	**CF270.UL.40.15.02.01.D**	XM.../X...	(4G4.0+(2x1.5)C)C	15.0
Motor cable single axis (axis 7)				
MAT904105008	**CF270.UL.60.15.02.01.D**	XM.../X...	(4G6.0+(2x1.5)C)C	16.5
Control cable (axis 7)				
MAT904105013	**CF112.02.04.02**	Control cable single axis	(4x(2x0.25)C)C	11.0
Earth-core				
MAT904105010	**CFPE.160.01**	Connector plate/robot	1G16	9.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Robot
KUKA
Titan

Direct connection cables for robots
KUKA Titan

Direct connection cables for KUKA Titan, to your required length				
Part No.	**chainflex® cable**		Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Motor cable (direct connection cable)				
MAT904141228	**CFSPECIAL.792.014**		(2x(3x1.5)C+3x(3x10)+1G10)C	35.5
MAT904141230	**CFSPECIAL.792.014**		(2x(3x1.5)C+3x(3x10)+1G10)C	35.5
MAT904141231	**CFSPECIAL.792.014**		(2x(3x1.5)C+3x(3x10)+1G10)C	35.5
Signal cable (direct connection cable)				
MAT904141227	**CFBUS.PUR.H01.060**		((4x0.38)C+4x1.5)C	11.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

EU2024

Harnessed cables for robots
Fanuc M-900iB

Harnessed cables for Fanuc M-900iB, to your required length

Part No.	chainflex® cable	Manufacturer description	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Motor cable (Extension cable axis 7)				
MAT904117141	**CFSPECIAL.792.015**	RM1.2	(7x(6x2.0))C	36.5
Motor cable (Extension cable axis 7)				
MAT904117142	**CFSPECIAL.792.015**	RM2.2	(7x(6x2.0))C	36.5
Pulse encoder (Extension cable axis 7)				
MAT904117143	**CFSPECIAL.792.016**	RP1.2	(5x(4x0.25)+10x(3x0.75))C	26.5
Earth-core (Extension cable axis 7)				
MAT904117144	**CFPE.160.01**	Earth-core	1G16	9.5
Earth-core (Extension cable axis 7)				
MAT904117145	**CFPE.60.01**	Earth-core	1G6.0	7.0
Motor cable single axis (axis 7)				
MAT904117146	**CF270.UL.60.15.02.01.D**	RM7.2	(4G6.0+(2x1.5)C)C	16.5
Pulse encoder single axis (axis 7)				
MAT904117147	**CF240.PUR.03.03**	RP7.2	(3x0.34)C	5.0

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Direct connection cables for robots
Fanuc M-900iB

Robot
Fanuc
M-900iB

Direct connection cables for Fanuc M-900iB, to your required length

Part No.	chainflex® cable	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Motor cable (direct connection cable)			
MAT904141222	**CFSPECIAL.792.015**	(7x(6x2.0))C	36.5
MAT904141223	**CFSPECIAL.792.015**	(7x(6x2.0))C	36.5
Pulse encoder (direct connection cable)			
MAT904141224	**CFSPECIAL.792.016**	(5x(4x0.25)+10x(3x0.75))C	26.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed cables for robots
Fanuc R-2000iC

Harnessed cables for Fanuc R-2000iC, to your required length

Part No.	chainflex® cable	Manufacturer description	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Motor cable (Extension cable axis 7)				
				
MAT904117141	**CFSPECIAL.792.015**	RM1.2	(7x(6x2.0))C	36.5
Pulse encoder (Extension cable axis 7)				
				
MAT904117143	**CFSPECIAL.792.016**	RP1.2	(5x(4x0.25)+10x(3x0.75))C	26.5
Earth-core (Extension cable axis 7)				
				
MAT904117144	**CFPE.160.01**	Earth-core	1G16	9.5
Earth-core (Extension cable axis 7)				
				
MAT904117145	**CFPE.60.01**	Earth-core	1G6.0	7.0
Motor cable single axis (axis 7)				
				
MAT904117146	**CF270.UL.60.15.02.01.D**	RM7.2	(4G6.0+(2x1.5)C)C	16.5
Pulse encoder single axis (axis 7)				
				
MAT904117147	**CF240.PUR.03.03**	RP7.2	(3x0.34)C	5.0

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Direct connection cables for robots
Fanuc R-2000iC

Robot
Fanuc
R-2000iC

Direct connection cables for Fanuc R-2000iC, to your required length

Part No.	chainflex® cable	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Motor cable (direct connection cable)			
			
MAT904141222	**CFSPECIAL.792.015**	(7x(6x2.0))C	36.5
Pulse encoder (direct connection cable)			
			
MAT904141224	**CFSPECIAL.792.016**	(5x(4x0.25)+10x(3x0.75))C	26.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed cables for robots
ABB IRB 6620, IRB 6640, IRB 6650S, IRB 7600

Harnessed cables for ABB IRB 6620, IRB 6640, IRB 6650S, IRB 7600, to your desired length

Part No.	chainflex® cable	Manufacturer description	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Power cable				
MAT904128539	CFSPECIAL.792.012	R1MP	(18G2.5)C	25.5
Signal cable				
MAT904128540	CF211.PUR.02.06.02	R1.SMB	(6x(2x0.25))C	9.0
Power cable				
MAT904128547	CF270.UL.40.15.02.02.D		(4G4.0+2x(2x1.5)C)C	17.0
Resolver cable				
MAT904128548	CF211.PUR.02.03.02		(3x(2x0.25))C	7.0
Earth-core (Extension cable axis 7)				
MAT904117144	CFPE.160.01	Earth-core	1G16	9.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Direct connection cables for robots
ABB IRB 6620, IRB 6640, IRB 6650S, IRB 7600

Robot
ABB

Direct connection cable for ABB IRB 6620, IRB 6640, IRB 6650S, IRB 7600, to your required length

Part No.	chainflex® cable	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Motor cable (direct connection cable)			
MAT904141219	CFSPECIAL.792.012	(18G2.5)C	25.5
Signal cable (direct connection cable)			
MAT904141220	CF211.PUR.02.06.02	(6x(2x0.25))C	9.0

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed cables for robots
ABB IRB 6700

Harnessed cables for ABB IRB 6700, to your desired length				
Part No.	**chainflex® cable**	Manufacturer description	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Power cable				
MAT904128539	**CFSPECIAL.792.012**	R1MP	(18G2.5)C	25.5
Signal cable				
MAT904128541	**CF211.PUR.02.06.02**	R1.SMB	(6x(2x0.25))C	9.0
Power cable				
MAT904128547	**CF270.UL.40.15.02.02.D**		(4G4.0+2x(2x1.5)C)C	17.0
Resolver cable				
MAT904128548	**CF211.PUR.02.03.02**		(3x(2x0.25))C	7.0
Earth-core (Extension cable axis 7)				
MAT904117144	**CFPE.160.01**	Earth-core	1G16	9.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Direct connection cables for robots
ABB IRB 6700

Robot
ABB IRB
6700

Direct connection cable for ABB IRB 6700, to your required length				
Part No.	**chainflex® cable**		Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Motor cable (direct connection cable)				
MAT904141219	**CFSPECIAL.792.012**		(18G2.5)C	25.5
Signal cable (direct connection cable)				
MAT904141221	**CF211.PUR.02.06.02**		(6x(2x0.25))C	9.0

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed cables for robots
ABB IRB 8700

Harnessed cables for ABB IRB 8700, to your desired length				
Part No.	**chainflex® cable**	Manufacturer description	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Power cable				
MAT904128542	**CFSPECIAL.792.012**	R1MP-A	(18G2.5)C	25.5
MAT904128543	**CFSPECIAL.792.012**	R1MP-B	(18G2.5)C	25.5
Signal cable				
MAT904128541	**CF211.PUR.02.06.02**	R1.SMB	(6x(2x0.25))C	9.0
Power cable				
MAT904128547	**CF270.UL.40.15.02.02.D**		(4G4.0+2x(2x1.5)C)C	17.0
Resolver cable				
MAT904128548	**CF211.PUR.02.03.02**		(3x(2x0.25))C	7.0
Earth-core (Extension cable axis 7)				
MAT904117144	**CFPE.160.01**	Earth-core	1G16	9.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Direct connection cables for robots
ABB IRB 8700

Robot
ABB IRB
8700

Direct connection cable for ABB IRB 8700, to your required length				
Part No.	**chainflex® cable**		Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Motor cable (direct connection cable)				
MAT904145759	**CFSPECIAL.792.012**		(18G2.5)C	25.5
MAT904145760	**CFSPECIAL.792.012**		(18G2.5)C	25.5
Signal cable (direct connection cable)				
MAT904141221	**CF211.PUR.02.06.02**		(6x(2x0.25))C	9.0

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Cables according to AIDA specifications*

* AIDA = **A**utomatisierungs**I**nitiative **D**eutscher **A**utomobilhersteller (Automation Initiative of German Domestic Automobile manufacturers)

Technical information on cable quality:

CFBUS.PUR	CFLK	CF77.UL.D	CF211.PUR
From page 192	from page 212	From page 102	From page 154

Harnessed cables according to AIDA specifications, to your required length

Part No.	Robot axis	chainflex® cable	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
AIDA Profinet – RJ45 Pin/ AIDA Profinet – RJ45 Pin				
MAT904117091	Axis 7	CFBUS.PUR.060	(4x0.38)C	7.0
MAT904117095	Axis 1-6	CFROBOT8.060	(2x(2x0.34))C	8.5
AIDA Profinet FOC/ AIDA Profinet FOC				
MAT904117092	Axis 7	CFLK.L1.02	1x980/1,000µm	7.0
upon request [1]	Axis 1-6	CFLK.L1.02	1x980/1,000µm	7.0
AIDA Power Pin/ AIDA Power Pin				
MAT904117093	Axis 7	CF77.UL.25.05.D	5G2.5	10.5
MAT904117097	Axis 1-6	CF77.UL.25.05.D	5G2.5	10.5
AIDA Signal Pin/ AIDA Signal Pin				
MAT904117094	Axis 7	CF211.PUR.05.05.02	(5x(2x0.5))C	10.5
MAT904117098	Axis 1-6	CFROBOT3.05.05.02	(5x(2x0.5))C	12.5

[1] **Offer made only after technical clarification of the application**
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Robot AIDA

Cables according to AIDA specifications*

* AIDA = **A**utomatisierungs**I**nitiative **D**eutscher **A**utomobilhersteller (Automation Initiative of German Domestic Automobile manufacturers)

Technical information on cable quality:

CFBUS.PUR	CFLK	CF77.UL.D	CF211.PUR
From page 192	from page 212	From page 102	From page 154

Harnessed extension cables according to AIDA specifications, to your required length

Part No.	Robot axis	chainflex® cable	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
AIDA Profinet – RJ45 Socket/ AIDA Profinet – RJ45 Pin				
MAT904152118	Axis 7	CFBUS.PUR.060	(4x0.38)C	7.0
MAT904152121	Axis 1-6	CFROBOT8.060	(2x(2x0.34))C	8.5
AIDA Profinet – RJ45 Socket/ AIDA Profinet – RJ45 Socket				
MAT904151684	Axis 7	CFBUS.PUR.060	(4x0.38)C	7.0
MAT904151687	Axis 1-6	CFROBOT8.060	(2x(2x0.34))C	8.5
AIDA Power Socket/ AIDA Power Pin				
MAT904152119	Axis 7	CF77.UL.25.05.D	5G2.5	10.0
MAT904152122	Axis 1-6	CF77.UL.25.05.D	5G2.5	10.0
AIDA Power Socket/ AIDA Power Socket				
MAT904151685	Axis 7	CF77.UL.25.05.D	5G2.5	10.0
MAT904151688	Axis 1-6	CF77.UL.25.05.D	5G2.5	10.0
AIDA Signal Socket/ AIDA Signal Pin				
MAT904152120	Axis 7	CF211.PUR.05.05.02	5x(2x0.5))C	11.0
MAT904152123	Axis 1-6	CFROBOT3.05.05.02	5x(2x0.5))C	11.0
AIDA Signal Socket/ AIDA Signal Socket				
MAT904151686	Axis 7	CF211.PUR.05.05.02	5x(2x0.5))C	11.0
MAT904151689	Axis 1-6	CFROBOT3.05.05.02	5x(2x0.5))C	11.0

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Drive technology



... harnessed cables for drive technology ...

chainflex® readycable®

Selection according to manufacturer		Jacket	Page	
Harnessed cables for drive technology				
	**Allen Bradley/ Rockwell**	Motor cables Servo cables Hybrid servo cables Brake cables Feedback cables Adapter cables (transition cable)	PVC/PUR/TPE	**584**
	**B&R**	Motor cables Servo cables EnDat cables Encoder cables Resolver cables Bus cables	PVC/PUR/TPE	**585**
	**Baumüller**	Servo cables Resolver cables Pulse encoder cable	PVC/PUR/TPE	**585**
	**Baumüller, SpeedTec**	Servo cables, SpeedTec Resolver cables, SpeedTec Pulse encoder cables, SpeedTec	PVC/PUR/TPE	**588**
	**Beckhoff**	Motor cables Servo cables Hybrid servo cables Encoder cables Thermal protection cables Resolver cables Network cables EtherCAT	PVC/PUR/TPE	**590**
	**Berger Lahr**	Servo cables Resolver cables	PVC/PUR/TPE	**590**
	**Bosch Rexroth**	Motor cables Servo cables Hybrid servo cables Encoder cables	PVC/PUR/TPE	**590**
	**ELAU/ Schneider Electric**	Servo cables Hybrid servo cables Encoder cables	PVC/PUR/TPE	**593**
	**FAGOR**	Path measuring cables	PUR/TPE	**593**
	**Fanuc**	Motor cables Servo cables Brake cables Signal cables	PVC/PUR/TPE	**593**
	**Festo**	Servo cables Control cables Encoder cables Data cables Bus cables	PVC/PUR/TPE	**594**
	**Heidenhain**	Servo cables Adapter cables	PVC/PUR/TPE	**594**

EPLAN macros available online

Selection according to manufacturer		Jacket	Page
Harnessed cables for drive technology			
 **Jetter**	Motor cables Servo cables Resolver cables	PVC/PUR/TPE	595
 **Kollmorgen/ Danaher Motion**	Motor cables Servo cables Signal cables	PVC/PUR/TPE	595
 **Lenze**	Servo cables Fan cables Decoder cables Encoder cables Feedback cables Resolver cables	PVC/PUR/TPE	598
 **LinMot**	Motor cables Servo cables	PVC/PUR	599
 **LTi DRiVES**	Servo cables Encoder cables	PVC/PUR/TPE	599
 **Mitsubishi Electric**	Motor cables Encoder cables	PVC/PUR	599
 **Nidec/Control Techniques**	Motor cables Servo cables Encoder cables	PVC/PUR/TPE	599
 **NUM**	Power cables Servo cables Fan cables Encoder cables	PVC/PUR/TPE	601
 **Omron**	Motor cables Control cables Encoder cables	PVC/PUR/TPE	601
 **Parker**	Motor cables Resolver cables	PVC/PUR/TPE	601
EPLAN macros available online  **SEW**	Motor cables Servo cables Hybrid servo cables Control cables Encoder cables	PVC/PUR/TPE	602
EPLAN macros available online  **Siemens**	Power cables Servo cables Signal cables Signal cables DriveCliq	PVC/PUR/TPE	603
 **Siemens, SpeedTec**	Power cables, SpeedTec Servo cables, SpeedTec Signal cables, SpeedTec	PVC/PUR/TPE	606
 **Stöber**	Servo cables Encoder cables	PVC/PUR/TPE	607

... harnessed cables for drive technology ...
chainflex® readycable®

Harnessed cables for drive technology

Example: chainflex® PVC cables for the woodworking industry



Typical application areas – PVC

- For heavy duty applications
- Light oil influence
- Preferably indoor applications, but also outdoor ones at temperatures > 5°C
- Unsupported travel distances and up to 100m for gliding applications
- Storage and retrieval units for high-bay warehouses, machining units/packaging machines, quick handling, indoor cranes, woodworking

Example: chainflex® PUR cables for the machine tools industry



Typical application areas – PUR

- For heaviest duty applications
- Almost unlimited resistance to oil
- Indoor and outdoor applications, UV-resistant
- Unsupported travel distances and up to 100m for gliding applications
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

Example: chainflex® TPE cables for outdoor use



Typical application areas – TPE

- For heaviest duty applications
- Almost unlimited resistance to oil, also with bio-oils
- Indoor and outdoor applications, UV-resistant
- Unsupported travels and up to 400m and more for gliding applications
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, ship to shore, outdoor cranes, low-temperature applications

Our product engineers will be happy to advise you in your choice of application-specific cables.

... harnessed cables for drive technology ...

chainflex® readycable®

Selection chart for igus® chainflex® cables (you can find the green number on the product pages of the respective manufacturers)

... harnessed cables for drive technology ...

chainflex® readycable®

readycable® contents

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
chainflex® series	**CF31**	**CF35.UL**	**CF38**	**CF210.UL**	**CF21.UL**	**CF270.UL.D**	**CF27.D**	**CF211 Mess**	**CF111.D**	**CF113.D**	**CF11.D**	**CFBUS**	**CF240.PUR**	**CF211**	**CF211.PUR**	**CF11**
Class	5.5.2.1	6.6.4.1	7.6.4.1	4.2.2.1	5.5.2.1	4.2.3.1	6.5.3.1	4.2.2.1	4.2.3.1	6.5.3.1	6.6.4.1	6.6.4.1	4.4.3.1	5.5.2.1	5.5.3.1	6.6.4.1
Outer jacket	PVC	TPE	TPE	PVC	PVC	PUR	PUR	PVC	PUR	PUR	TPE	TPE	PUR	PVC	PUR	TPE
Shielded	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Minimum bend radius	7.5 x d	7.5 x d	7.5 x d	10 x d	7.5 x d	10 x d	7.5 x d	10 x d	10 x d	7.5 x d	7.5 x d	10 - 12.5 x d	10 x d	7.5 x d	7.5 x d	6.8 x d
Travel distance [m]	≤ 100	≤ 400	≤ 400	≤ 10	≤ 100	≤ 10	≤ 100	≤ 10	≤ 10	≤ 100	≤ 400	≤ 400	≤ 50	≤ 100	≤ 100	≤ 400
Oil-resistant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Oil-/coolant-resistant						✓	✓		✓	✓			✓		✓	
Flame-retardant	✓	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	
Halogen-free			✓			✓	✓		✓	✓	✓		✓			✓
Notch-resistant						✓	✓		✓	✓			✓		✓	
Hydrolysis and microbe-resistant		✓	✓			✓	✓		✓	✓	✓	✓	✓		✓	✓
Temperature, from/to [°C]	-5/+70	-35/+90	-35/+90	+5/+70	+5/+70	-25/+80	-25/+80	+5/+70	-25/+80	-25/+80	-35/+90	-35/+70	-25/+80	+5/+70	-25/+80	-35/+100
Nominal voltage [V]	600/1,000	600/1,000	600/1,000	600/1,000	600/1,000	600/1,000	600/1,000	50	50	50	50	50	300/300	300/300	300/300	300/300
Colour	Jet black	Signal black	Jet black	Pastel orange	Moss green	Pastel orange	Pastel orange	Yellow-green	Yellow-green	Yellow-green	Yellow-green	Red lilac	Silver grey	Silver grey	Silver grey	Steel blue
CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE
REACH/RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS
Cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom
UL/CSA + NFPA	cULus NFPA	cULus NFPA	cULus	cULus NFPA	cULus NFPA	cULus NFPA	cULus NFPA	cULus NFPA	cULus NFPA	cULus NFPA	cULus	cULus NFPA	cULus NFPA	cULus NFPA	cULus NFPA	cULus
Desina						DESINA	DESINA		DESINA	DESINA	DESINA	DESINA				
More information																
▶ Catalogue page	320	344	352	274	278	284	288	238	248	254	260	196	146	150	154	158
www.igus.eu/	CF31	CF35UL	CF38	CF210UL	CF21UL	CF270ULD	CF27D	CF211M	CF111D	CF113D	CF11D	CFBUS	CF240PUR	CF211	CF211PUR	CF11

... harnessed cables for drive technology ...

chainflex® readycable®

Selection chart for igus® chainflex® cables (you can find the green number on the product pages of the respective manufacturers)

... harnessed cables for drive technology ...

chainflex® readycable®

readycable® contents

	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
chainflex® series	**CF130.UL**	**CF140.UL**	**CF5**	**CF6**	**CF77.UL.D**	**CF78.UL**	**CF9**	**CF10**	**CF9.UL**	**CF220.UL.H**	**CF280.UL.H**	**CFBUS.PVC**	**CFBUS.PUR**	**CF240**	**CF29.D**
Class	4.4.1.1	4.4.1.1	5.5.2.1	5.5.2.1	5.5.3.1	5.5.3.1	7.6.4.2	7.6.4.1	6.6.4.2	4.2.2.1	4.2.3.1	4.3.2.1	4.3.3.1	4.4.2.1	7.6.4.1
Outer jacket	PVC	PVC	PVC	PVC	PUR	PUR	TPE	TPE	TPE	PVC	PUR	PVC	PUR	PVC	TPE
Shielded		✓		✓		✓		✓		✓	✓	✓	✓	✓	✓
Minimum bend radius	7.5 x d	7.5 x d	6.8 x d	6.8 x d	6.8 x d	6.8 x d	5 x d	5 x d	5 x d	10 x d	10 x d	12.5 x d	12.5 x d	10 x d	6.8 x d
Travel distance [m]	≤ 50	≤ 50	≤ 50	≤ 50	≤ 100	≤ 100	> 400	> 400	> 400	≤ 10	≤ 10	≤ 20	≤ 20	≤ 50	≤ 400
Oil-resistant			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Oil-/coolant-resistant					✓	✓					✓		✓		✓
Flame-retardant	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	
Halogen-free					✓	✓	✓	✓			✓		✓		✓
Notch-resistant					✓	✓					✓		✓		
Hydrolysis and microbe-resistant					✓	✓	✓	✓	✓		✓		✓		✓
Temperature, from/to [°C]	+5/+70	+5/+70	+5/+70	+5/+70	-25/+80	-25/+80	-35/+100	-35/+100	-35/+100	+5/+70	-25/+80	+5/+70	-20/+70	-15/+70	-55/+100
Nominal voltage [V]	300/500	300/500	300/500	300/500	300/500	300/500	300/500	300/500	300/500	600/1,000	600/1,000	50	50	300/300	600/1,000
Colour	Silver grey	Silver grey	Moss green	Moss green	Window grey	Window grey	Steel blue	Steel blue	Slate grey	Pastel orange	Pastel orange	Red lilac	Red lilac	Silver grey	Pastel orange
CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE
REACH/RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS
Cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom
UL/CSA + NFPA	cULus NFPA	cULus NFPA	cULus NFPA	cULus NFPA	cULus NFPA	cULus NFPA	cULus	cULus	cULus NFPA	cULus NFPA	cULus NFPA	cULus NFPA	cULus NFPA	cULus NFPA	cULus
Desina					DESINA						DESINA		DESINA		DESINA
More information															
▶ Catalogue page	66	70	82	86	102	106	122	126	114	294	298	184	192	142	292
www.igus.eu/	CF130	CF140	CF5	CF6	CF77	CF78	CF9	CF10	CF9UL	CF220ULH	CF280ULH	CFBUSPVC	CFBUSPUR	CF240	CF29.D

for readycable® drive cables suitable for eight manufacturers

... plan quickly ... directly in CAE ... ... EPLAN macros



Load our readycable® quickly and easily via the EPLAN data portal into your electrical design using EPLAN macros. These macros already contain parts lists and assignment diagrams.
Siemens, SEW, Bosch Rexroth are now followed by five other well-known manufacturers. With **Allen Bradley, Beckhoff, B&R, Heidenhain and Fanuc, we are expanding our online range with 2,046 more datasets.**

This means that with the new macros, the customer can already bring **complete readycable® product data** into their EPLAN during the electrical design phase and complete their parts list.

While the electrical details are being worked out in the design department, the user can go **online to the EPLAN data portal** and filter for e.g. 0198 9308 and find all igus® cables in the known qualities, which can then be selected according to their application and use in their personal product range.

- Automatic generation of cable plan, parts list and further design documents in CAE system
- 7 qualities per cable directly available in EPLAN
- Select cables, calculate service life and order online: www.igus.eu/readycable
- Reduce design time by 50% with ready-to-use EPLAN macros
- Easily designed digitally & can be ordered online immediately
- No minimum quantity surcharges, no cutting charges
- 4-years guarantee on cables sold by the metre
- Prefabricated modules or macros directly usable in EPLAN as can be seen in the video tutorial: www.igus.eu/eplan-macro

EPLAN macros are available for **readycable® drive cables** suitable for eight manufacturers:

Allen Bradley ▶ Page 584
B&R ▶ Page 585
Beckhoff ▶ Page 590
Bosch Rexroth ▶ Page 590
Fanuc ▶ Page 593
Heidenhain ▶ Page 594
SEW ▶ Page 602
Siemens ▶ Page 604

Tutorial on new EPLAN macros for readycable® suitable to SEW



www.igus.eu/eplan-macro

Allen-Bradley/Rockwell ...

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Allen-Bradley/Rockwell					
Motor cables					
2090-CPWM4DF-08AFxx	PVC/PUR/TPE	608			
2090-CPWM4DF-10AFxx	PVC/PUR/TPE	608			
2090-CPWM4DF-12AFxx	PVC/PUR/TPE	608			
2090-CPWM4DF-14AFxx	PVC/PUR/TPE	608			
2090-CPWM4DF-16AFxx	PVC/PUR/TPE	608			
2090-CPWM7DF-02AF	PVC/PUR	608			
2090-CPWM7DF-04AF	PVC/PUR/TPE	608			
2090-CPWM7DF-06AF	PVC/PUR/TPE	608			
2090-CPWM7DF-08AFxx	PVC/PUR/TPE	609	2090-CPWM7E7-08AF	PUR	610
2090-CPWM7DF-10AFxx	PVC/PUR/TPE	609	2090-CPWM7E7-10AF	PUR	610
2090-CPWM7DF-12AFxx	PVC/PUR/TPE	609	2090-CPWM7E7-12AF	PUR	610
2090-CPWM7DF-14AFxx	PVC/PUR/TPE	609	2090-CPWM7E7-14AF	PUR	610
2090-CPWM7DF-16AFxx	PVC/PUR/TPE	609	2090-CPWM7E7-16AF	PUR	610
2090-XX_PMP-10SXX	PVC/TPE/PUR	609			
2090-XX_PMP-14SXX	PVC/PUR/TPE	609			
2090-XX_PMP-16SXX	PVC/PUR/TPE	610			
Servo cables					
2090-CPBM4DF-08AFxx	PVC/PUR	610			
2090-CPBM4DF-10AFxx	PVC/PUR	610			
2090-CPBM4DF-12AFxx	PVC/PUR	611			
2090-CPBM4DF-14AFxx	PVC/PUR	611			
2090-CPBM4DF-16AFxx	PVC/PUR	611			
2090-CPBM7DF-02AF	PUR	611			
2090-CPBM7DF-04AF	PUR	611			
2090-CPBM7DF-06AF	PUR	611			
2090-CPBM7DF-08AFxx	PVC/PUR	611	2090-CPBM7E7-08AFxx	PVC/PUR	612
2090-CPBM7DF-10AFxx	PVC/PUR	612	2090-CPBM7E7-10AFxx	PVC/PUR	613
2090-CPBM7DF-12AFxx	PVC/PUR	612	2090-CPBM7E7-12AFxx	PVC/PUR	613
2090-CPBM7DF-14AFxx	PVC/PUR	612	2090-CPBM7E7-14AFxx	PVC/PUR	613
2090-CPBM7DF-16AFxx	PVC/PUR	612	2090-CPBM7E7-16AFxx	PVC/PUR	613
2090-XX_PMF-10SXX	PVC/PUR	612			
2090-XX_PMF-14SXX	PVC/PUR	612			
2090-XX_PMF-16SXX	PVC/PUR	612			
Hybrid servo cables					
2090-CSBM1DE-10AF	PUR	613			
2090-CSBM1DE-14AF	PVC/PUR	613			
2090-CSBM1DE-18AF	PVC/PUR	613			
2090-CSBM1DF-10AF	PUR	614			
2090-CSBM1DF-14AF	PVC/PUR	614			
2090-CSBM1DF-18AF	PVC/PUR	614			
2090-CSBM1DG-10AF	PUR	614			
2090-CSBM1DG-14AF	PVC/PUR	614			
2090-CSBM1DG-18AF	PVC/PUR	614			
2090-CSWM1DE-10AF	PUR	615			
2090-CSWM1DE-14AF	PVC/PUR	615			
2090-CSWM1DE-18AF	PVC/PUR	615			
2090-CSWM1DF-10AF	PUR	615			
2090-CSWM1DF-14AF	PVC/PUR	615			
2090-CSWM1DF-18AF	PVC/PUR	615			

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
2090-CSWM1DG-10AF	PUR	615			
2090-CSWM1DG-14AF	PVC/PUR	615			
2090-CSWM1DG-18AF	PVC/PUR	616			
Brake cables					
2090-UX_BMP-18SXX	PVC/PUR	616			
Feedback cables					
2090-CFBM4DF-CDAFxx	PUR/TPE	616			
2090-CFBM4DF-CEAFxx	PUR/TPE	617			
2090-CFBM7DD-CDAFxx	PUR	617			
2090-CFBM7DD-CEAFxx	PUR	617			
2090-CFBM7DF-CDAFxx	PUR/TPE	617	2090-CFBM7E7-CDAFxx	PUR/TPE	620
2090-CFBM7DF-CEAFxx	PUR/TPE	617	2090-CFBM7E7-CEAFxx	PUR/TPE	620
2090-XX_FMF-Sxx	PUR/TPE	617			
2090-XX_FMP-Sxx	PUR/TPE	617			
Adapter cables (transition cables)					
2090-CFBM4E2-CATR	PUR	618			
2090-CPWM4E2-14TR	PUR	618			
B&R					
Motor cables					
8BCMxxxx.1011A-0	PUR/PVC	618			
8BCMxxxx.1034C-0	PUR/PVC	618			
8BCMxxxx.1312A-0	PUR/PVC	618			
8BCMxxxx.1322A-0	PUR/PVC	619			
8CMxxx.12-0	PUR/PVC	619			
Servo cables					
8BCMxxxx.1111A-0	PUR/PVC	619			
8BCMxxxx.1311A-0	PUR/PVC	619			
8CMxxx.12-1	PUR/PVC	619			
8CMxxx.12-3	PUR/PVC	619			
8CMxxx.12-5	PUR/PVC	619			
Hybrid servo cables					
8BCHxxxx.1111A-0	PUR	620			
8BCHxxxx.1312A-0	PUR	620			
8CHxxxx.1111A-0	PUR	620			
8ECHxxxx.1111A-0	PUR	620	8ECH00xx.11140-0	PUR	620
EnDat cables					
8BCExxxx.1111A-0	TPE/PVC/PUR	620			
8CExxx.12-1	TPE/PVC/PUR	620			
Encoder cables					
8BCFxxxx.1221B-0	PVC/PUR	620			
8BCRxxxx.1121A-0	TPE/PVC/PUR	621			
8BCSxxxx.1111A-0	TPE/PVC/PUR	621			
Resolver cables					
8BCRxxx.1111A-0	TPE/PVC/PUR	621			
8CRxxx.12-1	TPE/PVC/PUR	621			
Bus cables					
X20CA3E61.xxxx	PVC/PUR/TPE	621			
X67CA0E41.xxxx	PVC/PUR/TPE	621			
Baumüller					
Servo cables					
324781 (5m)	PVC/PUR	622	324781 (5m) (ext.)	PVC/PUR	625

... Baumüller ...

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Baumüller					
Servo cables					
324782 (7m)	PVC/PUR	622	324781 (5m) (ext.)	PVC/PUR	625
324783 (10m)	PVC/PUR	622	324781 (5m) (ext.)	PVC/PUR	625
324784 (15m)	PVC/PUR	622	324781 (5m) (ext.)	PVC/PUR	625
324785 (20m)	PVC/PUR	622	324781 (5m) (ext.)	PVC/PUR	625
324786 (25m)	PVC/PUR	622	324781 (5m) (ext.)	PVC/PUR	623
324787 (30m)	PVC/PUR	622	324781 (5m) (ext.)	PVC/PUR	623
324788 (35m)	PVC/PUR	622	324781 (5m) (ext.)	PVC/PUR	623
324789 (40m)	PVC/PUR	623	324781 (5m) (ext.)	PVC/PUR	623
324790 (50m)	PVC/PUR	623	324781 (5m) (ext.)	PVC/PUR	623
324791 (75m)	PVC/PUR	623	324781 (5m) (ext.)	PVC/PUR	623
324792 (100m)	PVC/PUR	623	324781 (5m) (ext.)	PVC/PUR	623
326577 (5m)	PVC/PUR	625	326577 (5m) (ext.)	PVC/PUR	627
326578 (7m)	PVC/PUR	625	326577 (5m) (ext.)	PVC/PUR	627
326579 (10m)	PVC/PUR	625	326577 (5m) (ext.)	PVC/PUR	627
326580 (15m)	PVC/PUR	625	326577 (5m) (ext.)	PVC/PUR	627
326581 (20m)	PVC/PUR	626	326577 (5m) (ext.)	PVC/PUR	627
326582 (25m)	PVC/PUR	626	326577 (5m) (ext.)	PVC/PUR	627
326583 (30m)	PVC/PUR	626	326577 (5m) (ext.)	PVC/PUR	627
326584 (35m)	PVC/PUR	626	326577 (5m) (ext.)	PVC/PUR	627
326585 (40m)	PVC/PUR	626	326577 (5m) (ext.)	PVC/PUR	627
326586 (50m)	PVC/PUR	626	326577 (5m) (ext.)	PVC/PUR	627
326587 (75m)	PVC/PUR	626	326577 (5m) (ext.)	PVC/PUR	627
326588 (100m)	PVC/PUR	626	326577 (5m) (ext.)	PVC/PUR	627
326589 (5m)	PVC/PUR	627	326589 (5m) (ext.)	PVC/PUR	628
326591 (7m)	PVC/PUR	627	326589 (5m) (ext.)	PVC/PUR	628
326592 (10m)	PVC/PUR	627	326589 (5m) (ext.)	PVC/PUR	628
326593 (15m)	PVC/PUR	627	326589 (5m) (ext.)	PVC/PUR	628
326594 (20m)	PVC/PUR	627	326589 (5m) (ext.)	PVC/PUR	628
326596 (25m)	PVC/PUR	627	326589 (5m) (ext.)	PVC/PUR	628
326597 (30m)	PVC/PUR	628	326589 (5m) (ext.)	PVC/PUR	628
326598 (35m)	PVC/PUR	628	326589 (5m) (ext.)	PVC/PUR	628
326599 (40m)	PVC/PUR	628	326589 (5m) (ext.)	PVC/PUR	628
326600 (5m)	PVC/PUR	628	326600 (5m) (ext.)	PVC/PUR	629
326601 (7m)	PVC/PUR	628	326600 (5m) (ext.)	PVC/PUR	629
326602 (10m)	PVC/PUR	628	326600 (5m) (ext.)	PVC/PUR	629
326603 (15m)	PVC/PUR	629	326600 (5m) (ext.)	PVC/PUR	629
326604 (20m)	PVC/PUR	629	326600 (5m) (ext.)	PVC/PUR	629
326605 (25m)	PVC/PUR	629	326600 (5m) (ext.)	PVC/PUR	629
326606 (30m)	PVC/PUR	629	326600 (5m) (ext.)	PVC/PUR	629
326607 (35m)	PVC/PUR	629	326600 (5m) (ext.)	PVC/PUR	629
326608 (40m)	PVC/PUR	629	326600 (5m) (ext.)	PVC/PUR	629
326609 (5m)	PVC/PUR	630	326609 (5m) (ext.)	PVC/PUR	631
326610 (7m)	PVC/PUR	630	326609 (5m) (ext.)	PVC/PUR	631
326611 (10m)	PVC/PUR	630	326609 (5m) (ext.)	PVC/PUR	631
326612 (15m)	PVC/PUR	630	326609 (5m) (ext.)	PVC/PUR	631
326613 (20m)	PVC/PUR	630	326609 (5m) (ext.)	PVC/PUR	631
326614 (25m)	PVC/PUR	630	326609 (5m) (ext.)	PVC/PUR	631
326615 (30m)	PVC/PUR	630	326609 (5m) (ext.)	PVC/PUR	631
326616 (35m)	PVC/PUR	630	326609 (5m) (ext.)	PVC/PUR	631

... Baumüller ...

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
326617 (40m)	PVC/PUR	630	326609 (5m) (ext.)	PVC/PUR	631
380967 (7m)	PVC/PUR	623	414840 (5m) (ext.)	PVC/PUR	625
413410 (10m)	PVC/PUR	623	414840 (5m) (ext.)	PVC/PUR	625
414840 (5m)	PVC/PUR	624	414840 (5m) (ext.)	PVC/PUR	625
414841 (15m)	PVC/PUR	624	414840 (5m) (ext.)	PVC/PUR	625
414842 (20m)	PVC/PUR	624	414840 (5m) (ext.)	PVC/PUR	625
414843 (25m)	PVC/PUR	624	414840 (5m) (ext.)	PVC/PUR	625
414846 (30m)	PVC/PUR	624	414840 (5m) (ext.)	PVC/PUR	625
414848 (35m)	PVC/PUR	624	414840 (5m) (ext.)	PVC/PUR	625
414849 (40m)	PVC/PUR	624	414840 (5m) (ext.)	PVC/PUR	625
414850 (50m)	PVC/PUR	624	414840 (5m) (ext.)	PVC/PUR	625
414851 (75m)	PVC/PUR	625	414840 (5m) (ext.)	PVC/PUR	625
414852 (100m)	PVC/PUR	625	414840 (5m) (ext.)	PVC/PUR	625
Resolver cables					
239540 (5m)	PVC/TPE/PUR	631	246658 (3m) (ext.)	PVC/TPE/PUR	633
239541 (8m)	PVC/TPE/PUR	631	246658 (3m) (ext.)	PVC/TPE/PUR	633
239542 (10m)	PVC/TPE/PUR	631	246658 (3m) (ext.)	PVC/TPE/PUR	633
239543 (15m)	PVC/TPE/PUR	631	246658 (3m) (ext.)	PVC/TPE/PUR	633
239544 (20m)	PUR	631	246658 (3m) (ext.)	PUR	633
239544 (20m)	PVC/TPE	631	246658 (3m) (ext.)	PVC/TPE	633
239545 (25m)	PVC/TPE/PUR	631	246658 (3m) (ext.)	PVC/TPE/PUR	633
239546 (30m)	PVC/TPE/PUR	632	246658 (3m) (ext.)	PVC/TPE/PUR	633
239547 (35m)	PVC/TPE/PUR	632	246658 (3m) (ext.)	PVC/TPE/PUR	633
240520 (40m)	PVC/TPE/PUR	632	246658 (3m) (ext.)	PVC/TPE/PUR	633
240521 (45m)	PVC/TPE/PUR	632	246658 (3m) (ext.)	PVC/TPE/PUR	633
240522 (50m)	PVC/TPE/PUR	632	246658 (3m) (ext.)	PVC/TPE/PUR	633
242954 (6m)	PVC/TPE/PUR	632	246658 (3m) (ext.)	PVC/TPE/PUR	633
243379 (4m)	PVC/TPE/PUR	632	246658 (3m) (ext.)	PVC/TPE/PUR	633
244033 (55m)	PVC/TPE/PUR	632	246658 (3m) (ext.)	PVC/TPE/PUR	633
245484 (60m)	PVC/TPE/PUR	633	246658 (3m) (ext.)	PVC/TPE/PUR	633
246658 (3m)	PVC/TPE/PUR	633	246658 (3m) (ext.)	PVC/TPE/PUR	633
Pulse encoder cable					
198962 (3m)	PVC/TPE/PUR	633	198962 (3m) (ext.)	PVC/TPE/PUR	634
198963 (5m)	PVC/TPE/PUR	633	198962 (3m) (ext.)	PVC/TPE/PUR	634
198964 (8m)	PVC/TPE/PUR	633	198962 (3m) (ext.)	PVC/TPE/PUR	634
198965 (10m)	PVC/TPE/PUR	633	198962 (3m) (ext.)	PVC/TPE/PUR	634
198966 (15m)	PVC/TPE/PUR	634	198962 (3m) (ext.)	PVC/TPE/PUR	634
198967 (20m)	PVC/TPE/PUR	634	198962 (3m) (ext.)	PVC/TPE/PUR	634
198968 (25m)	PVC/TPE/PUR	634	198962 (3m) (ext.)	PVC/TPE/PUR	634
198969 (30m)	PVC/TPE/PUR	634	198962 (3m) (ext.)	PVC/TPE/PUR	634
208829 (40m)	PVC/TPE/PUR	634	198962 (3m) (ext.)	PVC/TPE/PUR	634
225360 (35m)	PVC/TPE/PUR	634	198962 (3m) (ext.)	PVC/TPE/PUR	634
369864 (3m)	PVC/TPE/PUR	635	393889 (2m) (ext.)	PVC/TPE/PUR	637
371494 (20m)	PVC/TPE/PUR	635	393889 (2m) (ext.)	PVC/TPE/PUR	637
378022 (50m)	PVC/TPE/PUR	635	393889 (2m) (ext.)	PVC/TPE/PUR	637
380358 (35m)	PVC/TPE/PUR	635	393889 (2m) (ext.)	PVC/TPE/PUR	637
382005 (45m)	PVC/TPE/PUR	635	393889 (2m) (ext.)	PVC/TPE/PUR	637
389807 (7m)	PVC/TPE/PUR	635	393889 (2m) (ext.)	PVC/TPE/PUR	637
389808 (9m)	PVC/TPE	635	393889 (2m) (ext.)	PVC/TPE	637
389808 (9m)	PUR	635	393889 (2m) (ext.)	PUR	637
391216 (40m)	PVC/TPE/PUR	635	393889 (2m) (ext.)	PVC/TPE/PUR	637

... Baumüller ... Baumüller, SpeedTec ...

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Baumüller					
Pulse encoder cable					
393889 (2m)	PVC/TPE	636	393889 (2m) (ext.)	PVC/TPE	637
393889 (2m)	PUR	636	393889 (2m) (ext.)	PUR	637
393890 (8m)	PVC/TPE/PUR	636	393889 (2m) (ext.)	PVC/TPE/PUR	637
393891 (10m)	PVC/TPE/PUR	636	393889 (2m) (ext.)	PVC/TPE/PUR	637
393892 (15m)	PVC/TPE/PUR	636	393889 (2m) (ext.)	PVC/TPE/PUR	637
393893 (25m)	PVC/TPE/PUR	636	393889 (2m) (ext.)	PVC/TPE/PUR	637
393894 (30m)	PVC/TPE/PUR	636	393889 (2m) (ext.)	PVC/TPE/PUR	637
394014 (5m)	PVC/TPE/PUR	636	393889 (2m) (ext.)	PVC/TPE/PUR	637
Baumüller, SpeedTec					
Servo cables, SpeedTec					
445872	PVC/PUR	638	445872	PVC/PUR	639
445887	PVC/PUR	638	445872	PVC/PUR	639
445889	PVC/PUR	638	445872	PVC/PUR	639
447675	PVC/PUR	638	445872	PVC/PUR	639
447676	PVC/PUR	638	445872	PVC/PUR	639
447677	PVC/PUR	638	445872	PVC/PUR	639
447678	PVC/PUR	638	445872	PVC/PUR	639
447679	PVC/PUR	638	445872	PVC/PUR	639
447680	PVC/PUR	639	445872	PVC/PUR	639
447681	PVC/PUR	639	445872	PVC/PUR	639
447682	PVC/PUR	639	445872	PVC/PUR	639
447683	PVC/PUR	639	445872	PVC/PUR	639
447684	PVC/PUR	639	445872	PVC/PUR	639
447687	PVC/PUR	639	445872	PVC/PUR	639
447688	PVC/PUR	640	447684	PVC/PUR	641
447692	PVC/PUR	640	447684	PVC/PUR	641
447698	PVC/PUR	640	447684	PVC/PUR	641
447852	PVC/PUR	640	447684	PVC/PUR	641
447853	PVC/PUR	640	447684	PVC/PUR	641
447854	PVC/PUR	640	447684	PVC/PUR	641
447855	PVC/PUR	640	447684	PVC/PUR	641
447856	PVC/PUR	640	447684	PVC/PUR	641
447857	PVC/PUR	641	447684	PVC/PUR	641
447858	PVC/PUR	641	447684	PVC/PUR	641
447686	PVC/PUR	641	447686	PVC/PUR	643
447689	PVC/PUR	641	447686	PVC/PUR	643
447690	PVC/PUR	641	447686	PVC/PUR	643
447691	PVC/PUR	641	447686	PVC/PUR	643
447693	PVC/PUR	642	447686	PVC/PUR	643
447694	PVC/PUR	642	447686	PVC/PUR	643
447695	PVC/PUR	642	447686	PVC/PUR	643
447696	PVC/PUR	642	447686	PVC/PUR	643
447697	PVC/PUR	642	447686	PVC/PUR	643
447699	PVC/PUR	642	447686	PVC/PUR	643
448060	PVC/PUR	642	447686	PVC/PUR	643
448061	PVC/PUR	642	447686	PVC/PUR	643
448063	PVC/PUR	643	448063	PVC/PUR	644
448064	PVC/PUR	643	448063	PVC/PUR	644
448065	PVC/PUR	643	448063	PVC/PUR	644

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Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
448066	PVC/PUR	643	448063	PVC/PUR	644
448067	PVC/PUR	643	448063	PVC/PUR	644
448069	PVC/PUR	643	448063	PVC/PUR	644
448070	PVC/PUR	644	448063	PVC/PUR	644
448071	PVC/PUR	644	448063	PVC/PUR	644
448072	PVC/PUR	644	448063	PVC/PUR	644
448080	PVC/PUR	644	448080	PVC/PUR	645
448118	PVC/PUR	644	448080	PVC/PUR	645
448119	PVC/PUR	645	448080	PVC/PUR	645
448120	PVC/PUR	645	448080	PVC/PUR	645
448121	PVC/PUR	645	448080	PVC/PUR	645
448122	PVC/PUR	645	448080	PVC/PUR	645
448123	PVC/PUR	645	448080	PVC/PUR	645
448124	PVC/PUR	645	448080	PVC/PUR	645
448125	PVC/PUR	645	448080	PVC/PUR	645
448129	PVC/PUR	646	448129	PVC/PUR	647
448131	PVC/PUR	646	448129	PVC/PUR	647
448132	PVC/PUR	646	448129	PVC/PUR	647
448133	PVC/PUR	646	448129	PVC/PUR	647
448134	PVC/PUR	646	448129	PVC/PUR	647
448135	PVC/PUR	646	448129	PVC/PUR	647
448136	PVC/PUR	646	448129	PVC/PUR	647
448137	PVC/PUR	646	448129	PVC/PUR	647
448138	PVC/PUR	646	448129	PVC/PUR	647
Resolver cables, SpeedTec					
448944	PVC/PUR/TPE	647	448944	PVC/PUR/TPE	649
448945	PVC/PUR/TPE	647	448944	PVC/PUR/TPE	649
448946	PVC/PUR/TPE	647	448944	PVC/PUR/TPE	649
448948	PVC/PUR/TPE	647	448944	PVC/PUR/TPE	649
448949	PVC/PUR/TPE	647	448944	PVC/PUR/TPE	649
448956	PVC/PUR/TPE	647	448944	PVC/PUR/TPE	649
448962	PVC/PUR/TPE	648	448944	PVC/PUR/TPE	649
448967	PVC/PUR/TPE	648	448944	PVC/PUR/TPE	649
448970	PVC/PUR/TPE	648	448944	PVC/PUR/TPE	649
448971	PVC/PUR/TPE	648	448944	PVC/PUR/TPE	649
448973	PVC/PUR/TPE	648	448944	PVC/PUR/TPE	649
448976	PVC/PUR/TPE	648	448944	PVC/PUR/TPE	649
448978	PVC/PUR/TPE	648	448944	PVC/PUR/TPE	649
448980	PVC/PUR/TPE	649	448944	PVC/PUR/TPE	649
448981	PVC/PUR/TPE	649	448944	PVC/PUR/TPE	649
448982	PVC/PUR/TPE	649	448944	PVC/PUR/TPE	649
Pulse encoder cables, SpeedTec					
448816	PVC/PUR/TPE	649	448816	PVC/PUR/TPE	651
448817	PVC/PUR/TPE	649	448816	PVC/PUR/TPE	651
448818	PVC/PUR/TPE	649	448816	PVC/PUR/TPE	651
448819	PVC/PUR/TPE	650	448816	PVC/PUR/TPE	651
448820	PVC/PUR/TPE	650	448816	PVC/PUR/TPE	651
448821	PVC/PUR/TPE	650	448816	PVC/PUR/TPE	651
448822	PVC/PUR/TPE	650	448816	PVC/PUR/TPE	651
448823	PVC/PUR/TPE	650	448816	PVC/PUR/TPE	651
448824	PVC/PUR/TPE	650	448816	PVC/PUR/TPE	651
448826	PVC/PUR/TPE	650	448816	PVC/PUR/TPE	651

... Beckhoff ... Berger Lahr ... Bosch Rexroth ...

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Baumüller, SpeedTec					
Pulse encoder cables, SpeedTec					
448827	PVC/PUR/TPE	651	**448816**	PVC/PUR/TPE	651
448828	PVC/PUR/TPE	651	**448816**	PVC/PUR/TPE	651
448830	PVC/PUR/TPE	651	**448816**	PVC/PUR/TPE	651
448832	PVC/PUR/TPE	651	**448816**	PVC/PUR/TPE	651
Beckhoff					
Motor cables					
ZK4500-8015-xxx	PUR	652			
ZK4500-8024-xxx	PVC/PUR	652			
ZK4501-8024-xxx	PVC/PUR	652			
ZK4530-8110-xxxx	PVC/PUR	652			
Servo cables					
ZK4000-2111-xxxx	PVC/PUR	652			
ZK4000-2112-xxxx	PVC/PUR	652			
ZK4000-2711-xxxx	PVC/PUR	653			
ZK4500-0023-xxxx	PVC/PUR	653	**ZK4501-0023-xxxx**	PVC/PUR	653
ZK4500-0024-xxxx	PVC/PUR	653	**ZK4501-0024-xxxx**	PVC/PUR	653
Hybrid servo cables					
ZK4500-8022-xxxx	PVC/PUR	654	**ZK4501-8022-xxxx**	PVC/PUR	654
ZK4500-8023-xxxx	PVC/PUR	654	**ZK4501-8023-xxxx**	PVC/PUR	654
ZK4704-0421-xxxx	PVC/PUR	654			
Encoder cables					
ZK4000-2410-xxxx	PVC/PUR	654			
ZK4000-2610-xxxx	PVC/PUR	654			
ZK4510-0020-xxxx	PVC/PUR	655	**ZK4511-0020-xxxx**	PVC/PUR	655
ZK4520-0020-xxxx	PVC/PUR	655			
Thermal protection cables					
ZK4000-2510-xxxx	PVC/TPE	655			
Resolver cables					
ZK4000-2210-xxxx	PVC/PUR/TPE	655			
ZK4530-0010-xxxx	PVC/PUR/TPE	655	**ZK4531-0020-xxxx**	PVC/PUR/TPE	656
ZK4530-8010-xxxx	PVC/PUR/TPE	656	**ZK4724-0410-xxxx**	PVC/PUR/TPE	656
Network cables EtherCAT					
ZK1090-9191-xxxx	TPE	656			
Berger Lahr					
Servo cables					
VW3M5101Rxxx	PUR/PVC	657			
VW3M5102Rxxx	PUR/PVC	657			
Resolver cables					
VW3M8101Rxxx	TPE/PUR/PVC	657			
Bosch Rexroth					
Power cables					
IKG0331	PUR/PVC	658	**IKG0332**	PUR/PVC	667
IKG4008	PUR/PVC	658	**IKG4006**	PUR/PVC	667
IKG4009	PUR/PVC	658	**IKG4006**	PUR/PVC	667
IKG4017	PUR/PVC	658	**IKG4006**	PUR/PVC	667
IKG4018	PUR/PVC	658			
IKG4020	PUR/PVC	658			
IKG4055	PUR/PVC	658			
IKG4060	PUR/PVC	658			

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Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
IKG4067	PUR/PVC	658	**IKG4061**	PUR/PVC	667
IKG4070	PUR/PVC	659	**IKG4061**	PUR/PVC	667
IKG4072	PUR/PVC	659	**IKG4074**	PUR/PVC	667
IKG4087	PUR/PVC	659	**IKG4081**	PUR/PVC	667
IKG4090	PUR/PVC	659	**IKG4081**	PUR/PVC	667
IKG4100	PUR/PVC	659			
IKG4103	PUR/PVC	659			
IKG4107	PUR/PVC	659			
IKG4118	PUR/PVC	659			
IKG4119	PUR/PVC	660			
IKG4147	PUR/PVC	660	**IKG4141**	PUR/PVC	667
IKG4150	PUR/PVC	660	**IKG4141**	PUR/PVC	667
IKG4155	PUR/PVC	660	**IKG4141**	PUR/PVC	667
IKG4164	PUR/PVC	660			
IKG4167	PUR/PVC	660	**IKG4161**	PUR/PVC	667
IKG4172	PUR/PVC	660			
IKG4173	PUR/PVC	660			
IKG4186	PUR/PVC	661			
IKG4200	PUR/PVC	661			
IKG4204	PUR/PVC	661			
IKL0001	PUR/PVC	661	**IKL0003**	PUR/PVC	667
IKL0002	PVC/PUR	661			
IKL0006	PUR/PVC	661			
IKL0011	PUR/PVC	661			
IKL0012	PVC/PUR	661			
IKL0021	PUR/PVC	661	**IKL0023**	PUR/PVC	668
IKL0022	PVC/PUR	661			
IKL0041	PUR/PVC	662			
IKL0042	PUR/PVC	662			
IKL0061	PUR/PVC	662			
IKL0081	PUR/PVC	662	**IKL0089**	PUR/PVC	668
IKL0101	PUR/PVC	662			
IKL0121	PUR/PVC	662			
IKL0161	PUR/PVC	662	**IKL0168**	PUR/PVC	668
RKL0006	PVC/PUR	663			
RKL0013	PVC/PUR	663			
RKL0014	PVC/PUR	663			
RKL0019	PVC/PUR	663			
RKL0053	PVC/PUR	663			
RKL0054	PVC/PUR	663			
RKL4300	PUR/PVC	663	**RKL4304**	PUR/PVC	668
RKL4301	PUR/PVC	663	**RKL4304**	PUR/PVC	668
RKL4302	PUR/PVC	663	**RKL4305**	PUR/PVC	668
RKL4303	PUR/PVC	664	**RKL4305**	PUR/PVC	668
RKL4306	PUR/PVC	664	**RKL4311**	PUR/PVC	668
RKL4307	PUR/PVC	664	**RKL4311**	PUR/PVC	668
RKL4308	PUR/PVC	664			
RKL4309	PUR/PVC	664			
RKL4310	PUR/PVC	664	**RKL4312**	PUR/PVC	668
RKL4313	PUR/PVC	664	**RKL4316**	PUR/PVC	669
RKL4314	PUR/PVC	664	**RKL4316**	PUR/PVC	669

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Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Bosch Rexroth					
Power cables					
RKL4315	PUR/PVC	665	**RKL4316**	PUR/PVC	669
RKL4317	PUR/PVC	665	**RKL4319**	PUR/PVC	669
RKL4318	PUR/PVC	665	**RKL4319**	PUR/PVC	669
RKL4320	PUR/PVC	665			
RKL4321	PUR/PVC	665	**RKL4336**	PUR/PVC	669
RKL4322	PUR/PVC	665			
RKL4323	PUR/PVC	665	**RKL4338**	PUR/PVC	669
RKL4324	PUR/PVC	665			
RKL4325	PUR/PVC	665			
RKL4326	PUR/PVC	666	**RKL4336**	PUR/PVC	669
RKL4327	PUR/PVC	666			
RKL4328	PUR/PVC	666	**RKL4338**	PUR/PVC	669
RKL4329	PUR/PVC	666			
RKL4330	PUR/PVC	666	**RKL4340**	PUR/PVC	669
RKL4331	PUR/PVC	666	**RKL4341**	PUR/PVC	669
RKL4332	PVC/PUR	666			
RKL4343	PVC/PUR	666			
RKL4344	PVC/PUR	666			
Servo cables					
RL2-002CBB-NN-xxx,x	PVC/PUR	670	**RL2-500CBB-NN-xxx,x**	PVC/PUR	670
RL2-022CBB-NN-xxx,x	PVC/PUR	670	**RL2-521CBB-NN-xxx,x**	PVC/PUR	670
RL2-045EBB-NN-xxx,x	PVC/PUR	670	**RL2-542EBB-NN-xxx,x**	PVC/PUR	670
Hybrid servo cables					
RH2-021DBB-NN	PUR	670			
RH2-022DBB-NN	PUR	670			
RH2-023DBB-NN	PUR	670			
RKH0101	PUR	671			
RKH0900	PUR	671			
Encoder cables					
IKS0230	TPE/PVC/PUR	671	**IKS0232**	TPE/PVC/PUR	674
IKS0251	TPE	671	**IKS0255**	TPE	674
IKS0253	TPE	671	**IKS0255**	TPE	674
IKS0259	TPE	671			
IKS0262	TPE	671			
IKS0301	TPE/PVC/PUR	671	**IKS0303**	TPE/PVC/PUR	674
IKS0315	TPE/PVC/PUR	671			
IKS0374	TPE/PVC/PUR	671			
IKS4001	TPE/PVC/PUR	672			
IKS4002	TPE/PVC/PUR	672			
IKS4020	TPE/PVC/PUR	672	**IKS4376**	TPE/PVC/PUR	675
IKS4038	TPE/PVC/PUR	672			
IKS4041	TPE/PVC/PUR	672			
IKS4042	TPE/PVC/PUR	672	**IKS4151**	TPE/PVC/PUR	674
IKS4066	TPE/PVC/PUR	672			
IKS4103	TPE/PVC/PUR	672	**IKS4322**	TPE/PVC/PUR	675
IKS4142	TPE/PVC/PUR	673	**IKS4376**	TPE/PVC/PUR	675
IKS4314	TPE/PVC/PUR	673			
IKS4374	TPE/PVC/PUR	673			
IKS4375	TPE/PVC/PUR	673			

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
IKS4384	TPE/PVC/PUR	673			
IKS4389	TPE/PVC/PUR	673			
RG2-002AAB-NN-xxx,x	PVC/TPE	673	**RG2-510AAB-NN-xxx,x**	PVC/TPE	675
RKG0014	TPE/PVC/PUR	673			
RKG0020	TPE/PVC/PUR	673			
RKG0026	TPE/PVC/PUR	674			
RKG0028	TPE/PVC/PUR	674			
RKG4200	TPE/PVC/PUR	674	**RKG4201**	TPE/PVC/PUR	675
Elau/Schneider Electric					
Servo cables					
E-MO-067	PVC/PUR	676			
E-MO-087	PVC/PUR	676			
E-MO-092	PVC/PUR	676			
E-MO-111 SH-Motor 1.5	PVC/PUR	676			
E-MO-113 SH-Motor 2.5	PVC/PUR	676			
Hybrid servo cables					
E-MO-109, VW3E1109Rxxx	PUR	677			
E-MO-117, VW3E1117Rxxx	PUR	677			
E-MO-118, VW3E1118Rxxx	PUR	677			
E-MO-119, VW3E1119Rxxx	PUR	677			
E-MO-120, VW3E1120Rxxx	PUR	677			
E-MO-121, VW3E1121Rxxx	PUR	677			
E-MO-124, VW3E1124Rxxx	PUR	677			
E-MO-125, VW3E1125Rxxx	PUR	677			
E-MO-126, VW3E1126Rxxx	PUR	677			
E-MO-127, VW3E1127Rxxx	PUR	677			
Encoder cables					
E-FB-060	PVC/TPE	677			
E-FB-071	PVC/TPE/PUR	677			
E-FB-080	PVC/TPE/PUR	677			
Fagor					
Path measuring cables					
			iEEC-x	PUR/TPE	678
			iXC-C2-D	PUR/TPE	678
			iXC-C2-FN2	PUR/TPE	678
			iXC-C2-H	PUR/TPE	678
			iXC-C4-D	PUR/TPE	678
			iXC-C8-F-C9	PUR/TPE	678
			iXC-C8-F-D	PUR/TPE	679
			iXC-C8-FN	PUR/TPE	679
Fanuc					
Power cables					
LX660-8077-T261	PUR/PVC/TPE	680			
LX660-8077-T264	PUR/PVC/TPE	680			
LX660-8077-T265	PUR/PVC/TPE	680			
LX660-8077-T266	PUR/PVC/TPE	680			
LX660-8077-T267	PUR/PVC/TPE	680			
LX660-8077-T270	PUR/PVC/TPE	680			
LX660-8077-T271	PUR/PVC/TPE	681			
LX660-8077-T272	PUR/PVC/TPE	681			
LX660-8077-T273	PUR/PVC/TPE	681			

... Fanuc ... Festo ... Heidenhain ...

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Fanuc					
Power cables					
LX660-8077-T291	PUR/PVC/TPE	681			
LX660-8077-T292	PUR/PVC/TPE	681			
LX660-8077-T293	PUR/PVC/TPE	681			
LX660-8077-T296	PUR/PVC/TPE	682			
LX660-8077-T298	PUR/PVC/TPE	682			
LX660-8077-T300	PUR/PVC/TPE	682			
Servo cables					
LX660-8077-T259	PUR	682			
LX660-8077-T274	PUR	682			
LX660-8077-T416	PUR	682			
LX660-8077-T451	PUR	682			
LX660-8077-T470	PUR	683			
LX660-8077-T471	PUR	683			
Brake cables					
LX660-8077-T311	PUR	683			
Signal cables					
LX660-2018-T015	PVC	683			
LX660-4077-T296	PUR/TPE	683			
LX660-4077-T297	PUR/TPE	683			
LX660-4077-T302	PUR/TPE	683			
LX660-4077-T303	PUR/TPE	684			
LX660-4077-T310	TPE	684			
LX660-4077-T319	PUR/TPE	684			
Festo					
Servo cables					
NEBM-M16G8-E-xxx-Q7-LE8	PUR	685			
NEBM-M23G6-E-xxx-N-LE7	PVC/PUR	685			
NEBM-M23G8-E-xxx-N-LE8	PVC/PUR	685			
NEBM-M40G8-E-xxx-N-LE7	PVC/PUR	685			
Control cables					
KPWR-MC-1-SUB-9HC-xxx	PVC/PUR	685			
Encoder cables					
NEBM-M23G12-E-xxx-N-S1G9	PVC/PUR/TPE	685			
Data cables					
KDI-MC-M8-SUB-9-xxx	PVC/PUR	686			
KES-MC-1-SUB-9-xxx	PVC/PUR	686			
NEBM-M12G8-E-xxx-N-S1G15	PVC/PUR/TPE	686			
NEBM-M12G8-E-xxx-S1G9	PVC/PUR/TPE	686			
NEBM-M12W8-E-xxx-N-S1G15	PVC/PUR/TPE	686			
NEBM-S1G15-E-xxx-LE6	PVC/PUR/TPE	687			
NEBM-S1G9-E-xxx-LE6	PVC/PUR	687			
Bus cables					
FBA-CO-SUB-9-M12	PVC/PUR/TPE	687			
Heidenhain					
Servo cables					
352 960-xx	PVC/PUR	688			
352 962-xx	PVC/PUR	688			
352 963-xx	PVC/PUR	688			

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Adapter cables					
298 401-xx	PVC/PUR/TPE	688			
333 164-xx	PVC/PUR/TPE	688			
368 330-xx	PVC/PUR	688			
524 599-xx	PVC/PUR/TPE	689			
534 855-xx	PVC/PUR/TPE	689			
605 424-xx	PVC/PUR/TPE	689			
289 440-xx	PVC/PUR/TPE	689			
298 399-xx	PVC/PUR/TPE	689			
298 400-xx	PVC/PUR/TPE	689			
309 783-xx	PVC/PUR/TPE	689			
336 376-xx	PVC/PUR/TPE	690			
604 419-xx	PUR/TPE	690			
298 402-xx	PUR/TPE	690			
309 738-xx	PUR/TPE	690			
309 774-xx	PUR/TPE	690			
368 172-xx	PVC/PUR/TPE	690			
309 777-xx	PUR/TPE	691			
309 778-xx	PUR/TPE	691			
533 627-xx	PUR/TPE	691			
310 193-xx	PUR/TPE	691			
310 197-xx	PUR/TPE	691			
310 199-xx	PUR/TPE	691			
323 897-xx	PUR/TPE	691			
324 544-xx	PUR/TPE	692			
332 115-xx	PUR/TPE	692			
335 077-xx	PUR/TPE	692			
354 411-xx	PUR/TPE	692			
355 398-xx	PUR/TPE	692			
360 472-xx	PUR/TPE	692			
309 779-xx	PUR/TPE	692			
309 780-xx	PUR/TPE	693			
354 770-xx	PUR/TPE	693			
Jetter					
Motor cables					
Cable No. 201	PVC/PUR/TPE	694			
Cable No. 203	PVC/PUR/TPE	694			
Cable No. 26.1	PVC/PUR/TPE	694			
Servo cables					
Cable No. 202	PVC/PUR	694			
Cable No. 204	PVC/PUR	694			
Cable No. 24.1	PVC/PUR	694			
Resolver cables					
Cable No. 23	PVC/PUR/TPE	695			
Cable No. 423	PVC/PUR/TPE	695			
Cable No. 523	PVC/PUR/TPE	695			
Cable No. 723	PVC/PUR/TPE	695			
Kollmorgen/Danaher Motion					
Motor cables					
88959 (5m)	TPE	696			
88960 (10m)	TPE	696			

... Kollmorgen/Danaher Motion ...

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Kollmorgen/Danaher Motion					
Motor cables					
88962 (15m)	TPE	696			
88964 (20m)	TPE	696			
88966 (25m)	TPE	696			
89918 (5m)	PVC/TPE	696			
89952 (10m)	PVC/TPE	696			
89953 (15m)	PVC/TPE	696			
89954 (20m)	PVC/TPE	696			
89956 (25m)	PVC/TPE	696			
89959 (5m)	PVC/TPE	696			
89960 (10m)	PVC/TPE	696			
89962 (15m)	PVC/TPE	696			
89964 (20m)	PVC/TPE	697			
89966 (25m)	PVC/TPE	697			
90083 (5m)	PVC/TPE	697			
90084 (10m)	PVC/TPE	697			
90085 (15m)	PVC/TPE	697			
90086 (20m)	PVC/TPE	697			
90087 (25m)	PVC/TPE	697			
102575 (5m)	PVC/TPE	697			
102576 (10m)	PVC/TPE	697			
102806 (15m)	PVC/TPE	697			
102807 (20m)	PVC/TPE	698			
102808 (25m)	PVC/TPE	698			
107473 (5m)	PVC/TPE	698			
107474 (10m)	PVC/TPE	698			
107475 (15m)	PVC/TPE	698			
107476 (20m)	PVC/TPE	698			
107477 (25m)	PVC/TPE	698			
107485 (5m)	PVC/TPE	698			
107486 (10m)	PVC/TPE	699			
107487 (15m)	PVC/TPE	699			
107488 (20m)	PVC/TPE	699			
107489 (25m)	PVC/TPE	699			
200456 (5m)	PVC/TPE	699			
200457 (10m)	PVC/TPE	699			
200458 (15m)	PVC/TPE	699			
200459 (20m)	PVC/TPE	699			
200460 (25m)	PVC/TPE	699			
200468 (5m)	PVC/TPE	699			
200469 (10m)	PVC/TPE	700			
200470 (15m)	PVC/TPE	700			
200471 (20m)	PVC/TPE	700			
200472 (25m)	PVC/TPE	700			
200618 (5m)	PVC/TPE	700			
200619 (10m)	PVC/TPE	700			
200620 (15m)	PVC/TPE	700			
200621 (20m)	PVC/TPE	700			
200622 (25m)	PVC/TPE	700			

... Kollmorgen/Danaher Motion ...
Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Servo cables					
89957 (5m)	PVC/PUR	701			
89961 (10m)	PVC/PUR	701			
89963 (15m)	PVC/PUR	701			
89965 (20m)	PVC/PUR	701			
89967 (25m)	PVC/PUR	701			
89968 (5m)	PVC/PUR	701			
89969 (25m)	PVC/PUR	701			
89970 (10m)	PVC/PUR	701			
89971 (15m)	PVC/PUR	702			
89972 (20m)	PVC/PUR	702			
90088 (5m)	PVC/PUR	702			
90089 (10m)	PVC/PUR	702			
90090 (15m)	PVC/PUR	702			
90091 (20m)	PVC/PUR	702			
90092 (25m)	PVC/PUR	702			
102579 (5m)	PVC/PUR	703			
102580 (10m)	PVC/PUR	703			
102809 (15m)	PVC/PUR	703			
102810 (20m)	PVC/PUR	703			
102811 (25m)	PVC/PUR	703			
107479 (5m)	PVC/PUR	703			
107480 (10m)	PVC/PUR	703			
107481 (15m)	PVC/PUR	704			
107482 (20m)	PVC/PUR	704			
107483 (25m)	PVC/PUR	704			
107491 (5m)	PVC/PUR	704			
107492 (10m)	PVC/PUR	704			
107493 (15m)	PVC/PUR	704			
107494 (20m)	PVC/PUR	704			
107495 (25m)	PVC/PUR	705			
200462 (5m)	PVC/PUR	705			
200463 (10m)	PVC/PUR	705			
200464 (15m)	PVC/PUR	705			
200465 (20m)	PVC/PUR	705			
200466 (25m)	PVC/PUR	705			
200474 (5m)	PVC/PUR	705			
200475 (10m)	PVC/PUR	705			
200476 (15m)	PVC/PUR	706			
200477 (20m)	PVC/PUR	706			
200478 (25m)	PVC/PUR	706			
200623 (5m)	PVC/PUR	706			
200624 (10m)	PVC/PUR	706			
200625 (15m)	PVC/PUR	706			
200626 (20m)	PVC/PUR	706			
200627 (25m)	PVC/PUR	706			
Signal cables					
84972 (5m)	PVC/TPE/PUR	707			
84973 (10m)	PVC/TPE/PUR	707			
84974 (15m)	PVC/TPE/PUR	707			
84975 (20m)	PVC/TPE/PUR	707			

... Kollmorgen/Danaher Motion ... Lenze ...

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Kollmorgen/Danaher Motion					
Signal cables					
85034 (5m)	PVC/TPE/PUR	708			
85035 (10m)	PVC/TPE/PUR	708			
85036 (15m)	PVC/TPE/PUR	708			
85037 (20m)	PVC/TPE/PUR	708			
85039 (5m)	PVC/TPE/PUR	709			
85040 (10m)	PVC/TPE/PUR	709			
85041 (15m)	PVC/TPE/PUR	709			
85042 (20m)	PVC/TPE/PUR	709			
87655 (25m)	PVC/TPE/PUR	707			
90287 (5m)	PVC/TPE	707			
91019 (10m)	PVC/TPE	707			
91807 (20m)	PVC/TPE	708			
91811 (15m)	PVC/TPE	708			
92205 (25m)	PVC/TPE	708			
107915 (5m)	PVC/TPE	708			
107916 (10m)	PVC/TPE	708			
107917 (15m)	PVC/TPE	708			
107918 (20m)	PVC/TPE	708			
107919 (25m)	PVC/TPE	708			
Lenze					
Servo cables					
EWLMxxxGMS-015C	PUR/PVC	710	**EWLMxxxZM-015C**	PUR/PVC	712
EWLMxxxGMS-025	PUR/PVC	710	**EWLMxxxZM-025**	PUR/PVC	712
EWLMxxxGMS-040I	PVC/PUR	710			
EYP0010AxxxxA00P01	PUR/PVC	710	**EYP0010VxxxxM01P01**	PUR/PVC	712
EYP0010AxxxxM01A00	PUR/PVC	710	**EYP0010VxxxxM01P01**	PUR/PVC	712
EYP0011AxxxxA00P01	PUR/PVC	710	**EYP0011VxxxxM01P01**	PUR/PVC	712
EYP0011AxxxxM01A00	PUR/PVC	710	**EYP0011VxxxxM01P01**	PUR/PVC	712
EYP0012AxxxxA00P01	PUR/PVC	710	**EYP0012VxxxxM01P01**	PUR/PVC	712
EYP0012AxxxxA00P02	PUR/PVC	711	**EYP0012VxxxxM02P02**	PUR/PVC	712
EYP0012AxxxxM01A00	PUR/PVC	711	**EYP0012VxxxxM01P01**	PUR/PVC	712
EYP0012AxxxxM02A00	PUR/PVC	711	**EYP0012VxxxxM02P02**	PUR/PVC	712
EYP0013AxxxxA00P02	PUR/PVC	711	**EYP0013VxxxxM02P02**	PUR/PVC	713
EYP0013AxxxxM02A00	PUR/PVC	711	**EYP0013VxxxxM02P02**	PUR/PVC	713
EYP0014AxxxxA00P03	PUR/PVC	711	**EYP0014VxxxxM03P03**	PUR/PVC	713
EYP0014AxxxxM03A00	PUR/PVC	711	**EYP0014VxxxxM03P03**	PUR/PVC	713
EYP0015AxxxxA00P03	PUR/PVC	711	**EYP0015VxxxxM03P03**	PUR/PVC	713
EYP0015AxxxxM03A00	PUR/PVC	711	**EYP0015VxxxxM03P03**	PUR/PVC	713
EYP0016AxxxxA00P03	PUR/PVC	712	**EYP0016VxxxxM03P03**	PUR/PVC	713
EYP0016AxxxxM03A00	PUR/PVC	712	**EYP0016VxxxxM03P03**	PUR/PVC	713
Fan cables					
EWLLxxxGMS	TPE/PVC	713	**EWLLxxxZM**	TPE/PVC	713
EYL002AxxxxL01A00	TPE/PVC	713	**EYL002VxxxxL01J01**	TPE/PVC	713
EYL002AxxxxL02A00	TPE/PVC	713	**EYL002VxxxxL02J02**	TPE/PVC	714
Encoder cables					
EWLExxxGM-T	TPE/PVC/PUR	715	**EWLExxxZMST**	TPE/PVC/PUR	715
EWLExxxGX-T	TPE/PVC/PUR	715			
Feedback cables					
EYF0017AxxxxA00W02	PUR	715			

Lenze ... LinMot ... LTi DRiVES ... Mitsubishi Electric ... Nidec/Control Techniques ...

Basic cables	Jacket	Page	Extension cables	Jacket	Page
EYF0018AxxxxA00S03	TPE/PUR/PVC	715			
EYF0018AxxxxA00W02	TPE/PVC	715			
EYF0018AxxxxF02S03	TPE/PVC	716			
EYF0018AxxxxF02W02	TPE/PUR/PVC	716			
EYF0019AxxxxF02S03	PUR	716	**EYF0019VxxxxA00G02**	PUR	718
EYF0020AxxxxA00S04	TPE/PUR/PVC	716			
EYF0020AxxxxA00S05	TPE/PUR/PVC	716			
EYF0020AxxxxF01S04	TPE/PUR/PVC	716			
EYF0020AxxxxF01S05	TPE/PUR/PVC	717			
EYF0021AxxxxA00S03	TPE/PUR	717			
EYF0021AxxxxF03S03	TPE/PUR	717			
EYF0021AxxxxF07S03	PUR/TPE	717			
Resolver cables					
EWLRxxxGM-T	TPE/PVC/PUR	718	**EWLRxxxZMST**	TPE/PVC/PUR	718
EWLRxxxGX-T	TPE/PVC/PUR	718			
LinMot					
Motor cables					
P10-70x…-D01/D02-MS	PVC/PUR	719			
Servo cables					
P10-70x…-D03-MS	PVC/PUR	719			
LTi DRiVES					
Servo cables					
KM3-KSxxx	PUR/PVC	720	**KM3-KSxxx (ext.)**	PUR/PVC	720
KM3-KSxxx-24A	PUR/PVC	720	**KM3-KSxxx-24A (ext.)**	PUR/PVC	720
KM3-KSxxx-63A	PUR/PVC	720	**KM3-KSxxx-63A (ext.)**	PUR/PVC	720
Encoder cables					
KGH2-KSxxx	TPE/PVC	721	**KGH2-KSxxx (ext.)**	TPE/PVC	719
KGH3-KSxxx	TPE/PVC	721	**KGH3-KSxxx (ext.)**	TPE/PVC	719
KGS2-KSxxx	TPE/PUR	721	**KGS2-KSxxx (ext.)**	TPE/PUR	719
KRY2-CDF-KSxxx	TPE/PUR/PVC	721	**KRY2-CDF-KSxxx (ext.)**	TPE/PUR/PVC	719
KRY2-KSxxx	TPE/PUR/PVC	721	**KRY2-KSxxx (ext.)**	TPE/PUR/PVC	719
Mitsubishi Electric					
Motor cables					
MR-BKS1CBL-xxx-A1-H	PVC/PUR	722			
MR-BKS1CBL-xxx-A2-H	PVC/PUR	722			
MR-PWS1CBL-xxx-A1-H	PVC/PUR	722			
MR-PWS1CBL-xxx-A2-H	PVC/PUR	722			
PCS015N-xxx-0-0C4	PVC/PUR	722			
PCS025N-xxx-0-0C5	PVC/PUR	722			
PCS025N-xxx-C4	PVC/PUR	722			
PCS040N-xxx-0-0C4	PVC/PUR/TPE	722			
PCS040N-xxx-0-0C5	PVC/PUR/TPE	722			
PCS060N-xxx-0-0C5	PVC/PUR/TPE	723			
Encoder cables					
MR-J3ENCBL-xxx-A1-H	PVC/PUR	723			
MR-J3ENCBL-xxx-A2-H	PVC/PUR	723			
MR-J3ENSCBL-xxx-H	PVC/PUR	723			
Nidec/Control Techniques					
Motor cables					
PS B A A A XXX	TPE/PVC	724			
PS B A A B XXX	TPE/PVC	724			

... Nidec/Control Techniques ...

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Nidec/Control Techniques					
Motor cables					
PS B A B B XXX	TPE/PVC	724			
PS B A F A XXX	TPE/PVC	724			
PS B A F B XXX	TPE/PVC	724			
PS B B A A XXX	TPE/PVC	724			
PS B B A B XXX	TPE/PVC	725			
PS B B B B XXX	TPE/PVC	725			
PS B B F A XXX	TPE/PVC	724			
PS B B F B XXX	TPE/PVC	725			
PS B C A B XXX	TPE/PVC	725			
PS B C B B XXX	TPE/PVC	725			
PS B C F B XXX	TPE/PVC	725			
PS B D A B XXX	TPE/PVC	725			
PS B D B B XXX	TPE/PVC	725			
PS B D F B XXX	TPE/PVC	725			
PS B E A B XXX	TPE/PVC	726			
PS B E B B XXX	TPE/PVC	726			
PS B E F B XXX	TPE/PVC	726			
PS B G A A XXX	TPE/PVC	724			
PS B G A B XXX	TPE/PVC	726			
PS B G B B XXX	TPE/PVC	726			
PS B G F A XXX	TPE/PVC	724			
PS B G F B XXX	TPE/PVC	726			
Servo cables					
PB B A A A XXX	PUR/PVC	726			
PB B A A B XXX	PUR/PVC	727			
PB B A B B XXX	PUR/PVC	727			
PB B A F A XXX	PUR/PVC	726			
PB B A F B XXX	PUR/PVC	727			
PB B A G B XXX	PUR/PVC	727			
PB B B A A XXX	PUR/PVC	726			
PB B B A B XXX	PUR/PVC	727			
PB B B B B XXX	PUR/PVC	727			
PB B B F A XXX	PUR/PVC	727			
PB B B F B XXX	PUR/PVC	727			
PB B B G B XXX	PUR/PVC	728			
PB B C A B XXX	PUR/PVC	728			
PB B C B B XXX	PUR/PVC	728			
PB B C F B XXX	PUR/PVC	728			
PB B C G B XXX	PUR/PVC	728			
PB B D A B XXX	PUR/PVC	728			
PB B D B B XXX	PUR/PVC	728			
PB B D F B XXX	PUR/PVC	728			
PB B D G B XXX	PUR/PVC	728			
PB B E A B XXX	PUR/PVC	728			
PB B E B B XXX	PUR/PVC	728			
PB B E F B XXX	PUR/PVC	729			
PB B E G B XXX	PUR/PVC	729			
PB B G A A XXX	PUR/PVC	727			
PB B G A B XXX	PUR/PVC	729			

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Basic cables	Jacket	Page	Extension cables	Jacket	Page
PB B G B B XXX	PUR/PVC	729			
PB B G F A XXX	PUR/PVC	727			
PB B G F B XXX	PUR/PVC	729			
PB B G G B XXX	PUR/PVC	729			
Encoder cables					
SS B A H C XXX	TPE/PVC/PUR	729			
SS B A H H XXX	TPE/PVC/PUR	729			
SS B A H N XXX	TPE/PVC/PUR	729			
NUM					
Power cables					
AGOFRU018LMxxx	PVC/TPE	730	**AGOFRU018LMxxx (ext.)**	PVC/TPE	730
AGOFRU019LMxxx	PVC/TPE	730	**AGOFRU019LMxxx (ext.)**	PVC/TPE	730
Servo cables					
AGOFRU018Mxxx	PVC/PUR	730	**AGOFRU018Mxxx (ext.)**	PVC/PUR	731
AGOFRU019Mxxx	PVC/PUR	730	**AGOFRU019Mxxx (ext.)**	PVC/PUR	731
AGOFRU020Mxxx	PVC/PUR	730	**AGOFRU020Mxxx (ext.)**	PVC/PUR	731
Fan cables					
AGOFRU012Mxxx	PVC/TPE	731	**AGOFRU012Mxxx (ext.)**	PVC/TPE	731
Encoder cables					
AGOFRU029Mxxx	PVC/TPE	731	**AGOFRU029Mxxx (ext.)**	PVC/TPE	732
AGOFRU030Mxxx	PVC/TPE	731	**AGOFRU030Mxxx (ext.)**	PVC/TPE	732
Omron					
Motor cables					
R88A-CAWA-xxxS-DE	TPE	733			
R88A-CAWCxxx	PVC/TPE	733			
R88A-CAWCxxxS-E	PVC/TPE	733			
R88A-CAWDxxxS	PVC/TPE	733			
R88A-CAWDxxxS-E	PVC/TPE	733			
R88A-CAWFxxxS-E	PVC/TPE	733			
Control cables					
JZSP-CHM000-xx-E	PVC/PUR/TPE	733			
JZSP-CHM000-xx-ME	PVC/PUR/TPE	733			
JZSP-CHM030-xx-E	PVC/PUR/TPE	734			
JZSP-CHM030-xx-ME	PVC/PUR/TPE	734			
JZSP-CSM22-xx-E-G1	PVC/PUR/TPE	734			
R88A-CAWCxxxB-E	PVC/PUR/TPE	734			
R88A-CAWExxxB	PVC/PUR/TPE	734			
Encoder cables					
JZSP-CHP800-xx-E	PVC/TPE/PUR	735			
JZSP-CHP800-xx-ME	PVC/TPE/PUR	735			
JZSP-CSP21-xx-E-G1	PVC/TPE/PUR	735			
R88A-CRWA-xxxC-DE	PVC/TPE/PUR	735			
R88A-CRWBxxxN	PVC/TPE/PUR	735			
R88A-CRWBxxxN-E	PVC/TPE/PUR	735			
Parker					
Motor cables					
iMOK42	PVC/PUR	736			
iMOK43	PUR/PVC	736			
iMOK44	PUR/PVC	736			
iMOK45	PUR/PVC	736			
iMOK54	PVC/PUR	736			

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Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Parker					
Motor cables					
iMOK55	PVC/PUR	736			
iMOK56	PVC/PUR	736			
iMOK57	PUR/PVC	736			
Resolver cables					
iREK32	PVC/PUR/TPE	737			
iREK33	PVC/PUR/TPE	737			
iREK41	PVC/PUR/TPE	737			
iREK42	PVC/PUR/TPE	737			
SEW					
Motor cables					
0590 4773	TPE/PVC/PUR	738	**0590 3610**	TPE/PVC/PUR	740
0590 4803	PVC/PUR/TPE	738			
0590 6245	PVC/PUR/TPE	738			
0590 6253	PVC/PUR/TPE	738			
1335 0293	PVC/PUR/TPE	739	**1335 0021**	PVC/PUR/TPE	740
1335 0307	PVC/PUR/TPE	739	**1335 0048**	PVC/PUR/TPE	740
1335 0315	PVC/PUR/TPE	739	**1335 0056**	PVC/PUR/TPE	740
Servo cables					
1332 4861	PUR/PVC	741	**0593 6500**	PUR/PVC	744
1333 1221	PVC/PUR/TPE	742			
1333 2155	PVC/PUR/TPE	742			
1335 0153	PVC/PUR	742	**1335 0099**	PVC/PUR	745
1335 0161	PVC/PUR	742	**1335 0102**	PVC/PUR	745
1335 0188	PVC/PUR	742	**1335 0110**	PVC/PUR	745
1335 0234	PVC/PUR	742	**1335 4221**	PUR	745
1335 0242	PVC/PUR	742	**1335 4248**	PVC/PUR	745
1335 0250	PVC/PUR	743			
1335 4302	PUR	743			
1335 4310	PVC/PUR	743			
1335 4329	PVC/PUR	743	**1335 4337**	PVC/PUR	745
1335 4388	PUR	743			
1335 4396	PUR	743			
Hybrid servo cables					
0186 725 3	PUR	746			
0187 889 5	PUR	746			
0593 278 5	PUR	746			
0593 755 8	PUR	746			
0816 208 5	PUR	746			
0816 325 1	PUR	746			
0816 326 X	PUR	746			
0817 886 0	PUR	746			
0817 887 9	PUR	746			
0817 888 7	PUR	746			
0817 948 4	PUR	746			
1811 8119	PUR	746			
Control cables					
0199 560x	PVC/PUR/TPE	747			
Encoder cables					
0198 9308	PUR	747			

Basic cables	Jacket	Page	Extension cables	Jacket	Page
0199 3194	PUR	747	**0199 5413**	PVC/PUR	747
0199 4875	PVC	747			
0595 1518	PVC/PUR/TPE	747			
1332 4535	PVC	747	**0199 5405**	PVC/PUR	747
1332 4551	PUR	747	**0199 5405**	PVC/PUR	747
1332 7429	PVC	747			
1332 7437	PUR	747			
Siemens					
Power cables					
6FX8002-5CN06	PVC/PUR/TPE	748			
6FX8002-5CN16	PVC/PUR/TPE	748			
6FX8002-5CN26	PVC/PUR/TPE	748			
6FX8002-5CN36	PVC/PUR/TPE	748			
6FX8002-5CN46	PVC/PUR/TPE	748			
6FX8002-5CN56	PVC/PUR/TPE	748			
6FX8002-5CS06	PVC/PUR/TPE	748			
6FX_002-5CA01	TPE/PVC/PUR	749	**6FX_002-5CA05**	TPE/PVC/PUR	755
6FX_002-5CA11	TPE/PVC/PUR	749	**6FX_002-5CA15**	TPE/PVC/PUR	755
6FX_002-5CA13	TPE/PVC/PUR	749			
6FX_002-5CA21	TPE/PVC/PUR	749	**6FX_002-5CA28**	TPE/PVC/PUR	755
6FX_002-5CA23	TPE/PVC/PUR	749	**6FX_002-5CX28**	TPE/PVC/PUR	755
6FX_002-5CA31	TPE/PVC/PUR	749	**6FX_002-5CA38**	TPE/PVC/PUR	755
6FX_002-5CA41	TPE/PVC/PUR	749	**6FX_002-5CA48**	TPE/PVC/PUR	755
6FX_002-5CA51	TPE/PVC/PUR	750	**6FX_002-5CA58**	TPE/PVC/PUR	756
6FX_002-5CA61	TPE/PVC/PUR	750	**6FX_002-5CA68**	TPE/PVC/PUR	756
6FX_002-5CG01	PVC/PUR/TPE	750			
6FX_002-5CG11	PVC/PUR/TPE	750	**6FX_002-5CA15**	PVC/PUR/TPE	755
6FX_002-5CG13	PVC/PUR/TPE	750	**6FX_002-5CX18**	PVC/PUR/TPE	756
6FX_002-5CG21	PVC/PUR/TPE	750	**6FX_002-5CA28**	PVC/PUR/TPE	756
6FX_002-5CG23	PVC/PUR/TPE	751	**6FX_002-5CX28**	PVC/PUR/TPE	756
6FX_002-5CG31	PVC/PUR/TPE	751			
6FX_002-5CG41	PVC/PUR/TPE	751			
6FX_002-5CG51	PVC/PUR/TPE	751			
6FX_002-5CG61	PVC/PUR/TPE	751			
6FX_002-5CK01	PUR/TPE	751			
6FX_002-5CL01	PVC/PUR/TPE	751			
6FX_002-5CL02	PVC/PUR/TPE	752			
6FX_002-5CL12	PVC/PUR/TPE	752			
6FX_002-5CS01	TPE/PVC/PUR	752			
6FX_002-5CS02	PVC/PUR/TPE	752			
6FX_002-5CS11	PVC/PUR/TPE	752	**6FX_002-5CA15**	PVC/PUR/TPE	755
6FX_002-5CS12	PVC/PUR/TPE	753			
6FX_002-5CS13	PVC/PUR/TPE	753	**6FX_002-5CX18**	PVC/PUR/TPE	756
6FX_002-5CS21	TPE/PVC/PUR	753			
6FX_002-5CS23	PVC/PUR/TPE	753	**6FX_002-5CX28**	PVC/PUR/TPE	756
6FX_002-5CS24	PVC/PUR/TPE	753			
6FX_002-5CS31	TPE/PVC/PUR	753			
6FX_002-5CS41	TPE/PVC/PUR	754	**6FX_002-5CA48**	TPE/PVC/PUR	755
6FX_002-5CS42	PVC/PUR/TPE	754			
6FX_002-5CS51	TPE/PVC/PUR	754	**6FX_002-5CA58**	TPE/PVC/PUR	756
6FX_002-5CS52	PVC/PUR/TPE	754			

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Basic cables	Jacket	Page	Extension cables	Jacket	Page
Siemens					
Power cables					
6FX_002-5CS54	PVC/PUR/TPE	754	6FX_002-5CA68	PVC/PUR/TPE	756
6FX_002-5CS61	PVC/PUR/TPE	754	6FX_002-5CA68	PVC/PUR/TPE	756
6FX_002-5CS62	PVC/PUR/TPE	755			
6FX_002-5CS64	PVC/PUR/TPE	755	6FX_002-5CX18	PVC/PUR/TPE	756
Servo cables					
6FX_002-5DA01	PUR/PVC	756	6FX_002-5DA05	PUR/PVC	763
6FX_002-5DA11	PUR/PVC	756	6FX_002-5DA15	PUR/PVC	763
6FX_002-5DA21	PUR/PVC	757	6FX_002-5DA28	PUR/PVC	764
6FX_002-5DA23	PUR/PVC	757	6FX_002-5DX28	PUR/PVC	764
6FX_002-5DA30	PVC/PUR	757			
6FX_002-5DA31	PUR/PVC	757	6FX_002-5DA38	PUR/PVC	764
6FX_002-5DA33	PUR/PVC	757	6FX_002-5DX38	PUR/PVC	764
6FX_002-5DA41	PUR/PVC	757	6FX_002-5DA48	PUR/PVC	764
6FX_002-5DA43	PUR/PVC	758	6FX_002-5DX48	PUR/PVC	764
6FX_002-5DA51	PUR/PVC	758	6FX_002-5DA58	PUR/PVC	764
6FX_002-5DA61	PUR/PVC	758	6FX_002-5DA68	PUR/PVC	764
6FX_002-5DG01	PVC/PUR	758	6FX_002-5DA05	PVC/PUR	763
6FX_002-5DG11	PVC/PUR	758	6FX_002-5DA15	PVC/PUR	763
6FX_002-5DG13	PVC/PUR	758			
6FX_002-5DG21	PVC/PUR	759			
6FX_002-5DG23	PUR	759			
6FX_002-5DG31	PVC/PUR	759			
6FX_002-5DG33	PUR	759			
6FX_002-5DG41	PVC/PUR	759	6FX_002-5DA48	PVC/PUR	764
6FX_002-5DG43	PUR	759			
6FX_002-5DG51	PVC/PUR	759			
6FX_002-5DG61	PVC/PUR	760			
6FX_002-5DN06	PVC/PUR	760			
6FX_002-5DN16	PVC/PUR	760			
6FX_002-5DN26	PVC/PUR	760			
6FX_002-5DN30	PUR/PVC	760			
6FX_002-5DN46	PVC/PUR	761			
6FX_002-5DN56	PVC/PUR	761			
6FX_002-5DS01	PUR/PVC	761			
6FX_002-5DS06	PVC/PUR	761			
6FX_002-5DS11	PVC/PUR	761	6FX_002-5DA15	PVC/PUR	763
6FX_002-5DS13	PVC/PUR	762			
6FX_002-5DS21	PUR/PVC	762			
6FX_002-5DS23	PUR	762			
6FX_002-5DS33	PUR	762			
6FX_002-5DS36	PVC/PUR	762			
6FX_002-5DS41	PVC/PUR	762	6FX_002-5DA48	PVC/PUR	764
6FX_002-5DS43	PUR	762			
6FX_002-5DS51	PVC/PUR	763			
6FX_002-5DS54	PVC/PUR	763			
6FX_002-5DS61	PUR/PVC	763			
6FX_002-5DS64	PVC/PUR	763			

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Basic cables	Jacket	Page	Extension cables	Jacket	Page
Hybrid servo cables					
6FX_002-8QN04	PUR	765	6FX_002-8QE04	PUR	765
6FX_002-8QN08	PUR	765	6FX_002-8QE08	PUR	765
6FX_002-8QN11	PUR	765	6FX_002-8QE11	PUR	765
6FX_002-8QN21	PUR	765	6FX_002-8QE21	PUR	765
Signal cables					
6FX8002-2CF20	PVC/PUR/TPE	766			
6FX8002-2CQ31	PVC/PUR/TPE	766	6FX8002-2CQ34	PVC/PUR/TPE	771
6FX8002-2DC40	PVC/PUR	766			
6FX8002-2DC42	PVC/PUR	766			
6FX_002-1DC00	PUR/PVC	766	6FX_002-2DC34	PUR/PVC	772
6FX_002-2AD00	TPE/PVC/PUR	766	6FX_002-2AD04	TPE/PVC/PUR	771
6FX_002-2AH00	TPE/PVC/PUR	767	6FX_002-2AH04	TPE/PVC/PUR	771
6FX_002-2AH11	PVC/PUR/TPE	767			
6FX_002-2CA11	TPE/PVC/PUR	767	6FX_002-2CB54	TPE/PVC/PUR	772
6FX_002-2CA15	TPE/PVC/PUR	767	6FX_002-2CA54	TPE/PVC/PUR	772
6FX_002-2CA31	TPE/PVC/PUR	767	6FX_002-2CA34	TPE/PVC/PUR	771
6FX_002-2CA51	TPE/PVC/PUR	767	6FX_002-2CA54	TPE/PVC/PUR	771
6FX_002-2CA71	TPE/PVC/PUR	768			
6FX_002-2CB31	TPE/PUR	768			
6FX_002-2CB51	TPE/PVC/PUR	768	6FX_002-2CC14	TPE/PVC/PUR	772
6FX_002-2CC11	TPE/PVC/PUR	768	6FX_002-2CB54	TPE/PVC/PUR	772
6FX_002-2CD01	TPE/PVC/PUR	768	6FX_002-2CB54	TPE/PVC/PUR	772
6FX_002-2CF01	TPE/PVC/PUR	768			
6FX_002-2CF02	TPE/PVC/PUR	768	6FX_002-2CF04	TPE/PVC/PUR	772
6FX_002-2CG00	TPE/PVC/PUR	768	6FX_002-2CB54	TPE/PVC/PUR	772
6FX_002-2CH00	TPE/PVC/PUR	769	6FX_002-2AD04	TPE/PVC/PUR	771
6FX_002-2CK00	TPE/PVC/PUR	769			
6FX_002-2CL00	TPE/PVC/PUR	769			
6FX_002-2CR00	PVC/PUR/TPE	769			
6FX_002-2CT12	PVC/PUR/TPE	769			
6FX_002-2DB10	PUR	769			
6FX_002-2DC10	PUR/PVC	770	6FX_002-2DC34	PUR/PVC	772
6FX_002-2DC20	PUR/PVC	770	6FX_002-2DC34	PUR/PVC	772
6FX_002-2DC36	PVC/PUR	770			
6FX_002-2EQ00	TPE/PVC/PUR	770			
6FX_002-2EQ10	TPE/PVC/PUR	770	6FX_002-2EQ14	TPE/PVC/PUR	772
6FX_002-2EQ20	PVC/PUR/TPE	770			
6FX_002-2EQ31	PVC/PUR/TPE	770			
6FX_002-5BL03	PVC/PUR	771			
6fx3002-2CT10	PVC/PUR/TPE	771			
Signal cables DriveCliq					
6FX8002-2DC30-1AD0(3m)	PUR	773	6FX8002-2DC34-1DA0(30m)	PUR	773
6FX8002-2DC30-1AF0(5m)	PUR	773	6FX8002-2DC34-1AF0(5m)	PUR	773
6FX8002-2DC30-1BA0(10m)	PUR	773	6FX8002-2DC34-1BA0(10m)	PUR	773
6FX8002-2DC30-1BF0(15m)	PUR	773	6FX8002-2DC34-1BF0(15m)	PUR	773
6FX8002-2DC30-1CA0(20m)	PUR	773	6FX8002-2DC34-1CA0(20m)	PUR	773
6FX8002-2DC30-1CF0(25m)	PUR	773	6FX8002-2DC34-1CF0(25m)	PUR	773
6FX8002-2DC30-1DA0(30m)	PUR	773	6FX8002-2DC34-1DA0(30m)	PUR	773

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Basic cables	Jacket	Page	Extension cables	Jacket	Page
Siemens, SpeedTec					
Power cables, SpeedTec					
6FX_002-5CG10	PVC/PUR/TPE	774			
6FX_002-5CG12	PVC/PUR/TPE	774			
6FX_002-5CG22	PVC/PUR/TPE	774			
6FX_002-5CG32	PVC/PUR/TPE	774	6FX_002-5CQ38	PVC/PUR/TPE	777
6FX_002-5CG42	PVC/PUR/TPE	774			
6FX_002-5CG52	PVC/PUR/TPE	774			
6FX_002-5CG62	PVC/PUR/TPE	774	6FX_002-5CQ68	PVC/PUR/TPE	777
6FX_002-5CN01	PVC/PUR/TPE	775			
6FX_002-5CN11	PVC/PUR/TPE	775			
6FX_002-5CN21	PVC/PUR/TPE	775			
6FX_002-5CN31	PVC/PUR/TPE	775	6FX_002-5CQ38	PVC/PUR/TPE	777
6FX_002-5CN41	PVC/PUR/TPE	775			
6FX_002-5CN51	PVC/PUR/TPE	775			
6FX_002-5CN54	PVC/PUR/TPE	775			
6FX_002-5CN61	PVC/PUR/TPE	776	6FX_002-5CQ68	PVC/PUR/TPE	777
6FX_002-5CN64	PVC/PUR/TPE	776	6FX_002-5CQ68	PVC/PUR/TPE	777
6FX_002-5CQ01	PVC/PUR/TPE	776			
6FX_002-5CQ11	PVC/PUR/TPE	776			
6FX_002-5CQ21	PVC/PUR/TPE	776			
6FX_002-5CQ31	PVC/PUR/TPE	776	6FX_002-5CQ38	PVC/PUR/TPE	777
6FX_002-5CQ41	PVC/PUR/TPE	776			
6FX_002-5CQ51	PVC/PUR/TPE	777			
6FX_002-5CQ61	PVC/PUR/TPE	777	6FX_002-5CQ68	PVC/PUR/TPE	777
Servo cables, SpeedTec					
6FX_002-5DG10	PVC/PUR	778	6FX_002-5DN05	PVC/PUR	782
6FX_002-5DG11	PVC/PUR	778	6FX_002-5DN15	PVC/PUR	782
6FX_002-5DG12	PVC/PUR	778	6FX_002-5DN15	PVC/PUR	782
6FX_002-5DG22	PVC/PUR	778	6FX_002-5DQ28	PVC/PUR	782
6FX_002-5DG32	PVC/PUR	778	6FX_002-5DQ38	PVC/PUR	782
6FX_002-5DG42	PVC/PUR	778	6FX_002-5DQ48	PVC/PUR	782
6FX_002-5DG52	PVC/PUR	778	6FX_002-5DQ58	PVC/PUR	782
6FX_002-5DG62	PVC/PUR	778	6FX_002-5DQ68	PVC/PUR	782
6FX_002-5DN01	PVC/PUR	779	6FX_002-5DN05	PVC/PUR	782
6FX_002-5DN11	PVC/PUR	779	6FX_002-5DN15	PVC/PUR	782
6FX_002-5DN21	PVC/PUR	779	6FX_002-5DQ28	PVC/PUR	782
6FX_002-5DN27	PVC/PUR	779			
6FX_002-5DN31	PVC/PUR	779	6FX_002-5DQ38	PVC/PUR	782
6FX_002-5DN41	PVC/PUR	779	6FX_002-5DQ48	PVC/PUR	782
6FX_002-5DN51	PVC/PUR	780			
6FX_002-5DN54	PVC/PUR	780	6FX_002-5DQ58	PVC/PUR	782
6FX_002-5DN61	PVC/PUR	780	6FX_002-5DQ68	PVC/PUR	782
6FX_002-5DN64	PVC/PUR	780	6FX_002-5DQ68	PVC/PUR	782
6FX_002-5DQ01	PVC/PUR	781	6FX_002-5DN05	PVC/PUR	782
6FX_002-5DQ11	PVC/PUR	781	6FX_002-5DN15	PVC/PUR	782
6FX_002-5DQ21	PVC/PUR	781	6FX_002-5DQ28	PVC/PUR	782
6FX_002-5DQ31	PVC/PUR	781	6FX_002-5DQ38	PVC/PUR	782
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EU2024

... Stöber

Selection by manufacturer part number

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Harnessed drive cables | Allen-Bradley/Rockwell PVC/PUR/TPE

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality*		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Allen-Bradley/Rockwell Motor cables					
Basic cable					
2090-CPWM4DF-08AFxx					
PVC M.I.	01	MAT9761795	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861793	(4G10)C	17.0	10
TPE F	02	MAT9961791	(4G10)C	18.5	7.5
TPE H*	03	MAT9961790	(4G10)C	18.5	7.5
2090-CPWM4DF-10AFxx					
PVC M.I.	01	MAT9761796	(4G6.0)C	16.0	7.5
PUR O.I.	06	MAT9861794	(4G6.0)C	14.5	10
TPE F	02	MAT9961793	(4G6.0)C	16.0	7.5
TPE H*	03	MAT9961792	(4G6.0)C	16.0	7.5
Basic cable					
2090-CPWM4DF-12AFxx					
PVC M.I.	01	MAT9761797	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9861795	(4G4.0)C	12.5	10
TPE F	02	MAT9961795	(4G4.0)C	13.0	7.5
TPE H*	03	MAT9961794	(4G4.0)C	13.0	7.5
2090-CPWM4DF-14AFxx					
PVC M.I.	01	MAT9761798	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861796	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9861798	(4G2.5)C	12.5	7.5
TPE F	02	MAT9961797	(4G2.5)C	11.5	7.5
TPE H*	03	MAT9961796	(4G2.5)C	11.5	7.5
2090-CPWM4DF-16AFxx					
PVC M.I.	01	MAT9761799	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861797	(4G1.5)C	9.0	10
PUR M.I.	07	MAT9861799	(4G1.5)C	11.0	7.5
TPE F	02	MAT9961799	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9961798	(4G1.5)C	10.0	7.5
Basic cable					
2090-CPWM7DF-02AF					
PVC M.I.	01	MAT9761715	(4G35)C	31.0	7.5
PUR O.I.	06	MAT9861711	(4G35)C	28.0	10
2090-CPWM7DF-04AF					
PVC M.I.	01	MAT9761714	(4G25)C	27.5	7.5
PUR O.I.	06	MAT9861710	(4G25)C	25.0	10
TPE F	02	MAT9961725	(4G25)C	27.5	7.5
TPE H*	03	MAT9961726	(4G25)C	27.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Allen-Bradley/Rockwell PVC/PUR/TPE

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality*		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Allen-Bradley/Rockwell Motor cables					
2090-CPWM7DF-06AF					
PVC M.I.	01	MAT9761713	(4G16)C	23.0	7.5
PUR O.I.	06	MAT9861709	(4G16)C	20.5	10
TPE F	02	MAT9961723	(4G16)C	23.0	7.5
TPE H*	03	MAT9961724	(4G16)C	23.0	7.5
2090-CPWM7DF-08AFxx					
PVC M.I.	01	MAT9761704	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861706	(4G10)C	17.0	10
TPE F	02	MAT9961707	(4G10)C	18.5	7.5
TPE H*	03	MAT9961708	(4G10)C	18.5	7.5
2090-CPWM7DF-10AFxx					
PVC M.I.	01	MAT9761703	(4G6.0)C	16.0	7.5
PUR O.I.	06	MAT9861705	(4G6.0)C	14.5	10
TPE F	02	MAT9961705	(4G6.0)C	16.0	7.5
TPE H*	03	MAT9961706	(4G6.0)C	16.0	7.5
Basic cable					
2090-CPWM7DF-12AFxx					
PVC M.I.	01	MAT9761702	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9861704	(4G4.0)C	12.5	10
TPE F	02	MAT9961709	(4G4.0)C	13.0	7.5
TPE H*	03	MAT9961704	(4G4.0)C	13.0	7.5
2090-CPWM7DF-14AFxx					
PVC M.I.	01	MAT9761701	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861703	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9861702	(4G2.5)C	12.5	7.5
TPE F	02	MAT9961710	(4G2.5)C	11.5	7.5
TPE H*	03	MAT9961711	(4G2.5)C	11.5	7.5
2090-CPWM7DF-16AFxx					
PVC M.I.	01	MAT9761758	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861760	(4G1.5)C	9.0	10
PUR M.I.	07	MAT9861759	(4G1.5)C	11.0	7.5
TPE F	02	MAT9961761	(4G1.5)C	10.0	7.5
Basic cable					
2090-XX_PMP-10SXX					
PVC M.I.	01	MAT9761712	(4G6.0)C	16.0	7.5
PUR O.I.	06	MAT9961718	(4G6.0)C	14.5	10
TPE F	02	MAT9961703	(4G6.0)C	16.0	7.5
TPE H*	03	MAT9961715	(4G6.0)C	16.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Allen-Bradley/Rockwell PVC/PUR/TPE

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

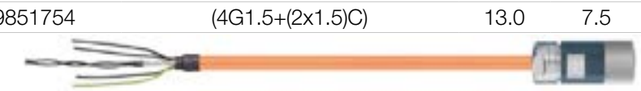
Cable quality*		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Allen-Bradley/Rockwell Motor cables					
Basic cable					
2090-XX_PMP-14SXX					
PVC M.I.	01	MAT9761711	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9961717	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9851711	(4G2.5)C	12.5	7.5
TPE F	02	MAT9961702	(4G2.5)C	11.5	7.5
TPE H*	03	MAT9961714	(4G2.5)C	11.5	7.5
2090-XX_PMP-16SXX					
PVC M.I.	01	MAT9761710	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9961716	(4G1.5)C	9.0	10
PUR M.I.	07	MAT9861701	(4G1.5)C	11.0	7.5
TPE F	02	MAT9961701	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9961713	(4G1.5)C	10.0	7.5
Extension cable					
2090-CPWM7E7-08AF					
PUR O.I.	06	MAT9861716	(4G10)C	17.0	10
2090-CPWM7E7-10AF					
PUR O.I.	06	MAT9861715	(4G6.0)C	14.5	10
Extension cable					
2090-CPWM7E7-12AF					
PUR O.I.	06	MAT9861714	(4G4.0)C	12.5	10
2090-CPWM7E7-14AF					
PUR O.I.	06	MAT9861713	(4G2.5)C	10.5	10
2090-CPWM7E7-16AF					
PUR O.I.	06	MAT9861712	(4G1.5)C	9.0	10
Allen-Bradley/Rockwell Servo cables					
Basic cable					
2090-CPBM4DF-08AFxx					
PVC M.I.	05	MAT9751799	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851798	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9851799	(4G10+(2x1.5)C)C	21.0	7.5
2090-CPBM4DF-10AFxx					
PVC O.I.	04	MAT9751797	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9751798	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851796	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9851797	(4G6.0+(2x1.5)C)C	17.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Allen-Bradley/ Rockwell

Harnessed drive cables | Allen-Bradley/Rockwell PVC/PUR

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality*		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Allen-Bradley/Rockwell Servo cables					
Basic cable					
2090-CPBM4DF-12AFxx					
PVC O.I.	04	MAT9751795	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9751796	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851794	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9851795	(4G4.0+(2x1.5)C)C	16.0	7.5
2090-CPBM4DF-14AFxx					
PVC O.I.	04	MAT9751791	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751792	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851790	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851791	(4G2.5+(2x1.5)C)C	14.5	7.5
2090-CPBM4DF-16AFxx					
PVC O.I.	04	MAT9751757	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751756	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851755	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851754	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
2090-CPBM7DF-02AF					
PUR M.I.	07	MAT9851745	(4G35+(2x1.5)C)C	32.0	7.5
2090-CPBM7DF-04AF					
PUR O.I.	06	MAT9851743	(4G25+(2x1.5)C)C	28.5	10
PUR M.I.	07	MAT9851744	(4G25+(2x1.5)C)C	28.0	7.5
Basic cable					
2090-CPBM7DF-06AF					
PUR O.I.	06	MAT9851741	(4G16+(2x1.5)C)C	24.0	10
PUR M.I.	07	MAT9851742	(4G16+(2x1.5)C)C	24.0	7.5
2090-CPBM7DF-08AFxx					
PVC M.I.	05	MAT9751745	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851736	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9851735	(4G10+(2x1.5)C)C	21.0	7.5
2090-CPBM7DF-10AFxx					
PVC O.I.	04	MAT9751706	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9751705	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851712	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9851705	(4G6.0+(2x1.5)C)C	17.5	7.5
2090-CPBM7DF-12AFxx					
PVC O.I.	04	MAT9751793	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9751794	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851792	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9851793	(4G4.0+(2x1.5)C)C	16.0	7.5

Harnessed drive cables | Allen-Bradley/Rockwell PVC/PUR

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality*		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Allen-Bradley/Rockwell Servo cables					
Basic cable					
2090-CPBM7DF-14AFxx					
PVC O.I.	04	MAT9751744	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751743	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851734	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851733	(4G2.5+(2x1.5)C)C	14.5	7.5
2090-CPBM7DF-16AFxx					
PVC O.I.	04	MAT9751742	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751741	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851732	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851731	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
2090-XX_PMF-10SXX					
PVC O.I.	04	MAT9711730	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9961722	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9811726	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9851708	(4G6.0+(2x1.5)C)C	17.5	7.5
Basic cable					
2090-XX_PMF-14SXX					
PVC O.I.	04	MAT9711729	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9961721	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9811725	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851707	(4G2.5+(2x1.5)C)C	14.5	7.5
2090-XX_PMF-16SXX					
PVC O.I.	04	MAT9711728	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9961720	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9811724	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851706	(4G1.5+(2x1.5)C)	13.0	7.5
Extension cable					
2090-CPBM7E7-08AFxx					
PVC M.I.	05	MAT9751709	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851710	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9851709	(4G10+(2x1.5)C)C	21.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Allen-Bradley/Rockwell PVC/PUR

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality*		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Allen-Bradley/Rockwell Servo cables					
2090-CPBM7E7-10AFxx					
PVC O.I.	04	MAT9751708	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9751707	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851714	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9851713	(4G6.0+(2x1.5)C)C	17.5	7.5
Extension cable					
2090-CPBM7E7-12AFxx					
PVC O.I.	04	MAT9751789	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751790	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851788	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851789	(4G2.5+(2x1.5)C)C	14.5	7.5
2090-CPBM7E7-14AFxx					
PVC O.I.	04	MAT9751747	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751746	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851738	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851737	(4G2.5+(2x1.5)C)C	14.5	7.5
2090-CPBM7E7-16AFxx					
PVC O.I.	04	MAT9751749	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751748	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851740	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851739	(4G1.5+(2x1.5)C)	13.0	7.5
Allen-Bradley/Rockwell Hybrid servo cables					
Basic cable					
2090-CSBM1DE-10AF					
PUR O.I.	27	MAT9851723	(4G6.0+(2x1.0)C+(2xAWG22)C)C	17.5	10
Basic cable					
2090-CSBM1DE-14AF					
PVC O.I.	26	MAT9751711	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
PUR O.I.	27	MAT9851720	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
2090-CSBM1DE-18AF					
PVC O.I.	26	MAT9751710	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
PUR O.I.	27	MAT9851719	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Allen-Bradley/Rockwell PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality*		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Allen-Bradley/Rockwell Hybrid servo cables					
Basic cable					
2090-CSBM1DF-10AF					
PUR O.I.	27	MAT9851717	(4G6.0+(2x1.0)C+(2xAWG22)C)C	17.5	10
2090-CSBM1DF-14AF					
PVC O.I.	26	MAT9751703	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
PUR O.I.	27	MAT9851703	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
2090-CSBM1DF-18AF					
PVC O.I.	26	MAT9751701	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
PUR O.I.	27	MAT9851701	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
Basic cable					
2090-CSBM1DG-10AF					
PUR O.I.	27	MAT9851750	(4G6.0+(2x1.0)C+(2xAWG22)C)C	17.5	10
Basic cable					
2090-CSBM1DG-14AF					
PVC O.I.	26	MAT9751719	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
PUR O.I.	27	MAT9851747	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
2090-CSBM1DG-18AF					
PVC O.I.	26	MAT9751718	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
PUR O.I.	27	MAT9851746	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
Basic cable					
2090-CSWM1DE-10AF					
PUR O.I.	27	MAT9851724	(4G6.0+(2x1.0)C+(2xAWG22)C)C	17.5	10
Basic cable					
2090-CSWM1DE-14AF					
PVC O.I.	26	MAT9751713	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
PUR O.I.	27	MAT9851722	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
2090-CSWM1DE-18AF					
PVC O.I.	26	MAT9751712	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
PUR O.I.	27	MAT9851721	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Allen-Bradley/Rockwell PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality*		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Allen-Bradley/Rockwell Hybrid servo cables					
Basic cable					
2090-CSWM1DF-10AF					
PUR O.I.	27	MAT9851718	(4G6.0+(2x1.0)C+(2xAWG22)C)C	17.5	10
Basic cable					
2090-CSWM1DF-14AF					
PVC O.I.	26	MAT9751704	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
PUR O.I.	27	MAT9851704	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
2090-CSWM1DF-18AF					
PVC O.I.	26	MAT9751702	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
PUR O.I.	27	MAT9851702	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
Basic cable					
2090-CSWM1DG-10AF					
PUR O.I.	27	MAT9851751	(4G6.0+(2x1.0)C+(2xAWG22)C)C	17.5	10
Basic cable					
2090-CSWM1DG-14AF					
PVC O.I.	26	MAT9751721	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
PUR O.I.	27	MAT9851749	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
2090-CSWM1DG-18AF					
PVC O.I.	26	MAT9751720	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
PUR O.I.	27	MAT9851748	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
Extension cable					
2090-CSBM1E1-10AF					
PUR O.I.	27	MAT9851729	(4G6.0+(2x1.0)C+(2xAWG22)C)C	17.5	10
Extension cable					
2090-CSBM1E1-14AF					
PVC O.I.	26	MAT9751715	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
PUR O.I.	27	MAT9851726	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
2090-CSBM1E1-18AF					
PVC O.I.	26	MAT9751714	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
PUR O.I.	27	MAT9851725	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Allen-Bradley/Rockwell PVC/PUR/TPE

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality*		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Allen-Bradley/Rockwell Hybrid servo cables					
Extension cable					
2090-CSWM1E1-10AF					
PUR O.I.	27	MAT9851730	(4G6.0+(2x1.0)C+(2xAWG22)C)C	17.5	10
Extension cable					
2090-CSWM1E1-14AF					
PVC O.I.	26	MAT9751717	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
PUR O.I.	27	MAT9851728	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
2090-CSWM1E1-18AF					
PVC O.I.	26	MAT9751716	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
PUR O.I.	27	MAT9851727	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
Allen-Bradley/Rockwell Brake cables					
Basic cable					
2090-UX_BMP-18SXX					
PVC M.I.	18	MAT9711727	(3G0.75)C	8.0	7.5
PVC, oil-res.	20	MAT9961719	(3G0.75)C	8.0	6.8
PUR M.I.	22	MAT9811705	(3G0.75)C	8.0	6.8
Allen-Bradley/Rockwell Feedback cables					
Basic cable					
2090-CFBM4DF-CDAFxx					
PUR O.I.	09	MAT9841775	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	9.0	10
PUR M.I.	10	MAT9841753	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	7.5
TPE H*	11	MAT9941768	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	6.8
2090-CFBM4DF-CEAFxx					
PUR O.I.	09	MAT9841796	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	9.0	10
PUR M.I.	10	MAT9841798	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	7.5
TPE H*	11	MAT9941799	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	6.8
Basic cable					
2090-CFBM7DD-CDAFxx					
PUR M.I.	10	MAT9841795	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	7.5
2090-CFBM7DD-CEAFxx					
PUR M.I.	10	MAT9841797	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Allen-Bradley/ Rockwell

Harnessed drive cables | Allen-Bradley/Rockwell PUR/TPE

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality*		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Allen-Bradley/Rockwell Feedback cables					
Basic cable					
2090-CFBM7DF-CDAFxx					
PUR O.I.	09	MAT9841771	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	9.0	10
PUR M.I.	10	MAT9841750	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	7.5
TPE H*	11	MAT9941764	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	6.8
2090-CFBM7DF-CEAFxx					
PUR O.I.	09	MAT9841774	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	9.0	10
PUR M.I.	10	MAT9841752	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	7.5
TPE H*	11	MAT9941767	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	6.8
Basic cable					
2090-XX_FMF-Sxx					
PUR O.I.	09	MAT9941709	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	9.0	10
PUR M.I.	10	MAT9841770	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	7.5
TPE H*	11	MAT9941763	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	6.8
Basic cable					
2090-XX_FMP-Sxx					
PUR O.I.	09	MAT9841769	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	9.0	10
PUR M.I.	10	MAT9941704	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	7.5
TPE H*	11	MAT9941762	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	6.8
Extension cable					
2090-CFBM7E7-CDAFxx					
PUR O.I.	09	MAT9841772	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	9.0	10
PUR M.I.	10	MAT9841751	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	7.5
TPE H*	11	MAT9941765	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	6.8
2090-CFBM7E7-CEAFxx					
PUR O.I.	09	MAT9841773	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	9.0	10
PUR M.I.	10	MAT9741776	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	7.5
TPE H*	11	MAT9941766	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	6.8
Allen-Bradley/Rockwell Adapter cables (transition cables)					
Basic cable					
2090-CFBM4E2-CATR					
PUR O.I.	09	MAT9841799	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	9.0	10
Basic cable					
2090-CPWM4E2-14TR					
PUR O.I.	06	MAT9861792	(4G2.5)C	10.5	10

Harnessed drive cables | B&R
PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
B&R Motor cables					
Basic cable					
8BCMxxxx.1011A-0					
PVC M.I.	05	MAT9610008	(4G0.75+2x(2x0.34)C)C	12.5	7.5
PUR O.I.	06	MAT9850108	(4G0.75+2x(2x0.34)C)C	12.0	10
PUR M.I.	07	MAT9600008	(4G0.75+2x(2x0.34)C)C	12.5	7.5
Basic cable					
8BCMxxxx.1034C-0					
PVC M.I.	05	MAT9610009	(4G0.75+2x(2x0.34)C)C	12.5	7.5
PUR O.I.	06	MAT9850109	(4G0.75+2x(2x0.34)C)C	12.0	10
PUR M.I.	07	MAT9600009	(4G0.75+2x(2x0.34)C)C	12.5	7.5
Basic cable					
8BCMxxxx.1312A-0					
PVC O.I.	04	MAT9750106	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9610012	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9850106	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9600012	(4G4.0+2x(2x1.5)C)C	17.5	7.5
Basic cable					
8BCMxxxx.1322A-0					
PVC O.I.	04	MAT9750107	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9610013	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9850107	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9600013	(4G4.0+2x(2x1.5)C)C	17.5	7.5
Basic cable					
8CMxxx.12-0					
PVC M.I.	05	MAT9610000	(4G0.75+2x(2x0.34)C)C	12.5	7.5
PUR O.I.	06	MAT9850100	(4G0.75+2x(2x0.34)C)C	12.0	10
PUR M.I.	07	MAT9600000	(4G0.75+2x(2x0.34)C)C	12.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | B&R
PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
B&R Servo cables					
Basic cable					
8BCMxxxx.1111A-0					
PVC O.I.	04	MAT9750104	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9610010	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850104	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9600010	(4G1.5+2x(2x0.75)C)C	14.5	7.5
8BCMxxxx.1311A-0					
PVC O.I.	04	MAT9750105	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9610011	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850105	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9600011	(4G1.5+2x(2x0.75)C)C	14.5	7.5
Basic cable					
8CMxxx.12-1					
PVC O.I.	04	MAT9750101	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9610001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850101	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9600001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
8CMxxx.12-3					
PVC O.I.	04	MAT9750102	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9610002	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9850102	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9600002	(4G4.0+2x(2x1.5)C)C	17.5	7.5
8CMxxx.12-5					
PVC M.I.	05	MAT9610003	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9850103	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9600003	(4G10+2x(2x1.5)C)C	22.5	7.5
Extension cable					
8BCFxxxx.12230-0					
PVC	08	MAT9740101	((4x0.14)+2x(2x0.34))C	7.0	10
PUR O.I.	09	MAT9840115	((4x0.14)+2x(2x0.34))C	7.0	10
Extension cable					
8BCMxxxx.10360-0					
PVC M.I.	05	MAT9750108	(4G0.75+2x(2x0.34)C)C	12.5	7.5
PUR O.I.	06	MAT9850115	(4G0.75+2x(2x0.34)C)C	12.0	10
PUR M.I.	07	MAT9850116	(4G0.75+2x(2x0.34)C)C	12.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | B&R PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
B&R Hybrid servo cables					
Basic cable					
8BCHxxxx.1111A-0					
PUR O.I.	27	MAT9850113	(4G1.5+(2x0.75)C +(2x2x0.14+2x0.25)C)C	15.0	10
8BCHxxxx.1312A-0					
PUR O.I.	27	MAT9850110	(4G4.0+(2x1.0)C +(2x2x0.14+2x0.25)C)C	16.5	10
8CHxxxx.1111A-0					
PUR O.I.	27	MAT9850112	(4G1.5+(2x0.75)C +(2x2x0.14+2x0.25)C)C	15.0	10
Basic cable					
8ECHxxxx.1111A-0					
PUR O.I.	27	MAT9850114	(4G1.5+(2x0.75)C +(2x2x0.14+2x0.25)C)C	15.0	10
Extension cable					
8ECH00xx.11140-0					
PUR O.I.	27	MAT9850117	(4G1.5+(2x0.75)C +(2x2x0.14+2x0.25)C)C	15.0	10
B&R EnDat cables					
Basic cable					
8BCExxxx.1111A-0					
PVC	08	MAT9670002	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9820102	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9660002	(5x(2x0.14)+2x0.5)C	8.5	6.8
8CExxx.12-1					
PVC	08	MAT9670001	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9820101	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9660001	(5x(2x0.14)+2x0.5)C	8.5	6.8
B&R Encoder cables					
Basic cable					
8BCFxxxx.1221B-0					
PVC	08	MAT9670003	((4x0.14)+2x(2x0.34))C	7.0	10
PUR O.I.	09	MAT9840103	((4x0.14)+2x(2x0.34))C	7.0	10

Harnessed drive cables | B&R PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
B&R Encoder cables					
Basic cable					
8BCRxxxx.1121A-0					
PVC	14	MAT9640015	(3x(2x0.25))C	7.0	7.5
PUR	15	MAT9840105	(3x(2x0.25))C	7.0	7.5
TPE H*	16	MAT9630015	(3x(2x0.25))C	8.0	6.8
Basic cable					
8BCSxxxx.1111A-0					
PVC	08	MAT9670004	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9840114	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9820104	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9660004	(5x(2x0.14)+2x0.5)C	8.5	6.8
B&R Resolver cables					
Basic cable					
8BCRxxx.1111A-0					
PVC	14	MAT9640010	(3x(2x0.25))C	7.0	7.5
PUR	15	MAT9840102	(3x(2x0.25))C	7.0	7.5
TPE H*	16	MAT9630010	(3x(2x0.25))C	8.0	6.8
8CRxxx.12-1					
PVC	14	MAT9640001	(3x(2x0.25))C	7.0	7.5
PUR	15	MAT9840101	(3x(2x0.25))C	7.0	7.5
TPE H*	16	MAT9630001	(3x(2x0.25))C	8.0	6.8
B&R Bus cables					
Basic cable					
X20CA3E61.xxxx					
PVC, oil-res.	28	MAT9630100	(4x0.38)C	7.0	12.5
PUR	29	MAT9730101	(4x0.38)C	7.0	12.5
TPE	12	MAT9930102	(4x0.38)C	7.5	10
Basic cable					
X67CA0E41.xxxx					
PVC, oil-res.	28	MAT9630103	(4x0.38)C	7.0	12.5
PUR	29	MAT9730104	(4x0.38)C	7.0	12.5
TPE	12	MAT9930105	(4x0.38)C	7.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables					
15 A Basic cable					
324781 (5m)					
PVC O.I.	04	MAT9750201	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850201	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9296001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
324782 (7m)					
PVC O.I.	04	MAT9750202	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295002	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850202	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9296002	(4G1.5+2x(2x0.75)C)C	14.5	7.5
324783 (10m)					
PVC O.I.	04	MAT9750203	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295003	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850203	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9296003	(4G1.5+2x(2x0.75)C)C	14.5	7.5
324784 (15m)					
PVC O.I.	04	MAT9750204	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295004	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850204	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9296004	(4G1.5+2x(2x0.75)C)C	14.5	7.5
324785 (20m)					
PVC O.I.	04	MAT9750205	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295005	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850205	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9296005	(4G1.5+2x(2x0.75)C)C	14.5	7.5
324786 (25m)					
PVC O.I.	04	MAT9750206	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295006	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850206	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9296006	(4G1.5+2x(2x0.75)C)C	14.5	7.5
324787 (30m)					
PVC O.I.	04	MAT9750207	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295007	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850207	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9296007	(4G1.5+2x(2x0.75)C)C	14.5	7.5
324788 (35m)					
PVC O.I.	04	MAT9750208	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295008	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850208	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9296008	(4G1.5+2x(2x0.75)C)C	14.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables					
324789 (40m)					
PVC O.I.	04	MAT9750209	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295009	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850209	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9296009	(4G1.5+2x(2x0.75)C)C	14.5	7.5
324790 (50m)					
PVC O.I.	04	MAT9750210	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295010	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850210	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9296010	(4G1.5+2x(2x0.75)C)C	14.5	7.5
324791 (75m)					
PVC O.I.	04	MAT9750211	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295011	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850211	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9296011	(4G1.5+2x(2x0.75)C)C	14.5	7.5
324792 (100m)					
PVC O.I.	04	MAT9750212	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295012	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850212	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9296012	(4G1.5+2x(2x0.75)C)C	14.5	7.5
15 A Extension cable					
324781 (5m) (ext.)					
PVC O.I.	04	MAT9750213	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9297001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850213	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9298001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
20 A Basic cable					
380967 (7m)					
PVC O.I.	04	MAT9750215	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295021	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850215	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296021	(4G2.5+2x(2x1.5)C)C	16.0	7.5
413410 (10m)					
PVC O.I.	04	MAT9750216	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295022	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850216	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296022	(4G2.5+2x(2x1.5)C)C	16.0	7.5

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables					
20 A Basic cable					
414840 (5m)					
PVC O.I.	04	MAT9750214	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295020	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850214	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296020	(4G2.5+2x(2x1.5)C)C	16.0	7.5
414841 (15m)					
PVC O.I.	04	MAT9750217	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295023	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850217	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296023	(4G2.5+2x(2x1.5)C)C	16.0	7.5
414842 (20m)					
PVC O.I.	04	MAT9750218	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295024	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850218	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296024	(4G2.5+2x(2x1.5)C)C	16.0	7.5
414843 (25m)					
PVC O.I.	04	MAT9750219	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295025	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850219	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296025	(4G2.5+2x(2x1.5)C)C	16.0	7.5
414846 (30m)					
PVC O.I.	04	MAT9750220	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295026	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850220	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296026	(4G2.5+2x(2x1.5)C)C	16.0	7.5
414848 (35m)					
PVC O.I.	04	MAT9750221	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295027	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850221	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296027	(4G2.5+2x(2x1.5)C)C	16.0	7.5
414849 (40m)					
PVC O.I.	04	MAT9750222	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295028	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850222	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296028	(4G2.5+2x(2x1.5)C)C	16.0	7.5
414850 (50m)					
PVC O.I.	04	MAT9750223	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295029	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850223	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296029	(4G2.5+2x(2x1.5)C)C	16.0	7.5

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables					
414851 (75m)					
PVC O.I.	04	MAT9750224	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295030	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850224	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296030	(4G2.5+2x(2x1.5)C)C	16.0	7.5
414852 (100m)					
PVC O.I.	04	MAT9750225	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295031	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850225	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296031	(4G2.5+2x(2x1.5)C)C	16.0	7.5
20 A Extension cable					
414840 (5m) (ext.)					
PVC O.I.	04	MAT9750226	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9297020	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850226	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9298020	(4G2.5+2x(2x1.5)C)C	16.0	7.5
21 A Basic cable					
326577 (5m)					
PVC O.I.	04	MAT9750227	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295040	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850227	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296040	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326578 (7m)					
PVC O.I.	04	MAT9750228	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295041	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850228	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296041	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326579 (10m)					
PVC O.I.	04	MAT9750229	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295042	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850229	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296042	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326580 (15m)					
PVC O.I.	04	MAT9750230	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295043	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850230	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296043	(4G2.5+2x(2x1.5)C)C	16.0	7.5

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Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables					
21 A Basic cable					
326581 (20m)					
PVC O.I.	04	MAT9750231	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295044	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850231	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296044	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326582 (25m)					
PVC O.I.	04	MAT9750232	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295045	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850232	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296045	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326583 (30m)					
PVC O.I.	04	MAT9750233	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295046	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850233	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296046	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326584 (35m)					
PVC O.I.	04	MAT9750234	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295047	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850234	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296047	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326585 (40m)					
PVC O.I.	04	MAT9750235	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295048	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850235	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296048	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326586 (50m)					
PVC O.I.	04	MAT9750236	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295049	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850236	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296049	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326587 (75m)					
PVC O.I.	04	MAT9750237	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295050	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850237	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296050	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326588 (100m)					
PVC O.I.	04	MAT9750238	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295051	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850238	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296051	(4G2.5+2x(2x1.5)C)C	16.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables					
21 A Extension cable					
326577 (5m) (ext.)					
PVC O.I.	04	MAT9750239	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9297040	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850239	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9298040	(4G2.5+2x(2x1.5)C)C	16.0	7.5
28 A Basic cable					
326589 (5m)					
PVC O.I.	04	MAT9750240	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295060	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9850240	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9296060	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326591 (7m)					
PVC O.I.	04	MAT9750241	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295061	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9850241	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9296061	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326592 (10m)					
PVC O.I.	04	MAT9750242	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295062	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9850242	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9296062	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326593 (15m)					
PVC O.I.	04	MAT9750243	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295063	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9850243	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9296063	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326594 (20m)					
PVC O.I.	04	MAT9750244	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295064	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9850244	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9296064	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326596 (25m)					
PVC O.I.	04	MAT9750245	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295065	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9850245	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9296065	(4G2.5+2x(2x1.5)C)C	16.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
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Harnessed drive cables | Baumüller PVC/PUR

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables					
28 A Basic cable					
326597 (30m)					
PVC O.I.	04	MAT9750246	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295066	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9850246	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9296066	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326598 (35m)					
PVC O.I.	04	MAT9750247	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295067	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9850247	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9296067	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326599 (40m)					
PVC O.I.	04	MAT9750248	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295068	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9850248	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9296068	(4G2.5+2x(2x1.5)C)C	16.0	7.5
28 A Extension cable					
326589 (5m) (ext.)					
PVC O.I.	04	MAT9750249	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9297060	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9850249	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9298060	(4G2.5+2x(2x1.5)C)C	16.0	7.5
36 A Basic cable					
326600 (5m)					
PVC O.I.	04	MAT9750250	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295070	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9850250	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9296070	(4G6.0+2x(2x1.5)C)C	19.5	7.5
326601 (7m)					
PVC O.I.	04	MAT9750251	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295071	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9850251	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9296071	(4G6.0+2x(2x1.5)C)C	19.5	7.5
326602 (10m)					
PVC O.I.	04	MAT9750252	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295072	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9850252	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9296072	(4G6.0+2x(2x1.5)C)C	19.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
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* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables					
326603 (15m)					
PVC O.I.	04	MAT9750253	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295073	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9850253	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9296073	(4G6.0+2x(2x1.5)C)C	19.5	7.5
326604 (20m)					
PVC O.I.	04	MAT9750254	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295074	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9850254	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9296074	(4G6.0+2x(2x1.5)C)C	19.5	7.5
326605 (25m)					
PVC O.I.	04	MAT9750255	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295075	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9850255	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9296075	(4G6.0+2x(2x1.5)C)C	19.5	7.5
326606 (30m)					
PVC O.I.	04	MAT9750256	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295076	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9850256	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9296076	(4G6.0+2x(2x1.5)C)C	19.5	7.5
326607 (35m)					
PVC O.I.	04	MAT9750257	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295077	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9850257	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9296077	(4G6.0+2x(2x1.5)C)C	19.5	7.5
326608 (40m)					
PVC O.I.	04	MAT9750258	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295078	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9850258	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9296078	(4G6.0+2x(2x1.5)C)C	19.5	7.5
36 A Extension cable					
326600 (5m) (ext.)					
PVC O.I.	04	MAT9750259	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9297070	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9850259	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9298070	(4G6.0+2x(2x1.5)C)C	19.5	7.5

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* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables					
50 A Basic cable					
326609 (5m)					
PVC M.I.	05	MAT9295080	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9850260	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9296080	(4G10+2x(2x1.5)C)C	22.5	7.5
326610 (7m)					
PVC M.I.	05	MAT9295081	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9850261	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9296081	(4G10+2x(2x1.5)C)C	22.5	7.5
326611 (10m)					
PVC M.I.	05	MAT9295082	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9850262	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9296082	(4G10+2x(2x1.5)C)C	22.5	7.5
326612 (15m)					
PVC M.I.	05	MAT9295083	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9850263	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9296083	(4G10+2x(2x1.5)C)C	22.5	7.5
326613 (20m)					
PVC M.I.	05	MAT9295084	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9850264	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9296084	(4G10+2x(2x1.5)C)C	22.5	7.5
326614 (25m)					
PVC M.I.	05	MAT9295085	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9850265	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9296085	(4G10+2x(2x1.5)C)C	22.5	7.5
326615 (30m)					
PVC M.I.	05	MAT9295086	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9850266	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9296086	(4G10+2x(2x1.5)C)C	22.5	7.5
326616 (35m)					
PVC M.I.	05	MAT9295087	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9850267	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9296087	(4G10+2x(2x1.5)C)C	22.5	7.5
326617 (40m)					
PVC M.I.	05	MAT9295088	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9850268	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9296088	(4G10+2x(2x1.5)C)C	22.5	7.5

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Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables					
50 A Extension cable					
326609 (5m) (ext.)					
PVC M.I.	05	MAT9297080	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9850269	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9298080	(4G10+2x(2x1.5)C)C	22.5	7.5
Baumüller Resolver cables					
SRS/SRM50 & SKS/SKM36 Basic cable					
239540 (5m)					
PVC	08	MAT9290003	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940203	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840203	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291003	(5x(2x0.14)+2x0.5)C	8.5	6.8
239541 (8m)					
PVC	08	MAT9290005	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940205	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840205	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291005	(5x(2x0.14)+2x0.5)C	8.5	6.8
239542 (10m)					
PVC	08	MAT9290006	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940206	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840206	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291006	(5x(2x0.14)+2x0.5)C	8.5	6.8
239543 (15m)					
PVC	08	MAT9290007	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940207	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840207	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291007	(5x(2x0.14)+2x0.5)C	8.5	6.8
239544 (20m)					
PUR O.I.	09	MAT9940208	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840208	(5x(2x0.14)+2x0.5)C	9.0	7.5
239544 (20m)					
PVC	08	MAT9290008	(5x(2x0.14)+2x0.5)C	8.0	10
TPE H*	11	MAT9291008	(5x(2x0.14)+2x0.5)C	8.5	6.8
239545 (25m)					
PVC	08	MAT9290009	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940209	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840209	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291009	(5x(2x0.14)+2x0.5)C	8.5	6.8

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Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Resolver cables					
SRS/SRM50 & SKS/SKM36 Basic cable					
239546 (30m)					
PVC	**08**	MAT9290010	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940210	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840210	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291010	(5x(2x0.14)+2x0.5)C	8.5	6.8
239547 (35m)					
PVC	**08**	MAT9290011	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940211	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840211	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291011	(5x(2x0.14)+2x0.5)C	8.5	6.8
240520 (40m)					
PVC	**08**	MAT9290012	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940212	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840212	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291012	(5x(2x0.14)+2x0.5)C	8.5	6.8
240521 (45m)					
PVC	**08**	MAT9290013	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940213	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840213	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291013	(5x(2x0.14)+2x0.5)C	8.5	6.8
240522 (50m)					
PVC	**08**	MAT9290014	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940214	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840214	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291014	(5x(2x0.14)+2x0.5)C	8.5	6.8
242954 (6m)					
PVC	**08**	MAT9290004	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940204	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840204	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291004	(5x(2x0.14)+2x0.5)C	8.5	6.8
243379 (4m)					
PVC	**08**	MAT9290002	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940202	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840202	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291002	(5x(2x0.14)+2x0.5)C	8.5	6.8
244033 (55m)					
PVC	**08**	MAT9290015	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940215	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840215	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291015	(5x(2x0.14)+2x0.5)C	8.5	6.8

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Resolver cables					
245484 (60m)					
PVC	**08**	MAT9290016	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940216	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840216	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291016	(5x(2x0.14)+2x0.5)C	8.5	6.8
246658 (3m)					
PVC	**08**	MAT9290001	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940201	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840201	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291001	(5x(2x0.14)+2x0.5)C	8.5	6.8
SRS/SRM50 & SKS/SKM36 Extension cable					
246658 (3m) (ext.)					
PVC	**08**	MAT9292001	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940217	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840217	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9293001	(5x(2x0.14)+2x0.5)C	8.5	6.8
Baumüller Pulse encoder cables					
Pulse encoder Basic cable					
198962 (3m)					
PVC	**08**	MAT9290020	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940218	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840218	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291020	(5x(2x0.14)+2x0.5)C	8.5	6.8
198963 (5m)					
PVC	**08**	MAT9290021	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940219	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840219	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291021	(5x(2x0.14)+2x0.5)C	8.5	6.8
198964 (8m)					
PVC	**08**	MAT9290022	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940220	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840220	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291022	(5x(2x0.14)+2x0.5)C	8.5	6.8
198965 (10m)					
PVC	**08**	MAT9290023	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940221	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840221	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291023	(5x(2x0.14)+2x0.5)C	8.5	6.8

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Harnessed drive cables | Baumüller PVC/PUR/TPE

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Pulse encoder cables					
Pulse encoder Basic cable					
198966 (15m)					
PVC	08	MAT9290024	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940222	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840222	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291024	(5x(2x0.14)+2x0.5)C	8.5	6.8
198967 (20m)					
PVC	08	MAT9290025	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940223	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840223	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291025	(5x(2x0.14)+2x0.5)C	8.5	6.8
198968 (25m)					
PVC	08	MAT9290026	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940224	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840224	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291026	(5x(2x0.14)+2x0.5)C	8.5	6.8
198969 (30m)					
PVC	08	MAT9290027	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940225	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840225	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291027	(5x(2x0.14)+2x0.5)C	8.5	6.8
208829 (40m)					
PVC	08	MAT9290029	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940227	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840227	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291029	(5x(2x0.14)+2x0.5)C	8.5	6.8
225360 (35m)					
PVC	08	MAT9290028	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940226	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840226	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291028	(5x(2x0.14)+2x0.5)C	8.5	6.8
Pulse encoder Extension cable					
198962 (3m) (ext.)					
PUR O.I.	09	MAT9940228	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840228	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9293020	(5x(2x0.14)+2x0.5)C	8.5	6.8
198962 (3m) (ext.)					
PVC	08	MAT9292020	(5x(2x0.14)+2x0.5)C	8.0	10

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Harnessed drive cables | Baumüller PVC/PUR/TPE

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Pulse encoder cables					
ECN1313/EQN1325 Basic cable					
369864 (3m)					
PVC	08	MAT9290031	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940230	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840230	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291031	(5x(2x0.14)+2x0.5)C	8.5	6.8
371494 (20m)					
PVC	08	MAT9290038	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940237	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840237	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291038	(5x(2x0.14)+2x0.5)C	8.5	6.8
378022 (50m)					
PVC	08	MAT9290044	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940243	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840243	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291044	(5x(2x0.14)+2x0.5)C	8.5	6.8
380358 (35m)					
PVC	08	MAT9290041	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940240	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840240	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291041	(5x(2x0.14)+2x0.5)C	8.5	6.8
382005 (45m)					
PVC	08	MAT9290043	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940242	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840242	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291043	(5x(2x0.14)+2x0.5)C	8.5	6.8
389807 (7m)					
PVC	08	MAT9290033	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940232	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840232	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291033	(5x(2x0.14)+2x0.5)C	8.5	6.8
389808 (9m)					
PVC	08	MAT9290035	(5x(2x0.14)+2x0.5)C	8.0	10
TPE H*	11	MAT9291035	(5x(2x0.14)+2x0.5)C	8.5	6.8
389808 (9m)					
PUR O.I.	09	MAT9940234	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840234	(5x(2x0.14)+2x0.5)C	9.0	6.8
391216 (40m)					
PVC	08	MAT9290042	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940241	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840241	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291042	(5x(2x0.14)+2x0.5)C	8.5	6.8

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Harnessed drive cables | Baumüller PVC/PUR/TPE

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Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Pulse encoder cables					
ECN1313/EQN1325 Basic cable					
393889 (2m)					
PVC	08	MAT9290030	(5x(2x0.14)+2x0.5)C	8.0	10
TPE H*	11	MAT9291030	(5x(2x0.14)+2x0.5)C	8.5	6.8
393889 (2m)					
PUR O.I.	09	MAT9940229	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840229	(5x(2x0.14)+2x0.5)C	9.0	7.5
393890 (8m)					
PVC	08	MAT9290034	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940233	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840233	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291034	(5x(2x0.14)+2x0.5)C	8.5	6.8
393891 (10m)					
PVC	08	MAT9290036	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940235	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840235	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291036	(5x(2x0.14)+2x0.5)C	8.5	6.8
393892 (15m)					
PVC	08	MAT9290037	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940236	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840236	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291037	(5x(2x0.14)+2x0.5)C	8.5	6.8
393893 (25m)					
PVC	08	MAT9290039	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940238	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840238	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291039	(5x(2x0.14)+2x0.5)C	8.5	6.8
393894 (30m)					
PVC	08	MAT9290040	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940239	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840239	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291040	(5x(2x0.14)+2x0.5)C	8.5	6.8
394014 (5m)					
PVC	08	MAT9290032	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940231	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840231	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291032	(5x(2x0.14)+2x0.5)C	8.5	6.8

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Harnessed drive cables | Baumüller PVC/PUR/TPE

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Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Pulse encoder cables					
ECN1313/EQN1325 Extension cable					
393889 (2m) (ext.)					
PVC	08	MAT9292030	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840244	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9293030	(5x(2x0.14)+2x0.5)C	8.5	6.8
393889 (2m) (ext.)					
PUR O.I.	09	MAT9940244	(5x(2x0.14)+2x0.5)C	8.0	10

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Harnessed drive cables | Baumüller, SpeedTec PVC/PUR

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Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables, SpeedTec					
15 A Basic cable, SpeedTec					
445872					
PVC O.I.	04	MAT9750260	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295089	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850270	(4G1.5+2x(2x0.75)C)C	12.5	10
PUR M.I.	07	MAT9296089	(4G1.5+2x(2x0.75)C)C	14.5	7.5
445887					
PVC O.I.	04	MAT9750261	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295090	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850271	(4G1.5+2x(2x0.75)C)C	12.5	10
PUR M.I.	07	MAT9296090	(4G1.5+2x(2x0.75)C)C	14.5	7.5
445889					
PVC O.I.	04	MAT9750262	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295091	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850272	(4G1.5+2x(2x0.75)C)C	12.5	10
PUR M.I.	07	MAT9296091	(4G1.5+2x(2x0.75)C)C	14.5	7.5
447675					
PVC O.I.	04	MAT9750263	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295092	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850273	(4G1.5+2x(2x0.75)C)C	12.5	10
PUR M.I.	07	MAT9296092	(4G1.5+2x(2x0.75)C)C	14.5	7.5
447676					
PVC O.I.	04	MAT9750264	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295093	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850274	(4G1.5+2x(2x0.75)C)C	12.5	10
PUR M.I.	07	MAT9296093	(4G1.5+2x(2x0.75)C)C	14.5	7.5
447677					
PVC O.I.	04	MAT9750265	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295094	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850275	(4G1.5+2x(2x0.75)C)C	12.5	10
PUR M.I.	07	MAT9296094	(4G1.5+2x(2x0.75)C)C	14.5	7.5
447678					
PVC O.I.	04	MAT9750266	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295095	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850276	(4G1.5+2x(2x0.75)C)C	12.5	10
PUR M.I.	07	MAT9296095	(4G1.5+2x(2x0.75)C)C	14.5	7.5
447679					
PVC O.I.	04	MAT9750267	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295096	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850277	(4G1.5+2x(2x0.75)C)C	12.5	10
PUR M.I.	07	MAT9296096	(4G1.5+2x(2x0.75)C)C	14.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller, SpeedTec PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables, SpeedTec					
447680					
PVC O.I.	04	MAT9750268	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295097	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850278	(4G1.5+2x(2x0.75)C)C	12.5	10
PUR M.I.	07	MAT9296097	(4G1.5+2x(2x0.75)C)C	14.5	7.5
447681					
PVC O.I.	04	MAT9750269	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295098	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850279	(4G1.5+2x(2x0.75)C)C	12.5	10
PUR M.I.	07	MAT9296098	(4G1.5+2x(2x0.75)C)C	14.5	7.5
447682					
PVC O.I.	04	MAT9750270	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295099	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850280	(4G1.5+2x(2x0.75)C)C	12.5	10
PUR M.I.	07	MAT9296099	(4G1.5+2x(2x0.75)C)C	14.5	7.5
447683					
PVC O.I.	04	MAT9750271	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295100	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850281	(4G1.5+2x(2x0.75)C)C	12.5	10
PUR M.I.	07	MAT9296100	(4G1.5+2x(2x0.75)C)C	14.5	7.5
15 A Extension cable, SpeedTec					
445872					
PVC O.I.	04	MAT9750272	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9297085	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850282	(4G1.5+2x(2x0.75)C)C	12.5	10
PUR M.I.	07	MAT9298085	(4G1.5+2x(2x0.75)C)C	14.5	7.5
20 A Basic cable, SpeedTec					
447684					
PVC O.I.	04	MAT9750273	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295101	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850283	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296101	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447687					
PVC O.I.	04	MAT9750274	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295102	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850284	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296102	(4G2.5+2x(2x1.5)C)C	16.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller, SpeedTec PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables, SpeedTec					
20 A Basic cable, SpeedTec					
447688					
PVC O.I.	04	MAT9750275	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295103	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850285	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296103	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447692					
PVC O.I.	04	MAT9750276	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295104	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850286	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296104	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447698					
PVC O.I.	04	MAT9750277	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295105	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850287	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296105	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447852					
PVC O.I.	04	MAT9750278	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295106	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850288	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296106	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447853					
PVC O.I.	04	MAT9750279	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295107	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850289	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296107	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447854					
PVC O.I.	04	MAT9750280	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295108	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850290	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296108	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447855					
PVC O.I.	04	MAT9750281	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295109	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850291	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296109	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447856					
PVC O.I.	04	MAT9750282	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295110	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850292	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296110	(4G2.5+2x(2x1.5)C)C	16.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller, SpeedTec PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables, SpeedTec					
447857					
PVC O.I.	04	MAT9750283	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295111	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850293	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296111	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447858					
PVC O.I.	04	MAT9750284	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295112	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850294	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296112	(4G2.5+2x(2x1.5)C)C	16.0	7.5
20 A Extension cable, SpeedTec					
447684					
PVC O.I.	04	MAT9750285	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9297086	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850295	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9298086	(4G2.5+2x(2x1.5)C)C	16.0	7.5
21 A Basic cable, SpeedTec					
447686					
PVC O.I.	04	MAT9750286	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295113	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850296	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296113	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447689					
PVC O.I.	04	MAT9750287	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295114	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850297	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296114	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447690					
PVC O.I.	04	MAT9750288	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295115	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850298	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296115	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447691					
PVC O.I.	04	MAT9750289	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295116	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850299	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296116	(4G2.5+2x(2x1.5)C)C	16.0	7.5

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Harnessed drive cables | Baumüller, SpeedTec PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables, SpeedTec					
21 A Basic cable, SpeedTec					
447693					
PVC O.I.	04	MAT9750290	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295117	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850300	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296117	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447694					
PVC O.I.	04	MAT9750291	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295118	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9880201	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296118	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447695					
PVC O.I.	04	MAT9750292	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295119	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9880202	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296119	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447696					
PVC O.I.	04	MAT9750293	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295120	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9880203	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296120	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447697					
PVC O.I.	04	MAT9750294	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295121	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9880204	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296121	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447699					
PVC O.I.	04	MAT9750295	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295122	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9880205	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296122	(4G2.5+2x(2x1.5)C)C	16.0	7.5
448060					
PVC O.I.	04	MAT9750296	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295123	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9880206	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296123	(4G2.5+2x(2x1.5)C)C	16.0	7.5
448061					
PVC O.I.	04	MAT9750297	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295124	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9880207	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296124	(4G2.5+2x(2x1.5)C)C	16.0	7.5

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Harnessed drive cables | Baumüller, SpeedTec PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables, SpeedTec					
21 A Extension cable, SpeedTec					
447686					
PVC O.I.	04	MAT9750298	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9297081	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9880208	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9298081	(4G2.5+2x(2x1.5)C)C	16.0	7.5
28 A Basic cable, SpeedTec					
448063					
PVC O.I.	04	MAT9750299	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295125	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9880209	(4G4.0+2x(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9296125	(4G4.0+2x(2x1.5)C)C	17.5	7.5
448064					
PVC O.I.	04	MAT9750300	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295126	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9880210	(4G4.0+2x(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9296126	(4G4.0+2x(2x1.5)C)C	17.5	7.5
448065					
PVC O.I.	04	MAT9780201	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295127	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9880211	(4G4.0+2x(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9296127	(4G4.0+2x(2x1.5)C)C	17.5	7.5
448066					
PVC O.I.	04	MAT9780202	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295128	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9880212	(4G4.0+2x(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9296128	(4G4.0+2x(2x1.5)C)C	17.5	7.5
448067					
PVC O.I.	04	MAT9780203	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295129	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9880213	(4G4.0+2x(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9296129	(4G4.0+2x(2x1.5)C)C	17.5	7.5
448069					
PVC O.I.	04	MAT9780204	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295130	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9880214	(4G4.0+2x(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9296130	(4G4.0+2x(2x1.5)C)C	17.5	7.5

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igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller, SpeedTec
PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables, SpeedTec					
28 A Basic cable, SpeedTec					
448070					
PVC O.I.	04	MAT9780205	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295131	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9880215	(4G4.0+2x(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9296131	(4G4.0+2x(2x1.5)C)C	17.5	7.5
448071					
PVC O.I.	04	MAT9780206	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295132	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9880216	(4G4.0+2x(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9296132	(4G4.0+2x(2x1.5)C)C	17.5	7.5
448072					
PVC O.I.	04	MAT9780207	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295133	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9880217	(4G4.0+2x(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9296133	(4G4.0+2x(2x1.5)C)C	17.5	7.5
28 A Extension cable, SpeedTec					
448063					
PVC O.I.	04	MAT9780208	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9297082	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9880218	(4G4.0+2x(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9298082	(4G4.0+2x(2x1.5)C)C	17.5	7.5
36 A Basic cable, SpeedTec					
448080					
PVC O.I.	04	MAT9780209	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295134	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9880219	(4G6.0+2x(2x1.5)C)C	18.5	10
PUR M.I.	07	MAT9296151	(4G6.0+2x(2x1.5)C)C	19.5	7.5
448118					
PVC O.I.	04	MAT9780210	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295135	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9880220	(4G6.0+2x(2x1.5)C)C	18.5	10
PUR M.I.	07	MAT9296134	(4G6.0+2x(2x1.5)C)C	19.5	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller, SpeedTec
PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables, SpeedTec					
448119					
PVC O.I.	04	MAT9780211	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295136	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9880221	(4G6.0+2x(2x1.5)C)C	18.5	10
PUR M.I.	07	MAT9296135	(4G6.0+2x(2x1.5)C)C	19.5	7.5
448120					
PVC O.I.	04	MAT9780212	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295137	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9880222	(4G6.0+2x(2x1.5)C)C	18.5	10
PUR M.I.	07	MAT9296136	(4G6.0+2x(2x1.5)C)C	19.5	7.5
448121					
PVC O.I.	04	MAT9780213	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295138	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9880223	(4G6.0+2x(2x1.5)C)C	18.5	10
PUR M.I.	07	MAT9296137	(4G6.0+2x(2x1.5)C)C	19.5	7.5
448122					
PVC O.I.	04	MAT9780214	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295139	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9880224	(4G6.0+2x(2x1.5)C)C	18.5	10
PUR M.I.	07	MAT9296138	(4G6.0+2x(2x1.5)C)C	19.5	7.5
448123					
PVC O.I.	04	MAT9780215	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295140	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9880225	(4G6.0+2x(2x1.5)C)C	18.5	10
PUR M.I.	07	MAT9296139	(4G6.0+2x(2x1.5)C)C	19.5	7.5
448124					
PVC O.I.	04	MAT9780216	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295141	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9880226	(4G6.0+2x(2x1.5)C)C	18.5	10
PUR M.I.	07	MAT9296140	(4G6.0+2x(2x1.5)C)C	19.5	7.5
448125					
PVC O.I.	04	MAT9780217	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295142	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9880227	(4G6.0+2x(2x1.5)C)C	18.5	10
PUR M.I.	07	MAT9296141	(4G6.0+2x(2x1.5)C)C	19.5	7.5
36 A Extension cable, SpeedTec					
448080					
PVC O.I.	04	MAT9780218	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9297083	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9880228	(4G6.0+2x(2x1.5)C)C	18.5	10
PUR M.I.	07	MAT9298083	(4G6.0+2x(2x1.5)C)C	19.5	7.5

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Harnessed drive cables | Baumüller, SpeedTec
PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables, SpeedTec					
50 A Basic cable, SpeedTec					
448129					
PVC M.I.	**05**	MAT9295143	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	**06**	MAT9880229	(4G10+2x(2x1.5)C)C	21.0	10
PUR M.I.	**07**	MAT9296142	(4G10+2x(2x1.5)C)C	22.5	7.5
448131					
PVC M.I.	**05**	MAT9295144	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	**06**	MAT9880230	(4G10+2x(2x1.5)C)C	21.0	10
PUR M.I.	**07**	MAT9296143	(4G10+2x(2x1.5)C)C	22.5	7.5
448132					
PVC M.I.	**05**	MAT9295145	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	**06**	MAT9880231	(4G10+2x(2x1.5)C)C	21.0	10
PUR M.I.	**07**	MAT9296144	(4G10+2x(2x1.5)C)C	22.5	7.5
448133					
PVC M.I.	**05**	MAT9295146	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	**06**	MAT9880232	(4G10+2x(2x1.5)C)C	21.0	10
PUR M.I.	**07**	MAT9296145	(4G10+2x(2x1.5)C)C	22.5	7.5
448134					
PVC M.I.	**05**	MAT9295147	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	**06**	MAT9880233	(4G10+2x(2x1.5)C)C	21.0	10
PUR M.I.	**07**	MAT9296146	(4G10+2x(2x1.5)C)C	22.5	7.5
448135					
PVC M.I.	**05**	MAT9295148	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	**06**	MAT9880234	(4G10+2x(2x1.5)C)C	21.0	10
PUR M.I.	**07**	MAT9296147	(4G10+2x(2x1.5)C)C	22.5	7.5
448136					
PVC M.I.	**05**	MAT9295149	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	**06**	MAT9880235	(4G10+2x(2x1.5)C)C	21.0	10
PUR M.I.	**07**	MAT9296148	(4G10+2x(2x1.5)C)C	22.5	7.5
448137					
PVC M.I.	**05**	MAT9295150	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	**06**	MAT9880236	(4G10+2x(2x1.5)C)C	21.0	10
PUR M.I.	**07**	MAT9296149	(4G10+2x(2x1.5)C)C	22.5	7.5
448138					
PVC M.I.	**05**	MAT9295151	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	**06**	MAT9880237	(4G10+2x(2x1.5)C)C	21.0	10
PUR M.I.	**07**	MAT9296150	(4G10+2x(2x1.5)C)C	22.5	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller, SpeedTec
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables, SpeedTec					
50 A Extension cable, SpeedTec					
448129					
PVC M.I.	**05**	MAT9297084	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	**06**	MAT9880238	(4G10+2x(2x1.5)C)C	21.0	10
PUR M.I.	**07**	MAT9298084	(4G10+2x(2x1.5)C)C	22.5	7.5
Baumüller Resolver cables, SpeedTec					
SRS/SRM50 & SKS/SKM36 Basic cable, SpeedTec					
448944					
PVC	**08**	MAT9290060	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940260	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840260	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291060	(5x(2x0.14)+2x0.5)C	8.5	6.8
448945					
PVC	**08**	MAT9290057	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940257	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840257	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291057	(5x(2x0.14)+2x0.5)C	8.5	6.8
448946					
PVC	**08**	MAT9290056	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940256	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840256	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291056	(5x(2x0.14)+2x0.5)C	8.5	6.8
448948					
PVC	**08**	MAT9290045	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940245	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840245	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291045	(5x(2x0.14)+2x0.5)C	8.5	6.8
448949					
PVC	**08**	MAT9290046	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940246	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840246	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291046	(5x(2x0.14)+2x0.5)C	8.5	6.8
448956					
PVC	**08**	MAT9290047	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940247	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840247	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291047	(5x(2x0.14)+2x0.5)C	8.5	6.8

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Harnessed drive cables | Baumüller, SpeedTec
PVC/PUR/TPE

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Resolver cables, SpeedTec					
SRS/SRM50 & SKS/SKM36 Basic cable, SpeedTec					
448962					
PVC	08	MAT9290048	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940248	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840248	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291048	(5x(2x0.14)+2x0.5)C	8.5	6.8
448967					
PVC	08	MAT9290049	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940249	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840249	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291049	(5x(2x0.14)+2x0.5)C	8.5	6.8
448970					
PVC	08	MAT9290050	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940250	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840250	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291050	(5x(2x0.14)+2x0.5)C	8.5	6.8
448971					
PVC	08	MAT9290051	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940251	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840251	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291051	(5x(2x0.14)+2x0.5)C	8.5	6.8
448973					
PVC	08	MAT9290052	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940252	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840252	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291052	(5x(2x0.14)+2x0.5)C	8.5	6.8
448976					
PVC	08	MAT9290053	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940253	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840253	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291053	(5x(2x0.14)+2x0.5)C	8.5	6.8
448978					
PVC	08	MAT9290054	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940254	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840254	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291054	(5x(2x0.14)+2x0.5)C	8.5	6.8

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Harnessed drive cables | Baumüller, SpeedTec
PVC/PUR/TPE

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

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Baumüller Resolver cables, SpeedTec					
448980					
PVC	08	MAT9290055	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940255	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840255	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291055	(5x(2x0.14)+2x0.5)C	8.5	6.8
448981					
PVC	08	MAT9290058	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940258	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840258	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291058	(5x(2x0.14)+2x0.5)C	8.5	6.8
448982					
PVC	08	MAT9290059	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940259	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840259	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291059	(5x(2x0.14)+2x0.5)C	8.5	6.8
SRS/SRM50 & SKS/SKM36 Extension cable, SpeedTec					
448944					
PVC	08	MAT9292040	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940261	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840261	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9293040	(5x(2x0.14)+2x0.5)C	8.5	6.8
Baumüller Pulse encoder cables, SpeedTec					
ECN1313/EQN1325 Basic cable, SpeedTec					
448816					
PVC	08	MAT9290069	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940270	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840270	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291069	(5x(2x0.14)+2x0.5)C	8.5	6.8
448817					
PVC	08	MAT9290061	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940262	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840262	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291061	(5x(2x0.14)+2x0.5)C	8.5	6.8
448818					
PVC	08	MAT9290075	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940276	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840276	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291075	(5x(2x0.14)+2x0.5)C	8.5	6.8

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller, SpeedTec
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Pulse encoder cables, SpeedTec					
ECN1313/EQN1325 Basic cable, SpeedTec					
448819					
PVC	**08**	MAT9290066	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940267	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840267	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291066	(5x(2x0.14)+2x0.5)C	8.5	6.8
448820					
PVC	**08**	MAT9290070	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940271	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840271	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291070	(5x(2x0.14)+2x0.5)C	8.5	6.8
448821					
PVC	**08**	MAT9290067	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940268	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840268	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291067	(5x(2x0.14)+2x0.5)C	8.5	6.8
448822					
PVC	**08**	MAT9290071	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940272	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840272	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291071	(5x(2x0.14)+2x0.5)C	8.5	6.8
448823					
PVC	**08**	MAT9290072	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940273	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840273	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291072	(5x(2x0.14)+2x0.5)C	8.5	6.8
448824					
PVC	**08**	MAT9290062	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940263	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840263	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291062	(5x(2x0.14)+2x0.5)C	8.5	6.8
448826					
PVC	**08**	MAT9290073	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940274	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840274	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291073	(5x(2x0.14)+2x0.5)C	8.5	6.8

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller, SpeedTec
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Pulse encoder cables, SpeedTec					
448827					
PVC	**08**	MAT9290064	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940265	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840265	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291064	(5x(2x0.14)+2x0.5)C	8.5	6.8
448828					
PVC	**08**	MAT9290068	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940269	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840269	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291068	(5x(2x0.14)+2x0.5)C	8.5	6.8
448830					
PVC	**08**	MAT9290065	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940266	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840266	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291065	(5x(2x0.14)+2x0.5)C	8.5	6.8
448832					
PVC	**08**	MAT9290063	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940264	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840264	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291063	(5x(2x0.14)+2x0.5)C	8.5	6.8
ECN1313/EQN1325 Extension cable, SpeedTec					
448816					
PVC	**08**	MAT9292050	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940277	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840277	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9293050	(5x(2x0.14)+2x0.5)C	8.5	6.8

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Beckhoff
PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Beckhoff Motor cables					
Basic cable					
ZK4500-8015-xxx					
PUR O.I.	06	MAT9850314	(4G4.0+(2x1.0)C+(2xAWG22)C)C	16.0	10
ZK4500-8024-xxx					
PVC O.I.	04	MAT9750312	(4G2.5+(2x1.0)C+(2xAWG22)C)C	15.0	10
PUR O.I.	06	MAT9850312	(4G2.5+(2x1.0)C+(2xAWG22)C)C	15.0	10
Basic cable					
ZK4501-8024-xxx					
PVC O.I.	04	MAT9750313	(4G2.5+(2x1.0)C+(2xAWG22)C)C	15.0	10
PUR O.I.	06	MAT9850313	(4G2.5+(2x1.0)C+(2xAWG22)C)C	15.0	10
Basic cable					
ZK4530-8110-xxxx					
PVC	14	MAT9381006	(4x(2x0.25))C	7.5	7.5
PUR	15	MAT9382006	(4x(2x0.25))C	7.5	7.5
Extension cable					
ZK4704-0411-xxxx					
PVC M.I.	05	MAT9371008	(4G0.75+(2x0.5)C)C	11.0	7.5
PUR M.I.	07	MAT9750316	(4G0.75+(2x0.5)C)C	11.5	7.5
Beckhoff Servo cables					
Basic cable					
ZK4000-2111-xxxx					
PVC O.I.	04	MAT9750305	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9371005	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850305	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9372005	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
ZK4000-2112-xxxx					
PVC O.I.	04	MAT9750306	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9371006	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9850306	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9372006	(4G2.5+(2x1.5)C)C	14.5	7.5

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igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Beckhoff
PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Beckhoff Servo cables					
Basic cable					
ZK4000-2711-xxxx					
PVC O.I.	04	MAT9750307	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9371007	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850307	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9372007	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
ZK4500-0023-xxxx					
PVC O.I.	04	MAT9750301	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9371001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850301	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9372001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
Basic cable					
ZK4500-0024-xxxx					
PVC O.I.	04	MAT9750302	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9371002	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850302	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9372002	(4G2.5+2x(2x1.5)C)C	16.0	7.5
Extension cable					
ZK4501-0023-xxxx					
PVC O.I.	04	MAT9750303	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9371003	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850303	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9372003	(4G1.5+2x(2x0.75)C)C	14.5	7.5
Extension cable					
ZK4501-0024-xxxx					
PVC O.I.	04	MAT9750304	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9371004	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850304	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9372004	(4G2.5+2x(2x1.5)C)C	16.0	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Beckhoff
PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Beckhoff Hybrid servo cables					
Basic cable					
ZK4500-8022-xxxx					
PVC O.I.	26	MAT9750308	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
PUR O.I.	27	MAT9850308	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
Basic cable					
ZK4500-8023-xxxx					
PVC O.I.	26	MAT9750309	(4G1.5+(2x0.75)C+(2xAWG22)C)C	13.0	10
PUR O.I.	27	MAT9850309	(4G1.5+(2x0.75)C+(2xAWG22)C)C	13.0	10
Basic cable					
ZK4704-0421-xxxx					
PVC O.I.	26	MAT9750315	(4G0.75+(2x0.34)C+(2xAWG22)C)C	12.0	10
PUR O.I.	27	MAT9850315	(4G0.75+(2x0.34)C+(2xAWG22)C)C	12.0	10
Extension cable					
ZK4501-8022-xxxx					
PVC O.I.	26	MAT9750310	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
PUR O.I.	27	MAT9850310	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
Extension cable					
ZK4501-8023-xxxx					
PVC O.I.	26	MAT9750311	(4G1.5+(2x0.75)C+(2xAWG22)C)C	13.0	10
PUR O.I.	27	MAT9850311	(4G1.5+(2x0.75)C+(2xAWG22)C)C	13.0	10
Beckhoff Encoder cables					
Basic cable					
ZK4000-2410-xxxx					
PVC	14	MAT9381005	(8x(2x0.25))C	10.5	7.5
PUR	15	MAT9382005	(8x(2x0.25))C	10.5	7.5
Basic cable					
ZK4000-2610-xxxx					
PVC	14	MAT9381004	(8x(2x0.25))C	10.5	7.5
PUR	15	MAT9382004	(8x(2x0.25))C	10.5	7.5

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Harnessed drive cables | Beckhoff
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Beckhoff Encoder cables					
Basic cable					
ZK4510-0020-xxxx					
PVC	14	MAT9381001	(8x(2x0.25))C	10.5	7.5
PUR	15	MAT9382001	(8x(2x0.25))C	10.5	7.5
Basic cable					
ZK4520-0020-xxxx					
PVC	14	MAT9381002	(6x(2x0.25))C	9.0	7.5
PUR	15	MAT9382002	(6x(2x0.25))C	9.0	7.5
Extension cable					
ZK4511-0020-xxxx					
PVC	14	MAT9381003	(8x(2x0.25))C	10.5	7.5
PUR	15	MAT9382003	(8x(2x0.25))C	10.5	7.5
Beckhoff Thermal protection cables					
Basic cable					
ZK4000-2510-xxxx					
PVC	14	MAT9386001	(2x0.25)C	5.0	7.5
TPE H*	11	MAT9387001	(4x0.34)C	6.0	6.8
Beckhoff Resolver cables					
Basic cable					
ZK4000-2210-xxxx					
PVC	14	MAT9383003	(4x(2x0.25))C	7.5	7.5
PUR	15	MAT9384003	(4x(2x0.25))C	7.5	7.5
TPE H*	16	MAT9920303	(4x(2x0.25))C	8.5	6.8
Basic cable					
ZK4530-0010-xxxx					
PVC	14	MAT9383001	(4x(2x0.25))C	7.5	7.5
PUR	15	MAT9384001	(4x(2x0.25))C	7.5	7.5
TPE H*	16	MAT9920301	(4x(2x0.25))C	8.5	6.8

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Beckhoff
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Beckhoff Resolver cables					
Basic cable					
ZK4530-8010-xxxx					
PVC	**14**	MAT9383005	(4x(2x0.25))C	7.5	7.5
PUR	**15**	MAT9384005	(4x(2x0.25))C	7.5	7.5
TPE H*	**16**	MAT9920306	(4x(2x0.25))C	8.5	6.8
Extension cable					
ZK4531-0020-xxxx					
PVC	**14**	MAT9383002	(4x(2x0.25))C	7.5	7.5
PUR	**15**	MAT9384002	(4x(2x0.25))C	7.5	7.5
TPE H*	**16**	MAT9920302	(4x(2x0.25))C	8.5	6.8
Extension cable					
ZK4724-0410-xxxx					
PVC	**14**	MAT9383004	(3x(2x0.25))C	7.0	7.5
PUR	**15**	MAT9384004	(3x(2x0.25))C	7.0	7.5
TPE H*	**16**	MAT9920305	(3x(2x0.25))C	8.0	6.8
Beckhoff Network cables EtherCAT					
Basic cable					
ZK1090-9191-xxxx					
PUR	**29**	MAT9385003	(4x(2x0.15))C	7.5	12.5
TPE	**12**	MAT9385002	(4x(2x0.15))C	8.5	10

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igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Berger Lahr
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Berger Lahr Servo cables					
Basic cable					
VW3M5101Rxxx					
PVC O.I.	**04**	MAT94503001	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	**05**	MAT94502001	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	**06**	MAT94501001	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	**07**	MAT94500001	(4G1.5+(2x1.5)C)	13.0	7.5
VW3M5102Rxxx					
PVC O.I.	**04**	MAT94503002	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	**05**	MAT94502003	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	**06**	MAT94501003	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	**07**	MAT94500003	(4G2.5+(2x1.5)C)C	14.5	7.5
Berger Lahr Resolver cables					
Basic cable					
VW3M8101Rxxx					
PVC	**08**	MAT94603001	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	**10**	MAT94601001	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	**11**	MAT94600001	(4x(2x0.34)+4x0.5)C	10.0	6.8

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Bosch Rexroth PVC/PUR

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Power cables					
Basic cable					
IKG0331					
PVC M.I.	05	MAT9190014	(4G0.75+(2x0.5)C)C	11.0	7.5
PUR M.I.	07	MAT9090014	(4G0.75+(2x0.5)C)C	11.5	7.5
IKG4008					
PVC M.I.	05	MAT9190064	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851315	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9090064	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKG4009					
PVC M.I.	05	MAT9190001	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851316	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9090001	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKG4017					
PVC M.I.	05	MAT9190002	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851317	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9090002	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKG4018					
PVC M.I.	05	MAT9190003	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851318	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9090003	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKG4020					
PVC M.I.	05	MAT9190004	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851319	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9090004	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKG4055					
PVC O.I.	04	MAT9751309	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9190005	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851320	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9090005	(4G1.5+2x(2x0.75)C)C	14.5	7.5
IKG4060					
PVC O.I.	04	MAT9751310	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9190006	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851321	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9090006	(4G1.5+2x(2x0.75)C)C	14.5	7.5
IKG4067					
PVC O.I.	04	MAT9751311	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9190007	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851322	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9090007	(4G2.5+2x(2x1.5)C)C	16.0	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Bosch Rexroth PVC/PUR

EPLAN macros available online ▶ Page 582/583

Bosch Rexroth

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Power cables					
IKG4070					
PVC O.I.	04	MAT9751312	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9190008	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851323	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9090008	(4G2.5+2x(2x1.5)C)C	16.0	7.5
IKG4072					
PVC O.I.	04	MAT9751313	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9190068	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851324	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9090068	(4G2.5+2x(2x1.5)C)C	16.0	7.5
IKG4087					
PVC O.I.	04	MAT9751314	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9190009	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851325	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9090009	(4G4.0+2x(2x1.5)C)C	17.5	7.5
IKG4090					
PVC O.I.	04	MAT9751315	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9190010	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851326	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9090010	(4G4.0+2x(2x1.5)C)C	17.5	7.5
IKG4100					
PVC M.I.	05	MAT9190020	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851327	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9090020	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKG4103					
PVC O.I.	04	MAT9751316	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9190076	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851328	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9090076	(4G6.0+2x(2x1.5)C)C	19.5	7.5
IKG4107					
PVC O.I.	04	MAT9751317	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9190011	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851329	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9090011	(4G6.0+2x(2x1.5)C)C	19.5	7.5
IKG4118					
PVC O.I.	04	MAT9751318	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9190070	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851330	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9090070	(4G6.0+2x(2x1.5)C)C	19.5	7.5

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Harnessed drive cables | Bosch Rexroth PVC/PUR

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Power cables					
Basic cable					
IKG4119					
PVC M.I.	05	MAT9190027	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851331	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9090027	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKG4119					
PVC M.I.	05	MAT9190027	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851331	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9090027	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKG4147					
PVC O.I.	04	MAT9751319	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9190038	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851332	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9090038	(4G6.0+2x(2x1.5)C)C	19.5	7.5
IKG4150					
PVC O.I.	04	MAT9751320	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9190012	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851333	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9090012	(4G6.0+2x(2x1.5)C)C	19.5	7.5
IKG4155					
PVC O.I.	04	MAT9751321	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9190028	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851334	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9090028	(4G6.0+2x(2x1.5)C)C	19.5	7.5
IKG4164					
PVC M.I.	05	MAT9190035	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9851335	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9090035	(4G10+2x(2x1.5)C)C	22.5	7.5
IKG4167					
PVC M.I.	05	MAT9190013	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9851336	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9090013	(4G10+2x(2x1.5)C)C	22.5	7.5
IKG4172					
PVC M.I.	05	MAT9190069	(4G16+2x(2x1.5)C)C	26.5	7.5
PUR O.I.	06	MAT9851337	(4G16+2x(2x1.5)C)C	26.0	10
PUR M.I.	07	MAT9090069	(4G16+2x(2x1.5)C)C	26.0	7.5
IKG4173					
PVC M.I.	05	MAT9190072	(4G25+2x(2x1.5)C)C	31.0	7.5
PUR O.I.	06	MAT9851338	(4G25+2x(2x1.5)C)C	28.5	10
PUR M.I.	07	MAT9090072	(4G25+2x(2x1.5)C)C	31.0	7.5

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Harnessed drive cables | Bosch Rexroth PVC/PUR

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Power cables					
IKG4186					
PVC M.I.	05	MAT9190021	(4G16+2x(2x1.5)C)C	26.5	7.5
PUR O.I.	06	MAT9851339	(4G16+2x(2x1.5)C)C	26.0	10
PUR M.I.	07	MAT9090021	(4G16+2x(2x1.5)C)C	26.0	7.5
IKG4200					
PVC M.I.	05	MAT9190032	(4G16+2x(2x1.5)C)C	26.5	7.5
PUR O.I.	06	MAT9851340	(4G16+2x(2x1.5)C)C	26.0	10
PUR M.I.	07	MAT9090032	(4G16+2x(2x1.5)C)C	26.0	7.5
IKG4204					
PVC M.I.	05	MAT9190052	(4G25+2x(2x1.5)C)C	31.0	7.5
PUR O.I.	06	MAT9851341	(4G25+2x(2x1.5)C)C	28.5	10
PUR M.I.	07	MAT9090052	(4G25+2x(2x1.5)C)C	31.0	7.5
IKL0001					
PVC M.I.	05	MAT9190022	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851301	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9090022	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKL0002					
PVC M.I.	05	MAT9751354	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851385	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9851384	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKL0006					
PVC M.I.	05	MAT9190067	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851302	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9090067	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKL0011					
PVC M.I.	05	MAT9190023	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851303	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9090023	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKL0012					
PVC M.I.	05	MAT9751355	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851387	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9851386	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKL0021					
PVC O.I.	04	MAT9751301	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9190024	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851304	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9090024	(4G1.5+2x(2x0.75)C)C	14.5	7.5
IKL0022					
PVC O.I.	04	MAT9751357	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9751356	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851389	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9851388	(4G1.5+2x(2x0.75)C)C	14.5	7.5

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Harnessed drive cables | Bosch Rexroth PVC/PUR

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Power cables					
Basic cable					
IKL0041					
PVC O.I.	04	MAT9751302	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9190017	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851305	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9090017	(4G2.5+2x(2x1.5)C)C	16.0	7.5
IKL0042					
PVC O.I.	04	MAT9751303	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9190077	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851306	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9090077	(4G2.5+2x(2x1.5)C)C	16.0	7.5
IKL0061					
PVC O.I.	04	MAT9751304	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9190018	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851307	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9090018	(4G4.0+2x(2x1.5)C)C	17.5	7.5
IKL0081					
PVC O.I.	04	MAT9751305	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9190030	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851308	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9090030	(4G6.0+2x(2x1.5)C)C	19.5	7.5
IKL0101					
PVC O.I.	04	MAT9751306	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9190025	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851309	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9090025	(4G6.0+2x(2x1.5)C)C	19.5	7.5
IKL0121					
PVC M.I.	05	MAT9190019	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9851310	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9090019	(4G10+2x(2x1.5)C)C	22.5	7.5
IKL0161					
PVC M.I.	05	MAT9190063	(4G25+2x(2x1.5)C)C	31.0	7.5
PUR O.I.	06	MAT9851311	(4G25+2x(2x1.5)C)C	28.5	10
PUR M.I.	07	MAT9090063	(4G25+2x(2x1.5)C)C	31.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Power cables					
Basic cable					
RKL0006					
PVC M.I.	05	MAT9751359	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851393	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9851392	(4G1.0+2x(2x0.75)C)	13.5	7.5
RKL0013					
PVC M.I.	05	MAT9751360	(4G0.75+(2x0.5)C)C	11.0	7.5
PUR M.I.	07	MAT9851394	(4G0.75+(2x0.5)C)C	11.5	7.5
RKL0014					
PVC M.I.	05	MAT9751361	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851396	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9851395	(4G1.0+2x(2x0.75)C)	13.5	7.5
RKL0019					
PVC O.I.	04	MAT9751363	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9751362	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851398	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9851397	(4G1.5+2x(2x0.75)C)C	14.5	7.5
RKL0053					
PVC M.I.	05	MAT9751364	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT98513100	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9851399	(4G1.0+2x(2x0.75)C)	13.5	7.5
RKL0054					
PVC O.I.	04	MAT9751366	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9751365	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT98513102	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT98513101	(4G1.5+2x(2x0.75)C)C	14.5	7.5
RKL4300					
PVC O.I.	04	MAT9751326	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9190071	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851349	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9090071	(4G1.5+2x(2x0.75)C)C	14.5	7.5
RKL4301					
PVC O.I.	04	MAT9751327	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9190037	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851350	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9090037	(4G1.5+2x(2x0.75)C)C	14.5	7.5
RKL4302					
PVC M.I.	05	MAT9190026	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851351	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9090026	(4G1.0+2x(2x0.75)C)	13.5	7.5

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Power cables					
Basic cable					
RKL4303					
PVC M.I.	05	MAT9190029	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851352	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9090029	(4G1.0+2x(2x0.75)C)	13.5	7.5
RKL4306					
PVC O.I.	04	MAT9751328	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9190040	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851353	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9090040	(4G1.5+2x(2x0.75)C)C	14.5	7.5
RKL4307					
PVC O.I.	04	MAT9751329	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9190041	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851354	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9090041	(4G1.5+2x(2x0.75)C)C	14.5	7.5
RKL4308					
PVC O.I.	04	MAT9751330	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9190033	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851355	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9090033	(4G2.5+2x(2x1.5)C)C	16.0	7.5
RKL4309					
PVC O.I.	04	MAT9751331	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9190042	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851356	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9090042	(4G2.5+2x(2x1.5)C)C	16.0	7.5
RKL4310					
PVC O.I.	04	MAT9751332	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9190043	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851357	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9090043	(4G2.5+2x(2x1.5)C)C	16.0	7.5
RKL4313					
PVC O.I.	04	MAT9751333	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9190062	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851358	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9090062	(4G4.0+2x(2x1.5)C)C	17.5	7.5
RKL4314					
PVC O.I.	04	MAT9751334	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9190060	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851359	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9090060	(4G4.0+2x(2x1.5)C)C	17.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
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Bosch Rexroth

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Power cables					
RKL4315					
PVC O.I.	04	MAT9751335	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9190059	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851360	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9090059	(4G4.0+2x(2x1.5)C)C	17.5	7.5
RKL4317					
PVC O.I.	04	MAT9751336	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9190061	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851361	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9090061	(4G6.0+2x(2x1.5)C)C	19.5	7.5
RKL4318					
PVC O.I.	04	MAT9751337	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9190047	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851362	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9090047	(4G6.0+2x(2x1.5)C)C	19.5	7.5
RKL4320					
PVC O.I.	04	MAT9751338	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9190039	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851363	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9090039	(4G1.5+2x(2x0.75)C)C	14.5	7.5
RKL4321					
PVC O.I.	04	MAT9751339	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9190075	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851364	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9090075	(4G2.5+2x(2x1.5)C)C	16.0	7.5
RKL4322					
PVC O.I.	04	MAT9751340	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9190078	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851365	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9090078	(4G4.0+2x(2x1.5)C)C	17.5	7.5
RKL4323					
PVC O.I.	04	MAT9751341	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9190073	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851366	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9090073	(4G6.0+2x(2x1.5)C)C	19.5	7.5
RKL4324					
PVC M.I.	05	MAT9190079	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9851367	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9090079	(4G10+2x(2x1.5)C)C	22.5	7.5
RKL4325					
PVC O.I.	04	MAT9751342	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9190049	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851368	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9090049	(4G1.5+2x(2x0.75)C)C	14.5	7.5

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Power cables					
Basic cable					
RKL4326					
PVC O.I.	04	MAT9751343	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9190045	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851369	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9090045	(4G2.5+2x(2x1.5)C)C	16.0	7.5
RKL4327					
PVC O.I.	04	MAT9751344	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9190050	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851370	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9090050	(4G4.0+2x(2x1.5)C)C	17.5	7.5
RKL4328					
PVC O.I.	04	MAT9751345	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9190057	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851371	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9090057	(4G6.0+2x(2x1.5)C)C	19.5	7.5
RKL4329					
PVC M.I.	05	MAT9190051	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9851372	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9090051	(4G10+2x(2x1.5)C)C	22.5	7.5
RKL4330					
PVC M.I.	05	MAT9190080	(4G16+2x(2x1.5)C)C	26.5	7.5
PUR O.I.	06	MAT9851373	(4G16+2x(2x1.5)C)C	26.0	10
PUR M.I.	07	MAT9090080	(4G16+2x(2x1.5)C)C	26.0	7.5
RKL4331					
PVC M.I.	05	MAT9190081	(4G25+2x(2x1.5)C)C	31.0	7.5
PUR O.I.	06	MAT9851374	(4G25+2x(2x1.5)C)C	28.5	10
PUR M.I.	07	MAT9090081	(4G25+2x(2x1.5)C)C	31.0	7.5
RKL4332					
PVC M.I.	05	MAT9751367	(4G35+2x(2x1.5)C)C	34.0	7.5
PUR O.I.	06	MAT98513104	(4G35+2x(2x1.5)C)C	35.0	10
RKL4343					
PVC O.I.	04	MAT9751369	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9751368	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT98513106	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT98513105	(4G2.5+2x(2x1.5)C)C	16.0	7.5
RKL4344					
PVC M.I.	05	MAT9751370	(4G16+2x(2x1.5)C)C	26.5	7.5
PUR O.I.	06	MAT98513108	(4G16+2x(2x1.5)C)C	26.0	10
PUR M.I.	07	MAT98513107	(4G16+2x(2x1.5)C)C	26.0	7.5

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Bosch Rexroth

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Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Power cables					
Linking cable with adapter plug					
IKG0332					
PVC M.I.	05	MAT9190015	(4G0.75+(2x0.5)C)C	11.0	7.5
PUR M.I.	07	MAT9090015	(4G0.75+(2x0.5)C)C	11.5	7.5
IKG4006					
PVC M.I.	05	MAT9191001	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851342	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9091001	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKG4016					
PVC M.I.	05	MAT9191002	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851343	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9091002	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKG4061					
PVC O.I.	04	MAT9751322	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9191004	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851344	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9091004	(4G2.5+2x(2x1.5)C)C	16.0	7.5
IKG4074					
PVC O.I.	04	MAT9751323	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9191014	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851345	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9091014	(4G2.5+2x(2x1.5)C)C	16.0	7.5
IKG4081					
PVC O.I.	04	MAT9751324	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9191016	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851346	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9091016	(4G4.0+2x(2x1.5)C)C	17.5	7.5
IKG4141					
PVC O.I.	04	MAT9751325	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9191003	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851347	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9091003	(4G6.0+2x(2x1.5)C)C	19.5	7.5
IKG4161					
PVC M.I.	05	MAT9190036	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9851348	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9090036	(4G10+2x(2x1.5)C)C	22.5	7.5
IKL0003					
PVC M.I.	05	MAT9751358	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851391	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9851390	(4G1.0+2x(2x0.75)C)	13.5	7.5

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Bosch Rexroth PVC/PUR

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Power cables					
Linking cable with adapter plug					
IKL0023					
PVC O.I.	04	MAT9751307	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9191013	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851312	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9091013	(4G1.5+2x(2x0.75)C)C	14.5	7.5
IKL0089					
PVC O.I.	04	MAT9751308	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9191005	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851313	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9091005	(4G6.0+2x(2x1.5)C)C	19.5	7.5
IKL0168					
PVC M.I.	05	MAT9191006	(4G25+2x(2x1.5)C)C	31.0	7.5
PUR O.I.	06	MAT9851314	(4G25+2x(2x1.5)C)C	28.5	10
PUR M.I.	07	MAT9091006	(4G25+2x(2x1.5)C)C	31.0	7.5
RKL0035					
PVC M.I.	05	MAT9751371	(4G0.75+(2x0.5)C)C	11.0	7.5
PUR M.I.	07	MAT98513109	(4G0.75+(2x0.5)C)C	11.5	7.5
RKL4304					
PVC O.I.	04	MAT9751346	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9191007	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851375	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9091007	(4G1.5+2x(2x0.75)C)C	14.5	7.5
RKL4305					
PVC M.I.	05	MAT9191008	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851376	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9091008	(4G1.0+2x(2x0.75)C)	13.5	7.5
RKL4311					
PVC O.I.	04	MAT9751347	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9191009	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851377	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9091009	(4G1.5+2x(2x0.75)C)C	14.5	7.5
Extension cable					
RKL4312					
PVC O.I.	04	MAT9751348	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9191010	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851378	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9091010	(4G2.5+2x(2x1.5)C)C	16.0	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Bosch Rexroth PVC/PUR

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Power cables					
RKL4316					
PVC O.I.	04	MAT9751349	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9191011	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851379	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9091011	(4G4.0+2x(2x1.5)C)C	17.5	7.5
RKL4319					
PVC O.I.	04	MAT9751350	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9191012	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851380	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9091012	(4G6.0+2x(2x1.5)C)C	19.5	7.5
RKL4335					
PVC O.I.	04	MAT9751373	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9751372	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT98513111	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT98513110	(4G1.5+2x(2x0.75)C)C	14.5	7.5
RKL4336					
PVC O.I.	04	MAT9751351	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9191018	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851381	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9091018	(4G2.5+2x(2x1.5)C)C	16.0	7.5
RKL4337					
PVC O.I.	04	MAT9751375	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9751374	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT98513113	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT98513112	(4G4.0+2x(2x1.5)C)C	17.5	7.5
RKL4338					
PVC O.I.	04	MAT9751352	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9191017	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851382	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9091017	(4G6.0+2x(2x1.5)C)C	19.5	7.5
RKL4339					
PVC M.I.	05	MAT9751376	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT98513115	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT98513114	(4G10+2x(2x1.5)C)C	22.5	7.5
RKL4340					
PVC M.I.	05	MAT9191015	(4G16+2x(2x1.5)C)C	26.5	7.5
PUR O.I.	06	MAT9851383	(4G16+2x(2x1.5)C)C	26.0	10
PUR M.I.	07	MAT9091015	(4G16+2x(2x1.5)C)C	26.0	7.5
RKL4341					
PVC M.I.	05	MAT9751377	(4G25+2x(2x1.5)C)C	31.0	7.5
PUR O.I.	06	MAT98513117	(4G25+2x(2x1.5)C)C	28.5	10
PUR M.I.	07	MAT98513116	(4G25+2x(2x1.5)C)C	31.0	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Bosch Rexroth
PVC/PUR

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* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Servo cables					
Basic cable					
RL2-002CBB-NN-xxx,x					
PVC M.I.	05	MAT97513150	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT98513156	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT98513150	(4G1.0+2x(2x0.75)C)	13.5	7.5
RL2-022CBB-NN-xxx,x					
PVC M.I.	05	MAT97513152	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT98513158	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT98513152	(4G1.0+2x(2x0.75)C)	13.5	7.5
RL2-045EBB-NN-xxx,x					
PVC M.I.	05	MAT97513154	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT98513160	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT98513154	(4G2.5+2x(2x1.5)C)C	16.0	7.5
Extension cable					
RL2-500CBB-NN-xxx,x					
PVC M.I.	05	MAT97513151	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT98513157	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT98513151	(4G1.0+2x(2x0.75)C)	13.5	7.5
RL2-521CBB-NN-xxx,x					
PVC M.I.	05	MAT97513153	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT98513159	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT98513153	(4G1.0+2x(2x0.75)C)	13.5	7.5
RL2-542EBB-NN-xxx,x					
PVC M.I.	05	MAT97513155	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT98513161	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT98513155	(4G2.5+2x(2x1.5)C)C	16.0	7.5
Bosch Rexroth Hybrid servo cables					
Basic cable					
RH2-021DBB-NN					
PUR O.I.	27	MAT98513122	(4G1.5+(2x0.75)C +(2x2x0.14+2x0.25)C)C	15.0	10
RH2-022DBB-NN					
PUR O.I.	27	MAT98513123	(4G1.5+(2x0.75)C +(2x2x0.14+2x0.25)C)C	15.0	10
RH2-023DBB-NN					
PUR O.I.	27	MAT98513124	(4G1.5+(2x0.75)C +(2x2x0.14+2x0.25)C)C	15.0	10

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Harnessed drive cables | Bosch Rexroth
PVC/PUR/TPE

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* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Hybrid servo cables					
Basic cable					
RKH0101					
PUR O.I.	27	MAT98513120	(5x2.5+(5x0.35)+(4xAWG22)C)C	17.0	10
Basic cable					
RKH0900					
PUR O.I.	27	MAT98513121	(5x2.5+(5x0.35)+(4xAWG22)C)C	17.0	10
Bosch Rexroth Encoder cables					
Basic cable					
IKS0230					
PVC	08	MAT9110008	(2x(2x0.25)+2x0.5)C	6.5	10
PUR M.I.	10	MAT9841307	(2x(2x0.25)+2x0.5)C	6.5	7.5
TPE H*	11	MAT9100008	(2x(2x0.25)+2x0.5)C	6.5	6.8
IKS0251					
TPE H*	24	MAT9100014	(12x0.5)C	12.0	5
IKS0253					
TPE H*	24	MAT9100023	(12x0.5)C	12.0	5
IKS0259					
TPE H*	24	MAT9100032	(12x0.5)C	12.0	5
IKS0262					
TPE H*	24	MAT9100016	(12x0.5)C	12.0	5
IKS0301					
PVC	08	MAT9110015	(4x(2x0.25)+2x1.0)C	8.5	10
PUR M.I.	10	MAT9841308	(4x(2x0.25)+2x1.0)C	9.0	7.5
TPE H*	11	MAT9100015	(4x(2x0.25)+2x1.0)C	9.0	6.8
IKS0315					
PVC	08	MAT9110020	(4x(2x0.25)+2x1.0)C	8.5	10
PUR M.I.	10	MAT9841309	(4x(2x0.25)+2x1.0)C	9.0	7.5
TPE H*	11	MAT9100020	(4x(2x0.25)+2x1.0)C	9.0	6.8
IKS0374					
PVC	08	MAT9110011	(4x(2x0.25)+2x1.0)C	8.5	10
PUR M.I.	10	MAT9841310	(4x(2x0.25)+2x1.0)C	9.0	7.5
TPE H*	11	MAT9100011	(4x(2x0.25)+2x1.0)C	9.0	6.8

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Harnessed drive cables | Bosch Rexroth
PVC/PUR/TPE

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Encoder cables					
Basic cable					
IKS4001					
PVC	**08**	MAT9110026	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	10
PUR M.I.	**10**	MAT9841311	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	7.5
TPE H*	**11**	MAT9100026	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	6.8
IKS4002					
PVC	**08**	MAT9110010	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	10
PUR M.I.	**10**	MAT9841312	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	7.5
TPE H*	**11**	MAT9100010	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	6.8
IKS4020					
PVC	**08**	MAT9110006	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	10
PUR M.I.	**10**	MAT9841313	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	7.5
TPE H*	**11**	MAT9100006	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	6.8
IKS4038					
PVC	**08**	MAT9110027	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	10
PUR M.I.	**10**	MAT9841314	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	7.5
TPE H*	**11**	MAT9100027	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	6.8
IKS4041					
PVC	**08**	MAT9110028	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	10
PUR M.I.	**10**	MAT9841315	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	7.5
TPE H*	**11**	MAT9100028	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	6.8
IKS4042					
PVC	**08**	MAT9110017	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9841316	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	**11**	MAT9100017	(4x(2x0.25)+2x0.5)C	8.5	6.8
Basic cable					
IKS4066					
PVC	**08**	MAT9110025	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9841317	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	**11**	MAT9100025	(4x(2x0.25)+2x0.5)C	8.5	6.8
Basic cable					
IKS4103					
PVC	**08**	MAT9110001	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9841318	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	**11**	MAT9100001	(4x(2x0.25)+2x0.5)C	8.5	6.8

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Harnessed drive cables | Bosch Rexroth
PVC/PUR/TPE
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* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Encoder cables					
Basic cable					
IKS4142					
PVC	**08**	MAT9110007	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	10
PUR M.I.	**10**	MAT9841319	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	7.5
TPE H*	**11**	MAT9100007	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	6.8
IKS4314					
PVC	**08**	MAT9110004	(4x(2x0.25)+2x1.0)C	8.5	10
PUR M.I.	**10**	MAT9841320	(4x(2x0.25)+2x1.0)C	9.0	7.5
TPE H*	**11**	MAT9100004	(4x(2x0.25)+2x1.0)C	9.0	6.8
IKS4374					
PVC	**08**	MAT9110002	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9841321	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	**11**	MAT9100002	(4x(2x0.25)+2x0.5)C	8.5	6.8
IKS4375					
PVC	**08**	MAT9110003	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9841322	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	**11**	MAT9100003	(4x(2x0.25)+2x0.5)C	8.5	6.8
IKS4384					
PVC	**08**	MAT9110005	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	10
PUR M.I.	**10**	MAT9841323	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	7.5
TPE H*	**11**	MAT9100005	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	6.8
IKS4389					
PVC	**08**	MAT9110033	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	10
PUR M.I.	**10**	MAT9841324	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	7.5
TPE H*	**11**	MAT9100033	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	6.8
Basic cable					
RG2-002AAB-NN-xxx,x					
PVC	**08**	MAT9741301	(2x(2x0.25)+2x0.5)C	6.5	10
TPE H*	**11**	MAT9941301	(2x(2x0.25)+2x0.5)C	6.5	6.8
RKG0014					
PVC	**08**	MAT9110030	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	10
PUR M.I.	**10**	MAT9841301	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	7.5
TPE H*	**11**	MAT9100030	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	6.8
RKG0020					
PVC	**08**	MAT9110034	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9841302	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	**11**	MAT9100034	(4x(2x0.25)+2x0.5)C	8.5	6.8

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Bosch Rexroth
PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Encoder cables					
Basic cable					
RKG0026					
PVC	08	MAT9110029	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	10
PUR M.I.	10	MAT9841303	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	7.5
TPE H*	11	MAT9100029	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	6.8
RKG0028					
PVC	08	MAT9110031	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	10
PUR M.I.	10	MAT9841304	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	7.5
TPE H*	11	MAT9100031	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	6.8
RKG4200					
PVC	08	MAT9110013	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9841305	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9100013	(4x(2x0.25)+2x0.5)C	8.5	6.8
Linking cable with adapter plug					
IKS0232					
PVC	08	MAT9110009	(2x(2x0.25)+2x0.5)C	6.5	10
PUR M.I.	10	MAT9841325	(2x(2x0.25)+2x0.5)C	6.5	7.5
TPE H*	11	MAT9100009	(2x(2x0.25)+2x0.5)C	6.5	6.8
IKS0255					
TPE H*	24	MAT9100018	(12x0.5)C	12.0	5
IKS0303					
PVC	08	MAT9110019	(4x(2x0.25)+2x1.0)C	8.5	10
PUR M.I.	10	MAT9841326	(4x(2x0.25)+2x1.0)C	9.0	7.5
TPE H*	11	MAT9100019	(4x(2x0.25)+2x1.0)C	9.0	6.8
IKS4065					
PVC	08	MAT9111001	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9841327	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9101001	(4x(2x0.25)+2x0.5)C	8.5	6.8
IKS4151					
PVC	08	MAT9111002	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9841328	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9101002	(4x(2x0.25)+2x0.5)C	8.5	6.8
IKS4153					
PVC	08	MAT9111003	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9841329	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9101003	(4x(2x0.25)+2x0.5)C	8.5	6.8

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Bosch Rexroth
PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Encoder cables					
IKS4322					
PVC	08	MAT9111005	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9841331	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9101005	(4x(2x0.25)+2x0.5)C	8.5	6.8
IKS4376					
PVC	08	MAT9111004	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9841330	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9101004	(4x(2x0.25)+2x0.5)C	8.5	6.8
Extension cable with adapter plug					
RG2-510AAB-NN-xxx,x					
PVC	08	MAT9741302	(2x(2x0.25)+2x0.5)C	6.5	10
TPE H*	11	MAT9941302	(2x(2x0.25)+2x0.5)C	6.5	6.8
RKG4201					
PVC	08	MAT9111006	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9841306	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9101006	(4x(2x0.25)+2x0.5)C	8.5	6.8

ePLAN data portal

EPLAN macros suitable for Bosch Rexroth available online

Can be used directly in CAE planning.

Learn more about it on page 582/583 and online: www.igus.eu/eplan-macro

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igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
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Harnessed drive cables | Elau/Schneider Electric PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Elau/Schneider Electric Servo cables					
Basic cable					
E-MO-067					
PVC O.I.	04	MAT9750701	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9470001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850701	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9470101	(4G1.5+2x(2x0.75)C)C	14.5	7.5
E-MO-092					
PVC O.I.	04	MAT9750704	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9470004	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850704	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9470104	(4G1.5+2x(2x0.75)C)C	14.5	7.5
Basic cable					
E-MO-087					
PVC O.I.	04	MAT9750703	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9470003	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850703	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9470103	(4G2.5+2x(2x1.5)C)C	16.0	7.5
Basic cable					
E-MO-111 SH-Motor 1.5					
PVC O.I.	04	MAT9750702	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9470002	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850702	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9470102	(4G1.5+2x(2x0.75)C)C	14.5	7.5
Basic cable					
E-MO-113 SH-Motor 2.5					
PVC O.I.	04	MAT9750705	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9470005	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850705	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9470105	(4G2.5+2x(2x1.5)C)C	16.0	7.5

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igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Elau/Schneider Electric PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Elau/Schneider Electric Hybrid servo cables					
Basic cable					
E-MO-109, VW3E1109Rxxx					
PUR O.I.	06	MAT9850706	(4G25+2x(2x1.5)C)C	28.5	10
Elau/Schneider Electric Encoder cables					
Basic cable					
E-FB-060					
PVC	08	MAT9480001	(4x(2x0.25)+2x0.5)C	8.0	10
TPE H*	11	MAT9480101	(4x(2x0.25)+2x0.5)C	8.5	6.8
E-FB-071					
PVC	08	MAT9480002	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9940702	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9480102	(4x(2x0.25)+2x0.5)C	8.5	6.8
Basic cable					
E-FB-080					
PVC	08	MAT9480003	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9940703	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9480103	(4x(2x0.25)+2x0.5)C	8.5	6.8

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Fagor PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Fagor Path measuring cables					
Extension cable					
iEEC-x					
PUR O.I.	**09**	MAT9950808	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	**10**	MAT9850808	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	**11**	MAT9520070	(4x(2x0.14)+4x0.5)C	9.0	6.8
Extension cable					
iXC-C2-D					
PUR O.I.	**09**	MAT9950801	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	**10**	MAT9850801	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	**11**	MAT9520001	(4x(2x0.14)+4x0.5)C	9.0	6.8
Extension cable					
iXC-C2-FN2					
PUR O.I.	**09**	MAT9950807	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	**10**	MAT9850807	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	**11**	MAT9520060	(4x(2x0.14)+4x0.5)C	9.0	6.8
Extension cable					
iXC-C2-H					
PUR O.I.	**09**	MAT9950803	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	**10**	MAT9850803	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	**11**	MAT9520020	(4x(2x0.14)+4x0.5)C	9.0	6.8
Extension cable					
iXC-C4-D					
PUR O.I.	**09**	MAT9950802	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	**10**	MAT9850802	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	**11**	MAT9520010	(4x(2x0.14)+4x0.5)C	9.0	6.8
Extension cable					
iXC-C8-F-C9					
PUR O.I.	**09**	MAT9950805	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	10.5	10
PUR M.I.	**10**	MAT9850805	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	7.5
TPE H*	**11**	MAT9520040	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	6.8

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Fagor PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Fagor Path measuring cables					
Extension cable					
iXC-C8-F-D					
PUR O.I.	**09**	MAT9950804	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	10.5	10
PUR M.I.	**10**	MAT9850804	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	7.5
TPE H*	**11**	MAT9520030	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	6.8
Extension cable					
iXC-C8-FN					
PUR O.I.	**09**	MAT9950806	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	**10**	MAT9850806	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	**11**	MAT9520050	(4x(2x0.14)+4x0.5)C	9.0	6.8

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Fanuc PVC/PUR/TPE

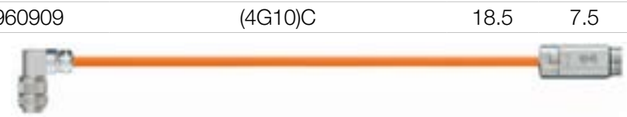
* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Fanuc Power cables					
Basic cable					
LX660-8077-T261					
PVC M.I.	**01**	MAT9760901	(4G1.5)C	10.0	7.5
PUR O.I.	**06**	MAT9200061	(4G1.5)C	9.0	10
PUR M.I.	**07**	MAT9210061	(4G1.5)C	11.0	7.5
TPE F	**02**	MAT9960901	(4G1.5)C	10.0	7.5
Basic cable					
LX660-8077-T264					
PVC M.I.	**01**	MAT9760902	(4G2.5)C	11.5	7.5
PUR O.I.	**06**	MAT9200064	(4G2.5)C	10.5	10
PUR M.I.	**07**	MAT9210064	(4G2.5)C	12.5	7.5
TPE F	**02**	MAT9960902	(4G2.5)C	11.5	7.5
LX660-8077-T266					
PVC M.I.	**01**	MAT9760904	(4G2.5)C	11.5	7.5
PUR O.I.	**06**	MAT9200066	(4G2.5)C	10.5	10
PUR M.I.	**07**	MAT9210066	(4G2.5)C	12.5	7.5
TPE F	**02**	MAT9960904	(4G2.5)C	11.5	7.5
Basic cable					
LX660-8077-T265					
PVC M.I.	**01**	MAT9760903	(4G2.5)C	11.5	7.5
PUR O.I.	**06**	MAT9200065	(4G2.5)C	10.5	10
PUR M.I.	**07**	MAT9210065	(4G2.5)C	12.5	7.5
TPE F	**02**	MAT9960903	(4G2.5)C	11.5	7.5
LX660-8077-T267					
PVC M.I.	**01**	MAT9760905	(4G2.5)C	11.5	7.5
PUR O.I.	**06**	MAT9200067	(4G2.5)C	10.5	10
PUR M.I.	**07**	MAT9210067	(4G2.5)C	12.5	7.5
TPE F	**02**	MAT9960905	(4G2.5)C	11.5	7.5
Basic cable					
LX660-8077-T270					
PVC M.I.	**01**	MAT9760906	(4G4.0)C	13.0	7.5
PUR O.I.	**06**	MAT9200070	(4G4.0)C	12.5	10
PUR M.I.	**07**	MAT9210070	(4G4.0+(2x1.5)C)C	16.0	7.5
TPE F	**02**	MAT9960906	(4G4.0)C	13.0	7.5

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Harnessed drive cables | Fanuc PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Fanuc Power cables					
Basic cable					
LX660-8077-T271					
PVC M.I.	**01**	MAT9760907	(4G4.0)C	13.0	7.5
PUR O.I.	**06**	MAT9200071	(4G4.0)C	12.5	10
PUR M.I.	**07**	MAT9210071	(4G4.0+(2x1.5)C)C	16.0	7.5
TPE F	**02**	MAT9960907	(4G4.0)C	13.0	7.5
LX660-8077-T272					
PVC M.I.	**01**	MAT9760908	(4G10)C	18.5	7.5
PUR O.I.	**06**	MAT9200072	(4G10)C	17.0	10
PUR M.I.	**07**	MAT9210072	(4G10+(2x1.5)C)C	21.0	7.5
TPE F	**02**	MAT9960908	(4G10)C	18.5	7.5
LX660-8077-T273					
PVC M.I.	**01**	MAT9760909	(4G10)C	18.5	7.5
PUR O.I.	**06**	MAT9200073	(4G10)C	17.0	10
PUR M.I.	**07**	MAT9210073	(4G10+(2x1.5)C)C	21.0	7.5
TPE F	**02**	MAT9960909	(4G10)C	18.5	7.5
Basic cable					
LX660-8077-T291					
PVC M.I.	**01**	MAT9760910	(4G2.5)C	11.5	7.5
PUR O.I.	**06**	MAT9200091	(4G2.5)C	10.5	10
PUR M.I.	**07**	MAT9210091	(4G2.5)C	12.5	7.5
TPE F	**02**	MAT9960910	(4G2.5)C	11.5	7.5
LX660-8077-T293					
PVC M.I.	**01**	MAT9760912	(4G4.0)C	13.0	7.5
PUR O.I.	**06**	MAT9200093	(4G4.0)C	12.5	10
PUR M.I.	**07**	MAT9210093	(4G4.0+(2x1.5)C)C	16.0	7.5
TPE F	**02**	MAT9960912	(4G4.0)C	13.0	7.5
Basic cable					
LX660-8077-T292					
PVC M.I.	**01**	MAT9760911	(4G4.0)C	13.0	7.5
PUR O.I.	**06**	MAT9200092	(4G4.0)C	12.5	10
PUR M.I.	**07**	MAT9210092	(4G4.0+(2x1.5)C)C	16.0	7.5
TPE F	**02**	MAT9960911	(4G4.0)C	13.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Fanuc PVC/PUR/TPE

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Fanuc Power cables					
Basic cable					
LX660-8077-T296					
PVC M.I.	01	MAT9760913	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9200096	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9210096	(4G2.5)C	12.5	7.5
TPE F	02	MAT9960913	(4G2.5)C	11.5	7.5
Basic cable					
LX660-8077-T298					
PVC M.I.	01	MAT9760914	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9200098	(4G4.0)C	12.5	10
PUR M.I.	07	MAT9210098	(4G4.0+(2x1.5)C)C	16.0	7.5
TPE F	02	MAT9960914	(4G4.0)C	13.0	7.5
Basic cable					
LX660-8077-T300					
PVC M.I.	01	MAT9760915	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9200300	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9210300	(4G2.5)C	12.5	7.5
TPE F	02	MAT9960915	(4G2.5)C	11.5	7.5
Fanuc Servo cables					
Basic cable					
LX660-8077-T259					
PUR O.I.	06	MAT9850916	(4G1.5)C	9.0	10
Basic cable					
LX660-8077-T274					
PUR O.I.	06	MAT9850921	(4G2.5)C	10.5	10
LX660-8077-T416					
PUR O.I.	06	MAT9850923	(4G1.5+(2x1.5)C)	12.5	10
LX660-8077-T451					
PUR O.I.	06	MAT9850920	(4G2.5)C	10.5	10

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Fanuc

Harnessed drive cables | Fanuc PVC/PUR/TPE

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Fanuc Servo cables					
Basic cable					
LX660-8077-T470					
PUR O.I.	06	MAT9850925	(4G4.0)C	12.5	10
Basic cable					
LX660-8077-T471					
PUR O.I.	06	MAT9850917	(4G4.0)C	12.5	10
Fanuc Brake cables					
Basic cable					
LX660-8077-T311					
PUR M.I.	22	MAT9810919	(3G0.75)C	8.0	6.8
Fanuc Signal cables					
Basic cable					
LX660-2018-T015					
PVC	14	MAT9840924	(10x(2x0.25))C	12.0	7.5
Basic cable					
LX660-4077-T296					
PUR O.I.	09	MAT9300296	((2x0.25)+5x0.5)C	7.0	10
PUR M.I.	10	MAT9840901	((2x0.25)+5x0.5)C	8.0	7.5
TPE H*	11	MAT9310296	((2x0.25)+5x0.5)C	7.5	6.8
Basic cable					
LX660-4077-T297					
PUR O.I.	09	MAT9300297	((2x0.25)+5x0.5)C	7.0	10
PUR M.I.	10	MAT9840902	((2x0.25)+5x0.5)C	8.0	7.5
TPE H*	11	MAT9310297	((2x0.25)+5x0.5)C	7.5	6.8
Basic cable					
LX660-4077-T302					
PUR O.I.	09	MAT9300302	((4x0.25)+3x(2x0.25+2x0.5))C	9.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Fanuc
PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Fanuc Signal cables					
Basic cable					
PUR M.I.	10	MAT9840903	((4x0.25)+3x(2x0.25+2x0.5))C	11.0	7.5
TPE H*	11	MAT9310302	((4x0.25)+3x(2x0.25+2x0.5))C	10.0	6.8
Basic cable					
LX660-4077-T303					
PUR O.I.	09	MAT9300303	((4x0.25)+3x(2x0.25+2x0.5))C	9.5	10
PUR M.I.	10	MAT9840904	((4x0.25)+3x(2x0.25+2x0.5))C	11.0	7.5
TPE H*	11	MAT9310303	((4x0.25)+3x(2x0.25+2x0.5))C	10.0	6.8
LX660-4077-T310					
TPE H*	11	MAT9940922	((4x0.25)+3x(2x0.25+2x0.5))C	10.0	6.8
Basic cable					
LX660-4077-T319					
PUR O.I.	09	MAT9300319	((4x0.25)+3x(2x0.25+2x0.5))C	9.5	10
PUR M.I.	10	MAT9840905	((4x0.25)+3x(2x0.25+2x0.5))C	11.0	7.5
TPE H*	11	MAT9310319	((4x0.25)+3x(2x0.25+2x0.5))C	10.0	6.8

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Harnessed drive cables | Festo
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Festo Servo cables					
Basic cable					
NEBM-M16G8-E-xxx-Q7-LE8					
PUR O.I.	06	MAT9852303	(4G0.75+2x(2x0.34)C)C	12.0	10
Basic cable					
NEBM-M23G6-E-xxx-N-LE7					
PVC O.I.	04	MAT9752301	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9752317	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9852301	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9852317	(4G1.5+2x(2x0.75)C)C	14.5	7.5
NEBM-M23G8-E-xxx-N-LE8					
PVC O.I.	04	MAT9752300	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9752316	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9852300	(4G2.5+(4x0.5)C)C	13.5	10
PUR M.I.	07	MAT9852316	(4G2.5+(4x0.5)C)C	14.0	7.5
Basic cable					
NEBM-M40G8-E-xxx-N-LE7					
PVC O.I.	04	MAT9752302	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9752318	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9852302	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9852318	(4G2.5+2x(2x1.5)C)C	16.0	7.5
Festo Control cables					
Basic cable					
KPWR-MC-1-SUB-9HC-xxx					
PVC M.I.	18	MAT9712320	(3G1.5)C	9.0	7.5
PUR M.I.	22	MAT9812320	(3G1.5)C	9.5	6.8
Festo Encoder cables					
Basic cable					
NEBM-M23G12-E-xxx-N-S1G9					
PVC	08	MAT9742308	(3x(2x0.14)C+2x(0.5)C)C	9.5	10
PUR O.I.	09	MAT9842308	(3x(2x0.14)C+2x(0.5)C)C	9.5	10
PUR M.I.	10	MAT9842324	(3x(2x0.14)C+2x(0.5)C)C	10.0	7.5
TPE H*	11	MAT9942308	(3x(2x0.14)C+2x(0.5)C)C	10.0	6.8

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Festo PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Festo Data cables					
Basic cable					
KDI-MC-M8-SUB-9-xxx					
PVC	**30**	MAT9722311	(3x0.25)C	5.0	10
PUR	**13**	MAT9822311	(3x0.25)C	5.5	10
Basic cable					
KES-MC-1-SUB-9-xxx					
PVC	**30**	MAT9722310	(14x0.14)C	7.0	10
PUR	**13**	MAT9822310	(14x0.14)C	7.5	10
Basic cable					
NEBM-M12G8-E-xxx-N-S1G15					
PVC	**14**	MAT9722305	(4x(2x0.25))C	7.5	7.5
PUR	**15**	MAT9822305	(4x(2x0.25))C	7.5	7.5
TPE H*	**16**	MAT9922305	(4x(2x0.25))C	8.5	6.8
Basic cable					
NEBM-M12G8-E-xxx-S1G9					
PVC	**14**	MAT9722306	(4x(2x0.25))C	7.5	7.5
PUR	**15**	MAT9822306	(4x(2x0.25))C	7.5	7.5
TPE H*	**16**	MAT9922306	(4x(2x0.25))C	8.5	6.8
Basic cable					
NEBM-M12W8-E-xxx-N-S1G15					
PVC	**14**	MAT9722307	(4x(2x0.25))C	7.5	7.5
PUR	**15**	MAT9822307	(4x(2x0.25))C	7.5	7.5
TPE H*	**16**	MAT9922307	(4x(2x0.25))C	8.5	6.8

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Harnessed drive cables | Festo PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Festo Data cables					
Basic cable					
NEBM-S1G15-E-xxx-LE6					
PVC	**14**	MAT9722309	(4x(2x0.5))C	9.5	7.5
PUR	**15**	MAT9822309	(4x(2x0.5))C	9.5	7.5
TPE H*	**16**	MAT9922309	(4x(2x0.5))C	9.5	6.8
Basic cable					
NEBM-S1G9-E-xxx-LE6					
PVC	**30**	MAT9722313	(7x0.34)C	7.5	10
PUR	**13**	MAT9822313	(7x0.34)C	6.5	10
Festo Bus cables					
Basic cable					
FBA-CO-SUB-9-M12					
PVC, oil-res.	**28**	MAT9732312	(4x0.5)C	8.5	12.5
PUR	**29**	MAT9832312	(4x0.5)C	8.5	12.5
TPE	**12**	MAT9932312	(4x0.5)C	8.0	10

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Heidenhain PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Heidenhain Servo cables					
Linking cable					
352 960-xx					
PVC O.I.	04	MAT94907005	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9761001	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT93907005	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9861001	(4G1.5+(2x1.5)C)	13.0	7.5
352 962-xx					
PVC O.I.	04	MAT94907008	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9761003	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT93907008	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9861003	(4G1.5+(2x1.5)C)	13.0	7.5
352 963-xx					
PVC O.I.	04	MAT94907006	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9761002	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT93907006	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9861002	(4G4.0+(2x1.5)C)C	16.0	7.5
Heidenhain Adapter cables					
Basic cable					
298 401-xx					
PVC	08	MAT9741006	(4x(2x0.14)+4x0.5)C	8.5	10
PUR O.I.	09	MAT9841008	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	10	MAT9841007	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT9941021	(4x(2x0.14)+4x0.5)C	9.0	6.8
Basic cable					
333 164-xx					
PVC	08	MAT9741008	(4x(2x0.14)+4x0.5)C	8.5	10
PUR O.I.	09	MAT9841009	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	10	MAT9841004	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT9941019	(4x(2x0.14)+4x0.5)C	9.0	6.8
Basic cable					
368 330-xx					
PVC	08	MAT9741010	((4x0.14)+2x(2x0.34))C	7.0	10
PUR O.I.	09	MAT9841006	((4x0.14)+2x(2x0.34))C	7.0	10

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
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Harnessed drive cables | Heidenhain PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Heidenhain Adapter cables					
Basic cable					
524 599-xx					
PVC	08	MAT9741007	(4x(2x0.14)+4x0.5)C	8.5	10
PUR O.I.	09	MAT9841003	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	10	MAT9841002	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT9941018	(4x(2x0.14)+4x0.5)C	9.0	6.8
Basic cable					
534 855-xx					
PVC	08	MAT9741009	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	10
PUR M.I.	10	MAT9841005	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	7.5
TPE H*	11	MAT9941020	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	6.8
Basic cable					
605 424-xx					
PVC	08	MAT9741000	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR O.I.	09	MAT9841001	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR M.I.	10	MAT9841000	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	11.0	7.5
TPE H*	11	MAT9941000	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.5	6.8
Linking cable					
289 440-xx					
PVC	08	MAT9741002	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	10
PUR M.I.	10	MAT94901005	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	7.5
TPE H*	11	MAT93901005	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	6.8
298 399-xx					
PUR O.I.	09	MAT9941011	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	10	MAT94905001	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT93905001	(4x(2x0.14)+4x0.5)C	9.0	6.8
298 400-xx					
PUR O.I.	09	MAT9941012	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	10	MAT94906002	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT93906002	(4x(2x0.14)+4x0.5)C	9.0	6.8
309 783-xx					
PUR O.I.	09	MAT9941008	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	10	MAT94903003	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT93903003	(4x(2x0.14)+4x0.5)C	9.0	6.8

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Harnessed drive cables | Heidenhain PVC/PUR/TPE

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Heidenhain Adapter cables					
Linking cable					
336 376-xx					
PVC	08	MAT9741001	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	10
PUR M.I.	10	MAT94901004	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	7.5
TPE H*	11	MAT93901004	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	6.8
604 419-xx					
PUR O.I.	09	MAT9941003	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	10	MAT94901003	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT93901003	(4x(2x0.14)+4x0.5)C	9.0	6.8
Linking cable					
298 402-xx					
PUR O.I.	09	MAT9941016	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	10	MAT94909001	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT93909001	(4x(2x0.14)+4x0.5)C	9.0	6.8
Linking cable					
309 738-xx					
PUR O.I.	09	MAT9941007	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	10	MAT94903001	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT93903001	(4x(2x0.14)+4x0.5)C	9.0	6.8
Linking cable					
309 774-xx					
PUR M.I.	10	MAT94906001	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT93906001	(4x(2x0.14)+4x0.5)C	9.0	6.8
Linking cable					
368 172-xx					
PVC	08	MAT9741003	(3x(2x0.14)C+2x(0.5)C)C	9.5	10
PUR M.I.	10	MAT94903002	(3x(2x0.14)C+2x(0.5)C)C	10.0	7.5
TPE H*	11	MAT93903002	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	6.8

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Heidenhain PVC/PUR/TPE

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Heidenhain Adapter cables					
Linking cable					
309 777-xx					
PUR O.I.	09	MAT9941013	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	10	MAT94907001	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT93907001	(4x(2x0.14)+4x0.5)C	9.0	6.8
309 778-xx					
PUR O.I.	09	MAT9941014	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	10.5	10
PUR M.I.	10	MAT94907002	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	7.5
TPE H*	11	MAT93907002	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	6.8
533 627-xx					
PUR O.I.	09	MAT9941004	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	10	MAT94901006	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT93901006	(4x(2x0.14)+4x0.5)C	9.0	6.8
Linking cable					
310 193-xx					
PUR M.I.	10	MAT94907003	(3x(2x0.14)C+(2x0.5)C)C	10.0	7.5
TPE H*	11	MAT93907003	(3x(2x0.14)C+(2x0.5)C)C	10.0	6.8
Linking cable					
310 197-xx					
PUR M.I.	10	MAT94902001	(3x(2x0.14)C+(2x0.5)C)C	10.0	7.5
TPE H*	11	MAT93902001	(3x(2x0.14)C+(2x0.5)C)C	10.0	6.8
310 199-xx					
PUR O.I.	09	MAT9941006	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	10	MAT94902003	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT93902003	(4x(2x0.14)+4x0.5)C	9.0	6.8
Linking cable					
323 897-xx					
PUR O.I.	09	MAT9941015	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	10.5	10
PUR M.I.	10	MAT94907004	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	7.5
TPE H*	11	MAT93907004	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	6.8

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Heidenhain PUR/TPE

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Heidenhain Adapter cables					
Linking cable					
324 544-xx					
PUR O.I.	09	MAT9941005	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	10.5	10
PUR M.I.	10	MAT94902002	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	7.5
TPE H*	11	MAT93902002	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	6.8
332 115-xx					
PUR O.I.	09	MAT9941001	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	10.5	10
PUR M.I.	10	MAT94901001	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	7.5
TPE H*	11	MAT93901001	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	6.8
Linking cable					
335 077-xx					
PUR M.I.	10	MAT94908001	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT93908001	(4x(2x0.14)+4x0.5)C	9.0	6.8
Linking cable					
354 411-xx					
PUR O.I.	09	MAT9941009	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	10.5	10
PUR M.I.	10	MAT94904001	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	7.5
TPE H*	11	MAT93904001	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	6.8
355 398-xx					
PUR O.I.	09	MAT9941010	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	10.5	10
PUR M.I.	10	MAT94904002	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	7.5
TPE H*	11	MAT93904002	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	6.8
Linking cable					
360 472-xx					
PUR O.I.	09	MAT9941002	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	10.5	10
PUR M.I.	10	MAT94901002	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	7.5
TPE H*	11	MAT93901002	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	6.8
Linking cable					
309 779-xx					
PUR O.I.	09	MAT99411017	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	10.5	10
PUR M.I.	10	MAT94907007	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	7.5
TPE H*	11	MAT93907007	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	6.8

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Heidenhain PVC/PUR/TPE

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Heidenhain Adapter cables					
Linking cable					
309 780-xx					
PVC	08	MAT9741004	(3x(2x0.14)C+2x(0.5)C)C	9.5	10
PUR M.I.	10	MAT94909002	(3x(2x0.14)C+2x(0.5)C)C	10.0	7.5
TPE H*	11	MAT93909002	(3x(2x0.14)C+2x(0.5)C)C	10.0	6.8
Linking cable					
354 770-xx					
TPE	12	MAT94910001	((2xAWG28)+2xAWG20)C	5.5	12.5
	12	MAT94910002	((2xAWG24)+2xAWG20)C	6.5	12.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Jetter
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Jetter Motor cables					
Basic cable					
Cable No. 201					
PVC M.I.	**01**	MAT9761805	(4G4.0)C	13.0	7.5
PUR O.I.	**06**	MAT9861806	(4G4.0)C	12.5	10
PUR M.I.	**07**	MAT9851807	(4G4.0+(2x1.5)C)C	16.0	7.5
TPE F	**02**	MAT9961808	(4G4.0)C	13.0	7.5
Cable No. 203					
PVC M.I.	**01**	MAT9761809	(4G4.0)C	13.0	7.5
PUR O.I.	**06**	MAT9861810	(4G4.0)C	12.5	10
PUR M.I.	**07**	MAT9851811	(4G4.0+(2x1.5)C)C	16.0	7.5
TPE F	**02**	MAT9961812	(4G4.0)C	13.0	7.5
Cable No. 26.1					
PVC M.I.	**01**	MAT9761801	(4G1.5)C	10.0	7.5
PUR O.I.	**06**	MAT9861802	(4G1.5)C	9.0	10
PUR M.I.	**07**	MAT9861803	(4G1.5)C	11.0	7.5
TPE F	**02**	MAT9961804	(4G1.5)C	10.0	7.5
Jetter Servo cables					
Basic cable					
Cable No. 202					
PVC M.I.	**05**	MAT9751806	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	**06**	MAT9861807	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	**07**	MAT9851808	(4G4.0+(2x1.5)C)C	16.0	7.5
Cable No. 204					
PVC M.I.	**05**	MAT9751810	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	**06**	MAT9861811	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	**07**	MAT9851812	(4G6.0+(2x1.5)C)C	17.5	7.5
Basic cable					
Cable No. 24.1					
PVC M.I.	**05**	MAT9751802	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	**06**	MAT9851803	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	**07**	MAT9851804	(4G1.5+(2x1.5)C)	13.0	7.5

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igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Jetter

Harnessed drive cables | Jetter
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Jetter Resolver cables					
Basic cable					
Cable No. 23					
PVC	**08**	MAT9741801	(3x(2x0.14)C+2x(0.5)C)C	9.5	10
PUR M.I.	**10**	MAT9841802	(3x(2x0.14)C+(2x0.5)C)C	10.0	7.5
TPE H*	**11**	MAT9941803	(3x(2x0.14)C+(2x0.5)C)C	10.0	7.5
Cable No. 423					
PVC	**08**	MAT9741804	(3x(2x0.14)C+2x(0.5)C)C	9.5	10
PUR M.I.	**10**	MAT9841805	(3x(2x0.14)C+(2x0.5)C)C	10.0	7.5
TPE H*	**11**	MAT9941806	(3x(2x0.14)C+(2x0.5)C)C	10.0	7.5
Basic cable					
Cable No. 523					
PVC	**14**	MAT9741807	(5x(2x0.25))C	8.5	7.5
PUR	**15**	MAT9841808	(5x(2x0.25))C	8.5	7.5
TPE H*	**16**	MAT9941809	(5x(2x0.25))C	9.0	6.8
Cable No. 723					
PVC	**14**	MAT9741810	(5x(2x0.25))C	8.5	7.5
PUR	**15**	MAT9841811	(5x(2x0.25))C	8.5	7.5
TPE H*	**16**	MAT9941812	(5x(2x0.25))C	9.0	6.8

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Kollmorgen/Danaher Motion PVC/TPE

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Motor cables					
Basic cable					
88959 (5m)					
TPE H*	03	MAT9960626	(4G2.5)C	11.5	7.5
88960 (10m)					
TPE H*	03	MAT9960627	(4G2.5)C	11.5	7.5
88962 (15m)					
TPE H*	03	MAT9960628	(4G2.5)C	11.5	7.5
88964 (20m)					
TPE H*	03	MAT9960629	(4G2.5)C	11.5	7.5
88966 (25m)					
TPE H*	03	MAT9960630	(4G2.5)C	11.5	7.5
89918 (5m)					
PVC M.I.	01	MAT9340068	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440068	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960621	(4G1.5)C	10.0	7.5
89952 (10m)					
PVC M.I.	01	MAT9340069	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440069	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960622	(4G1.5)C	10.0	7.5
89953 (15m)					
PVC M.I.	01	MAT9340070	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440070	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960623	(4G1.5)C	10.0	7.5
89954 (20m)					
PVC M.I.	01	MAT9340071	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440071	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960624	(4G1.5)C	10.0	7.5
89956 (25m)					
PVC M.I.	01	MAT9340072	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440072	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960625	(4G1.5)C	10.0	7.5
89959 (5m)					
PVC M.I.	01	MAT9340004	(4G2.5)C	11.5	7.5
TPE F	02	MAT9440004	(4G2.5)C	11.5	7.5
89960 (10m)					
PVC M.I.	01	MAT9340073	(4G2.5)C	11.5	7.5
TPE F	02	MAT9440073	(4G2.5)C	11.5	7.5
89962 (15m)					
PVC M.I.	01	MAT9340074	(4G2.5)C	11.5	7.5
TPE F	02	MAT9440074	(4G2.5)C	11.5	7.5

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Kollmorgen/Danaher Motion PVC/TPE

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Motor cables					
89964 (20m)					
PVC M.I.	01	MAT9340075	(4G2.5)C	11.5	7.5
TPE F	02	MAT9440075	(4G2.5)C	11.5	7.5
89966 (25m)					
PVC M.I.	01	MAT9340076	(4G2.5)C	11.5	7.5
TPE F	02	MAT9440076	(4G2.5)C	11.5	7.5
90083 (5m)					
PVC M.I.	01	MAT9340063	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440063	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960616	(4G1.5)C	10.0	7.5
90084 (10m)					
PVC M.I.	01	MAT9340064	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440064	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960617	(4G1.5)C	10.0	7.5
90085 (15m)					
PVC M.I.	01	MAT9340065	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440065	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960618	(4G1.5)C	10.0	7.5
90086 (20m)					
PVC M.I.	01	MAT9340066	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440066	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960619	(4G1.5)C	10.0	7.5
90087 (25m)					
PVC M.I.	01	MAT9340067	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440067	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960620	(4G1.5)C	10.0	7.5
Basic cable					
102575 (5m)					
PVC M.I.	01	MAT9340058	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440058	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960611	(4G1.5)C	10.0	7.5
102576 (10m)					
PVC M.I.	01	MAT9340059	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440059	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960612	(4G1.5)C	10.0	7.5
102806 (15m)					
PVC M.I.	01	MAT9340060	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440060	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960613	(4G1.5)C	10.0	7.5

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Kollmorgen/Danaher Motion PVC/TPE

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Motor cables					
Basic cable					
102807 (20m)					
PVC M.I.	01	MAT9340061	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440061	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960614	(4G1.5)C	10.0	7.5
102808 (25m)					
PVC M.I.	01	MAT9340062	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440062	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960615	(4G1.5)C	10.0	7.5
Basic cable					
107473 (5m)					
PVC M.I.	01	MAT9340053	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440053	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960606	(4G1.5)C	10.0	7.5
107474 (10m)					
PVC M.I.	01	MAT9340054	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440054	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960607	(4G1.5)C	10.0	7.5
107475 (15m)					
PVC M.I.	01	MAT9340055	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440055	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960608	(4G1.5)C	10.0	7.5
107476 (20m)					
PVC M.I.	01	MAT9340056	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440056	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960609	(4G1.5)C	10.0	7.5
107477 (25m)					
PVC M.I.	01	MAT9340057	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440057	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960610	(4G1.5)C	10.0	7.5
Basic cable					
107485 (5m)					
PVC M.I.	01	MAT9340002	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440002	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960601	(4G1.5)C	10.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Kollmorgen/Danaher Motion PVC/TPE

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Motor cables					
107486 (10m)					
PVC M.I.	01	MAT9340049	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440049	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960602	(4G1.5)C	10.0	7.5
107487 (15m)					
PVC M.I.	01	MAT9340050	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440050	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960603	(4G1.5)C	10.0	7.5
107488 (20m)					
PVC M.I.	01	MAT9340051	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440051	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960604	(4G1.5)C	10.0	7.5
107489 (25m)					
PVC M.I.	01	MAT9340052	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440052	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960605	(4G1.5)C	10.0	7.5
Basic cable					
200456 (5m)					
PVC M.I.	01	MAT9340077	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440077	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960631	(4G1.5)C	10.0	7.5
200457 (10m)					
PVC M.I.	01	MAT9340078	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440078	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960632	(4G1.5)C	10.0	7.5
200458 (15m)					
PVC M.I.	01	MAT9340079	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440079	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960633	(4G1.5)C	10.0	7.5
200459 (20m)					
PVC M.I.	01	MAT9340080	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440080	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960634	(4G1.5)C	10.0	7.5
200460 (25m)					
PVC M.I.	01	MAT9340081	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440081	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960635	(4G1.5)C	10.0	7.5
200468 (5m)					
PVC M.I.	01	MAT9340082	(4G2.5)C	11.5	7.5
TPE F	02	MAT9440082	(4G2.5)C	11.5	7.5
TPE H*	03	MAT9960636	(4G2.5)C	11.5	7.5

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
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Harnessed drive cables | Kollmorgen/Danaher Motion PVC/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Motor cables					
Basic cable					
200469 (10m)					
PVC M.I.	**01**	MAT9340083	(4G2.5)C	11.5	7.5
TPE F	**02**	MAT9440083	(4G2.5)C	11.5	7.5
TPE H*	**03**	MAT9960637	(4G2.5)C	11.5	7.5
200470 (15m)					
PVC M.I.	**01**	MAT9340084	(4G2.5)C	11.5	7.5
TPE F	**02**	MAT9440084	(4G2.5)C	11.5	7.5
TPE H*	**03**	MAT9960638	(4G2.5)C	11.5	7.5
200471 (20m)					
PVC M.I.	**01**	MAT9340085	(4G2.5)C	11.5	7.5
TPE F	**02**	MAT9440085	(4G2.5)C	11.5	7.5
TPE H*	**03**	MAT9960639	(4G2.5)C	11.5	7.5
200472 (25m)					
PVC M.I.	**01**	MAT9340086	(4G2.5)C	11.5	7.5
TPE F	**02**	MAT9440086	(4G2.5)C	11.5	7.5
TPE H*	**03**	MAT9960640	(4G2.5)C	11.5	7.5
200618 (5m)					
PVC M.I.	**01**	MAT9340087	(4G4.0)C	13.0	7.5
TPE F	**02**	MAT9440087	(4G4.0)C	13.0	7.5
TPE H*	**03**	MAT9960641	(4G4.0)C	13.0	7.5
200619 (10m)					
PVC M.I.	**01**	MAT9340088	(4G4.0)C	13.0	7.5
TPE F	**02**	MAT9440088	(4G4.0)C	13.0	7.5
TPE H*	**03**	MAT9960642	(4G4.0)C	13.0	7.5
200620 (15m)					
PVC M.I.	**01**	MAT9340089	(4G4.0)C	13.0	7.5
TPE F	**02**	MAT9440089	(4G4.0)C	13.0	7.5
TPE H*	**03**	MAT9960643	(4G4.0)C	13.0	7.5
200621 (20m)					
PVC M.I.	**01**	MAT9340090	(4G4.0)C	13.0	7.5
TPE F	**02**	MAT9440090	(4G4.0)C	13.0	7.5
TPE H*	**03**	MAT9960644	(4G4.0)C	13.0	7.5
200622 (25m)					
PVC M.I.	**01**	MAT9340091	(4G4.0)C	13.0	7.5
TPE F	**02**	MAT9440091	(4G4.0)C	13.0	7.5
TPE H*	**03**	MAT9960645	(4G4.0)C	13.0	7.5

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Kollmorgen/ Danaher Motion

Harnessed drive cables | Kollmorgen/Danaher Motion PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Servo cables					
Basic cable					
89957 (5m)					
PVC O.I.	**04**	MAT9750621	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	**05**	MAT9340024	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	**06**	MAT9850621	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	**07**	MAT9440024	(4G1.5+(2x1.5)C)	13.0	7.5
89961 (10m)					
PVC O.I.	**04**	MAT9750622	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	**05**	MAT9340025	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	**06**	MAT9850622	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	**07**	MAT9440025	(4G1.5+(2x1.5)C)	13.0	7.5
89963 (15m)					
PVC O.I.	**04**	MAT9750623	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	**05**	MAT9340026	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	**06**	MAT9850623	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	**07**	MAT9440026	(4G1.5+(2x1.5)C)	13.0	7.5
89965 (20m)					
PVC O.I.	**04**	MAT9750624	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	**05**	MAT9340027	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	**06**	MAT9850624	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	**07**	MAT9440027	(4G1.5+(2x1.5)C)	13.0	7.5
89967 (25m)					
PVC O.I.	**04**	MAT9750625	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	**05**	MAT9340028	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	**06**	MAT9850625	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	**07**	MAT9440028	(4G1.5+(2x1.5)C)	13.0	7.5
89968 (5m)					
PVC O.I.	**04**	MAT9750626	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	**05**	MAT9340029	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	**06**	MAT9850626	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	**07**	MAT9440029	(4G2.5+(2x1.5)C)C	14.5	7.5
89969 (25m)					
PVC O.I.	**04**	MAT9750630	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	**05**	MAT9340033	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	**06**	MAT9850630	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	**07**	MAT9440033	(4G2.5+(2x1.5)C)C	14.5	7.5
89970 (10m)					
PVC O.I.	**04**	MAT9750627	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	**05**	MAT9340030	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	**06**	MAT9850627	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	**07**	MAT9440030	(4G2.5+(2x1.5)C)C	14.5	7.5

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Harnessed drive cables | Kollmorgen/Danaher Motion PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Servo cables					
Basic cable					
89971 (15m)					
PVC O.I.	04	MAT9750628	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9340031	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9850628	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9440031	(4G2.5+(2x1.5)C)C	14.5	7.5
89972 (20m)					
PVC O.I.	04	MAT9750629	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9340032	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9850629	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9440032	(4G2.5+(2x1.5)C)C	14.5	7.5
90088 (5m)					
PVC O.I.	04	MAT9750616	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340019	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850616	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440019	(4G1.5+(2x1.5)C)	13.0	7.5
90089 (10m)					
PVC O.I.	04	MAT9750617	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340020	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850617	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440020	(4G1.5+(2x1.5)C)	13.0	7.5
90090 (15m)					
PVC O.I.	04	MAT9750618	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340021	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850618	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440021	(4G1.5+(2x1.5)C)	13.0	7.5
90091 (20m)					
PVC O.I.	04	MAT9750619	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340022	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850619	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440022	(4G1.5+(2x1.5)C)	13.0	7.5
90092 (25m)					
PVC O.I.	04	MAT9750620	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340023	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850620	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440023	(4G1.5+(2x1.5)C)	13.0	7.5

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Harnessed drive cables | Kollmorgen/Danaher Motion PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Servo cables					
Basic cable					
102579 (5m)					
PVC O.I.	04	MAT9750611	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340014	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850611	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440014	(4G1.5+(2x1.5)C)	13.0	7.5
102580 (10m)					
PVC O.I.	04	MAT9750612	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340015	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850612	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440015	(4G1.5+(2x1.5)C)	13.0	7.5
102809 (15m)					
PVC O.I.	04	MAT9750613	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340016	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850613	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440016	(4G1.5+(2x1.5)C)	13.0	7.5
102810 (20m)					
PVC O.I.	04	MAT9750614	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340017	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850614	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440017	(4G1.5+(2x1.5)C)	13.0	7.5
102811 (25m)					
PVC O.I.	04	MAT9750615	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340018	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850615	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440018	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
107479 (5m)					
PVC O.I.	04	MAT9750606	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340009	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850606	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440009	(4G1.5+(2x1.5)C)	13.0	7.5
107480 (10m)					
PVC O.I.	04	MAT9750607	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340010	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850607	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440010	(4G1.5+(2x1.5)C)	13.0	7.5

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
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Harnessed drive cables | Kollmorgen/Danaher Motion PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Servo cables					
Basic cable					
107481 (15m)					
PVC O.I.	04	MAT9750608	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340011	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850608	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440011	(4G1.5+(2x1.5)C)	13.0	7.5
107482 (20m)					
PVC O.I.	04	MAT9750609	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340012	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850609	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440012	(4G1.5+(2x1.5)C)	13.0	7.5
107483 (25m)					
PVC O.I.	04	MAT9750610	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340013	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850610	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440013	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
107491 (5m)					
PVC O.I.	04	MAT9750601	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340001	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850601	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440001	(4G1.5+(2x1.5)C)	13.0	7.5
107492 (10m)					
PVC O.I.	04	MAT9750602	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340005	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850602	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440005	(4G1.5+(2x1.5)C)	13.0	7.5
107493 (15m)					
PVC O.I.	04	MAT9750603	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340006	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850603	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440006	(4G1.5+(2x1.5)C)	13.0	7.5
107494 (20m)					
PVC O.I.	04	MAT9750604	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340007	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850604	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440007	(4G1.5+(2x1.5)C)	13.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Kollmorgen/Danaher Motion PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Servo cables					
107495 (25m)					
PVC O.I.	04	MAT9750605	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340008	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850605	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440008	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
200462 (5m)					
PVC O.I.	04	MAT9750631	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340034	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850631	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440034	(4G1.5+(2x1.5)C)	13.0	7.5
200463 (10m)					
PVC O.I.	04	MAT9750632	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340035	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850632	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440035	(4G1.5+(2x1.5)C)	13.0	7.5
200464 (15m)					
PVC O.I.	04	MAT9750633	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340036	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850633	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440036	(4G1.5+(2x1.5)C)	13.0	7.5
200465 (20m)					
PVC O.I.	04	MAT9750634	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340037	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850634	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440037	(4G1.5+(2x1.5)C)	13.0	7.5
200466 (25m)					
PVC O.I.	04	MAT9750635	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340038	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850635	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440038	(4G1.5+(2x1.5)C)	13.0	7.5
200474 (5m)					
PVC O.I.	04	MAT9750636	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9340039	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9850636	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9440039	(4G2.5+(2x1.5)C)C	14.5	7.5
200475 (10m)					
PVC O.I.	04	MAT9750637	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9340040	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9850637	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9440040	(4G2.5+(2x1.5)C)C	14.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Kollmorgen/Danaher Motion PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Servo cables					
Basic cable					
200476 (15m)					
PVC O.I.	**04**	MAT9750638	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	**05**	MAT9340041	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	**06**	MAT9850638	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	**07**	MAT9440041	(4G2.5+(2x1.5)C)C	14.5	7.5
200477 (20m)					
PVC O.I.	**04**	MAT9750639	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	**05**	MAT9340042	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	**06**	MAT9850639	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	**07**	MAT9440042	(4G2.5+(2x1.5)C)C	14.5	7.5
200478 (25m)					
PVC O.I.	**04**	MAT9750640	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	**05**	MAT9340043	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	**06**	MAT9850640	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	**07**	MAT9440043	(4G2.5+(2x1.5)C)C	14.5	7.5
200623 (5m)					
PVC O.I.	**04**	MAT9750641	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	**05**	MAT9340044	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	**06**	MAT9850641	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	**07**	MAT9440044	(4G4.0+(2x1.5)C)C	16.0	7.5
200624 (10m)					
PVC O.I.	**04**	MAT9750642	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	**05**	MAT9340045	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	**06**	MAT9850642	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	**07**	MAT9440045	(4G4.0+(2x1.5)C)C	16.0	7.5
200625 (15m)					
PVC O.I.	**04**	MAT9750643	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	**05**	MAT9340046	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	**06**	MAT9850643	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	**07**	MAT9440046	(4G4.0+(2x1.5)C)C	16.0	7.5
200626 (20m)					
PVC O.I.	**04**	MAT9750644	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	**05**	MAT9340047	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	**06**	MAT9850644	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	**07**	MAT9440047	(4G4.0+(2x1.5)C)C	16.0	7.5
200627 (25m)					
PVC O.I.	**04**	MAT9750645	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	**05**	MAT9340048	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	**06**	MAT9850645	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	**07**	MAT9440048	(4G4.0+(2x1.5)C)C	16.0	7.5

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igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Kollmorgen/ Danaher Motion

Harnessed drive cables | Kollmorgen/Danaher Motion PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Signal cables					
Basic cable					
84972 (5m)					
PVC	**14**	MAT9320001	(4x(2x0.25))C	7.5	7.5
PUR	**15**	MAT9840601	(4x(2x0.25))C	7.5	7.5
TPE H*	**16**	MAT9330001	(4x(2x0.25))C	8.5	6.8
84973 (10m)					
PVC	**14**	MAT9320009	(4x(2x0.25))C	7.5	7.5
PUR	**15**	MAT9840602	(4x(2x0.25))C	7.5	7.5
TPE H*	**16**	MAT9330009	(4x(2x0.25))C	8.5	6.8
84974 (15m)					
PVC	**14**	MAT9320010	(4x(2x0.25))C	7.5	7.5
PUR	**15**	MAT9840603	(4x(2x0.25))C	7.5	7.5
TPE H*	**16**	MAT9330010	(4x(2x0.25))C	8.5	6.8
84975 (20m)					
PVC	**14**	MAT9320011	(4x(2x0.25))C	7.5	7.5
PUR	**15**	MAT9840604	(4x(2x0.25))C	7.5	7.5
TPE H*	**16**	MAT9330011	(4x(2x0.25))C	8.5	6.8
87655 (25m)					
PVC	**14**	MAT9320012	(4x(2x0.25))C	7.5	7.5
PUR	**15**	MAT9840605	(4x(2x0.25))C	7.5	7.5
TPE H*	**16**	MAT9330012	(4x(2x0.25))C	8.5	6.8
90287 (5m)					
PVC	**14**	MAT9320002	(8x(2x0.25))C	10.5	7.5
TPE H*	**16**	MAT9330002	(8x(2x0.34))C	13.0	6.8
91019 (10m)					
PVC	**14**	MAT9320013	(8x(2x0.25))C	10.5	7.5
TPE H*	**16**	MAT9330013	(8x(2x0.34))C	13.0	6.8
91807 (20m)					
PVC	**14**	MAT9320015	(8x(2x0.25))C	10.5	7.5
TPE H*	**16**	MAT9330015	(8x(2x0.34))C	13.0	6.8
91811 (15m)					
PVC	**14**	MAT9320014	(8x(2x0.25))C	10.5	7.5
TPE H*	**16**	MAT9330014	(8x(2x0.34))C	13.0	6.8
92205 (25m)					
PVC	**14**	MAT9320016	(8x(2x0.25))C	10.5	7.5
TPE H*	**16**	MAT9330016	(8x(2x0.34))C	13.0	6.8

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Kollmorgen/Danaher Motion
PVC/PUR/TPE

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Signal cables					
Basic cable					
107915 (5m)					
PVC	14	MAT9320004	(8x(2x0.25))C	10.5	7.5
TPE H*	16	MAT9330004	(8x(2x0.34))C	13.0	6.8
107916 (10m)					
PVC	14	MAT9320017	(8x(2x0.25))C	10.5	7.5
TPE H*	16	MAT9330017	(8x(2x0.34))C	13.0	6.8
107917 (15m)					
PVC	14	MAT9320018	(8x(2x0.25))C	10.5	7.5
TPE H*	16	MAT9330018	(8x(2x0.34))C	13.0	6.8
107918 (20m)					
PVC	14	MAT9320019	(8x(2x0.25))C	10.5	7.5
TPE H*	16	MAT9330019	(8x(2x0.34))C	13.0	6.8
107919 (25m)					
PVC	14	MAT9320020	(8x(2x0.25))C	10.5	7.5
TPE H*	16	MAT9330020	(8x(2x0.34))C	13.0	6.8
Basic cable					
85034 (5m)					
PVC	14	MAT9320007	(6x(2x0.25))C	9.0	7.5
PUR	15	MAT9840606	(6x(2x0.25))C	9.0	7.5
TPE H*	16	MAT9330007	(6x(2x0.25))C	10.0	6.8
85035 (10m)					
PVC	14	MAT9320021	(6x(2x0.25))C	9.0	7.5
PUR	15	MAT9840607	(6x(2x0.25))C	9.0	7.5
TPE H*	16	MAT9330021	(6x(2x0.25))C	10.0	6.8
85036 (15m)					
PVC	14	MAT9320022	(6x(2x0.25))C	9.0	7.5
PUR	15	MAT9840608	(6x(2x0.25))C	9.0	7.5
TPE H*	16	MAT9330022	(6x(2x0.25))C	10.0	6.8
85037 (20m)					
PVC	14	MAT9320023	(6x(2x0.25))C	9.0	7.5
PUR	15	MAT9840609	(6x(2x0.25))C	9.0	7.5
TPE H*	16	MAT9330023	(6x(2x0.25))C	10.0	6.8

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Kollmorgen/Danaher Motion
PVC/PUR/TPE

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Signal cables					
Basic cable					
85039 (5m)					
PVC	14	MAT9320008	(6x(2x0.25))C	9.0	7.5
PUR	15	MAT9840610	(6x(2x0.25))C	9.0	7.5
TPE H*	16	MAT9330008	(6x(2x0.25))C	10.0	6.8
85040 (10m)					
PVC	14	MAT9320024	(6x(2x0.25))C	9.0	7.5
PUR	15	MAT9840611	(6x(2x0.25))C	9.0	7.5
TPE H*	16	MAT9330024	(6x(2x0.25))C	10.0	6.8
85041 (15m)					
PVC	14	MAT9320025	(6x(2x0.25))C	9.0	7.5
PUR	15	MAT9840612	(6x(2x0.25))C	9.0	7.5
TPE H*	16	MAT9330025	(6x(2x0.25))C	10.0	6.8
85042 (20m)					
PVC	14	MAT9320026	(6x(2x0.25))C	9.0	7.5
PUR	15	MAT9840613	(6x(2x0.25))C	9.0	7.5
TPE H*	16	MAT9330026	(6x(2x0.25))C	10.0	6.8

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Lenze
PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Lenze Servo cables					
Basic cable					
EWLMxxxGMS-015C					
PVC O.I.	04	MAT9751101	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9130001	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851101	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9120001	(4G1.5+(2x1.5)C)	13.0	7.5
EWLMxxxGMS-025					
PVC O.I.	04	MAT9751102	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9130002	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851102	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9120002	(4G2.5+(2x1.5)C)C	14.5	7.5
EWLMxxxGMS-040I					
PVC O.I.	04	MAT9751130	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9751129	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851130	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9851129	(4G4.0+(2x1.5)C)C	16.0	7.5
EYP0010AxxxxA00P01					
PVC O.I.	04	MAT9751116	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9130063	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851118	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9120063	(4G1.5+(2x1.5)C)	13.0	7.5
EYP0010AxxxxM01A00					
PVC O.I.	04	MAT9751107	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9130050	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851105	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9120050	(4G1.5+(2x1.5)C)	13.0	7.5
EYP0011AxxxxA00P01					
PVC O.I.	04	MAT9751117	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9130064	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851119	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9120064	(4G1.5+(2x1.5)C)	13.0	7.5
EYP0011AxxxxM01A00					
PVC O.I.	04	MAT9751108	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9130051	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851106	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9120051	(4G1.5+(2x1.5)C)	13.0	7.5
EYP0012AxxxxA00P01					
PVC O.I.	04	MAT9751118	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9130065	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851120	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9120065	(4G2.5+(2x1.5)C)C	14.5	7.5

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Lenze
PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Lenze Servo cables					
EYP0012AxxxxA00P02					
PVC O.I.	04	MAT9751113	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9130058	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851113	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9120058	(4G2.5+(2x1.5)C)C	14.5	7.5
EYP0012AxxxxM01A00					
PVC O.I.	04	MAT9751109	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9130052	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851107	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9120052	(4G2.5+(2x1.5)C)C	14.5	7.5
EYP0012AxxxxM02A00					
PVC O.I.	04	MAT9751110	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9130053	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851108	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9120053	(4G2.5+(2x1.5)C)C	14.5	7.5
EYP0013AxxxxA00P02					
PVC O.I.	04	MAT9751114	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9130059	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851114	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9120059	(4G4.0+(2x1.5)C)C	16.0	7.5
EYP0013AxxxxM02A00					
PVC O.I.	04	MAT9751111	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9130054	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851109	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9120054	(4G4.0+(2x1.5)C)C	16.0	7.5
EYP0014AxxxxA00P03					
PVC O.I.	04	MAT9751115	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9130060	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851115	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9120060	(4G6.0+(2x1.5)C)C	17.5	7.5
EYP0014AxxxxM03A00					
PVC O.I.	04	MAT9751112	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9130055	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851110	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR M.I.	07	MAT9120055	(4G6.0+(2x1.5)C)C	17.5	7.5
EYP0015AxxxxA00P03					
PVC M.I.	05	MAT9130061	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851116	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9120061	(4G10+(2x1.5)C)C	21.0	7.5
EYP0015AxxxxM03A00					
PVC M.I.	05	MAT9130056	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851111	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9120056	(4G10+(2x1.5)C)C	21.0	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Lenze
PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Lenze Servo cables					
Basic cable					
EYP0016AxxxxA00P03					
PVC M.I.	05	MAT9130062	(4G16+(2x1.5)C)C	25.0	7.5
PUR O.I.	06	MAT9851117	(4G16+(2x1.5)C)C	24.0	10
PUR M.I.	07	MAT9120062	(4G16+(2x1.5)C)C	24.0	7.5
EYP0016AxxxxM03A00					
PVC M.I.	05	MAT9130057	(4G16+(2x1.5)C)C	25.0	7.5
PUR O.I.	06	MAT9851112	(4G16+(2x1.5)C)C	24.0	10
PUR M.I.	07	MAT9120057	(4G16+(2x1.5)C)C	24.0	7.5
Linking cable					
EWLMxxxZM-015C					
PVC O.I.	04	MAT9751103	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9130006	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851103	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9120006	(4G1.5+(2x1.5)C)	13.0	7.5
EWLMxxxZM-025					
PVC O.I.	04	MAT9751104	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9130007	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851104	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9120007	(4G2.5+(2x1.5)C)C	14.5	7.5
EYP0010VxxxxM01P01					
PVC O.I.	04	MAT9751122	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9130071	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851126	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9120071	(4G1.5+(2x1.5)C)	13.0	7.5
EYP0011VxxxxM01P01					
PVC O.I.	04	MAT9751123	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9130072	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851127	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9120072	(4G1.5+(2x1.5)C)	13.0	7.5
EYP0012VxxxxM01P01					
PVC O.I.	04	MAT9751124	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9130073	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851128	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9120073	(4G2.5+(2x1.5)C)C	14.5	7.5
EYP0012VxxxxM02P02					
PVC O.I.	04	MAT9751119	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9130066	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851121	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9120066	(4G2.5+(2x1.5)C)C	14.5	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Lenze
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Lenze Servo cables					
EYP0013VxxxxM02P02					
PVC O.I.	04	MAT9751120	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9130067	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851122	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9120067	(4G4.0+(2x1.5)C)C	16.0	7.5
EYP0014VxxxxM03P03					
PVC O.I.	04	MAT9751121	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9130068	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851123	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9120068	(4G6.0+(2x1.5)C)C	17.5	7.5
EYP0015VxxxxM03P03					
PVC M.I.	05	MAT9130069	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851124	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9120069	(4G10+(2x1.5)C)C	21.0	7.5
EYP0016VxxxxM03P03					
PVC M.I.	05	MAT9130070	(4G16+(2x1.5)C)C	25.0	7.5
PUR O.I.	06	MAT9851125	(4G16+(2x1.5)C)C	24.0	10
PUR M.I.	07	MAT9120070	(4G16+(2x1.5)C)C	24.0	7.5
Lenze Fan cables					
Basic cable					
EWLLxxxGMS					
PVC	17	MAT9761101	3G1.0	6.5	7.5
PVC, oil-res.	19	MAT9130031	3G1.0	6.5	6.8
TPE H*	23	MAT9120031	3G1.0	6.0	5
TPE F	25	MAT9961101	3G1.0	6.5	5
EYL002AxxxxL01A00					
PVC, oil-res.	19	MAT9130040	5G1.0	8.0	6.8
TPE H*	23	MAT9120040	5G1.0	7.5	5
EYL002AxxxxL02A00					
PVC, oil-res.	19	MAT9130041	5G1.0	8.0	6.8
TPE H*	23	MAT9120041	5G1.0	7.5	5
Linking cable					
EWLLxxxZM					
PVC	17	MAT9761102	3G1.0	6.5	7.5
PVC, oil-res.	19	MAT9130032	3G1.0	6.5	6.8
TPE H*	23	MAT9120032	3G1.0	6.0	5
TPE F	25	MAT9961102	3G1.0	6.5	5
EYL002VxxxxL01J01					
PVC, oil-res.	19	MAT9130044	5G1.0	8.0	6.8
TPE H*	23	MAT9120044	5G1.0	7.5	5

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Harnessed drive cables | Lenze
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Lenze Fan cables					
Linking cable					
EYL002VxxxxL02J02					
PVC, oil-res.	**19**	MAT9130045	5G1.0	8.0	6.8
TPE H*	**23**	MAT9120045	5G1.0	7.5	5
Extension cable					
EYL002VxxxxA00J01					
PVC, oil-res.	**19**	MAT9130042	5G1.0	8.0	6.8
TPE H*	**23**	MAT9120042	5G1.0	7.5	5
EYL002VxxxxA00J02					
PVC, oil-res.	**19**	MAT9130043	5G1.0	8.0	6.8
PUR	**21**	MAT9861110	5G1.0	8.0	6.8
TPE H*	**23**	MAT9120043	5G1.0	7.5	5
TPE F	**25**	MAT9961106	5G1.0	9.0	5
Lenze Decoder cables					
Linking cable					
EYD0017AxxxxW01S01					
PVC	**08**	MAT9130100	3x(2x0.14)C+(3x0.14)C	8.0	10
PUR M.I.	**10**	MAT9841107	3x(2x0.14)C+(3x0.14)C	8.5	7.5
TPE H*	**11**	MAT9120100	3x(2x0.14)C+(3x0.14)C	8.0	6.8
EYD0017AxxxxW01S02					
PVC	**08**	MAT9130101	3x(2x0.14)C+(3x0.14)C	8.0	10
PUR M.I.	**10**	MAT9841108	3x(2x0.14)C+(3x0.14)C	8.5	7.5
TPE H*	**11**	MAT9120101	3x(2x0.14)C+(3x0.14)C	8.0	6.8
EYD0017AxxxxW03S01					
PVC	**08**	MAT9130102	3x(2x0.14)C+(3x0.14)C	8.0	10
PUR M.I.	**10**	MAT9841109	3x(2x0.14)C+(3x0.14)C	8.5	7.5
TPE H*	**11**	MAT9120102	3x(2x0.14)C+(3x0.14)C	8.0	6.8
EYD0017AxxxxW03S02					
PVC	**08**	MAT9130103	3x(2x0.14)C+(3x0.14)C	8.0	10
PUR M.I.	**10**	MAT9841110	3x(2x0.14)C+(3x0.14)C	8.5	7.5
TPE H*	**11**	MAT9120103	3x(2x0.14)C+(3x0.14)C	8.0	6.8

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Lenze
PVC/PUR/TPE

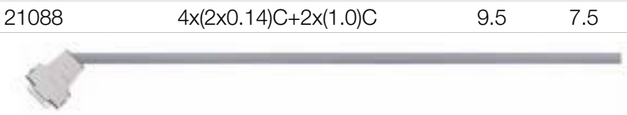
* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Lenze Encoder cables					
Basic cable					
EWLExxxGM-T					
PVC	**08**	MAT9130026	(4x(2x0.25)+2x1.0)C	8.5	10
PUR M.I.	**10**	MAT9841104	(4x(2x0.25)+2x1.0)C	9.0	7.5
TPE H*	**11**	MAT9120026	(4x(2x0.25)+2x1.0)C	9.0	6.8
Linking cable					
EWLExxxZMST					
PVC	**08**	MAT9130027	(4x(2x0.25)+2x1.0)C	8.5	10
PUR M.I.	**10**	MAT9841105	(4x(2x0.25)+2x1.0)C	9.0	7.5
TPE H*	**11**	MAT9120027	(4x(2x0.25)+2x1.0)C	9.0	6.8
Terminal box connection cable					
EWLExxxGX-T					
PVC	**08**	MAT9130028	(4x(2x0.25)+2x1.0)C	8.5	10
PUR M.I.	**10**	MAT9841106	(4x(2x0.25)+2x1.0)C	9.0	7.5
TPE H*	**11**	MAT9120028	(4x(2x0.25)+2x1.0)C	9.0	6.8
Lenze Feedback cables					
Basic cable					
EYF0017AxxxxA00W02					
PUR M.I.	**10**	MAT9121091	4x(2x0.14)C+2x(1.0)C	9.5	7.5
Basic cable					
EYF0018AxxxxA00S03					
PVC	**08**	MAT9130095	4x(2x0.14)C+2x(1.0)C	9.5	10
PUR M.I.	**10**	MAT9121095	4x(2x0.14)C+2x(1.0)C	9.5	7.5
TPE H*	**11**	MAT9120095	4x(2x0.14)C+2x(1.0)C	9.5	6.8
Basic cable					
EYF0018AxxxxA00W02					
PVC	**08**	MAT9130091	4x(2x0.14)C+2x(1.0)C	9.5	10
TPE H*	**11**	MAT9120091	4x(2x0.14)C+2x(1.0)C	9.5	6.8

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Harnessed drive cables | Lenze
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Lenze Feedback cables					
Basic cable					
EYF0018AxxxxF02S03					
PVC	**08**	MAT9130088	4x(2x0.14)C+2x(1.0)C	9.5	10
TPE H*	**11**	MAT9120088	4x(2x0.14)C+2x(1.0)C	9.5	6.8
Basic cable					
EYF0018AxxxxF02W02					
PVC	**08**	MAT9130087	4x(2x0.14)C+2x(1.0)C	9.5	10
PUR M.I.	**10**	MAT9121087	4x(2x0.14)C+2x(1.0)C	9.5	7.5
TPE H*	**11**	MAT9120087	4x(2x0.14)C+2x(1.0)C	9.5	6.8
Basic cable					
EYF0019AxxxxF02S03					
PUR M.I.	**10**	MAT9121088	4x(2x0.14)C+2x(1.0)C	9.5	7.5
Basic cable					
EYF0020AxxxxA00S04					
PVC	**08**	MAT9130092	3x(2x0.14)C+(3x0.14)C	8.0	10
PUR M.I.	**10**	MAT9121092	3x(2x0.14)C+(3x0.14)C	8.5	7.5
TPE H*	**11**	MAT9120092	3x(2x0.14)C+(3x0.14)C	8.0	6.8
Basic cable					
EYF0020AxxxxA00S05					
PVC	**08**	MAT9130093	3x(2x0.14)C+(3x0.14)C	8.0	10
PUR M.I.	**10**	MAT9121093	3x(2x0.14)C+(3x0.14)C	8.5	7.5
TPE H*	**11**	MAT9120093	3x(2x0.14)C+(3x0.14)C	8.0	6.8
Basic cable					
EYF0020AxxxxF01S04					
PVC	**08**	MAT9130089	3x(2x0.14)C+(3x0.14)C	8.0	10
PUR M.I.	**10**	MAT9121089	3x(2x0.14)C+(3x0.14)C	8.5	7.5
TPE H*	**11**	MAT9120089	3x(2x0.14)C+(3x0.14)C	8.0	6.8

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Lenze
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Lenze Feedback cables					
Basic cable					
EYF0020AxxxxF01S05					
PVC	**08**	MAT9130090	3x(2x0.14)C+(3x0.14)C	8.0	10
PUR M.I.	**10**	MAT9121090	3x(2x0.14)C+(3x0.14)C	8.5	7.5
TPE H*	**11**	MAT9120090	3x(2x0.14)C+(3x0.14)C	8.0	6.8
Basic cable					
EYF0021AxxxxA00S03					
PUR M.I.	**10**	MAT9121094	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	11.5	7.5
TPE H*	**11**	MAT9120094	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	11.0	6.8
Basic cable					
EYF0021AxxxxF03S03					
PUR M.I.	**10**	MAT9121086	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	11.5	7.5
TPE H*	**11**	MAT9120086	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	11.0	6.8
EYF0021AxxxxF07S03					
PUR M.I.	**10**	MAT9841111	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	11.5	7.5
TPE H*	**11**	MAT9941111	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	11.0	6.8
Linking cable					
EYF0019VxxxxF02G02					
PVC	**08**	MAT9130084	4x(2x0.14)C+2x(1.0)C	9.5	10
PUR M.I.	**10**	MAT9121084	4x(2x0.14)C+2x(1.0)C	9.5	7.5
TPE H*	**11**	MAT9120084	4x(2x0.14)C+2x(1.0)C	9.5	6.8
EYF0019VxxxxF06G07					
PUR M.I.	**10**	MAT9121096	4x(2x0.14)C+2x(1.0)C	9.5	7.5
TPE H*	**11**	MAT9120096	4x(2x0.14)C+2x(1.0)C	9.5	6.8
EYF0020VxxxxF01G01					
PVC	**08**	MAT9130083	3x(2x0.14)C+(3x0.14)C	8.0	10
PUR M.I.	**10**	MAT9121083	3x(2x0.14)C+(3x0.14)C	8.5	7.5
TPE H*	**11**	MAT9120083	3x(2x0.14)C+(3x0.14)C	8.0	6.8
Linking cable					
EYF0022VxxxxF03G03					
PUR M.I.	**10**	MAT9121085	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	11.5	7.5
TPE H*	**11**	MAT9120085	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	11.0	6.8

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Lenze
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Lenze Feedback cables					
Extension cable					
EYF0019VxxxxA00G02					
PVC	**08**	MAT9130081	4x(2x0.14)C+2x(1.0)C	9.5	10
PUR M.I.	**10**	MAT9121081	4x(2x0.14)C+2x(1.0)C	9.5	7.5
TPE H*	**11**	MAT9120081	4x(2x0.14)C+2x(1.0)C	9.5	6.8
EYF0020VxxxxA00G01					
PVC	**08**	MAT9130080	3x(2x0.14)C+(3x0.14)C	8.0	10
PUR M.I.	**10**	MAT9121080	3x(2x0.14)C+(3x0.14)C	8.5	7.5
TPE H*	**11**	MAT9120080	3x(2x0.14)C+(3x0.14)C	8.0	6.8
EYF0022VxxxxA00G03					
PUR M.I.	**10**	MAT9121082	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	11.5	7.5
TPE H*	**11**	MAT9120082	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	11.0	6.8
Lenze Resolver cables					
Basic cable					
EWLRxxxGM-T					
PVC	**08**	MAT9130021	(3x(2x0.14)C+2x(0.5)C)C	9.5	10
PUR M.I.	**10**	MAT9841101	(3x(2x0.14)C+(2x0.5)C)C	10.0	7.5
TPE H*	**11**	MAT9120021	(3x(2x0.14)C+(2x0.5)C)C	10.0	6.8
Linking cable					
EWLRxxxZMST					
PVC	**08**	MAT9130022	(3x(2x0.14)C+2x(0.5)C)C	9.5	10
PUR M.I.	**10**	MAT9841102	(3x(2x0.14)C+(2x0.5)C)C	10.0	7.5
TPE H*	**11**	MAT9120022	(3x(2x0.14)C+(2x0.5)C)C	10.0	6.8
Terminal box connection cable					
EWLRxxxGX-T					
PVC	**08**	MAT9130023	(3x(2x0.14)C+2x(0.5)C)C	9.5	10
PUR M.I.	**10**	MAT9841103	(3x(2x0.14)C+(2x0.5)C)C	10.0	7.5
TPE H*	**11**	MAT9120023	(3x(2x0.14)C+(2x0.5)C)C	10.0	6.8

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | LinMot
PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
LinMot Motor cables					
Basic cable					
P10-70x…-D01/D02-MS					
PVC M.I.	**01**	MAT9762401	(4G1.5)C	10.0	7.5
PUR O.I.	**06**	MAT9862401	(4G1.5)C	9.0	10
PUR M.I.	**07**	MAT9862402	(4G1.5)C	11.0	7.5
LinMot Servo cables					
Basic cable					
P10-70x…-D03-MS					
PVC O.I.	**04**	MAT9752401	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	**05**	MAT9752402	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	**06**	MAT9852402	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	**07**	MAT9852401	(4G1.5+(2x1.5)C)	13.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | LTi DRiVES PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
LTi DRiVES Servo cables					
Basic cable					
KM3-KSxxx					
PVC O.I.	04	MAT9020004	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9020003	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9020002	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9020001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
KM3-KSxxx-24A					
PVC O.I.	04	MAT9020014	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9020013	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9020012	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9020011	(4G2.5+2x(2x1.5)C)C	16.0	7.5
Basic cable					
KM3-KSxxx-63A					
PVC M.I.	05	MAT9020023	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9020022	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9020021	(4G10+2x(2x1.5)C)C	22.5	7.5
Extension cable					
KM3-KSxxx (ext.)					
PVC O.I.	04	MAT9022004	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR O.I.	06	MAT9022002	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9022001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
KM3-KSxxx (ext.)					
PVC M.I.	05	MAT9022003	(4G1.5+2x(2x0.75)C)C	14.5	7.5
KM3-KSxxx-24A (ext.)					
PVC O.I.	04	MAT9022014	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9022013	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9022012	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9022011	(4G2.5+2x(2x1.5)C)C	16.0	7.5
Extension cable					
KM3-KSxxx-63A (ext.)					
PVC M.I.	05	MAT9022023	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR M.I.	07	MAT9022021	(4G10+2x(2x1.5)C)C	22.5	7.5
KM3-KSxxx-63A (ext.)					
PUR O.I.	06	MAT9022022	(4G10+2x(2x1.5)C)C	22.5	10

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | LTi DRiVES PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
LTi DRiVES Encoder cables					
Basic cable					
KGH2-KSxxx					
PVC	08	MAT9021004	(4x(2x0.25)+2x1.0)C	8.5	10
TPE H*	11	MAT9021001	(4x(2x0.25)+2x1.0)C	9.0	6.8
KGH3-KSxxx					
PVC	08	MAT9021014	(4x(2x0.25)+2x1.0)C	8.5	10
TPE H*	11	MAT9021011	(4x(2x0.25)+2x1.0)C	9.0	6.8
KGS2-KSxxx					
PUR O.I.	09	MAT9021023	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	10.5	10
PUR M.I.	10	MAT9021022	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	7.5
TPE H*	11	MAT9021021	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	6.8
KRY2-CDF-KSxxx					
PVC	08	MAT9021034	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9021032	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9021031	(4x(2x0.25)+2x0.5)C	8.5	6.8
KRY2-KSxxx					
PVC	08	MAT9021044	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9021042	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9021041	(4x(2x0.25)+2x0.5)C	8.5	6.8
Extension cable					
KGH2-KSxxx (ext.)					
PVC	08	MAT9023004	(4x(2x0.25)+2x1.0)C	8.5	10
TPE H*	11	MAT9023001	(4x(2x0.25)+2x1.0)C	9.0	6.8
KGH3-KSxxx (ext.)					
PVC	08	MAT9023014	(4x(2x0.25)+2x1.0)C	8.5	10
TPE H*	11	MAT9023011	(4x(2x0.25)+2x1.0)C	9.0	6.8
KGS2-KSxxx (ext.)					
PUR O.I.	09	MAT9023023	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	10.5	10
PUR M.I.	10	MAT9023022	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	7.5
TPE H*	11	MAT9023021	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	6.8
KRY2-CDF-KSxxx (ext.)					
PVC	08	MAT9023034	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9023032	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9023031	(4x(2x0.25)+2x0.5)C	8.5	6.8
KRY2-KSxxx (ext.)					
PVC	08	MAT9023044	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9023042	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9023041	(4x(2x0.25)+2x0.5)C	8.5	6.8

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Mitsubishi Electric PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Mitsubishi Electric Motor cables					
Basic cable					
MR-BKS1CBL-xxx-A1-H					
PVC, oil-res.	**19**	MAT9712002	3G0.75	6.5	6.8
PUR	**21**	MAT9812002	3G0.75	6.5	6.8
MR-BKS1CBL-xxx-A2-H					
PVC, oil-res.	**19**	MAT9712004	3G0.75	6.5	6.8
PUR	**21**	MAT9812004	3G0.75	6.5	6.8
Basic cable					
MR-PWS1CBL-xxx-A1-H					
PVC, oil-res.	**19**	MAT9712001	4G0.75	7.0	6.8
PUR	**21**	MAT9812001	4G0.75	7.0	6.8
MR-PWS1CBL-xxx-A2-H					
PVC, oil-res.	**19**	MAT9712003	4G0.75	7.0	6.8
PUR	**21**	MAT9812003	4G0.75	7.0	6.8
Basic cable					
PCS015N-xxx-0-0C4					
PVC M.I.	**01**	MAT9752002	(4G1.5)C	10.0	7.5
PUR O.I.	**06**	MAT9852002	(4G1.5)C	9.0	10
PUR M.I.	**07**	MAT9952002	(4G1.5)C	11.0	7.5
PCS025N-xxx-0-0C5					
PVC M.I.	**01**	MAT9752003	(4G2.5)C	11.5	7.5
PUR O.I.	**06**	MAT9852003	(4G2.5)C	10.5	10
PUR M.I.	**07**	MAT9952003	(4G2.5)C	12.5	7.5
PCS025N-xxx-C4					
PVC O.I.	**04**	MAT9752001	(4G2.5+(2x1.5)C)C	14.0	10
PUR O.I.	**06**	MAT9852001	(4G2.5)C	10.5	10
PUR M.I.	**07**	MAT9952001	(4G2.5)C	12.5	7.5
PCS040N-xxx-0-0C4					
PVC M.I.	**01**	MAT9752004	(4G4.0)C	13.0	7.5
PUR O.I.	**06**	MAT9852004	(4G4.0)C	12.5	10
TPE F	**02**	MAT9952004	(4G4.0)C	13.0	7.5
PCS040N-xxx-0-0C5					
PVC M.I.	**01**	MAT9752005	(4G4.0)C	13.0	7.5
PUR O.I.	**06**	MAT9852005	(4G4.0)C	12.5	10
TPE F	**02**	MAT9952005	(4G4.0)C	13.0	7.5

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Harnessed drive cables | Mitsubishi Electric PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Mitsubishi Electric Motor cables					
PCS060N-xxx-0-0C5					
PVC M.I.	**01**	MAT9752006	(4G6.0)C	16.0	7.5
PUR O.I.	**06**	MAT9852006	(4G6.0)C	14.5	10
TPE F	**02**	MAT9952006	(4G6.0)C	16.0	7.5
Mitsubishi Electric Encoder cables					
Basic cable					
MR-J3ENCBL-xxx-A1-H					
PVC	**14**	MAT9722002	(3x(2x0.25))C	7.0	7.5
PUR	**15**	MAT9822002	(3x(2x0.25))C	7.0	7.5
MR-J3ENCBL-xxx-A2-H					
PVC	**14**	MAT9722003	(3x(2x0.25))C	7.0	7.5
PUR	**15**	MAT9822003	(3x(2x0.25))C	7.0	7.5
Basic cable					
MR-J3ENSCBL-xxx-H					
PVC	**14**	MAT9722001	(3x(2x0.25))C	7.0	7.5
PUR	**15**	MAT9822001	(3x(2x0.25))C	7.0	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Nidec/Control Techniques
PVC/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Nidec/Control Techniques Motor cables					
Basic cable					
PS B A A A XXX					
PVC M.I.	**01**	MAT9560002	(4G2.5)C	11.5	7.5
TPE F	**02**	MAT9540002	(4G2.5)C	11.5	7.5
TPE H*	**03**	MAT9960502	(4G2.5)C	11.5	7.5
PS B A F A XXX					
PVC M.I.	**01**	MAT9560005	(4G2.5)C	11.5	7.5
TPE F	**02**	MAT9540005	(4G2.5)C	11.5	7.5
TPE H*	**03**	MAT9960505	(4G2.5)C	11.5	7.5
PS B B A A XXX					
PVC M.I.	**01**	MAT9560003	(4G4.0)C	13.0	7.5
TPE F	**02**	MAT9540003	(4G4.0)C	13.0	7.5
TPE H*	**03**	MAT9960503	(4G4.0)C	13.0	7.5
PS B B F A XXX					
PVC M.I.	**01**	MAT9560006	(4G4.0)C	13.0	7.5
TPE F	**02**	MAT9540006	(4G4.0)C	13.0	7.5
TPE H*	**03**	MAT9960506	(4G4.0)C	13.0	7.5
PS B G A A XXX					
PVC M.I.	**01**	MAT9560001	(4G1.5)C	10.0	7.5
TPE F	**02**	MAT9540001	(4G1.5)C	10.0	7.5
TPE H*	**03**	MAT9960501	(4G1.5)C	10.0	7.5
PS B G F A XXX					
PVC M.I.	**01**	MAT9560004	(4G1.5)C	10.0	7.5
TPE F	**02**	MAT9540004	(4G1.5)C	10.0	7.5
TPE H*	**03**	MAT9960504	(4G1.5)C	10.0	7.5
Basic cable					
PS B A A B XXX					
PVC M.I.	**01**	MAT9560008	(4G2.5)C	11.5	7.5
TPE F	**02**	MAT9540008	(4G2.5)C	11.5	7.5
TPE H*	**03**	MAT9960508	(4G2.5)C	11.5	7.5
PS B A B B XXX					
PVC M.I.	**01**	MAT9560020	(4G2.5)C	11.5	7.5
TPE F	**02**	MAT9540020	(4G2.5)C	11.5	7.5
TPE H*	**03**	MAT9960520	(4G2.5)C	11.5	7.5
PS B A F B XXX					
PVC M.I.	**01**	MAT9560014	(4G2.5)C	11.5	7.5
TPE F	**02**	MAT9540014	(4G2.5)C	11.5	7.5
TPE H*	**03**	MAT9960514	(4G2.5)C	11.5	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Nidec/Control Techniques
PVC/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Nidec/Control Techniques Motor cables					
PS B B A B XXX					
PVC M.I.	**01**	MAT9560009	(4G4.0)C	13.0	7.5
TPE F	**02**	MAT9540009	(4G4.0)C	13.0	7.5
TPE H*	**03**	MAT9960509	(4G4.0)C	13.0	7.5
PS B B B B XXX					
PVC M.I.	**01**	MAT9560021	(4G4.0)C	13.0	7.5
TPE F	**02**	MAT9540021	(4G4.0)C	13.0	7.5
TPE H*	**03**	MAT9960521	(4G4.0)C	13.0	7.5
PS B B F B XXX					
PVC M.I.	**01**	MAT9560015	(4G4.0)C	13.0	7.5
TPE F	**02**	MAT9540015	(4G4.0)C	13.0	7.5
TPE H*	**03**	MAT9960515	(4G4.0)C	13.0	7.5
Basic cable					
PS B C A B XXX					
PVC M.I.	**01**	MAT9560010	(4G6.0)C	16.0	7.5
TPE F	**02**	MAT9540010	(4G6.0)C	16.0	7.5
TPE H*	**03**	MAT9960510	(4G6.0)C	16.0	7.5
PS B C B B XXX					
PVC M.I.	**01**	MAT9560022	(4G6.0)C	16.0	7.5
TPE F	**02**	MAT9540022	(4G6.0)C	16.0	7.5
TPE H*	**03**	MAT9960522	(4G6.0)C	16.0	7.5
PS B C F B XXX					
PVC M.I.	**01**	MAT9560016	(4G6.0)C	16.0	7.5
TPE F	**02**	MAT9540016	(4G6.0)C	16.0	7.5
TPE H*	**03**	MAT9960516	(4G6.0)C	16.0	7.5
PS B D A B XXX					
PVC M.I.	**01**	MAT9560011	(4G10)C	18.5	7.5
TPE F	**02**	MAT9540011	(4G10)C	18.5	7.5
TPE H*	**03**	MAT9960511	(4G10)C	18.5	7.5
PS B D B B XXX					
PVC M.I.	**01**	MAT9560023	(4G10)C	18.5	7.5
TPE F	**02**	MAT9540023	(4G10)C	18.5	7.5
TPE H*	**03**	MAT9960523	(4G10)C	18.5	7.5
PS B D F B XXX					
PVC M.I.	**01**	MAT9560017	(4G10)C	18.5	7.5
TPE F	**02**	MAT9540017	(4G10)C	18.5	7.5
TPE H*	**03**	MAT9960517	(4G10)C	18.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Nidec/Control Techniques
PVC/PUR/TPE

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Nidec/Control Techniques Motor cables					
Basic cable					
PS B E A B XXX					
PVC M.I.	01	MAT9560012	(4G16)C	23.0	7.5
TPE F	02	MAT9540012	(4G16)C	23.0	7.5
TPE H*	03	MAT9960512	(4G16)C	23.0	7.5
PS B E B B XXX					
PVC M.I.	01	MAT9560024	(4G16)C	23.0	7.5
TPE F	02	MAT9540024	(4G16)C	23.0	7.5
TPE H*	03	MAT9960524	(4G16)C	23.0	7.5
PS B E F B XXX					
PVC M.I.	01	MAT9560018	(4G16)C	23.0	7.5
TPE F	02	MAT9540018	(4G16)C	23.0	7.5
TPE H*	03	MAT9960518	(4G16)C	23.0	7.5
PS B G A B XXX					
PVC M.I.	01	MAT9560007	(4G1.5)C	10.0	7.5
TPE F	02	MAT9540007	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960507	(4G1.5)C	10.0	7.5
PS B G B B XXX					
PVC M.I.	01	MAT9560019	(4G1.5)C	10.0	7.5
TPE F	02	MAT9540019	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960519	(4G1.5)C	10.0	7.5
PS B G F B XXX					
PVC M.I.	01	MAT9560013	(4G1.5)C	10.0	7.5
TPE F	02	MAT9540013	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960513	(4G1.5)C	10.0	7.5
Nidec/Control Techniques Servo cables					
Basic cable					
PB B A A A XXX					
PVC O.I.	04	MAT9750502	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9560041	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR M.I.	07	MAT9540041	(4G2.5+(2x1.5)C)C	14.5	7.5
PB B A F A XXX					
PVC O.I.	04	MAT9750505	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9560044	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR M.I.	07	MAT9540044	(4G2.5+(2x1.5)C)C	14.5	7.5
PB B B A A XXX					
PVC O.I.	04	MAT9750503	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9560042	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR M.I.	07	MAT9540042	(4G4.0+(2x1.5)C)C	16.0	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

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Nidec/ Control Techniques

Harnessed drive cables | Nidec/Control Techniques
PVC/PUR

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Nidec/Control Techniques Servo cables					
PB B B F A XXX					
PVC O.I.	04	MAT9750506	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9560045	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR M.I.	07	MAT9540045	(4G4.0+(2x1.5)C)C	16.0	7.5
PB B G A A XXX					
PVC O.I.	04	MAT9750501	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9560040	(4G1.5+(2x1.5)C)	13.0	7.5
PUR M.I.	07	MAT9540040	(4G1.5+(2x1.5)C)	13.0	7.5
PB B G F A XXX					
PVC O.I.	04	MAT9750504	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9560043	(4G1.5+(2x1.5)C)	13.0	7.5
PUR M.I.	07	MAT9540043	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
PB B A A B XXX					
PVC O.I.	04	MAT9750508	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9560047	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR M.I.	07	MAT9540047	(4G2.5+(2x1.5)C)C	14.5	7.5
PB B A B B XXX					
PVC O.I.	04	MAT9750516	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9560059	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR M.I.	07	MAT9540059	(4G2.5+(2x1.5)C)C	14.5	7.5
PB B A F B XXX					
PVC O.I.	04	MAT9750512	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9560053	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR M.I.	07	MAT9540053	(4G2.5+(2x1.5)C)C	14.5	7.5
PB B A G B XXX					
PVC O.I.	04	MAT9750520	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9560065	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR M.I.	07	MAT9540065	(4G2.5+(2x1.5)C)C	14.5	7.5
PB B B A B XXX					
PVC O.I.	04	MAT9750509	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9560048	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR M.I.	07	MAT9540048	(4G4.0+(2x1.5)C)C	16.0	7.5
PB B B B B XXX					
PVC O.I.	04	MAT9750517	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9560060	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR M.I.	07	MAT9540060	(4G4.0+(2x1.5)C)C	16.0	7.5
PB B B F B XXX					
PVC O.I.	04	MAT9750513	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9560054	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR M.I.	07	MAT9540054	(4G4.0+(2x1.5)C)C	16.0	7.5

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

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Harnessed drive cables | Nidec/Control Techniques
PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Nidec/Control Techniques Servo cables					
Basic cable					
PB B B G B XXX					
PVC O.I.	04	MAT9750521	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9560066	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR M.I.	07	MAT9540066	(4G4.0+(2x1.5)C)C	16.0	7.5
PB B C A B XXX					
PVC O.I.	04	MAT9750510	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9560049	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR M.I.	07	MAT9540049	(4G6.0+(2x1.5)C)C	17.5	7.5
PB B C B B XXX					
PVC O.I.	04	MAT9750518	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9560061	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR M.I.	07	MAT9540061	(4G6.0+(2x1.5)C)C	17.5	7.5
PB B C F B XXX					
PVC O.I.	04	MAT9750514	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9560055	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR M.I.	07	MAT9540055	(4G6.0+(2x1.5)C)C	17.5	7.5
PB B C G B XXX					
PVC O.I.	04	MAT9750522	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9560067	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR M.I.	07	MAT9540067	(4G6.0+(2x1.5)C)C	17.5	7.5
PB B D A B XXX					
PVC M.I.	05	MAT9560050	(4G10+(2x1.5)C)C	21.5	7.5
PUR M.I.	07	MAT9540050	(4G10+(2x1.5)C)C	21.0	7.5
PB B D B B XXX					
PVC M.I.	05	MAT9560062	(4G10+(2x1.5)C)C	21.5	7.5
PUR M.I.	07	MAT9540062	(4G10+(2x1.5)C)C	21.0	7.5
PB B D F B XXX					
PVC M.I.	05	MAT9560056	(4G10+(2x1.5)C)C	21.5	7.5
PUR M.I.	07	MAT9540056	(4G10+(2x1.5)C)C	21.0	7.5
PB B D G B XXX					
PVC M.I.	05	MAT9560068	(4G10+(2x1.5)C)C	21.5	7.5
PUR M.I.	07	MAT9540068	(4G10+(2x1.5)C)C	21.0	7.5
PB B E A B XXX					
PVC M.I.	05	MAT9560051	(4G16+(2x1.5)C)C	25.0	7.5
PUR M.I.	07	MAT9540051	(4G16+(2x1.5)C)C	24.0	7.5
PB B E B B XXX					
PVC M.I.	05	MAT9560063	(4G16+(2x1.5)C)C	25.0	7.5
PUR M.I.	07	MAT9540063	(4G16+(2x1.5)C)C	24.0	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Nidec/Control Techniques
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Nidec/Control Techniques Servo cables					
PB B E F B XXX					
PVC M.I.	05	MAT9560057	(4G16+(2x1.5)C)C	25.0	7.5
PUR M.I.	07	MAT9540057	(4G16+(2x1.5)C)C	24.0	7.5
PB B E G B XXX					
PVC M.I.	05	MAT9560069	(4G16+(2x1.5)C)C	25.0	7.5
PUR M.I.	07	MAT9540069	(4G16+(2x1.5)C)C	24.0	7.5
PB B G A B XXX					
PVC O.I.	04	MAT9750507	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9560046	(4G1.5+(2x1.5)C)	13.0	7.5
PUR M.I.	07	MAT9540046	(4G1.5+(2x1.5)C)	13.0	7.5
PB B G B B XXX					
PVC O.I.	04	MAT9750515	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9560058	(4G1.5+(2x1.5)C)	13.0	7.5
PUR M.I.	07	MAT9540058	(4G1.5+(2x1.5)C)	13.0	7.5
PB B G F B XXX					
PVC O.I.	04	MAT9750511	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9560052	(4G1.5+(2x1.5)C)	13.0	7.5
PUR M.I.	07	MAT9540052	(4G1.5+(2x1.5)C)	13.0	7.5
PB B G G B XXX					
PVC O.I.	04	MAT9750519	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9560064	(4G1.5+(2x1.5)C)	13.0	7.5
PUR M.I.	07	MAT9540064	(4G1.5+(2x1.5)C)	13.0	7.5
Nidec/Control Techniques Encoder cables					
Basic cable					
SS B A H C XXX					
PVC	08	MAT9560100	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT9840501	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9540100	(4x(2x0.34)+4x0.5)C	10.0	6.8
SS B A H H XXX					
PVC	08	MAT9560101	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT9840502	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9540101	(4x(2x0.34)+4x0.5)C	10.0	6.8
SS B A H N XXX					
PVC	08	MAT9560104	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
PUR M.I.	10	MAT9840505	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	7.5
TPE H*	11	MAT9540104	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8

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igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | NUM PVC/PUR/TPE

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
NUM Power cables					
Basic cable					
AGOFRU018LMxxx					
PVC M.I.	01	MAT9280051	(4G1.5)C	10.0	7.5
TPE F	02	MAT9282051	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9961201	(4G1.5)C	10.0	7.5
AGOFRU019LMxxx					
PVC M.I.	01	MAT9280052	(4G4.0)C	13.0	7.5
TPE F	02	MAT9282052	(4G4.0)C	13.0	7.5
TPE H*	03	MAT9961202	(4G4.0)C	13.0	7.5
Extension cable					
AGOFRU018LMxxx (ext.)					
PVC M.I.	01	MAT9280061	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9961203	(4G1.5)C	10.0	7.5
AGOFRU018LMxxx (ext.)					
TPE F	02	MAT9282061	(4G1.5)C	10.0	7.5
AGOFRU019LMxxx (ext.)					
PVC M.I.	01	MAT9280062	(4G4.0)C	13.0	7.5
TPE F	02	MAT9282062	(4G4.0)C	13.0	7.5
TPE H*	03	MAT9961204	(4G4.0)C	13.0	7.5
NUM Servo cables					
Basic cable					
AGOFRU018Mxxx					
PVC M.I.	05	MAT9280001	(4G1.5+(2x1.5)C)	13.0	7.5
PUR M.I.	07	MAT9282001	(4G1.5+(2x1.5)C)	13.0	7.5
AGOFRU019Mxxx					
PVC M.I.	05	MAT9280002	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR M.I.	07	MAT9282002	(4G4.0+(2x1.5)C)C	16.0	7.5
Basic cable					
AGOFRU020Mxxx					
PVC M.I.	05	MAT9280003	(4G10+(2x1.5)C)C	21.5	7.5
PUR M.I.	07	MAT9282003	(4G10+(2x1.5)C)C	21.0	7.5

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | NUM PVC/PUR/TPE

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
NUM Servo cables					
Extension cable					
AGOFRU018Mxxx (ext.)					
PVC M.I.	05	MAT9280011	(4G1.5+(2x1.5)C)	13.0	7.5
PUR M.I.	07	MAT9282011	(4G1.5+(2x1.5)C)	13.0	7.5
AGOFRU019Mxxx (ext.)					
PVC M.I.	05	MAT9280012	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR M.I.	07	MAT9282012	(4G4.0+(2x1.5)C)C	16.0	7.5
Extension cable					
AGOFRU020Mxxx (ext.)					
PVC M.I.	05	MAT9280013	(4G10+(2x1.5)C)C	21.5	7.5
PUR M.I.	07	MAT9282013	(4G10+(2x1.5)C)C	21.0	7.5
NUM Fan cables					
Basic cable					
AGOFRU012Mxxx					
PVC	17	MAT9289005	4G1.0	7.0	7.5
TPE H*	23	MAT9289007	4G1.0	6.5	5
Extension cable					
AGOFRU012Mxxx (ext.)					
PVC	17	MAT9289015	4G1.0	7.0	7.5
TPE H*	23	MAT9289017	4G1.0	6.5	5
NUM Encoder cables					
Basic cable					
AGOFRU029Mxxx					
PVC	08	MAT9284001	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
TPE H*	11	MAT9286001	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8
Basic cable					
AGOFRU030Mxxx					
PVC	08	MAT9289001	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
TPE H*	11	MAT9289004	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | NUM
PVC/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
NUM Encoder cables					
Extension cable					
AGOFRU029Mxxx (ext.)					
PVC	08	MAT9284011	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
TPE H*	11	MAT9286011	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8
Extension cable					
AGOFRU030Mxxx (ext.)					
PVC	08	MAT9289011	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
TPE H*	11	MAT9289014	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Omron
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Omron Motor cables					
Basic cable					
R88A-CAWA-xxxS-DE					
TPE F	02	MAT9810004	(4G0.5)C	7.5	7.5
TPE H*	03	MAT9962104	(4G0.5)C	8.0	7.5
R88A-CAWCxxx					
PVC M.I.	01	MAT9710005	(4G1.5)C	10.0	7.5
TPE F	02	MAT9810005	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9962105	(4G1.5)C	10.0	7.5
R88A-CAWCxxxS-E					
PVC M.I.	01	MAT9710003	(4G1.5)C	10.0	7.5
TPE F	02	MAT9810003	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9962103	(4G1.5)C	10.0	7.5
R88A-CAWDxxxS					
PVC M.I.	01	MAT9710006	(4G2.5)C	11.5	7.5
TPE F	02	MAT9810006	(4G2.5)C	11.5	7.5
TPE H*	03	MAT9962106	(4G2.5)C	11.5	7.5
R88A-CAWDxxxS-E					
PVC M.I.	01	MAT9710001	(4G2.5)C	11.5	7.5
TPE F	02	MAT9810001	(4G2.5)C	11.5	7.5
TPE H*	03	MAT9962101	(4G2.5)C	11.5	7.5
R88A-CAWFxxxS-E					
PVC M.I.	01	MAT9710002	(4G4.0)C	13.0	7.5
TPE F	02	MAT9810002	(4G4.0)C	13.0	7.5
TPE H*	03	MAT9962102	(4G4.0)C	13.0	7.5
Omron Control cables					
Basic cable					
JZSP-CHM000-xx-E					
PVC M.I.	18	MAT9712103	(5G0.5)C	8.0	7.5
PVC, oil-res.	20	MAT9710015	(5G0.5)C	8.5	6.8
PUR M.I.	22	MAT9810015	(5G0.5)C	8.0	6.8
TPE H*	24	MAT9912103	(5x0.5)C	7.5	5
Basic cable					
JZSP-CHM000-xx-ME					
PVC M.I.	18	MAT9712104	(5G0.5)C	8.0	7.5
PVC, oil-res.	20	MAT9710016	(5G0.5)C	8.5	6.8
PUR M.I.	22	MAT9810016	(5G0.5)C	8.0	6.8
TPE H*	24	MAT9912104	(5x0.5)C	7.5	5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Omron PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Omron Control cables					
Basic cable					
JZSP-CHM030-xx-E					
PVC M.I.	18	MAT9712105	(7G0.75)C	10.0	7.5
PVC, oil-res.	20	MAT9710017	(7G0.5)C	10.0	6.8
PUR M.I.	22	MAT9810017	(7G0.5)C	9.5	6.8
TPE H*	24	MAT9912105	(7x0.5)C	8.5	5
Basic cable					
JZSP-CHM030-xx-ME					
PVC M.I.	18	MAT9712106	(7G0.75)C	10.0	7.5
PVC, oil-res.	20	MAT9710018	(7G0.5)C	10.0	6.8
PUR M.I.	22	MAT9810018	(7G0.5)C	9.5	6.8
TPE H*	24	MAT9912106	(7x0.5)C	8.5	5
Basic cable					
JZSP-CSM22-xx-E-G1					
PVC M.I.	18	MAT9712102	(4G0.75)C	8.5	7.5
PVC, oil-res.	20	MAT9710014	(4G0.75)C	8.5	6.8
PUR M.I.	22	MAT9810014	(4G0.75)C	8.5	6.8
TPE H*	24	MAT9912102	(4G0.75)C	7.5	5
Basic cable					
R88A-CAWCxxxB-E					
PVC	17	MAT9712101	2x0.5	5.5	7.5
PVC, oil-res.	19	MAT9710013	2x0.5	6.0	6.8
PUR	21	MAT9810013	3G0.75	6.5	6.8
TPE H*	23	MAT9912101	2x0.5	5.0	5
Basic cable					
R88A-CAWExxxB					
PVC M.I.	18	MAT9712107	(3G0.5)C	7.0	7.5
PVC, oil-res.	20	MAT9710019	(2x0.5)C	7.0	6.8
PUR M.I.	22	MAT9810019	(4G0.5)C	8.0	6.8
TPE H*	24	MAT9912107	(4x0.5)C	7.0	5

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Harnessed drive cables | Omron PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Omron Encoder cables					
Basic cable					
JZSP-CHP800-xx-E					
PVC	08	MAT9710009	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9842103	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9810009	(4x(2x0.25)+2x0.5)C	8.5	6.8
Basic cable					
JZSP-CHP800-xx-ME					
PVC	08	MAT9710008	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9842102	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9810008	(4x(2x0.25)+2x0.5)C	8.5	6.8
Basic cable					
JZSP-CSP21-xx-E-G1					
PVC	14	MAT9710011	(3x(2x0.25))C	7.0	7.5
PUR M.I.	10	MAT9842105	(3x(2x0.25))C	7.5	7.5
TPE H*	11	MAT9810011	(3x(2x0.25))C	7.5	6.8
Basic cable					
R88A-CRWA-xxxC-DE					
PVC	08	MAT9710012	(2x(2x0.25)+2x0.5)C	6.5	10
PUR M.I.	10	MAT9842106	(2x(2x0.25)+2x0.5)C	6.5	7.5
TPE H*	11	MAT9810012	(2x(2x0.25)+2x0.5)C	6.5	6.8
Basic cable					
R88A-CRWBxxxN					
PVC	08	MAT9710010	(4x(2x0.25)+2x1.0)C	8.5	10
PUR M.I.	10	MAT9842104	(4x(2x0.25)+2x1.0)C	9.0	7.5
TPE H*	11	MAT9810010	(4x(2x0.25)+2x1.0)C	9.0	6.8
R88A-CRWBxxxN-E					
PVC	08	MAT9710007	(4x(2x0.25)+2x1.0)C	8.5	10
PUR M.I.	10	MAT9842101	(4x(2x0.25)+2x1.0)C	9.0	7.5
TPE H*	11	MAT9810007	(4x(2x0.25)+2x1.0)C	9.0	6.8

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Harnessed drive cables | Parker PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Parker Motor cables					
Basic cable					
iMOK42					
PVC O.I.	04	MAT9752255	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9752205	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9852255	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9852205	(4G1.5+(2x1.5)C)	13.0	7.5
iMOK43					
PVC O.I.	04	MAT9752257	(4G2.5+(2x1.5)C)C	14.0	10
PUR O.I.	06	MAT9852257	(4G2.5+(2x1.5)C)C	14.0	10
PUR O.I.	06	MAT9752207	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR M.I.	07	MAT9852207	(4G2.5+(2x1.5)C)C	14.5	7.5
iMOK44					
PVC O.I.	04	MAT9752256	(4G1.5+(2x1.5)C)	12.5	10
PUR O.I.	06	MAT9852256	(4G1.5+(2x1.5)C)	12.5	10
PUR O.I.	06	MAT9752206	(4G1.5+(2x1.5)C)	13.0	7.5
PUR M.I.	07	MAT9852206	(4G1.5+(2x1.5)C)	13.0	7.5
iMOK45					
PVC O.I.	04	MAT9752258	(4G2.5+(2x1.5)C)C	14.0	10
PUR O.I.	06	MAT9852258	(4G2.5+(2x1.5)C)C	14.0	10
PUR O.I.	06	MAT9752208	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR M.I.	07	MAT9852208	(4G2.5+(2x1.5)C)C	14.5	7.5
iMOK54					
PVC O.I.	04	MAT9752252	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9752202	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9852252	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9852202	(4G1.5+(2x1.5)C)	13.0	7.5
iMOK55					
PVC O.I.	04	MAT9752251	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9752201	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9852251	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9852201	(4G1.5+(2x1.5)C)	13.0	7.5
iMOK56					
PVC O.I.	04	MAT9752253	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9752203	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9852253	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9852203	(4G2.5+(2x1.5)C)C	14.5	7.5
iMOK57					
PVC O.I.	04	MAT9752254	(4G2.5+(2x1.5)C)C	14.0	10
PUR O.I.	06	MAT9852254	(4G2.5+(2x1.5)C)C	14.0	10
PUR O.I.	06	MAT9752204	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR M.I.	07	MAT9852204	(4G2.5+(2x1.5)C)C	14.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Parker PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Parker Resolver cables					
Basic cable					
iREK32					
PVC	14	MAT9722211	(4x(2x0.25))C	7.5	7.5
PUR	15	MAT9822211	(4x(2x0.25))C	7.5	7.5
TPE H*	16	MAT9922211	(4x(2x0.25))C	8.5	6.8
iREK33					
PVC	14	MAT9722212	(4x(2x0.25))C	7.5	7.5
PUR	15	MAT9822212	(4x(2x0.25))C	7.5	7.5
TPE H*	16	MAT9922212	(4x(2x0.25))C	8.5	6.8
iREK41					
PVC	14	MAT9722210	(4x(2x0.25))C	7.5	7.5
PUR	15	MAT9822210	(4x(2x0.25))C	7.5	7.5
TPE H*	16	MAT9922210	(4x(2x0.25))C	8.5	6.8
iREK42					
PVC	14	MAT9722209	(4x(2x0.25))C	7.5	7.5
PUR	15	MAT9822209	(4x(2x0.25))C	7.5	7.5
TPE H*	16	MAT9922209	(4x(2x0.25))C	8.5	6.8

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Harnessed drive cables | SEW
PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
SEW Motor cables					
Connection cable (Amphenol)					
0199 1809					
PVC M.I.	01	MAT9410006	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861401	(4G1.5)C	9.0	10
TPE F	02	MAT9400006	(4G1.5)C	10.0	7.5
0199 1825					
PVC M.I.	01	MAT9410007	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861402	(4G2.5)C	10.5	10
TPE F	02	MAT9400007	(4G2.5)C	11.5	7.5
0199 1841					
PVC M.I.	01	MAT9410008	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9861403	(4G4.0)C	12.5	10
TPE F	02	MAT9400008	(4G4.0)C	13.0	7.5
0199 1868					
PVC M.I.	01	MAT9410009	(4G6.0)C	16.0	7.5
PUR O.I.	06	MAT9861404	(4G6.0)C	14.5	10
TPE F	02	MAT9400009	(4G6.0)C	16.0	7.5
0199 1884					
PVC M.I.	01	MAT9410010	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861405	(4G10)C	17.0	10
TPE F	02	MAT9400010	(4G10)C	18.5	7.5
Connection cable					
0590 4773					
PVC M.I.	01	MAT9410012	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861406	(4G1.5)C	9.0	10
TPE F	02	MAT9400012	(4G1.5)C	10.0	7.5
0590 4803					
PVC M.I.	01	MAT9761415	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9861415	(4G4.0)C	12.5	10
TPE F	02	MAT9961415	(4G4.0)C	13.0	7.5
0590 6245					
PVC M.I.	01	MAT9761413	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861413	(4G1.5)C	9.0	10
TPE F	02	MAT9961413	(4G1.5)C	10.0	7.5
0590 6253					
PVC M.I.	01	MAT9761414	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861414	(4G2.5)C	10.5	10
TPE F	02	MAT9961414	(4G2.5)C	11.5	7.5

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Harnessed drive cables | SEW
PVC/PUR/TPE
EPLAN macros available online ▶ Page 582/583
* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
SEW Motor cables					
Connection cable					
1335 0293					
PVC M.I.	01	MAT9761416	(4G6.0)C	16.0	7.5
PUR O.I.	06	MAT9861416	(4G6.0)C	14.5	10
TPE F	02	MAT9961416	(4G6.0)C	16.0	7.5
1335 0307					
PVC M.I.	01	MAT9761417	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861417	(4G10)C	17.0	10
TPE F	02	MAT9961417	(4G10)C	18.5	7.5
1335 0315					
PVC M.I.	01	MAT9761418	(4G16)C	23.0	7.5
PUR O.I.	06	MAT9861418	(4G16)C	20.5	10
TPE F	02	MAT9961418	(4G16)C	23.0	7.5
Extension cable (Amphenol)					
0199 5502					
PVC M.I.	01	MAT9411006	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861407	(4G1.5)C	9.0	10
TPE F	02	MAT9401006	(4G1.5)C	10.0	7.5
0199 5529					
PVC M.I.	01	MAT9411007	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861408	(4G2.5)C	10.5	10
TPE F	02	MAT9401007	(4G2.5)C	11.5	7.5
0199 5545					
PVC M.I.	01	MAT9411008	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9861409	(4G4.0)C	12.5	10
TPE F	02	MAT9401008	(4G4.0)C	13.0	7.5
0199 5561					
PVC M.I.	01	MAT9411009	(4G6.0)C	16.0	7.5
PUR O.I.	06	MAT9861410	(4G6.0)C	14.5	10
TPE F	02	MAT9401009	(4G6.0)C	16.0	7.5
0199 5588					
PVC M.I.	01	MAT9411010	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861411	(4G10)C	17.0	10
TPE F	02	MAT9401010	(4G10)C	18.5	7.5

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Harnessed drive cables | SEW
PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
SEW Motor cables					
Extension cable					
0590 3610					
PVC M.I.	01	MAT9411012	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861412	(4G1.5)C	9.0	10
TPE F	02	MAT9401012	(4G1.5)C	10.0	7.5
Extension cable					
1333 2457					
PVC M.I.	01	MAT9761419	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861419	(4G1.5)C	9.0	10
TPE F	02	MAT9961419	(4G1.5)C	10.0	7.5
1333 2465					
PVC M.I.	01	MAT9761420	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861420	(4G2.5)C	10.5	10
TPE F	02	MAT9961420	(4G2.5)C	11.5	7.5
1333 2473					
PVC M.I.	01	MAT9761421	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9861421	(4G4.0)C	12.5	10
TPE F	02	MAT9961421	(4G4.0)C	13.0	7.5
1335 0021					
PVC M.I.	01	MAT9761422	(4G6.0)C	16.0	7.5
PUR O.I.	06	MAT9861422	(4G6.0)C	14.5	10
TPE F	02	MAT9961422	(4G6.0)C	16.0	7.5
1335 0048					
PVC M.I.	01	MAT9761423	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861423	(4G10)C	17.0	10
TPE F	02	MAT9961423	(4G10)C	18.5	7.5
1335 0056					
PVC M.I.	01	MAT9761424	(4G16)C	23.0	7.5
PUR O.I.	06	MAT9861424	(4G16)C	20.5	10
TPE F	02	MAT9961424	(4G16)C	23.0	7.5

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | SEW
PVC/PUR

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
SEW Servo cables					
Connection cable (Amphenol)					
0199 1906					
PVC O.I.	04	MAT9751401	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9410001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851401	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9400001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
0199 1922					
PVC O.I.	04	MAT9751402	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9410002	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851402	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9400002	(4G2.5+2x(2x1.5)C)C	16.0	7.5
0199 1949					
PVC O.I.	04	MAT9751403	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9410003	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851403	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9400003	(4G4.0+2x(2x1.5)C)C	17.5	7.5
0199 1965					
PVC O.I.	04	MAT9751404	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9410004	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851404	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9400004	(4G6.0+2x(2x1.5)C)C	19.5	7.5
0199 1981					
PVC M.I.	05	MAT9410005	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9851405	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9400005	(4G10+2x(2x1.5)C)C	22.5	7.5
Connection cable					
1332 4861					
PVC O.I.	04	MAT9751405	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9410011	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851406	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9400011	(4G1.5+(2x1.5)C)	13.0	7.5

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Harnessed drive cables | SEW
PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
SEW Servo cables					
Connection cable					
1333 1221					
PVC O.I.	04	MAT9751473	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751474	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851473	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851474	(4G1.5+(2x1.5)C)	13.0	7.5
TPE H*	31	MAT9951473	(4G1.5+(2x1.5)C)	13.0	6.8
1333 2155					
PVC O.I.	04	MAT9751471	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751472	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851471	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851472	(4G2.5+(2x1.5)C)C	14.5	7.5
TPE H*	31	MAT9951471	(4G2.5+(2x1.5)C)C	14.0	6.8
Connection cable					
1335 0153					
PVC O.I.	04	MAT9751422	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9751440	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851422	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9851440	(4G6.0+2x(2x1.5)C)C	19.5	7.5
1335 0161					
PVC M.I.	05	MAT9751441	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9851423	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9851441	(4G10+2x(2x1.5)C)C	22.5	7.5
1335 0188					
PVC M.I.	05	MAT9751442	(4G16+2x(2x1.5)C)C	26.5	7.5
PUR O.I.	06	MAT9851424	(4G16+2x(2x1.5)C)C	26.0	10
PUR M.I.	07	MAT9851442	(4G16+2x(2x1.5)C)C	26.0	7.5
1335 0234					
PVC O.I.	04	MAT9751416	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9751434	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851416	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9851434	(4G6.0+(2x1.5)C)C	17.5	7.5
1335 0242					
PVC M.I.	05	MAT9751435	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851417	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9851435	(4G10+(2x1.5)C)C	21.0	7.5

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Harnessed drive cables | SEW
PVC/PUR

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
SEW Servo cables					
1335 0250					
PVC M.I.	05	MAT9751436	(4G16+2x(2x1.5)C)C	26.5	7.5
PUR O.I.	06	MAT9851418	(4G16+2x(2x1.5)C)C	26.0	10
PUR M.I.	07	MAT9851436	(4G16+(2x1.5)C)C	24.0	7.5
1335 4302					
PUR O.I.	27	MAT9851419	(4G1.5+(3x1.0)C)C	12.0	10
1335 4310					
PVC O.I.	04	MAT9751420	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9751438	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851420	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9851438	(4G2.5+2x(2x1.5)C)C	16.0	7.5
1335 4329					
PVC O.I.	04	MAT9751421	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9751439	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851421	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9851439	(4G4.0+2x(2x1.5)C)C	17.5	7.5
1335 4388					
PUR O.I.	27	MAT9851413	(4G1.5+(3x1.0)C)C	12.0	10
1335 4396					
PUR O.I.	27	MAT9851479	(4G2.5+(3x1.0)C)C	13.5	10
Extension cable (Amphenol)					
0199 2007					
PVC O.I.	04	MAT9751406	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9411001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851407	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9401001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
0199 2023					
PVC O.I.	04	MAT9751407	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9411002	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851408	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9401002	(4G2.5+2x(2x1.5)C)C	16.0	7.5
0199 204X					
PVC O.I.	04	MAT9751408	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9411003	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851409	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9401003	(4G4.0+2x(2x1.5)C)C	17.5	7.5
0199 2066					
PVC O.I.	04	MAT9751409	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9411004	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851410	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9401004	(4G6.0+2x(2x1.5)C)C	19.5	7.5

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Harnessed drive cables | SEW
PVC/PUR

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
SEW Servo cables					
Extension cable (Amphenol)					
0199 2082					
PVC M.I.	05	MAT9411005	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9851411	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9401005	(4G10+2x(2x1.5)C)C	22.5	7.5
Extension cable					
0593 6500					
PVC O.I.	04	MAT9751410	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9411011	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851412	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9401011	(4G1.5+(2x1.5)C)	13.0	7.5
Extension cable					
1333 1205					
PUR O.I.	27	MAT9851480	(4G1.5+(3x1.0)C)C	12.0	10

ePLAN data portal

EPLAN macros suitable for SEW available online

Can be used directly in CAE planning.

Learn more about it on page 582/583 and online: www.igus.eu/eplan-macro

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Harnessed drive cables | SEW
PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
SEW Servo cables					
Extension cable					
1333 2481					
PVC O.I.	04	MAT9751475	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751476	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851475	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851476	(4G1.5+(2x1.5)C)	13.0	7.5
TPE H*	31	MAT9951475	(4G1.5+(2x1.5)C)	13.0	6.8
1333 2503					
PVC O.I.	04	MAT9751477	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751478	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851477	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851478	(4G2.5+(2x1.5)C)C	14.5	7.5
TPE H*	31	MAT9951477	(4G2.5+(2x1.5)C)C	14.0	6.8
1335 0099					
PVC M.I.	05	MAT9751446	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851428	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9851446	(4G6.0+2x(2x1.5)C)C	19.5	7.5
1335 0102					
PVC M.I.	05	MAT9751447	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9851429	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9851447	(4G10+2x(2x1.5)C)C	22.5	7.5
1335 0110					
PVC M.I.	05	MAT9751448	(4G16+2x(2x1.5)C)C	26.5	7.5
PUR O.I.	06	MAT9851430	(4G16+2x(2x1.5)C)C	26.0	10
PUR M.I.	07	MAT9851448	(4G16+2x(2x1.5)C)C	26.0	7.5
1335 4221					
PUR O.I.	27	MAT9851425	(4G1.5+(3x1.0)C)C	12.0	10
1335 4248					
PVC M.I.	05	MAT9751444	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851426	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9851444	(4G2.5+2x(2x1.5)C)C	16.0	7.5
1335 4337					
PVC M.I.	05	MAT9751445	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851427	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9851445	(4G4.0+2x(2x1.5)C)C	17.5	7.5

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Harnessed drive cables | SEW
PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
SEW Hybrid servo cables					
Basic cable					
0186 725 3					
PUR O.I.	27	MAT9851443	4G1.5+(2x0.75)C+(3x0.75)C	14.0	10
0187 889 5					
PUR O.I.	27	MAT9851456	(7x2.5+(2x0.75)C)C	20.0	10
0593 278 5					
PUR O.I.	27	MAT9851449	(7x2.5+(2x0.75)C)C	20.0	10
0593 755 8					
PUR O.I.	27	MAT9851451	(7x2.5+(2x0.75)C)C	20.0	10
0816 208 5					
PUR O.I.	27	MAT9851454	(7x2.5+(2x0.75)C)C	20.0	10
0816 325 1					
PUR O.I.	27	MAT9851450	(7x2.5+(2x0.75)C)C	20.0	10
0816 326 X					
PUR O.I.	27	MAT9851452	(7x2.5+(2x0.75)C)C	20.0	10
0817 886 0					
PUR O.I.	27	MAT9851457	(7x2.5+(2x0.75)C)C	20.0	10
0817 887 9					
PUR O.I.	27	MAT9851455	(7x2.5+(2x0.75)C)C	20.0	10
0817 888 7					
PUR O.I.	27	MAT9851458	(7x2.5+(2x0.75)C)C	20.0	10
0817 948 4					
PUR O.I.	27	MAT9851453	(7x2.5+(2x0.75)C)C	20.0	10
Connection cable					
2812 3743					
PUR O.I.	27	MAT9851482	(4G1.5+2x(2x1.0)C+HF50-0.9/2.95)C	15.5	10
2812 3751					
PUR O.I.	27	MAT9851484	(4G2.5+2x(2x1.0)C+HF50-0.9/2.95)C	16.5	10
Extension cable					
2812 3859					
PUR O.I.	27	MAT9851483	(4G1.5+2x(2x1.0)C+HF50-0.9/2.95)C	15.5	10
2812 3867					
PUR O.I.	27	MAT9851485	(4G2.5+2x(2x1.0)C+HF50-0.9/2.95)C	16.5	10
Connection cable					
1811 8119					
PUR O.I.	27	MAT9851464	(7x1.5+(2x0.75)C)C	16.0	10

Harnessed drive cables | SEW
PVC/PUR/TPE
EPLAN macros available online ▶ Page 582/583
* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
SEW Control cables					
Connection cable					
0199 560x					
PVC, oil-res.	19	MAT9711401	3G1.0	6.5	6.8
PUR	21	MAT9811401	3G1.0	6.5	6.8
TPE F	25	MAT9911401	3G1.0	6.5	5
SEW Encoder cables					
Connection cable					
0198 9308					
PUR M.I.	10	MAT9841404	(3x(2x0.25))C	7.5	7.5
0199 3194					
PUR M.I.	10	MAT9841401	(5x(2x0.25))C	8.5	7.5
0199 4875					
PVC	08	MAT9741401	(5x(2x0.25))C	8.0	10
0595 1518					
PVC	08	MAT9741408	(6x(2x0.25))C	8.5	10
PUR M.I.	10	MAT9841408	(6x(2x0.25))C	9.0	7.5
TPE H*	16	MAT9941408	(6x(2x0.25))C	10.0	6.8
1332 4551					
PVC	08	MAT9741403	(6x(2x0.25))C	8.5	10
PUR M.I.	10	MAT9841403	(6x(2x0.25))C	9.0	7.5
1332 7437					
PVC	08	MAT9741402	(5x(2x0.25))C	8.0	10
PUR M.I.	10	MAT9841402	(5x(2x0.25))C	8.5	7.5
Extension cable					
0199 5405					
PVC	08	MAT9741406	(6x(2x0.25))C	8.5	10
PUR M.I.	10	MAT9841406	(6x(2x0.25))C	9.0	7.5
0199 5413					
PVC	08	MAT9741405	(5x(2x0.25))C	8.0	10
PUR M.I.	10	MAT9841405	(5x(2x0.25))C	8.5	7.5
0593 9682					
PVC	08	MAT9741407	(5x(2x0.25))C	8.0	10
PUR M.I.	10	MAT9841407	(5x(2x0.25))C	8.5	7.5

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igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Siemens
PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Power cables					
Basic cable					
6FX8002-5CN06					
PVC M.I.	01	MAT9761554	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT98615122	(4G1.5)C	9.0	10
PUR M.I.	07	MAT98615123	(4G1.5)C	11.0	7.5
TPE F	02	MAT9961560	(4G1.5)C	10.0	7.5
6FX8002-5CN16					
PVC M.I.	01	MAT9761559	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT98615108	(4G2.5)C	10.5	10
PUR M.I.	07	MAT98615107	(4G2.5)C	12.5	7.5
TPE F	02	MAT9961554	(4G2.5)C	11.5	7.5
Basic cable					
6FX8002-5CN26					
PVC M.I.	01	MAT97515111	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT98515130	(4G1.5)C	9.0	10
TPE F	02	MAT98515131	(4G1.5)C	10.0	7.5
6FX8002-5CN36					
PVC M.I.	01	MAT9761556	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT98615102	(4G2.5)C	10.5	10
PUR M.I.	07	MAT98615103	(4G2.5)C	12.5	7.5
TPE F	02	MAT9961552	(4G2.5)C	11.5	7.5
6FX8002-5CN46					
PVC M.I.	01	MAT9761557	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT98615105	(4G4.0)C	12.5	10
TPE F	02	MAT9961553	(4G4.0)C	13.0	7.5
6FX8002-5CN56					
PVC M.I.	01	MAT9761561	(4G6.0)C	16.0	7.5
PUR O.I.	06	MAT98615110	(4G6.0)C	14.5	10
TPE F	02	MAT9961555	(4G6.0)C	16.0	7.5
Basic cable					
6FX8002-5CS06					
PVC M.I.	01	MAT9761568	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT98615120	(4G1.5)C	9.0	10
PUR M.I.	07	MAT98615121	(4G1.5)C	11.0	7.5
TPE F	02	MAT9961559	(4G1.5)C	10.0	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Siemens
PVC/PUR/TPE
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Siemens

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Power cables					
Basic cable					
6FX_002-5CA01					
PVC M.I.	01	MAT9150001	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861504	(4G1.5)C	9.0	10
TPE F	02	MAT9050001	(4G1.5)C	10.0	7.5
6FX_002-5CA11					
PVC M.I.	01	MAT9150002	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861505	(4G2.5)C	10.5	10
TPE F	02	MAT9050002	(4G2.5)C	11.5	7.5
Basic cable					
6FX_002-5CA13					
PVC M.I.	01	MAT9150009	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861524	(4G10)C	17.0	10
TPE F	02	MAT9050009	(4G10)C	18.5	7.5
Basic cable					
6FX_002-5CA21					
PVC M.I.	01	MAT9150003	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861506	(4G1.5)C	9.0	10
TPE F	02	MAT9050003	(4G1.5)C	10.0	7.5
Basic cable					
6FX_002-5CA23					
PVC M.I.	01	MAT9150008	(4G16)C	23.0	7.5
PUR O.I.	06	MAT9861511	(4G16)C	20.5	10
TPE F	02	MAT9050008	(4G16)C	23.0	7.5
Basic cable					
6FX_002-5CA31					
PVC M.I.	01	MAT9150004	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861507	(4G2.5)C	10.5	10
TPE F	02	MAT9050004	(4G2.5)C	11.5	7.5
6FX_002-5CA41					
PVC M.I.	01	MAT9150005	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9861508	(4G4.0)C	12.5	10
TPE F	02	MAT9050005	(4G4.0)C	13.0	7.5

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Harnessed drive cables | Siemens
PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Power cables					
Basic cable					
6FX_002-5CA51					
PVC M.I.	01	MAT9150006	(4G6.0)C	16.0	7.5
PUR O.I.	06	MAT9861509	(4G6.0)C	14.5	10
TPE F	02	MAT9050006	(4G6.0)C	16.0	7.5
6FX_002-5CA61					
PVC M.I.	01	MAT9150007	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861510	(4G10)C	17.0	10
TPE F	02	MAT9050007	(4G10)C	18.5	7.5
Basic cable					
6FX_002-5CG01					
PVC M.I.	01	MAT9761512	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861542	(4G1.5)C	9.0	10
PUR M.I.	07	MAT9861541	(4G1.5)C	11.0	7.5
TPE F	02	MAT9961512	(4G1.5)C	10.0	7.5
Basic cable					
6FX_002-5CG11					
PVC M.I.	01	MAT9761514	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861546	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9861545	(4G2.5)C	12.5	7.5
TPE F	02	MAT9961514	(4G2.5)C	11.5	7.5
Basic cable					
6FX_002-5CG13					
PVC M.I.	01	MAT9761520	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861553	(4G10)C	17.0	10
TPE F	02	MAT9961520	(4G10)C	18.5	7.5
6FX_002-5CG21					
PVC M.I.	01	MAT9761513	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861544	(4G1.5)C	9.0	10
PUR M.I.	07	MAT9861543	(4G1.5)C	11.0	7.5
TPE F	02	MAT9961513	(4G1.5)C	10.0	7.5

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Harnessed drive cables | Siemens
PVC/PUR/TPE
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Siemens

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Power cables					
Basic cable					
6FX_002-5CG23					
PVC M.I.	01	MAT9761521	(4G16)C	23.0	7.5
PUR O.I.	06	MAT9861554	(4G16)C	20.5	10
TPE F	02	MAT9961521	(4G16)C	23.0	7.5
6FX_002-5CG31					
PVC M.I.	01	MAT9761516	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861549	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9861548	(4G2.5)C	12.5	7.5
TPE F	02	MAT9961516	(4G2.5)C	11.5	7.5
6FX_002-5CG41					
PVC M.I.	01	MAT9761517	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9861550	(4G4.0)C	12.5	10
TPE F	02	MAT9961517	(4G4.0)C	13.0	7.5
6FX_002-5CG51					
PVC M.I.	01	MAT9761518	(4G6.0)C	16.0	7.5
PUR O.I.	06	MAT9861551	(4G6.0)C	14.5	10
TPE F	02	MAT9961518	(4G6.0)C	16.0	7.5
6FX_002-5CG61					
PVC M.I.	01	MAT9761519	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861552	(4G10)C	17.0	10
TPE F	02	MAT9961519	(4G10)C	18.5	7.5
Basic cable					
6FX_002-5CK01					
PUR M.I.	07	MAT98615112	(4G0.75)C	9.5	7.5
TPE F	02	MAT9961556	(4G0.75)C	8.0	7.5
Basic cable					
6FX_002-5CL01					
PVC M.I.	01	MAT9761563	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT98615114	(4G1.5)C	9.0	10
PUR M.I.	07	MAT98615115	(4G1.5)C	11.0	7.5
TPE F	02	MAT9961557	(4G1.5)C	10.0	7.5

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Harnessed drive cables | Siemens
PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Power cables					
Basic cable					
6FX_002-5CL02					
PVC M.I.	01	MAT9761572	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT98615126	(4G1.5)C	9.0	10
PUR M.I.	07	MAT98615127	(4G1.5)C	11.0	7.5
TPE F	02	MAT9961563	(4G1.5)C	10.0	7.5
6FX_002-5CL12					
PVC M.I.	01	MAT9761573	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT98615128	(4G2.5)C	10.5	10
PUR M.I.	07	MAT98615129	(4G2.5)C	12.5	7.5
TPE F	02	MAT9961564	(4G2.5)C	11.5	7.5
Basic cable					
6FX_002-5CS01					
PVC M.I.	01	MAT9150020	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861512	(4G1.5)C	10.0	10
PUR M.I.	07	MAT9861501	(4G1.5)C	11.0	7.5
TPE F	02	MAT9050020	(4G1.5)C	10.0	7.5
Basic cable					
6FX_002-5CS02					
PVC M.I.	01	MAT9761501	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861526	(4G1.5)C	9.0	10
PUR M.I.	07	MAT9861525	(4G1.5)C	11.0	7.5
TPE F	02	MAT9961501	(4G1.5)C	10.0	7.5
Basic cable					
6FX_002-5CS11					
PVC M.I.	01	MAT9761502	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861528	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9861527	(4G2.5)C	12.5	7.5
TPE F	02	MAT9961502	(4G2.5)C	11.5	7.5

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Harnessed drive cables | Siemens
PVC/PUR/TPE
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Siemens

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Power cables					
Basic cable					
6FX_002-5CS12					
PVC M.I.	01	MAT9761503	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861530	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9861529	(4G2.5)C	12.5	7.5
TPE F	02	MAT9961503	(4G2.5)C	11.5	7.5
Basic cable					
6FX_002-5CS13					
PVC M.I.	01	MAT9761504	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861531	(4G10)C	17.0	10
TPE F	02	MAT9961504	(4G10)C	18.5	7.5
6FX_002-5CS21					
PVC M.I.	01	MAT9150021	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861513	(4G1.5)C	9.0	10
PUR M.I.	07	MAT9861502	(4G1.5)C	11.0	7.5
TPE F	02	MAT9050021	(4G1.5)C	10.0	7.5
Basic cable					
6FX_002-5CS23					
PVC M.I.	01	MAT9761515	(4G16)C	23.0	7.5
PUR O.I.	06	MAT9861547	(4G16)C	20.5	10
TPE F	02	MAT9961515	(4G16)C	23.0	7.5
6FX_002-5CS24					
PVC M.I.	01	MAT9761570	(4G16)C	23.0	7.5
PUR O.I.	06	MAT98615125	(4G16)C	20.5	10
TPE F	02	MAT9961561	(4G16)C	23.0	7.5
TPE H*	03	MAT9961562	(4G16)C	23.0	7.5
Basic cable					
6FX_002-5CS31					
PVC M.I.	01	MAT9150022	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861514	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9861503	(4G2.5)C	12.5	7.5
TPE F	02	MAT9050022	(4G2.5)C	11.5	7.5

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Harnessed drive cables | Siemens
PVC/PUR/TPE

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* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Power cables					
Basic cable					
6FX_002-5CS41					
PVC M.I.	01	MAT9150023	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9861533	(4G4.0)C	12.5	10
TPE F	02	MAT9050023	(4G4.0)C	13.0	7.5
Basic cable					
6FX_002-5CS42					
PVC M.I.	01	MAT9761506	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9861534	(4G4.0)C	12.5	10
TPE F	02	MAT9961506	(4G4.0)C	13.0	7.5
Basic cable					
6FX_002-5CS51					
PVC M.I.	01	MAT9150024	(4G6.0)C	16.0	7.5
PUR O.I.	06	MAT9861535	(4G6.0)C	14.5	10
TPE F	02	MAT9050024	(4G6.0)C	16.0	7.5
Basic cable					
6FX_002-5CS52					
PVC M.I.	01	MAT9761507	(4G6.0)C	16.0	7.5
PUR O.I.	06	MAT9861536	(4G6.0)C	14.5	10
TPE F	02	MAT9961507	(4G6.0)C	16.0	7.5
Basic cable					
6FX_002-5CS54					
PVC M.I.	01	MAT9761508	(4G6.0)C	16.0	7.5
PUR O.I.	06	MAT9861537	(4G6.0)C	14.5	10
TPE F	02	MAT9961508	(4G6.0)C	16.0	7.5
Basic cable					
6FX_002-5CS61					
PVC M.I.	01	MAT9761509	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861538	(4G10)C	17.0	10
TPE F	02	MAT9961509	(4G10)C	18.5	7.5

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Harnessed drive cables | Siemens
PVC/PUR/TPE
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Siemens

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Power cables					
Basic cable					
6FX_002-5CS62					
PVC M.I.	01	MAT9761510	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861539	(4G10)C	17.0	10
TPE F	02	MAT9961510	(4G10)C	18.5	7.5
Basic cable					
6FX_002-5CS64					
PVC M.I.	01	MAT9761511	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861540	(4G10)C	17.0	10
TPE F	02	MAT9961511	(4G10)C	18.5	7.5
Extension cable					
6FX_002-5CA05					
PVC M.I.	01	MAT9151001	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861515	(4G1.5)C	9.0	10
TPE F	02	MAT9051001	(4G1.5)C	10.0	7.5
6FX_002-5CA15					
PVC M.I.	01	MAT9151002	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861516	(4G2.5)C	10.5	10
TPE F	02	MAT9051002	(4G2.5)C	11.5	7.5
Extension cable					
6FX_002-5CA28					
PVC M.I.	01	MAT9151003	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861517	(4G1.5)C	9.0	10
TPE F	02	MAT9051003	(4G1.5)C	10.0	7.5
6FX_002-5CA38					
PVC M.I.	01	MAT9151004	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861518	(4G2.5)C	10.5	10
TPE F	02	MAT9051004	(4G2.5)C	11.5	7.5
6FX_002-5CA48					
PVC M.I.	01	MAT9151005	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9861519	(4G4.0)C	12.5	10
TPE F	02	MAT9051005	(4G4.0)C	13.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Siemens
PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Power cables					
Extension cable					
6FX_002-5CA58					
PVC M.I.	01	MAT9151006	(4G6.0)C	16.0	7.5
PUR O.I.	06	MAT9861520	(4G6.0)C	14.5	10
TPE F	02	MAT9051006	(4G6.0)C	16.0	7.5
6FX_002-5CA68					
PVC M.I.	01	MAT9151007	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861521	(4G10)C	17.0	10
TPE F	02	MAT9051007	(4G10)C	18.5	7.5
Extension cable					
6FX_002-5CX18					
PVC M.I.	01	MAT9151009	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861522	(4G10)C	17.0	10
TPE F	02	MAT9051009	(4G10)C	18.5	7.5
6FX_002-5CX28					
PVC M.I.	01	MAT9151008	(4G16)C	23.0	7.5
PUR O.I.	06	MAT9861523	(4G16)C	20.5	10
TPE F	02	MAT9051008	(4G16)C	23.0	7.5
Siemens Servo cables					
Basic cable					
6FX_002-5DA01					
PVC O.I.	04	MAT9751501	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9160001	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851501	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9060001	(4G1.5+(2x1.5)C)	13.0	7.5
6FX_002-5DA11					
PVC O.I.	04	MAT9751502	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9160002	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851502	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9060002	(4G2.5+(2x1.5)C)C	14.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Siemens
PVC/PUR/TPE
EPLAN macros available online ▶ Page 582/583
* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Servo cables					
Basic cable					
6FX_002-5DA21					
PVC O.I.	04	MAT9751503	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9160003	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851503	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9060003	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
6FX_002-5DA23					
PVC M.I.	05	MAT9160008	(4G16+(2x1.5)C)C	25.0	7.5
PUR O.I.	06	MAT9851508	(4G16+(2x1.5)C)C	24.0	10
PUR M.I.	07	MAT9060008	(4G16+(2x1.5)C)C	24.0	7.5
Basic cable					
6FX_002-5DA30					
PVC O.I.	04	MAT97515127	(4G1.5+(2x1.5)C)	12.5	10
PUR O.I.	06	MAT98515151	(4G1.5+(2x1.5)C)	12.5	10
Basic cable					
6FX_002-5DA31					
PVC O.I.	04	MAT9751504	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9160004	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851504	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9060004	(4G2.5+(2x1.5)C)C	14.5	7.5
Basic cable					
6FX_002-5DA33					
PVC M.I.	05	MAT9160009	(4G25+(2x1.5)C)C	30.0	7.5
PUR M.I.	07	MAT9060009	(4G25+(2x1.5)C)C	28.0	7.5
Basic cable					
6FX_002-5DA41					
PVC O.I.	04	MAT9751505	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9160005	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851505	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9060005	(4G4.0+(2x1.5)C)C	16.0	7.5

Harnessed drive cables | Siemens
PVC/PUR/TPE

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* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Servo cables					
Basic cable					
6FX_002-5DA43					
PVC M.I.	05	MAT9160010	(4G35+(2x1.5)C)C	33.5	7.5
PUR M.I.	07	MAT9060010	(4G35+(2x1.5)C)C	32.0	7.5
Basic cable					
6FX_002-5DA51					
PVC O.I.	04	MAT9751506	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9160006	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851506	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9060006	(4G6.0+(2x1.5)C)C	17.5	7.5
6FX_002-5DA61					
PVC M.I.	05	MAT9160007	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851507	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9060007	(4G10+(2x1.5)C)C	21.0	7.5
Basic cable					
6FX_002-5DG01					
PVC O.I.	04	MAT9751529	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751528	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851541	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851540	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
6FX_002-5DG11					
PVC O.I.	04	MAT9751533	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751532	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851545	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851544	(4G2.5+(2x1.5)C)C	14.5	7.5
Basic cable					
6FX_002-5DG13					
PVC M.I.	05	MAT9751541	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851555	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9851554	(4G10+(2x1.5)C)C	21.0	7.5

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igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Siemens
PVC/PUR/TPE
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* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Servo cables					
6FX_002-5DG21					
PVC O.I.	04	MAT9751531	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751530	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
PUR O.I.	06	MAT9851543	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851542	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
6FX_002-5DG23					
PUR O.I.	06	MAT9851557	(4G16+(2x1.5)C)C	24.0	10
PUR M.I.	07	MAT9851556	(4G16+(2x1.5)C)C	24.0	7.5
6FX_002-5DG31					
PVC O.I.	04	MAT9751535	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751534	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851547	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851546	(4G2.5+(2x1.5)C)C	14.5	7.5
Basic cable					
6FX_002-5DG33					
PUR M.I.	07	MAT9851558	(4G25+(2x1.5)C)C	28.0	7.5
6FX_002-5DG41					
PVC O.I.	04	MAT9751537	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9751536	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851549	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9851548	(4G4.0+(2x1.5)C)C	16.0	7.5
Basic cable					
6FX_002-5DG43					
PUR M.I.	07	MAT9851559	(4G35+(2x1.5)C)C	32.0	7.5
6FX_002-5DG51					
PVC O.I.	04	MAT9751539	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9751538	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851551	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9851550	(4G6.0+(2x1.5)C)C	17.5	7.5

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Siemens
PVC/PUR/TPE

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* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Servo cables					
Basic cable					
6FX_002-5DG61					
PVC M.I.	05	MAT9751540	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851553	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9851552	(4G10+(2x1.5)C)C	21.0	7.5
Basic cable					
6FX_002-5DN06					
PVC O.I.	04	MAT97515103	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT97515102	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT98515122	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT98515123	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
6FX_002-5DN16					
PVC O.I.	04	MAT97515108	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT97515109	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT98515129	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT98515128	(4G2.5+(2x1.5)C)C	14.5	7.5
Basic cable					
6FX_002-5DN26					
PVC O.I.	04	MAT97515125	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT97515126	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT98515145	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT98515146	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
6FX_002-5DN30					
PVC O.I.	04	MAT9761566	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT98615117	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9761565	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT98615116	(4G1.5+(2x1.5)C)	13.0	7.5

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Siemens
PVC/PUR

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* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Servo cables					
Basic cable					
6FX_002-5DN46					
PVC O.I.	04	MAT97515113	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT97515114	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT98515133	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT98515134	(4G4.0+(2x1.5)C)C	16.0	7.5
Basic cable					
6FX_002-5DN56					
PVC O.I.	04	MAT97515119	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT97515120	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT98515139	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT98515140	(4G6.0+(2x1.5)C)C	17.5	7.5
Basic cable					
6FX_002-5DS01					
PVC O.I.	04	MAT9751507	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9160020	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851509	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9060020	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
6FX_002-5DS06					
PVC O.I.	04	MAT97515105	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT97515104	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT98515124	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT98515125	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
6FX_002-5DS11					
PVC O.I.	04	MAT9751516	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751515	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851523	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851522	(4G2.5+(2x1.5)C)C	14.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
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Harnessed drive cables | Siemens
PVC/PUR

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Servo cables					
Basic cable					
6FX_002-5DS13					
PVC M.I.	05	MAT9751517	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851525	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9851524	(4G10+(2x1.5)C)C	21.0	7.5
6FX_002-5DS21					
PVC O.I.	04	MAT9751508	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9160021	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851510	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9060021	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
6FX_002-5DS23					
PUR O.I.	06	MAT9851527	(4G16+(2x1.5)C)C	24.0	10
PUR M.I.	07	MAT9851526	(4G16+(2x1.5)C)C	24.0	7.5
6FX_002-5DS33					
PUR M.I.	07	MAT9851532	(4G25+(2x1.5)C)C	28.0	7.5
Basic cable					
6FX_002-5DS36					
PVC O.I.	04	MAT97515107	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT97515106	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT98515127	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT98515126	(4G2.5+(2x1.5)C)C	14.5	7.5
Basic cable					
6FX_002-5DS41					
PVC O.I.	04	MAT9751522	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9751521	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851531	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9851530	(4G4.0+(2x1.5)C)C	16.0	7.5
Basic cable					
6FX_002-5DS43					
PUR M.I.	07	MAT9851533	(4G35+(2x1.5)C)C	32.0	7.5

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igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
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Siemens

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PVC/PUR

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Servo cables					
Basic cable					
6FX_002-5DS51					
PVC O.I.	04	MAT9751524	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9751523	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851535	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9851534	(4G6.0+(2x1.5)C)C	17.5	7.5
Basic cable					
6FX_002-5DS54					
PVC O.I.	04	MAT9751526	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9751525	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851537	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9851536	(4G6.0+(2x1.5)C)C	17.5	7.5
Basic cable					
6FX_002-5DS61					
PVC M.I.	05	MAT9160022	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851511	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9060022	(4G10+(2x1.5)C)C	21.0	7.5
Basic cable					
6FX_002-5DS64					
PVC M.I.	05	MAT9751527	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851539	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9851538	(4G10+(2x1.5)C)C	21.0	7.5
Extension cable					
6FX_002-5DA05					
PVC O.I.	04	MAT9751509	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9161001	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851512	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9061001	(4G1.5+(2x1.5)C)	13.0	7.5
6FX_002-5DA15					
PVC O.I.	04	MAT9751510	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9161002	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851513	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9061002	(4G2.5+(2x1.5)C)C	14.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Servo cables					
Extension cable					
6FX_002-5DA28					
PVC O.I.	04	MAT9751511	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9161003	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851514	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9061003	(4G1.5+(2x1.5)C)	13.0	7.5
6FX_002-5DA38					
PVC O.I.	04	MAT9751512	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9161004	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851515	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9061004	(4G2.5+(2x1.5)C)C	14.5	7.5
6FX_002-5DA48					
PVC O.I.	04	MAT9751513	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9161005	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851516	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9061005	(4G4.0+(2x1.5)C)C	16.0	7.5
Extension cable					
6FX_002-5DA58					
PVC O.I.	04	MAT9751514	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9161006	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851517	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9061006	(4G6.0+(2x1.5)C)C	17.5	7.5
6FX_002-5DA68					
PVC M.I.	05	MAT9161007	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851518	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9061007	(4G10+(2x1.5)C)C	21.0	7.5
Extension cable					
6FX_002-5DX18					
PVC M.I.	05	MAT9161011	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851520	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9061011	(4G10+(2x1.5)C)C	21.0	7.5
6FX_002-5DX28					
PVC M.I.	05	MAT9161008	(4G16+(2x1.5)C)C	25.0	7.5
PUR O.I.	06	MAT9851519	(4G16+(2x1.5)C)C	24.0	10
PUR M.I.	07	MAT9061008	(4G16+(2x1.5)C)C	24.0	7.5
6FX_002-5DX38					
PVC M.I.	05	MAT9161009	(4G25+(2x1.5)C)C	30.0	7.5
PUR M.I.	07	MAT9061009	(4G25+(2x1.5)C)C	28.0	7.5
6FX_002-5DX48					
PVC M.I.	05	MAT9161010	(4G35+(2x1.5)C)C	33.5	7.5
PUR M.I.	07	MAT9061010	(4G35+(2x1.5)C)C	32.0	7.5

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Hybrid servo cables					
Basic cable					
6FX_002-8QN04					
PVC O.I.	26	MAT97515129	(4G0,34+(2x0,34)C+(4xAWG26)C)C	10.0	10
PUR O.I.	27	MAT98515147	(4G0,34+(2x0,34)C+(4xAWG26)C)C	10.0	10
Basic cable					
6FX_002-8QN08					
PVC O.I.	26	MAT97515130	(4G0,75+(2x0,5)C+(4xAWG26)C)C	11.0	10
PUR O.I.	27	MAT98515148	(4G0,75+(2x0,5)C+(4xAWG26)C)C	11.0	10
Basic cable					
6FX_002-8QN11					
PUR O.I.	27	MAT98515153	(4G1,5+(2x1,5)C+(4xAWG26)C)C	13.0	10
6FX_002-8QN21					
PUR O.I.	27	MAT98515154	(4G2,5+(2x1,5)C+(4xAWG26)C)C	14.5	10
Extension cable					
6FX_002-8QE04					
PVC O.I.	26	MAT97515131	(4G0,34+(2x0,34)C+(4xAWG26)C)C	10.0	10
PUR O.I.	27	MAT98515149	(4G0,34+(2x0,34)C+(4xAWG26)C)C	10.0	10
Extension cable					
6FX_002-8QE08					
PVC O.I.	26	MAT97515132	(4G0,75+(2x0,5)C+(4xAWG26)C)C	11.0	10
PUR O.I.	27	MAT98515150	(4G0,75+(2x0,5)C+(4xAWG26)C)C	11.0	10
Extension cable					
6FX_002-8QE11					
PUR O.I.	27	MAT98515155	(4G1,5+(2x1,5)C+(4xAWG26)C)C	13.0	10
6FX_002-8QE21					
PUR O.I.	27	MAT98515156	(4G2,5+(2x1,5)C+(4xAWG26)C)C	14.5	10

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* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Signal cables					
Basic cable					
6FX8002-2CF20					
PVC	08	MAT9741518	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
PUR O.I.	09	MAT9841563	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.5	10
PUR M.I.	10	MAT9841564	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	7.5
TPE H*	11	MAT9941505	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8
Basic cable					
6FX8002-2CQ31					
PVC	08	MAT9741514	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR O.I.	09	MAT9841557	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR M.I.	10	MAT9841558	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	11.0	7.5
TPE H*	11	MAT9941503	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.5	6.8
Basic cable					
6FX8002-2DC40					
PVC	08	MAT9741520	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR O.I.	09	MAT9841566	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR M.I.	10	MAT9841567	(2x(2x0.20)+(2x0.38))C	7.5	7.5
Basic cable					
6FX8002-2DC42					
PVC	08	MAT9741522	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR O.I.	09	MAT9841569	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR M.I.	10	MAT9841570	(2x(2x0.20)+(2x0.38))C	7.5	7.5
Basic cable					
6FX_002-1DC00					
PVC	08	MAT9741506	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR O.I.	09	MAT9841532	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR M.I.	10	MAT9070032	(2x(2x0.20)+(2x0.38))C	7.5	7.5
Basic cable					
6FX_002-2AD00					
PVC	08	MAT9170001	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
PUR M.I.	10	MAT9841501	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	7.5
TPE H*	11	MAT9070001	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8

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* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Signal cables					
Basic cable					
6FX_002-2AH00					
PVC	08	MAT9170018	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT9841518	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9070018	(4x(2x0.34)+4x0.5)C	10.0	6.8
Basic cable					
6FX_002-2AH11					
PVC	08	MAT9741526	(4x(2x0.34)+4x0.5)C	9.5	10
PUR O.I.	09	MAT98415104	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT98415105	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9941507	(4x(2x0.34)+4x0.5)C	10.0	6.8
Basic cable					
6FX_002-2CA11					
PVC	08	MAT9170002	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT9841502	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9070002	(4x(2x0.34)+4x0.5)C	10.0	6.8
Basic cable					
6FX_002-2CA15					
PVC	08	MAT9170003	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
PUR M.I.	10	MAT9841503	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	7.5
TPE H*	11	MAT9070003	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8
Basic cable					
6FX_002-2CA31					
PVC	08	MAT9170004	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR M.I.	10	MAT9841504	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	11.0	7.5
TPE H*	11	MAT9070004	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.5	6.8
Basic cable					
6FX_002-2CA51					
PVC	08	MAT9170005	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
PUR M.I.	10	MAT9841505	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	7.5
TPE H*	11	MAT9070005	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Signal cables					
Basic cable					
6FX_002-2CA71					
PVC	08	MAT9170006	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT9841506	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9070006	(4x(2x0.34)+4x0.5)C	10.0	6.8
Basic cable					
6FX_002-2CB31					
PUR	13	MAT9841507	(14x0.25)C	8.0	10
TPE H*	24	MAT9070007	(12x0.25)C	9.5	5
6FX_002-2CB51					
PVC	08	MAT9170008	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT9841508	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9070008	(4x(2x0.34)+4x0.5)C	10.0	6.8
6FX_002-2CC11					
PVC	08	MAT9170009	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT9841509	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9070009	(4x(2x0.34)+4x0.5)C	10.0	6.8
6FX_002-2CD01					
PVC	08	MAT9170010	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT9841510	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9070010	(4x(2x0.34)+4x0.5)C	10.0	6.8
Basic cable					
6FX_002-2CF01					
PVC	08	MAT9170021	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
PUR M.I.	10	MAT9841519	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	7.5
TPE H*	11	MAT9070021	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8
6FX_002-2CF02					
PVC	08	MAT9170011	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
PUR M.I.	10	MAT9841511	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	7.5
TPE H*	11	MAT9070011	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8
6FX_002-2CG00					
PVC	08	MAT9170012	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT9841512	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9070012	(4x(2x0.34)+4x0.5)C	10.0	6.8

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Signal cables					
Basic cable					
6FX_002-2CH00					
PVC	08	MAT9170013	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
PUR M.I.	10	MAT9841513	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	7.5
TPE H*	11	MAT9070013	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8
Basic cable					
6FX_002-2CK00					
PVC	08	MAT9170014	(3x(2x0.14)C+2x(0.5)C)C	9.5	10
PUR M.I.	10	MAT9841514	(3x(2x0.14)C+2x(0.5)C)C	10.0	7.5
TPE H*	11	MAT9070014	(3x(2x0.14)C+2x(0.5)C)C	10.0	6.8
6FX_002-2CL00					
PVC	08	MAT9170015	(3x(2x0.14)C+2x(0.5)C)C	9.5	10
PUR M.I.	10	MAT9841515	(3x(2x0.14)C+2x(0.5)C)C	10.0	7.5
TPE H*	11	MAT9070015	(3x(2x0.14)C+2x(0.5)C)C	10.0	6.8
Basic cable					
6FX_002-2CR00					
PVC	08	MAT9741524	(4x(2x0.34)+4x0.5)C	9.5	10
PUR O.I.	09	MAT98415101	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT98415102	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9941506	(4x(2x0.34)+4x0.5)C	10.0	6.8
Basic cable					
6FX_002-2CT12					
PVC	08	MAT9741531	(4x(2x0.34)+4x0.5)C	9.5	10
PUR O.I.	09	MAT98415111	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT98415112	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9941509	(4x(2x0.34)+4x0.5)C	10.0	6.8
Basic cable					
6FX_002-2DB10					
PUR		MAT9821501	(4x(2x0.25)C)C	11.0	10

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* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Signal cables					
Basic cable					
6FX_002-2DC10					
PVC	08	MAT9741504	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR O.I.	09	MAT9841530	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR M.I.	10	MAT9070030	(2x(2x0.20)+(2x0.38))C	7.5	7.5
Extension cable					
6FX_002-2DC34					
PVC	08	MAT9741509	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR O.I.	09	MAT9841551	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR M.I.	10	MAT9841571	(2x(2x0.20)+(2x0.38))C	7.5	7.5
Basic cable					
6FX_002-2DC36					
PVC	08	MAT9741528	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR O.I.	09	MAT98415107	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR M.I.	10	MAT98415108	(2x(2x0.20)+(2x0.38))C	7.5	7.5
Basic cable					
6FX_002-2EQ00					
PVC	08	MAT9170016	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR M.I.	10	MAT9841516	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	11.0	7.5
TPE H*	11	MAT9070016	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.5	6.8
Basic cable					
6FX_002-2EQ10					
PVC	08	MAT9170017	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR M.I.	10	MAT9841517	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	11.0	7.5
TPE H*	11	MAT9070017	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.5	6.8
6FX_002-2EQ20					
PVC	08	MAT9741530	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR O.I.	09	MAT98415109	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR M.I.	10	MAT98415110	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	11.0	7.5
TPE H*	11	MAT9941508	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.5	6.8
6FX_002-2EQ31					
PVC	08	MAT9741512	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR O.I.	09	MAT9841554	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR M.I.	10	MAT9841555	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	11.0	7.5
TPE H*	11	MAT9941502	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.5	6.8

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* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Signal cables					
Basic cable					
6FX_002-5BL03					
PVC M.I.	18	MAT9711502	(3G0.75)C	8.0	7.5
PUR M.I.	22	MAT9811501	(3G0.75)C	8.0	6.8
Basic cable					
6fx3002-2CT10					
PVC	08	MAT9741507	(4x(2x0.34)+4x0.5)C	9.5	10
PUR O.I.	09	MAT9841548	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT9841549	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9941501	(4x(2x0.34)+4x0.5)C	10.0	6.8
Extension cable					
6FX8002-2CQ34					
PVC	08	MAT9741516	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR O.I.	09	MAT9841560	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR M.I.	10	MAT9841561	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	11.0	7.5
TPE H*	11	MAT9941504	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.5	6.8
Extension cable					
6FX_002-2AD04					
PVC	08	MAT9171001	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
PUR M.I.	10	MAT9841520	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	7.5
TPE H*	11	MAT9071001	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8
6FX_002-2AH04					
PVC	08	MAT9171018	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT9841529	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9071018	(4x(2x0.34)+4x0.5)C	10.0	6.8
6FX_002-2CA34					
PVC	08	MAT9171004	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR M.I.	10	MAT9841523	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	11.0	7.5
TPE H*	11	MAT9071004	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.5	6.8
6FX_002-2CA54					
PVC	08	MAT9171003	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
PUR M.I.	10	MAT9841522	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	7.5
TPE H*	11	MAT9071003	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

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* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Signal cables					
Extension cable					
6FX_002-2CB34					
PUR	13	MAT9841525	(14x0.25)C	8.0	10
TPE H*	24	MAT9071007	(12x0.25)C	9.5	5
6FX_002-2CB54					
PVC	08	MAT9171002	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT9841521	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9071002	(4x(2x0.34)+4x0.5)C	10.0	6.8
Extension cable					
6FX_002-2CC14					
PVC	08	MAT9171009	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT9841526	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9071009	(4x(2x0.34)+4x0.5)C	10.0	6.8
6FX_002-2CF04					
PVC	08	MAT9171011	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
PUR M.I.	10	MAT9841527	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	7.5
TPE H*	11	MAT9071011	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8
Extension cable					
6FX_002-2DC20					
PVC	08	MAT9741505	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR O.I.	09	MAT9841531	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR M.I.	10	MAT9070031	(2x(2x0.20)+(2x0.38))C	7.5	7.5
Extension cable					
6FX_002-2EQ14					
PVC	08	MAT9171017	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR M.I.	10	MAT9841528	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	11.0	7.5
TPE H*	11	MAT9071017	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.5	6.8

EPLAN macros suitable for Siemens available online

Can be used directly in CAE planning.

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* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Signal cables DriveCliq					
Basic cable					
6FX8002-2DC30-1AD0(3m)					
PUR M.I.	10	MAT9841534	(2x(2x0.20)+(2x0.38))C	7.5	7.5
6FX8002-2DC30-1AF0(5m)					
PUR M.I.	10	MAT9841535	(2x(2x0.20)+(2x0.38))C	7.5	7.5
6FX8002-2DC30-1BA0(10m)					
PUR M.I.	10	MAT9841536	(2x(2x0.20)+(2x0.38))C	7.5	7.5
6FX8002-2DC30-1BF0(15m)					
PUR M.I.	10	MAT9841537	(2x(2x0.20)+(2x0.38))C	7.5	7.5
6FX8002-2DC30-1CA0(20m)					
PUR M.I.	10	MAT9841538	(2x(2x0.20)+(2x0.38))C	7.5	7.5
6FX8002-2DC30-1CF0(25m)					
PUR M.I.	10	MAT9841539	(2x(2x0.20)+(2x0.38))C	7.5	7.5
6FX8002-2DC30-1DA0(30m)					
PUR M.I.	10	MAT9841540	(2x(2x0.20)+(2x0.38))C	7.5	7.5
Extension cable					
6FX8002-2DC34-1AD0(3m)					
PUR M.I.	10	MAT9841541	(2x(2x0.20)+(2x0.38))C	7.5	7.5
6FX8002-2DC34-1AF0(5m)					
PUR M.I.	10	MAT9841542	(2x(2x0.20)+(2x0.38))C	7.5	7.5
6FX8002-2DC34-1BA0(10m)					
PUR M.I.	10	MAT9841543	(2x(2x0.20)+(2x0.38))C	7.5	7.5
6FX8002-2DC34-1BF0(15m)					
PUR M.I.	10	MAT9841544	(2x(2x0.20)+(2x0.38))C	7.5	7.5
6FX8002-2DC34-1CA0(20m)					
PUR M.I.	10	MAT9841545	(2x(2x0.20)+(2x0.38))C	7.5	7.5
6FX8002-2DC34-1CF0(25m)					
PUR M.I.	10	MAT9841546	(2x(2x0.20)+(2x0.38))C	7.5	7.5
6FX8002-2DC34-1DA0(30m)					
PUR M.I.	10	MAT9841547	(2x(2x0.20)+(2x0.38))C	7.5	7.5

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Power cables, SpeedTec					
Basic cable, SpeedTec					
6FX_002-5CG10					
PVC M.I.	**01**	MAT9761540	(4G1.5)C	10.0	7.5
PUR O.I.	**06**	MAT9861584	(4G1.5)C	9.0	10
PUR M.I.	**07**	MAT9861583	(4G1.5)C	11.0	7.5
TPE F	**02**	MAT9961540	(4G1.5)C	10.0	7.5
6FX_002-5CG12					
PVC M.I.	**01**	MAT9761541	(4G2.5)C	11.5	7.5
PUR O.I.	**06**	MAT9861586	(4G2.5)C	10.5	10
PUR M.I.	**07**	MAT9861585	(4G2.5)C	12.5	7.5
TPE F	**02**	MAT9961541	(4G2.5)C	11.5	7.5
6FX_002-5CG22					
PVC M.I.	**01**	MAT9761542	(4G1.5)C	10.0	7.5
PUR O.I.	**06**	MAT9861588	(4G1.5)C	9.0	10
PUR M.I.	**07**	MAT9861587	(4G1.5)C	11.0	7.5
TPE F	**02**	MAT9961542	(4G1.5)C	10.0	7.5
6FX_002-5CG32					
PVC M.I.	**01**	MAT9761543	(4G2.5)C	11.5	7.5
PUR O.I.	**06**	MAT9861590	(4G2.5)C	10.5	10
PUR M.I.	**07**	MAT9861589	(4G2.5)C	12.5	7.5
TPE F	**02**	MAT9961543	(4G2.5)C	11.5	7.5
6FX_002-5CG42					
PVC M.I.	**01**	MAT9761544	(4G4.0)C	13.0	7.5
PUR O.I.	**06**	MAT9861591	(4G4.0)C	12.5	10
TPE F	**02**	MAT9961544	(4G4.0)C	13.0	7.5
6FX_002-5CG52					
PVC M.I.	**01**	MAT9761545	(4G6.0)C	16.0	7.5
PUR O.I.	**06**	MAT9861592	(4G6.0)C	14.5	10
TPE F	**02**	MAT9961545	(4G6.0)C	16.0	7.5
6FX_002-5CG62					
PVC M.I.	**01**	MAT9761546	(4G10)C	18.5	7.5
PUR O.I.	**06**	MAT9861593	(4G10)C	170	10
TPE F	**02**	MAT9961546	(4G10)C	18.5	7.5

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Power cables, SpeedTec					
Basic cable, SpeedTec					
6FX_002-5CN01					
PVC M.I.	**01**	MAT9761531	(4G1.5)C	10.0	7.5
PUR O.I.	**06**	MAT9861571	(4G1.5)C	9.0	10
PUR M.I.	**07**	MAT9861570	(4G1.5)C	11.0	7.5
TPE F	**02**	MAT9961531	(4G1.5)C	10.0	7.5
6FX_002-5CN11					
PVC M.I.	**01**	MAT9761532	(4G2.5)C	11.5	7.5
PUR O.I.	**06**	MAT9861573	(4G2.5)C	10.5	10
PUR M.I.	**07**	MAT9861572	(4G2.5)C	12.5	7.5
TPE F	**02**	MAT9961532	(4G2.5)C	11.5	7.5
6FX_002-5CN21					
PVC M.I.	**01**	MAT9761533	(4G1.5)C	10.0	7.5
PUR O.I.	**06**	MAT9861575	(4G1.5)C	9.0	10
PUR M.I.	**07**	MAT9861574	(4G1.5)C	11.0	7.5
TPE F	**02**	MAT9961533	(4G1.5)C	10.0	7.5
6FX_002-5CN31					
PVC M.I.	**01**	MAT9761534	(4G2.5)C	11.5	7.5
PUR O.I.	**06**	MAT9861577	(4G2.5)C	10.5	10
PUR M.I.	**07**	MAT9861576	(4G2.5)C	12.5	7.5
TPE F	**02**	MAT9961534	(4G2.5)C	11.5	7.5
6FX_002-5CN41					
PVC M.I.	**01**	MAT9761535	(4G4.0)C	13.0	7.5
PUR O.I.	**06**	MAT9861578	(4G4.0)C	12.5	10
TPE F	**02**	MAT9961535	(4G4.0)C	13.0	7.5
6FX_002-5CN51					
PVC M.I.	**01**	MAT9761536	(4G6.0)C	16.0	7.5
PUR O.I.	**06**	MAT9861579	(4G6.0)C	14.5	10
TPE F	**02**	MAT9961536	(4G6.0)C	16.0	7.5
Basic cable, SpeedTec					
6FX_002-5CN54					
PVC M.I.	**01**	MAT9761537	(4G6.0)C	16.0	7.5
PUR O.I.	**06**	MAT9861580	(4G6.0)C	14.5	10
TPE F	**02**	MAT9961537	(4G6.0)C	16.0	7.5

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Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Power cables, SpeedTec					
Basic cable, SpeedTec					
6FX_002-5CN61					
PVC M.I.	**01**	MAT9761538	(4G10)C	18.5	7.5
PUR O.I.	**06**	MAT9861581	(4G10)C	17.0	10
TPE F	**02**	MAT9961538	(4G10)C	18.5	7.5
Basic cable, SpeedTec					
6FX_002-5CN64					
PVC M.I.	**01**	MAT9761539	(4G10)C	18.5	7.5
PUR O.I.	**06**	MAT9861582	(4G10)C	17.0	10
TPE F	**02**	MAT9961539	(4G10)C	18.5	7.5
Basic cable, SpeedTec					
6FX_002-5CQ01					
PVC M.I.	**01**	MAT9761524	(4G1.5)C	10.0	7.5
PUR O.I.	**06**	MAT9861560	(4G1.5)C	9.0	10
PUR M.I.	**07**	MAT9861559	(4G1.5)C	11.0	7.5
TPE F	**02**	MAT9961524	(4G1.5)C	10.0	7.5
6FX_002-5CQ11					
PVC M.I.	**01**	MAT9761525	(4G2.5)C	11.5	7.5
PUR O.I.	**06**	MAT9861562	(4G2.5)C	10.5	10
PUR M.I.	**07**	MAT9861561	(4G2.5)C	12.5	7.5
TPE F	**02**	MAT9961525	(4G2.5)C	11.5	7.5
6FX_002-5CQ21					
PVC M.I.	**01**	MAT9761526	(4G1.5)C	10.0	7.5
PUR O.I.	**06**	MAT9861564	(4G1.5)C	9.0	10
PUR M.I.	**07**	MAT9861563	(4G1.5)C	11.0	7.5
TPE F	**02**	MAT9961526	(4G1.5)C	10.0	7.5
6FX_002-5CQ31					
PVC M.I.	**01**	MAT9761527	(4G2.5)C	11.5	7.5
PUR O.I.	**06**	MAT9861566	(4G2.5)C	10.5	10
PUR M.I.	**07**	MAT9861565	(4G2.5)C	12.5	7.5
TPE F	**02**	MAT9961527	(4G2.5)C	11.5	7.5
6FX_002-5CQ41					
PVC M.I.	**01**	MAT9761528	(4G4.0)C	13.0	7.5
PUR O.I.	**06**	MAT9861567	(4G4.0)C	12.5	10
TPE F	**02**	MAT9961528	(4G4.0)C	13.0	7.5

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Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Power cables, SpeedTec					
6FX_002-5CQ51					
PVC M.I.	**01**	MAT9761529	(4G6.0)C	16.0	7.5
PUR O.I.	**06**	MAT9861568	(4G6.0)C	14.5	10
TPE F	**02**	MAT9961529	(4G6.0)C	16.0	7.5
6FX_002-5CQ61					
PVC M.I.	**01**	MAT9761530	(4G10)C	18.5	7.5
PUR O.I.	**06**	MAT9861569	(4G10)C	17.0	10
TPE F	**02**	MAT9961530	(4G10)C	18.5	7.5
Extension cable, SpeedTec					
6FX_002-5CN05					
PVC M.I.	**01**	MAT9761522	(4G1.5)C	10.0	7.5
PUR O.I.	**06**	MAT9861556	(4G1.5)C	9.0	10
PUR M.I.	**07**	MAT9861555	(4G1.5)C	11.0	7.5
TPE F	**02**	MAT9961522	(4G1.5)C	10.0	7.5
6FX_002-5CQ15					
PVC M.I.	**01**	MAT9761523	(4G2.5)C	11.5	7.5
PUR O.I.	**06**	MAT9861558	(4G2.5)C	10.5	10
PUR M.I.	**07**	MAT9861557	(4G2.5)C	12.5	7.5
TPE F	**02**	MAT9961523	(4G2.5)C	11.5	7.5
6FX_002-5CQ28					
PVC M.I.	**01**	MAT9761547	(4G1.5)C	10.0	7.5
PUR O.I.	**06**	MAT9861595	(4G1.5)C	9.0	10
PUR M.I.	**07**	MAT9861594	(4G1.5)C	11.0	7.5
TPE F	**02**	MAT9961547	(4G1.5)C	10.0	7.5
6FX_002-5CQ38					
PVC M.I.	**01**	MAT9761548	(4G2.5)C	11.5	7.5
PUR O.I.	**06**	MAT9861597	(4G2.5)C	10.5	10
PUR M.I.	**07**	MAT9861596	(4G2.5)C	12.5	7.5
TPE F	**02**	MAT9961548	(4G2.5)C	11.5	7.5
6FX_002-5CQ48					
PVC M.I.	**01**	MAT9761549	(4G4.0)C	13.0	7.5
PUR O.I.	**06**	MAT9861598	(4G4.0)C	12.5	10
TPE F	**02**	MAT9961549	(4G4.0)C	13.0	7.5
6FX_002-5CQ58					
PVC M.I.	**01**	MAT9761550	(4G6.0)C	16.0	7.5
PUR O.I.	**06**	MAT9861599	(4G6.0)C	14.5	10
TPE F	**02**	MAT9961550	(4G6.0)C	16.0	7.5
6FX_002-5CQ68					
PVC M.I.	**01**	MAT9761551	(4G10)C	18.5	7.5
PUR O.I.	**06**	MAT98615100	(4G10)C	17.0	10
TPE F	**02**	MAT9961551	(4G10)C	18.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Siemens, SpeedTec
PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Servo cables, SpeedTec					
Basic cable, SpeedTec					
6FX_002-5DG10					
PVC O.I.	04	MAT9751589	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751588	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT98515107	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT98515106	(4G1.5+(2x1.5)C)	13.0	7.5
6FX_002-5DG12					
PVC O.I.	04	MAT9751593	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751592	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT98515111	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT98515110	(4G2.5+(2x1.5)C)C	14.5	7.5
6FX_002-5DG22					
PVC O.I.	04	MAT9751591	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751590	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT98515109	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT98515108	(4G1.5+(2x1.5)C)	13.0	7.5
6FX_002-5DG32					
PVC O.I.	04	MAT9751595	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751594	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT98515113	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT98515112	(4G2.5+(2x1.5)C)C	14.5	7.5
6FX_002-5DG42					
PVC O.I.	04	MAT9751597	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9751596	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT98515115	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT98515114	(4G4.0+(2x1.5)C)C	16.0	7.5
6FX_002-5DG52					
PVC O.I.	04	MAT9751599	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9751598	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT98515117	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT98515116	(4G6.0+(2x1.5)C)C	17.5	7.5
6FX_002-5DG62					
PVC M.I.	05	MAT97515100	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT98515119	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT98515118	(4G10+(2x1.5)C)C	21.0	7.5

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igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Siemens, SpeedTec
PVC/PUR/TPE
EPLAN macros available online ▶ Page 582/583
* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Servo cables, SpeedTec					
Basic cable, SpeedTec					
6FX_002-5DN01					
PVC O.I.	04	MAT9751571	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751570	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851589	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851588	(4G1.5+(2x1.5)C)	13.0	7.5
6FX_002-5DN11					
PVC O.I.	04	MAT9751573	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751572	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851591	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851590	(4G2.5+(2x1.5)C)C	14.5	7.5
6FX_002-5DN21					
PVC O.I.	04	MAT9751575	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751574	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851593	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851592	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable, SpeedTec					
6FX_002-5DN27					
PVC O.I.	04	MAT97515128	(4G1.5+(2x1.5)C)	12.5	10
PUR O.I.	06	MAT98515152	(4G1.5+(2x1.5)C)	12.5	10
Basic cable, SpeedTec					
6FX_002-5DN31					
PVC O.I.	04	MAT9751577	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751576	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851595	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851594	(4G2.5+(2x1.5)C)C	14.5	7.5
6FX_002-5DN41					
PVC O.I.	04	MAT9751579	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9751578	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851597	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9851596	(4G4.0+(2x1.5)C)C	16.0	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Siemens, SpeedTec
PVC/PUR/TPE

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* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Servo cables, SpeedTec					
Basic cable, SpeedTec					
6FX_002-5DN51					
PVC O.I.	04	MAT9751581	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9751580	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851599	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9851598	(4G6.0+(2x1.5)C)C	17.5	7.5
Basic cable, SpeedTec					
6FX_002-5DN54					
PVC O.I.	04	MAT9751583	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9751582	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT98515101	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT98515100	(4G6.0+(2x1.5)C)C	17.5	7.5
Basic cable, SpeedTec					
6FX_002-5DN61					
PVC M.I.	05	MAT9751584	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT98515103	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT98515102	(4G10+(2x1.5)C)C	21.0	7.5
Basic cable, SpeedTec					
6FX_002-5DN64					
PVC M.I.	05	MAT9751586	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT98515105	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT98515104	(4G10+(2x1.5)C)C	21.0	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Siemens, SpeedTec
PVC/PUR/TPE
EPLAN macros available online ▶ Page 582/583
* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Servo cables, SpeedTec					
Basic cable, SpeedTec					
6FX_002-5DQ01					
PVC O.I.	04	MAT9751557	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751556	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851575	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851574	(4G1.5+(2x1.5)C)	13.0	7.5
6FX_002-5DQ11					
PVC O.I.	04	MAT9751559	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751558	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851577	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851576	(4G2.5+(2x1.5)C)C	14.5	7.5
6FX_002-5DQ21					
PVC O.I.	04	MAT9751561	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751560	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851579	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851578	(4G1.5+(2x1.5)C)	13.0	7.5
6FX_002-5DQ31					
PVC O.I.	04	MAT9751563	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751562	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851581	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851580	(4G2.5+(2x1.5)C)C	14.5	7.5
6FX_002-5DQ41					
PVC O.I.	04	MAT9751565	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9751564	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851583	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9851582	(4G4.0+(2x1.5)C)C	16.0	7.5
6FX_002-5DQ51					
PVC O.I.	04	MAT9751567	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9751566	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851585	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9851584	(4G6.0+(2x1.5)C)C	17.5	7.5
6FX_002-5DQ61					
PVC M.I.	05	MAT9751568	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851587	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9851586	(4G10+(2x1.5)C)C	21.0	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Siemens, SpeedTec
PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Servo cables, SpeedTec					
Extension cable, SpeedTec					
6FX_002-5DN05					
PVC O.I.	04	MAT9751544	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751543	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851561	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851560	(4G1.5+(2x1.5)C)	13.0	7.5
6FX_002-5DN15					
PVC O.I.	04	MAT9751546	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751545	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851563	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851562	(4G2.5+(2x1.5)C)C	14.5	7.5
6FX_002-5DQ15					
PVC O.I.	04	MAT97515122	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT97515123	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT98515142	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT98515143	(4G2.5+(2x1.5)C)C	14.5	7.5
6FX_002-5DQ28					
PVC O.I.	04	MAT9751548	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751547	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851565	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851564	(4G1.5+(2x1.5)C)	13.0	7.5
6FX_002-5DQ38					
PVC O.I.	04	MAT9751550	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751549	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851567	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851566	(4G2.5+(2x1.5)C)C	14.5	7.5
6FX_002-5DQ48					
PVC O.I.	04	MAT9751552	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9751551	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851569	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9851568	(4G4.0+(2x1.5)C)C	16.0	7.5
6FX_002-5DQ58					
PVC O.I.	04	MAT9751554	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9751553	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851571	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9851570	(4G6.0+(2x1.5)C)C	17.5	7.5
6FX_002-5DQ68					
PVC M.I.	05	MAT9751555	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851573	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9851572	(4G10+(2x1.5)C)C	21.0	7.5

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Harnessed drive cables | Stöber
PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Stöber Servo cables					
Basic cable					
Gr.1-Motor-1,0mm²					
PVC O.I.	04	MAT9751601	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9430001	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851601	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9420001	(4G1.0+2x(2x0.75)C)	13.5	7.5
Gr.1-Motor-1,5mm²					
PVC O.I.	04	MAT9751602	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9430002	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851602	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9420002	(4G1.5+2x(2x0.75)C)C	14.5	7.5
Gr.1-Motor-2,5mm²					
PVC O.I.	04	MAT9751603	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9430003	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851603	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9420003	(4G2.5+2x(2x1.5)C)C	16.0	7.5
Gr.1-Motor-4,0mm²					
PVC O.I.	04	MAT9751604	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9430004	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851604	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9420004	(4G4.0+2x(2x1.5)C)C	17.5	7.5
Basic cable					
Gr.1,5-Motor-4,0mm²					
PVC O.I.	04	MAT9751605	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9430005	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851605	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9420005	(4G4.0+2x(2x1.5)C)C	17.5	7.5
Gr.1,5-Motor-6,0mm²					
PVC O.I.	04	MAT9751606	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9430006	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851606	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9420006	(4G6.0+2x(2x1.5)C)C	19.5	7.5
Gr.1,5-Motor-10,0mm²					
PVC M.I.	05	MAT9430007	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9851607	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9420007	(4G10+2x(2x1.5)C)C	22.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Stöber PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Stöber Encoder cables					
iSDS4000 Basic cable					
Encoder ED/EK iSDS4000					
PVC	08	MAT9431001	(4x(2x0.34)+4x0.5)C	9.5	10
PUR O.I.	09	MAT9941601	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT9841601	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9421001	(4x(2x0.34)+4x0.5)C	10.0	6.8
iSDS4000 Basic cable					
Encoder ES iSDS4000					
PUR O.I.	09	MAT9941602	((4x0.25)+3x(2x0.25+2x0.5))C	9.5	10
PUR M.I.	10	MAT9841602	((4x0.25)+3x(2x0.25+2x0.5))C	11.0	7.5
TPE H*	11	MAT9421002	((4x0.25)+3x(2x0.25+2x0.5))C	10.0	6.8
iHTL Basic cable					
Encoder HTL					
PVC	08	MAT9431006	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9841606	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9421006	(4x(2x0.25)+2x0.5)C	8.5	6.8
iMDS5000 Basic cable					
Encoder iMDS5000					
PVC	08	MAT9431004	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9841604	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9421004	(4x(2x0.25)+2x0.5)C	8.5	6.8
iMDS5000 Basic cable					
Resolver iMDS5000					
PVC	08	MAT9431005	(3x(2x0.25)C)C	9.0	10
PUR M.I.	10	MAT9841605	(3x(2x0.25))C	7.5	7.5
TPE H*	11	MAT9421005	(3x(2x0.25))C	7.5	6.8
iSDS4000 Basic cable					
Resolver iSDS4000					
PVC	08	MAT9431003	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9841603	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9421003	(4x(2x0.25)+2x0.5)C	8.5	6.8

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

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readycable® finder 2.0



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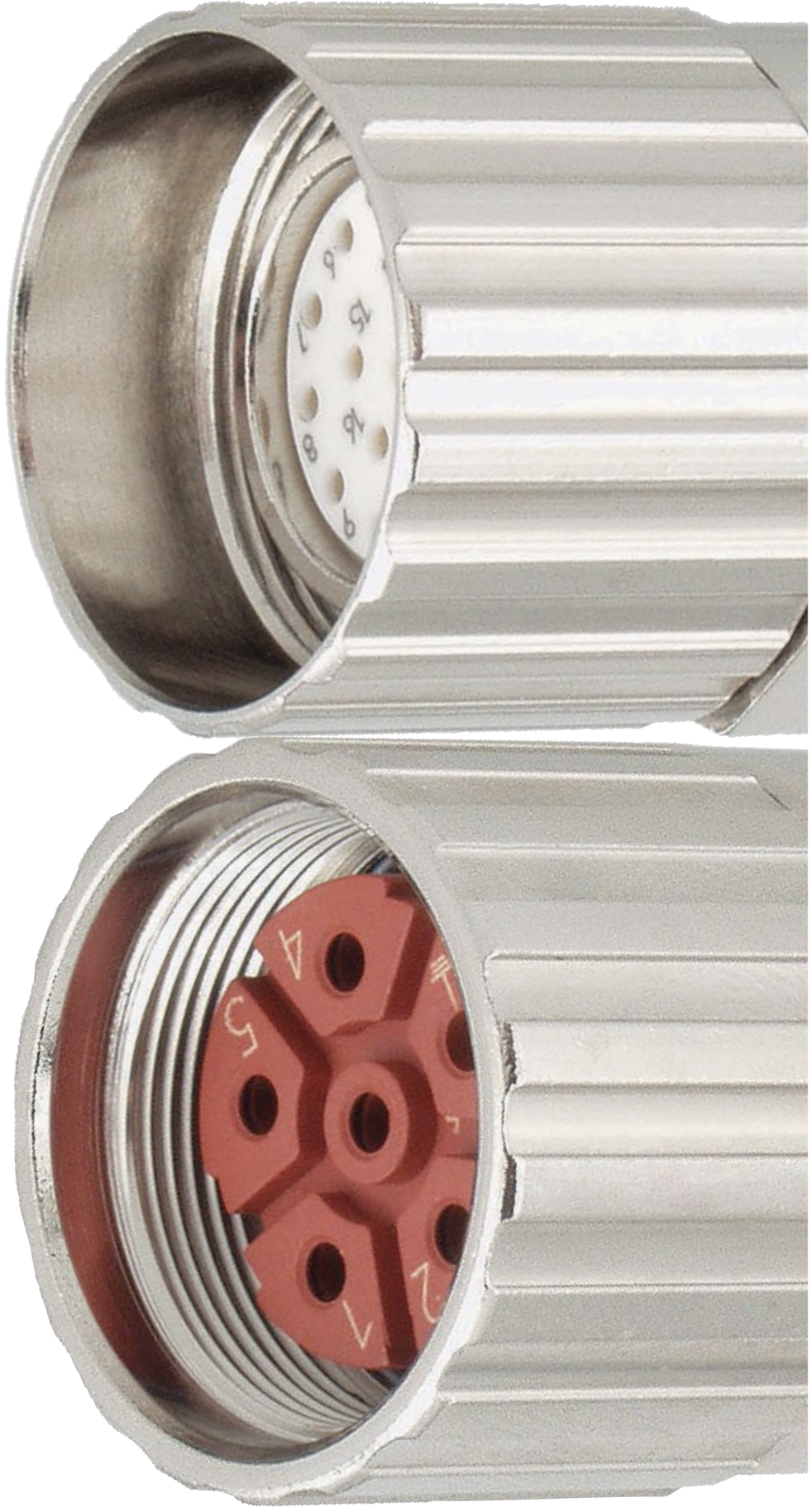
- Find drive cables suitable for 24 manufacturers quickly and easily online
- Price for different cable lengths and batch sizes available instantly
- Search by manufacturer or igus® part number
- Important information such as jacket material, oil resistance or bend radius at a glance
- Submit an enquiry or order with just one click
- Over 5,000 drive cables, suitable for 24 manufacturers, to choose from

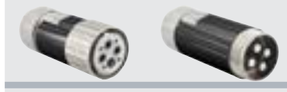
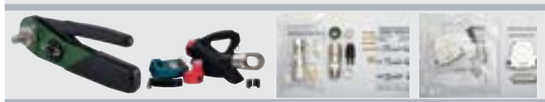
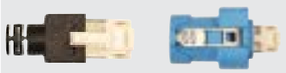
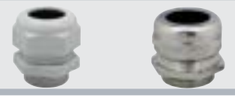
1. Enter manufacturer or igus® part number
2. Compare cables with different jacket materials
3. Choose and order directly/ submit enquiry



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igus® Connectors



	igus® connectors	Type	Page
Connectors			
	SERIES A 623	Signal connector M23 standard [6 to 19-pole] standard/Speedtec	788
	SERIES B 923	Power connector Size 1 [6, 8 and 9-pole] standard/Speedtec	793
	SERIES C 940	Power connector Size 1.5 [6, 8 and 9-pole] standard/Speedtec	798
	SERIES D 958	Power connector Size 3 [6 and 8-pole] standard	801
	SERIES 615/915	Signal and power connector Signal [12-pole] and power connector [9-pole] plastic/metal clamping ring	803
	SERIES M17 617/917	Signal and power connector M17 signal [17-pole] and power connector [4 to 9-pole] standard/Speedtec	811
	SERIES S 623	Power connector [1-pole] standard	816
		Tools/accessories and connector packs Individual connector sets from quantity 1	818
	igus® ibow	Angle adapter for power connector 923 and signal connector 623	821
		Torque Master Connector assembly with precise torque	822
	Module Connect	Connector system Connect your energy supply with just ONE connector	824
	SUB-D	Signal connector SUB-D standard [9 to 44-pole]	830
	Yamaichi Y-CONKIT		834
	HARTING	Connector sets Standard and Premium	836
	Binder	**Connectors** series 768, 820, 825, 713	839
		Glands	844

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Signal connectors Series A, M23 standard [9 to 19-pole]

Types

- Connector, standard and push-pull version, angular connector
- Lead-through
- Coupling, standard or with central attachment
- PG 13.5 installation box
- Straight installation box with flange
- Installation box angled and angled rotatable with flange

Number of poles in insulation body

- 6, 7, [8+1], 9, 10, 12, 16, 17, [16+3]

Electrical information

Design	**Signal 6 to 12-pole**	**Signal 16 to 19-pole**
Max. continuous nominal current	10A	9A
Nominal voltage (AC/DC)	160V	125V
Testing voltage	2500V	2500V
Contact resistance	< 5mΩ	< 5mΩ
Insertion cycles	> 50	> 50

Technical data

Locking	Thread M23
Temperature range	-20°C up to +130°C
Cable clamp	Crown clamp
Protection class	IP 66/67 [plugged]

Data according to VDE 0110/EN 61984, Clause 6.19.2.2

Pollution degree	3
Over-voltage category	III
Max. installation height	2000m

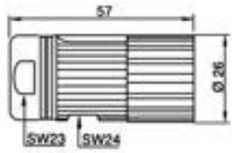
Connector materials

Housing	Zinc die-casting/brass, nickel-plated
Coupling nut	Brass, nickel-plated
Insulation body (material)	PA 6.6/PBT, UL 94/V0
Contacts	Brass, gold-plated
Seals	FPM/HNBR
Clamping ring	Brass, nickel-plated





Example image



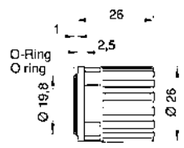


Signal connector [9 to 19-pole] (Metal construction, EMC shielding)

Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179600	P type [8+1]-pole 3 coding slots		Female crimp, slotted	8x1.0		0.14-1	9.0-13.2	C 1 4
			Female crimp, slotted	1x2.0		0.35-2.5		
MAT0179601	E type 12-pole 3 coding slots		Female crimp, slotted	12x1.0		0.14-1	9.0-13.2	A
MAT0179602	P type 16-pole 1 coding slot		Female crimp, slotted	16x1.0		0.14-1	9.0-13.2	A
MAT0179603	P type 17 pole 3 coding slots		Female crimp, slotted	17x1.0		0.14-1	9.0-13.2	A
MAT0179604	P type [16+3]-pole 1 coding slot		Female crimp, slotted	16x1.0		0.14-1	9.0-13.2	C 1 5
			Female crimp, slotted	3x1.5		0.14-1		



Example image



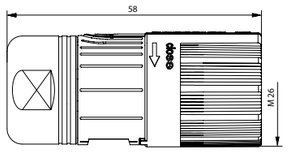
Bulkhead connector with union nut

Part No.	Number of poles	Crimping tool + insert
MAT0179605	[8+1]-pole	C 1 4
MAT0179606	12-pole	A
MAT0179607	16-pole	A
MAT0179608	17 pole	A
MAT0179609	[16+3]-pole	C 1 5

TE/INTERCONTEC | **Series A** | Speedtec



Example image



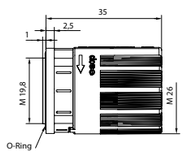


Signal connector [9 to 19-pole] (Metal construction, EMC shielding)

Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01723461	P type [8+1]-pole 3 coding slots		Female crimp, slotted	8x1.0		0.14-1	9.0-13.2	C 1 4
			Female crimp, slotted	1x2.0		0.35-2.5		
MAT01723462	E type 12-pole 3 coding slots		Female crimp, slotted	12x1.0		0.14-1	9.0-13.2	A
MAT01723463	P type 16-pole 1 coding slot		Female crimp, slotted	16x1.0		0.14-1	9.0-13.2	A
MAT01723464	P type 17 pole 3 coding slots		Female crimp, slotted	17x1.0		0.14-1	9.0-13.2	A
MAT01723465	P type [16+3]-pole 1 coding slot		Female crimp, slotted	16x1.0		0.14-1	9.0-13.2	C 1 5
			Female crimp, slotted	3x1.5		0.14-1		



Example image



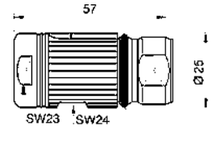
Bulkhead connector with union nut

Part No.	Number of poles	Crimping tool + insert
MAT01723466	[8+1]-pole	C 1 4
MAT01723467	12-pole	A
MAT01723468	16-pole	A
MAT01723469	17 pole	A
MAT01723470	[16+3]-pole	C 1 5

TE/INTERCONTEC | **Series A** | Standard



Example image



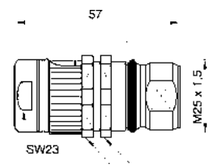


Signal connector [9 to 19-pole] (Metal construction, EMC shielding)

Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179610	E type [8+1]-pole 3 coding slots		Male crimp	8x1.0		0.14-1	9.0-13.2	C 1 4
			Male crimp	1x2.0		0.35-2.5		
MAT0179611	P type 12-pole 3 coding slots		Male crimp	12x1.0		0.14-1	9.0-13.2	A
MAT0179612	E type 16-pole 1 coding slot		Male crimp	16x1.0		0.14-1	9.0-13.2	A
MAT0179613	E type 17 pole 3 coding slots		Male crimp	17x1.0		0.14-1	9.0-13.2	A
MAT0179614	E type [16+3]-pole 1 coding slot		Male crimp	16x1.0		0.14-1	9.0-13.2	C 1 5
			Male crimp	3x1.5		0.14-1		



Example image



Coupling with central attachment

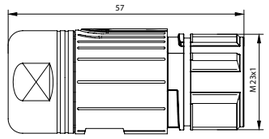
Part No.	Number of poles	Crimping tool + insert
MAT0179615	[8+1]-pole	C 1 4
MAT0179616	12-pole	A
MAT0179617	16-pole	A
MAT0179618	17 pole	A
MAT0179619	[16+3]-pole	C 1 5

Crimping tools and inserts ▶ Page 818

TE/INTERCONTEC | **Series A** | Speedtec



Example image



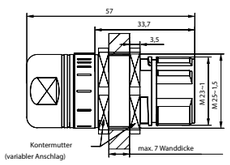


Signal connector [9 to 19-pole] (Metal construction, EMC shielding)

Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01723471	E type [8+1]-pole 3 coding slots		Male crimp	8x1.0		0.14-1	9.0-13.2	C 1 4
			Male crimp	1x2.0		0.35-2.5		
MAT01723472	P type 12-pole 3 coding slots		Male crimp	12x1.0		0.14-1	9.0-13.2	A
MAT01723473	E type 16-pole 1 coding slot		Male crimp	16x1.0		0.14-1	9.0-13.2	A
MAT01723474	E type 17 pole 3 coding slots		Male crimp	17x1.0		0.14-1	9.0-13.2	A
MAT01723475	E type [16+3]-pole 1 coding slot		Male crimp	16x1.0		0.14-1	9.0-13.2	C 1 5
			Male crimp	3x1.5		0.14-1		



Example image



Coupling with central attachment

Part No.	Number of poles	Crimping tool + insert
MAT01723476	[8+1]-pole	C 1 4
MAT01723477	12-pole	A
MAT01723478	16-pole	A
MAT01723479	17 pole	A
MAT01723480	[16+3]-pole	C 1 5

Crimping tools and inserts ▶ Page 818



TE/INTERCONTEC | **Series B** | Standard/Speedtec

Power connectors series B, M23, size 1 [6, 8 and 9-pole]

Types

- Connector, short and long, push-pull version, angular connector
- Coupling, standard or with central attachment
- Lead-through
- Installation box straight with flange
- Installation box angled and angled rotatable with flange

Number of poles in insulation body

- 6, 8, 9

Electrical information

Design	**Power 6-pole**	**Power 8 and 9-pole**
Max. continuous nominal current	28A	30A
Nominal voltage (AC/DC)	630V	630V
Testing voltage	6,000V	6,000V
Contact resistance	< 3mΩ	< 3mΩ
Insertion cycles	> 50	> 50

Technical data

Locking	Thread M23
Temperature range	-20°C up to +130°C
Cable clamp	Crown clamp
Protection class	IP 66/67 [plugged]

Data according to VDE 0110/EN 61984, Clause 6.19.2.2

Pollution degree	3
Over-voltage category	III
Max. installation height	2000m

Connector materials

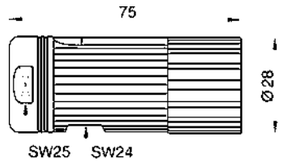
Housing	Zinc die-casting/brass, nickel-plated (optional: stainless steel)
Coupling nut	Brass, nickel-plated
Insulation body (material)	PA 6.6/PBT, UL 94/V0
Contacts	Brass, gold-plated
Seals	FPM/HNBR
Clamping ring	Brass, nickel-plated

Crimping tools and inserts ▶ Page 818

TE/INTERCONTEC | **Series B** | Standard



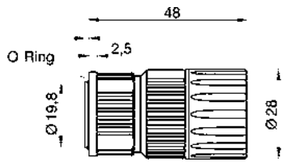
Example image



Power connector [6 to 9-pole], nickel-plated (metal construction, EMC shielding)							
Part No.	Insulation body (material)	Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179620	P type 6-pole	HC female crimp	6x2.0		0.35-2.5	9.5-14.5	C 2
MAT0179621	P type 8-pole	HC female crimp	4x2.0		0.35-2.5	9.5-14.5	C 2 1
		HC female crimp	4x1.0		0.14-1		
MAT0179622	P type 9-pole	HC female crimp	4x2.0		0.35-2.5	9.5-14.5	C 2 1
		HC female crimp	5x1.0		0.14-1		



Example image



Bulkhead connector with union nut		
Part No.	Number of poles	Crimping tool + insert
MAT0178406	6-pole	C 2
MAT0175661	8-pole	C 2 1
MAT0179033	9-pole	C 2 1

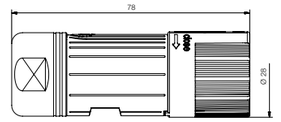
Crimping tools and inserts ▶ Page 818



TE/INTERCONTEC | **Series B** | Speedtec



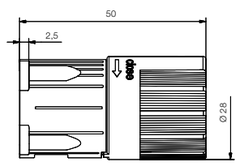
Example image



Power connector [6 to 9-pole], nickel-plated (metal construction, EMC shielding)							
Part No.	Insulation body (material)	Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01723481	P type 6-pole	HC female crimp	6x2.0		0.35-2.5	9.5-14.5	C 2
MAT01723482	P type 8-pole	HC female crimp	4x2.0		0.35-2.5	9.5-14.5	C 2 1
		HC female crimp	4x1.0		0.14-1		
MAT01723483	P type 9-pole	HC female crimp	4x2.0		0.35-2.5	9.5-14.5	C 2 1
		HC female crimp	5x1.0		0.14-1		



Example image



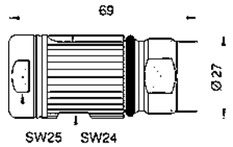
Bulkhead connector with union nut		
Part No.	Number of poles	Crimping tool + insert
MAT01723484	6-pole	C 2
MAT01723485	8-pole	C 2 1
MAT01723486	9-pole	C 2 1

Crimping tools and inserts ▶ Page 818

TE/INTERCONTEC | **Series B** | Standard



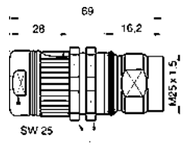
Example image



Power connector [6 to 9-pole], nickel-plated (metal construction, EMC shielding)								
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179623	E type 6-pole		Male crimp	6x2.0		0.35-2.5	9.5-14.5	C 3
MAT0179624	E type 8-pole		Male crimp	4x2.0		0.35-2.5	9.5-14.5	C 3
			Male crimp	4x1.0		0.14-1		
MAT0179625	E type 9-pole		Male crimp	6x2.0		0.35-2.5	9.5-14.5	C 3
			Male crimp	4x1.0		0.14-1		



Example image



Coupling with central attachment		
Part No.	Number of poles	Crimping tool + insert
MAT0179626	6-pole	C 3
MAT0179627	8-pole	C 3
MAT0179628	9-pole	C 3

Crimping tools and inserts ▶ Page 818

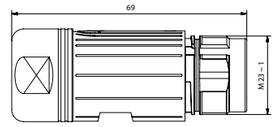


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Series B

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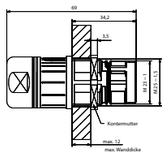
Example image



Power connector [6 to 9-pole], nickel-plated (metal construction, EMC shielding)								
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01723487	E type 6-pole		Male crimp	6x2.0		0.35-2.5	9.5-14.5	C 3
MAT01723488	E type 8-pole		Male crimp	4x2.0		0.35-2.5	9.5-14.5	C 3
			Male crimp	4x1.0		0.14-1		
MAT01723489	E type 9-pole		Male crimp	4x2.0		0.35-2.5	9.5-14.5	C 3
			Male crimp	5x1.0		0.14-1		



Example image



Coupling with central attachment		
Part No.	Number of poles	Crimping tool + insert
MAT01723490	6-pole	C 3
MAT01723491	8-pole	C 3
MAT01723492	9-pole	C 3

Crimping tools and inserts ▶ Page 818

Power connectors series C, M40, size 1.5 [6, 8 and 9-pole]

Types
- Connector, angular connector
- Coupling
- Lead-through
- Straight installation box with flange
- Installation box angled and angled rotatable with flange

Number of poles in insulation body
- 6, 8, 9

Electrical information

Design	**Power 6 to 19-pole**
Max. continuous nominal current	75A
Nominal voltage (AC/DC)	630V
Testing voltage	6,000V
Contact resistance	< 1mΩ
Insertion cycles	> 50

Technical data

Locking	Thread M40
Temperature range	-20°C up to +130°C
Cable clamp	Crown clamp
Protection class	IP 66/67 [plugged]

Data according to VDE 0110/EN 61984, Clause 6.19.2.2

Pollution degree	3
Over-voltage category	III
Max. installation height	2000m

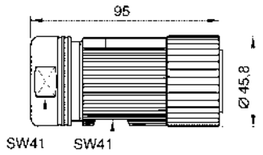
Connector materials

Housing	Magnesium die-casting/aluminium
Coupling nut	Brass, nickel-plated
Insulation body (material)	PA 6.6/PBT, UL 94/V0
Contacts	Brass, gold-plated
Seals	FPM/HNBR
Clamping ring	Brass, nickel-plated





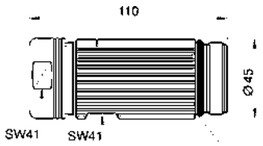
Example image



Power connector [6 to 9-pole], nickel-plated (metal construction, EMC shielding)								
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179629	P type 6-pole		HC female crimp	4x3.6		1.5-10	9.0-16.5	DD 92C
			HC female crimp	2x2.0		0.5-2.5		
MAT0179630	P type 8-pole		HC female crimp	4x3.6		1.5-10	9.0-16.5	DD 92C
			HC female crimp	4x2.0		0.5-2.5		
MAT0179631	P type 9-pole		HC female crimp	4x3.6		1.5-10	9.0-16.5	DD 92C
			HC female crimp	5x2.0		0.5-2.5		



Example image



Power connector [6 to 9-pole], nickel-plated (metal construction, EMC shielding)								
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179632	E type 6-pole		Male crimp	4x3.6		1.5-10	9.0-16.5	DD 9C3
			Male crimp	2x2.0		0.5-2.5		
MAT0179633	E type 8-pole		Male crimp	4x3.6		1.5-10	9.0-16.5	DD 9C3
			Male crimp	4x2.0		0.5-2.5		
MAT0179634	E type 9-pole		Male crimp	4x3.6		1.5-10	9.0-16.5	DD 9C3
			Male crimp	5x2.0		0.5-2.5		

Crimping tools and inserts ▶ Page 818

TE/INTERCONTEC | **Series C** | Speedtec



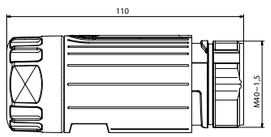
Example image



Power connector [6 to 9-pole], nickel-plated (metal construction, EMC shielding)							
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01723501	P type 6-pole		HC female crimp	4x3.6		1.5-10	9.0-16.5	DD 92C
			HC female crimp	2x2.0		0.5-2.5		
MAT01723502	P type 8-pole		HC female crimp	4x3.6		1.5-10	9.0-16.5	DD 92C
			HC female crimp	4x2.0		0.5-2.5		
MAT01723503	P type 9-pole		HC female crimp	4x3.6		1.5-10	9.0-16.5	DD 92C
			HC female crimp	5x2.0		0.5-2.5		



Example image



Power connector [6 to 9-pole], nickel-plated (metal construction, EMC shielding)							
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01723504	E type 6-pole		Male crimp	4x3.6		1.5-10	9.0-16.5	DD 9C3
			Male crimp	2x2.0		0.5-2.5		
MAT01723505	E type 8-pole		Male crimp	4x3.6		1.5-10	9.0-16.5	DD 9C3
			Male crimp	4x2.0		0.5-2.5		
MAT01723506	E type 9-pole		Male crimp	4x3.6		1.5-10	9.0-16.5	DD 9C3
			Male crimp	5x2.0		0.5-2.5		

Crimping tools and inserts ▶ Page 818



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TE/INTERCONTEC | **Series D** | Standard

Power connectors series D, M58, size 3 [6 and 8-pole]

Types

- Connector
- Coupling
- Straight installation box with flange
- Angled installation box with flange

Number of poles in insulation body

- 6, 8

Electrical information

Design	**Power 6 and 8-pole**	**Signal contacts**
Max. continuous nominal current	150A	12A
Nominal voltage (AC/DC)	630V	250V
Testing voltage	6,000V	4,000V
Contact resistance	< 90mΩ	< 5mΩ
Insertion cycles	> 50	> 50

Technical data

Locking	Thread M58
Temperature range	-20°C up to +130°C
Cable clamp	Crown clamp
Protection class	IP 66/67 [plugged]

Data according to VDE 0110/EN 61984, Clause 6.19.2.2

Pollution degree	3
Over-voltage category	III
Max. installation height	2000m

Connector materials

Housing	Zinc die-casting, nickel-plated
Coupling nut	Brass, nickel-plated
Insulation body (material)	PA 6.6/PBT, UL 94/V0
Contacts	Brass, silver/gold-plated
Seals	FPM
Clamping ring	Aluminium, nickel-plated

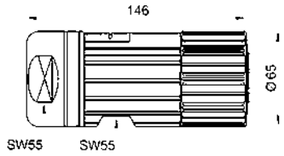
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TE/INTERCONTEC | **Series D** | Standard



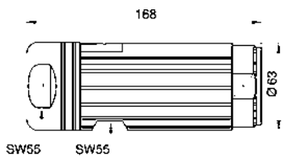
Example image



Power connector [6 and 8-pole] nickel-plated (metal construction, EMC shielding)							
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179635	P type 6-pole		Female crimp (power)	4x10		10-10	-	E10 C7
			Female crimp (signal)	2x1.6		1.5-1.5		
MAT0179636	P type 8-pole		Female crimp (power)	4x10		10-10	-	E10 C7
			Female crimp (signal)	4x1.6		1.5-1.5		



Example image



Power coupling [6 and 8-pole] nickel-plated (metal construction, EMC shielding)							
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179637	E type 6-pole		Male crimp (power)	4x10		10-10	-	E10 C8
			Male crimp (signal)	2x1.6		1.5-1.5		
MAT0179638	E type 8-pole		Male crimp (power)	4x10		10-10	-	E10 C8
			Male crimp (signal)	4x1.6		1.5-1.5		

Crimping tools and inserts ▶ Page 818



EU2024

Signal connectors series 615, plastic/metal clamping ring [12-pole]

Types
- Connector, plastic or metal clamping ring
- Coupling, plastic or metal clamping ring

Number of poles in insulation body
- 12

Electrical information

Design	**Signal 12-pole**
Max. continuous nominal current	3.6A
Nominal voltage (AC/DC)	63V
Testing voltage	1,500V
Contact resistance	< 15mΩ
Insertion cycles	> 50

Technical data

Locking	Quick-lock fastener
Temperature range	-20°C up to +130°C
Cable clamp	Lamella clamp
Protection class	IP 66/67 [plugged]

Data according to VDE 0110/EN 61984, Clause 6.19.2.2

Pollution degree	3
Over-voltage category	III
Max. installation height	2000m

Connector materials

Housing	Zinc die-casting,/brass, nickel-plated and plastic-coated
Coupling nut	PA modif., 30% Gf.
Insulation body (material)	PA/PBT, UL 94/V0
Contacts	Brass, gold-plated
Seals	FPM/EPDM
Clamping ring	Brass, nickel-plated / PA modif., 30% Gf.

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Example image





Signal connector [12-pole] (plastic clamping ring, EMC shielding)

Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01730633	P type 12-pole		Female crimp, slotted	12x1		0.1-0.75	4.5-6.5	C14
MAT01730634	P type 12-pole		Female crimp, slotted	12x1		0.1-0.75	6.5-8.5	C14
MAT01730635	P type 12-pole		Female crimp, slotted	12x1		0.1-0.75	8.5-10.5	C14



Example image





Signal coupling [12-pole] (plastic clamping ring, EMC shielding)

Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01730640	E type 12-pole		Male crimp	12x1		0.1-0.75	4.5-6.5	C14
MAT01730641	E type 12-pole		Male crimp	12x1		0.1-0.75	6.5-8.5	C14
MAT01730642	E type 12-pole		Male crimp	12x1		0.1-0.75	8.5-10.5	C14

Crimping tools and inserts ▶ Page 818



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TE/INTERCONTEC | Series 615

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Series 615



Example image



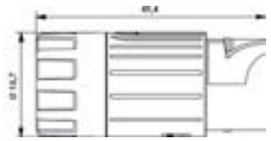


Signal connector [12-pole], nickel-plated (metal clamping ring, EMC shielding)

Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01730636	P type 12-pole		Female crimp, slotted	12x1		0.1-0.75	4.5-6.5	C14
MAT01730637	P type 12-pole		Female crimp, slotted	12x1		0.1-0.75	6.5-8.5	C14
MAT01730638	P type 12-pole		Female crimp, slotted	12x1		0.1-0.75	8.5-10.5	C14



Example image





Signal coupling [12-pole], nickel-plated (metal clamping ring, EMC shielding)

Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01730643	E type 12-pole		Male crimp	12x1		0.1-0.75	4.5-6.5	C14
MAT01730644	E type 12-pole		Male crimp	12x1		0.1-0.75	6.5-8.5	C14
MAT01730645	E type 12-pole		Male crimp	12x1		0.1-0.75	8.5-10.5	C14

Crimping tools and inserts ▶ Page 818

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TE/INTERCONTEC | Series 615



Example image





Signal connector [12-pole], nickel-plated (metal clamping ring, EMC shielding)							
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01730639	P type 12-pole		Female crimp, slotted	12x1		0.1-0.75	10.5-12.5	C14



Example image





Signal coupling [12-pole], nickel-plated (metal clamping ring, EMC shielding)							
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01730646	E type 12-pole		Male crimp	12x1		0.1-0.75	10.5-12.5	C14

Crimping tools and inserts ▶ Page 818



TE/INTERCONTEC | Series 915

Power connectors series 915, plastic/ metal clamping ring [9-pole]

Types

- Connector, plastic or metal clamping ring
- Coupling, plastic or metal clamping ring

Number of poles in insulation body

- 9

Electrical information

Design	**Power 9-pole**
Max. continuous nominal current	20A
Nominal voltage (AC/DC)	630V
Testing voltage	6,000V
Contact resistance	< 5mΩ
Insertion cycles	> 50

Technical data

Locking	Quick-lock fastener
Temperature range	-20°C up to +130°C
Cable clamp	Lamella clamp
Protection class	IP 66/67 [plugged]

Data according to VDE 0110/EN 61984, Clause 6.19.2.2

Pollution degree	3
Over-voltage category	III
Max. installation height	2000m

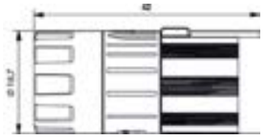
Connector materials

Housing	Zinc die-casting,/brass, nickel-plated and plastic-coated
Coupling nut	PA modif., 30% Gf.
Insulation body (material)	PA/PBT, UL 94/V0
Contacts	Brass, gold-plated
Seals	FPM/EPDM
Clamping ring	Brass, nickel-plated / PA modif., 30% Gf.

TE/INTERCONTEC | Series 915



Example image



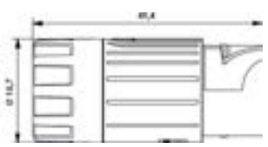


Power connector [9-pole], nickel-plated (plastic clamping ring, EMC shielding)

Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01730647	P type 9-pole		Female crimp, slotted	4x1		0.5-1.5	4.5-6.5	C14
			Female crimp, slotted	5x1		0.1-0.75		
MAT01730648	P type 9-pole		Female crimp, slotted	4x1		0.5-1.5	6.5-8.5	C14
			Female crimp, slotted	5x1		0.1-0.75		
MAT01730649	P type 9-pole		Female crimp, slotted	4x1		0.5-1.5	8.5-10.5	C14
			Female crimp, slotted	5x1		0.1-0.75		



Example image





Power coupling [9-pole], (plastic clamping ring, EMC shielding)

Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01730654	E type 9-pole		Male crimp	4x1		0.5-1.5	4.5-6.5	C14
			Male crimp	5x1		0.1-0.75		
MAT01730655	E type 9-pole		Male crimp	4x1		0.5-1.5	6.5-8.5	C14
			Male crimp	5x1		0.1-0.75		
MAT01730656	E type 9-pole		Male crimp	4x1		0.5-1.5	8.5-10.5	C14
			Male crimp	5x1		0.1-0.75		

Crimping tools and inserts ▶ Page 818

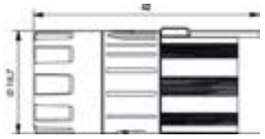


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Series 915

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Example image



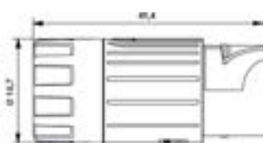


Power connector [9-pole], nickel-plated (metal clamping ring, EMC shielding)

Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01730650	P type 9-pole		Female crimp, slotted	4x1		0.5-1.5	4.5-6.5	C14
			Female crimp, slotted	5x1		0.1-0.75		
MAT01730651	P type 9-pole		Female crimp, slotted	4x1		0.5-1.5	6.5-8.5	C14
			Female crimp, slotted	5x1		0.1-0.75		
MAT01730652	P type 9-pole		Female crimp, slotted	4x1		0.5-1.5	8.5-10.5	C14
			Female crimp, slotted	5x1		0.1-0.75		



Example image





Power coupling [9-pole], nickel-plated (metal clamping ring, EMC shielding)

Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01730657	E type 9-pole		Male crimp	4x1		0.5-1.5	4.5-6.5	C14
			Male crimp	5x1		0.1-0.75		
MAT01730658	E type 9-pole		Male crimp	4x1		0.5-1.5	6.5-8.5	C14
			Male crimp	5x1		0.1-0.75		
MAT01730659	E type 9-pole		Male crimp	4x1		0.5-1.5	8.5-10.5	C14
			Male crimp	5x1		0.1-0.75		

TE/INTERCONTEC | Series 915



Example image

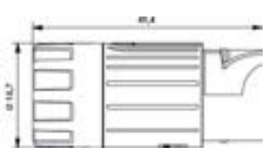




Power connector [9-pole], nickel-plated (metal clamping ring, EMC shielding)							
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01730653	P type 9-pole		Female crimp, slotted	4x1		0.5-1.5	10.5-12.5	C 14
			Female crimp, slotted	5x1		0.1-0.75		



Example image





Power coupling [9-pole], nickel-plated (metal clamping ring, EMC shielding)							
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01730660	E type 9-pole		Male crimp	4x1		0.5-1.5	10.5-12.5	C 14
			Male crimp	5x1		0.1-0.75		

Crimping tools and inserts ▶ Page 818



Signal [17-pole] and power connectors [4 to 9-pole], M17

Types

- Connector, standard and push-pull version
- Coupling, standard or with central attachment
- Straight installation box with flange
- box straight, connecting thread M17 x 0.75
- Installation box angled, turnable with flange
- Installation box angled and angled rotatable with flange

Number of poles in insulation body

- Signal: 17
- Power: 4, 7, 9

Electrical information

Design	**Signal 17-pole**	**Power 4-pole**	**Power 7-pole**	**Power 9-pole**	**Signal 9-pole**
Max. continuous nominal current	3.6A	20A	10A	14A	3.6A
Nominal voltage (AC/DC)	63V	630V	630V	630V	63V
Testing voltage	1,500V	6,000V	6,000V	6,000V	1,500V
Contact resistance	< 15mΩ	< 5mΩ	< 5mΩ	< 5mΩ	< 15mΩ
Insertion cycles	> 50	> 50	> 50	> 50	> 50

Technical data

Locking	Thread M17
Temperature range	-20°C up to +130°C
Cable clamp	Crown clamp
Protection class	IP 66/67 [plugged]

Data according to VDE 0110/EN 61984, Clause 6.19.2.2

Pollution degree	3
Over-voltage category	III
Max. installation height	2000m

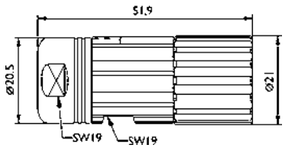
Connector materials

Housing	Zinc die-casting/brass, nickel-plated
Coupling nut	Brass, nickel-plated
Insulation body (material)	PBT, UL 94/V0
Contacts	Brass, gold-plated
Seals	FPM
Clamping ring	Brass, nickel-plated

TE/INTERCONTEC | **Series M17** | Standard



Example image

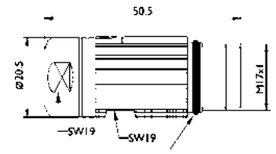




Signal connector [17-pole], nickel-plated (metal construction, EMC shielding)							
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179639	P type 17 pole		Female crimp, slotted	17x0.6		0.14-0.5	9.5-12.0	B



Example image





Signal coupling [17-pole], nickel-plated (metal construction, EMC shielding)							
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179640	E type 17 pole		Male crimp	17x0.6		0.14-0.5	9.5-12.0	B

Crimping tools and inserts ▶ Page 818



TE/INTER-
CONTEC
Series M17

TE/INTERCONTEC | **Series M17** | Speedtec



Example image

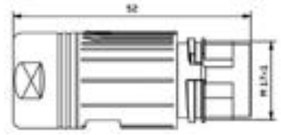




Signal connector [17-pole], nickel-plated (metal construction, EMC shielding)							
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01723493	P type 17 pole		Female crimp, slotted	17x0.6		0.14-0.5	9.5-12.0	B



Example image





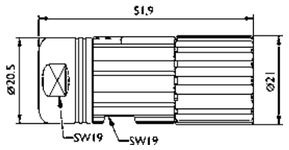
Signal coupling [17-pole], nickel-plated (metal construction, EMC shielding)							
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01723494	E type 17 pole		Male crimp	17x0.6		0.14-0.5	9.5-12.0	B

Crimping tools and inserts ▶ Page 818

TE/INTERCONTEC | **Series M17** | Standard



Example image

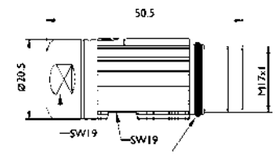




Signal connector [17-pole], nickel-plated (metal construction, EMC shielding)							
Part No.	Insulation body (material)	Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179641	P type 4-pole	Female crimp, slotted	4x1.5		0.35-2.5	9.5-12.0	C 1
MAT0179643	P type 7-pole	Female crimp, slotted	7x1.0		0.5-1.5	9.5-12.0	A
MAT0179645	P type 9-pole	Female crimp, slotted	4x1.0		0.5-1.5	9.5-12.0	A B
		Female crimp, slotted	5x0.6		0.14-0.5		



Example image





Power connector [4 to 9-pole], nickel-plated (metal construction, EMC shielding)							
Part No.	Insulation body (material)	Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179642	E type 4-pole	Male crimp	4x1.5		0.35-2.5	9.5-12.0	C 6
MAT0179644	E type 7-pole	Male crimp	7x1.0		0.5-1.5	9.5-12.0	A
MAT0179646	E type 9-pole	Male crimp	4x1.0		0.5-0.5	9.5-12.0	A B
		Male crimp	5x0.6		0.14-0.5		

Crimping tools and inserts ▶ Page 818



TE/INTERCONTEC | **Series M17** | Speedtec



Example image

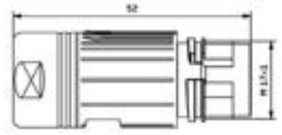




Signal connector [17-pole], nickel-plated (metal construction, EMC shielding)							
Part No.	Insulation body (material)	Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01723495	P type 4-pole	Female crimp, slotted	4x1.5		0.35-2.5	9.5-12.0	C 1
MAT01723497	P type 7-pole	Female crimp, slotted	7x1.0		0.5-1.5	9.5-12.0	A
MAT01723499	P type 9-pole	Female crimp, slotted	4x1.0		0.5-1.5	9.5-12.0	A B
		Female crimp, slotted	5x0.6		0.14-0.5		



Example image





Power connector [4 to 9-pole], nickel-plated (metal construction, EMC shielding)							
Part No.	Insulation body (material)	Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01723496	E type 4-pole	Male crimp	4x1.5		0.35-2.5	9.5-12.0	C 6
MAT01723498	E type 7-pole	Male crimp	7x1.0		0.5-1.5	9.5-12.0	A
MAT01723500	E type 9-pole	Male crimp	4x1.0		0.5-1.5	9.5-12.0	A B
		Male crimp	5x0.6		0.14-0.5		

Crimping tools and inserts ▶ Page 818

Power connectors series S, M23 [1-pole]

Types
- Connector
- Coupling
- Straight installation box with flange

Number of poles in insulation body
- 1

Electrical information

Design	Power
Max. continuous nominal current	80A
Nominal voltage (AC/DC)	630V
Testing voltage	8,000V
Contact resistance	< 110mΩ
Insertion cycles	> 50

Technical data

Locking	Thread M23
Temperature range	-20°C up to +130°C
Cable clamp	Crown clamp
Protection class	IP 66/67 [plugged]

Data according to VDE 0110/EN 61984, Clause 6.19.2.2

Pollution degree	3 [2]
Over-voltage category	IV
Max. installation height	2000m

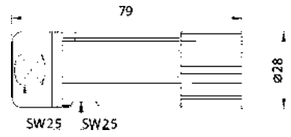
Connector materials

Housing	Zinc die-casting/brass, nickel-plated
Coupling nut	Brass, nickel-plated
Insulation body (material)	PA 6.6 mod., UL 94/V0
Contacts	Brass, silver-plated
Seals	FPM
Clamping ring	Brass, nickel-plated





Example image



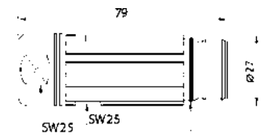


Power connector [1-pole], nickel-plated (metal construction, EMC shielding)

Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179669	P type 1-pole		Female crimp	1x8.0		10-10	9.5-14.5	E10



Example image





Power coupling [1-pole], nickel-plated (metal construction, EMC shielding)

Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179670	E type 1-pole		Female crimp	2x1.6		10	9.5-14.5	E10

Crimping tools and inserts ▶ Page 818

TE/INTERCONTEC | Tools and accessories

Crimping tool for SERIES A and B



Hand crimping tool
for Ø 1mm contacts
up to core cross section 1mm²
includes positioning insert

MAT01710294



Positioning insert
for Ø 1.0mm
contacts

MAT01712938

Crimping tool for SERIES M17



Hand crimping tool
for Ø 0.6mm contacts
up to core cross section 0.5mm²
includes positioning insert

MAT0178919



Positioning insert
for Ø 0.6mm
contacts

MAT0179467

Crimping tool for series A, B, C, D and M17



Hand crimping tool
for Ø 1mm and Ø 2mm contacts
up to core cross section 4mm²
includes positioning carrier

MAT0175736



Positioning insert
for Ø 1mm contacts

MAT0178195



Positioning insert
for Ø 2mm contacts

MAT0178196



Positioning insert
for Ø 1mm and Ø
2mm contacts

MAT0177855



Positioning insert
for Ø 2mm contacts

MAT01714573



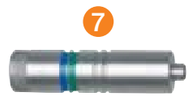
Positioning insert
for Ø 1.5mm contacts

MAT01714574



Positioning insert
for Ø 0.5mm and Ø 2.5mm
contacts

MAT0178920



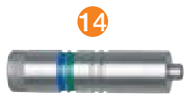
Positioning insert
for Ø 1.6mm contacts

MAT0177853



Positioning insert
for Ø 1.6mm contacts

MAT01714575



Positioning insert
for Ø 1.0mm contacts
Y-Tec

MAT01724301

TE/INTERCONTEC | Tools and accessories

Crimping tool for SERIES C



Hand crimping tool
for Ø 3.6mm contacts
up to core cross section 16mm²
includes positioning carrier

MAT0179194



Positioning insert
for Ø 3.6mm contacts

MAT0179195

Crimping tool for SERIES C



Pneumatic crimping tool
for Ø 3.6mm and
Ø 2.0mm contacts
Core cross section 1.5 - 16mm²

MAT01721441

Crimping insert for pneumatic crimping tool



Contact	**Pin** Ø 2.0mm	**Pin** Ø 3.6mm	**Pin** Ø 3.6mm	**Pin** Ø 3.6mm
	Socket Ø 2.0mm	**Socket** Ø 3.6mm	**Socket** Ø 3.6mm	**Socket** Ø 3.6mm
Crimp area	1.5/2.5mm²	4.0/6.0mm²	10.0mm²	16.0mm²
	MAT01727426	MAT01727428	MAT01721442	MAT01721444

Locator for pneumatic crimping tool



Contact	**Pin** Ø 2.0mm	**Pin** Ø 3.6mm	**Pin** Ø 3.6mm
	Socket Ø 2.0mm	**Socket** Ø 3.6mm	**Socket** Ø 3.6mm
Crimp area	1.5/2.5mm²	1.5 - 10.0mm²	1.5 - 16.0mm²
	1.5/2.5mm²		
	MAT01727429	MAT01721443	MAT01721445

Crimping insert for series S and D





Battery-powered crimping tool, B131-C	**Crimping jaws**	**Crimping jaws**	**Crimping jaws**	**Crimping jaws**
	up to 10mm², 16mm²	up to 25mm²	up to 35mm²	up to 50mm²
MAT0177854	MAT01713679	MAT01713678	MAT01713677	MAT01713676

igus® | Custom connector service packs

... is the connector you are looking for not included in this catalogue?

Whether for your production or for spares, or a mating half for an existing connector; we can help!



Circular connectors e.g. in size M23



Sub-D signal connectors



Rectangular connectors, C148, Y-Tec® or connectors for network and bus systems

Connector service packs consisting of housing, insulation, strain relief, crimp/ solder contact, in any quantity completely picked and packed for you.

Your benefits at a glance:

- More than 3,500 connectors components from stock
- Manufacturer independent, world-wide procurement, thanks to the igus® network
- Custom article numbers/labelling possible on each package
- Price: benefit from the consolidated demand of our customers
- Purchasing: only 1 order number, everything from one source
- QA: only one incoming inspection
- Internal logistics: only one storage location, fast identification

Talk to us! We can help!



EU2024

igus® | ibow adapter | Priceless flexibility

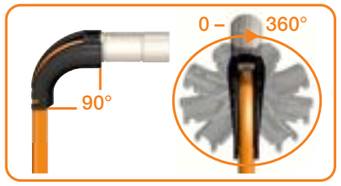


- **Safe …**
  Easy retrofit assembly without opening the connector
- **Flexible …**
  Freely selectable angle of rotation
- **Cost-efficient…**
  1 connector type gives straight and angled versions
- **Customised…**
  Colour coded and, upon request, with labelling

Push connector on …



bend the cable …



fix the cable …



and ready to use!



Assembly video and information:
www.igus.eu/ibow



Suitable for **923 power connectors** und also for **623 signal connectors**.
Can be retrofitted for an angle of 90° ... or supplied ready-made as a harnessed igus® readycable®

Angle adapter igus® ibow	
Part No.	
MAT904104175	for 923 power connector
MAT904104176	for 623 signal connector

EU2024

... 50% faster ... connector assembled automatically and safely ...

Faster, more precise and cost-effective. For automatic connector assembly. Easy to use, reliable result, with defined torque.



50% time saving



100% ergonomic and error-free



One machine for all connectors (interchangeable inserts)

Tech up

- Torque-controlled connector assembly for consistent results
- Automatic assembly reduces throughput times
- Production optimised with igus® experience

Cost down

- 50% less time per connector
- Quick and easy to use
- Ergonomics in the industrial workplace

Proof

- Connector driving with precise torque (target/actual display)

Sustainability

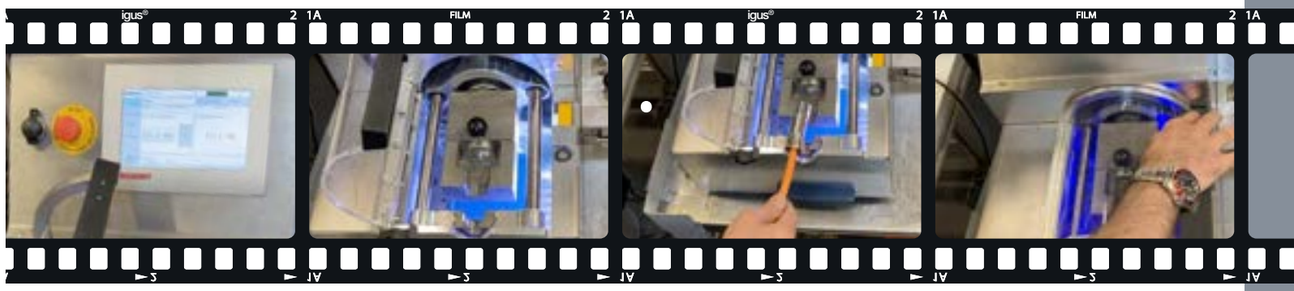
- No damage to the connectors and/or cable
- With interchangeable inserts for different connectors
- In-house connector assembly avoids external transport

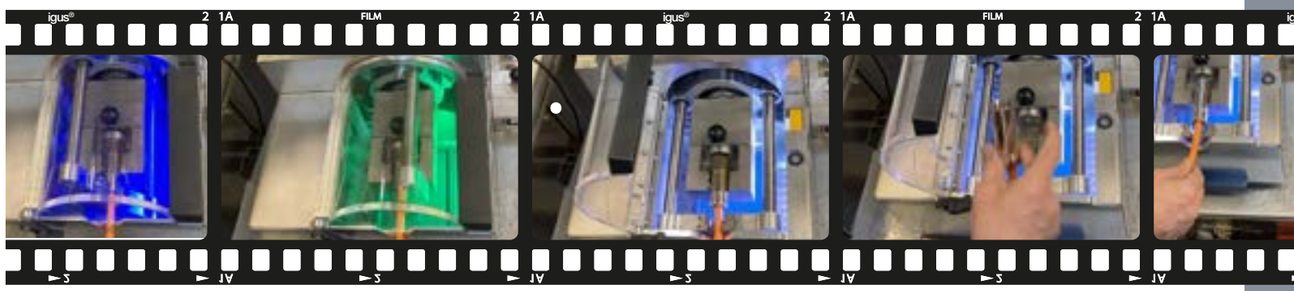
igus® | Torque Master automatic connector driver

Torque Master



Video:





Plug in your energy supply with just ONE connector

Like this ...



or this ...



or this ...



Flexible ...

Mounting bracket for wall and floor installation as well as inline connection

Lighter ... Space-saving design ...

Fibre-reinforced, high-performance polymer. **Weight saving** compared to conventional rectangular connectors

Tightly sealed ...

Various sealing elements adapt individually to different cable diameters:
three or four cable outlets

Connected in seconds ...

Individual housing configurations by combining several assembled connectors:
Connected in seconds

Safer strain relief ...

Strong and easy to handle due to the one-piece, screw-on **clamping jaw**

Tried and tested inserts ...

Up to 4 HARTING Han Modular inserts per housing, e.g. pneumatics, power, bus, signal: **over 100 inserts to choose from**



1 housing ...

... with a choice of three or four cable inlets ...



+ more than 100 freely combinable industrial connector types...

... for electric cables, fibre optic cables and pneumatic hoses ...

Power and signal modules – with field assembly capability ... data transfer modules ... power and signal modules – crimp connection ... modules for media ...

= infinite options

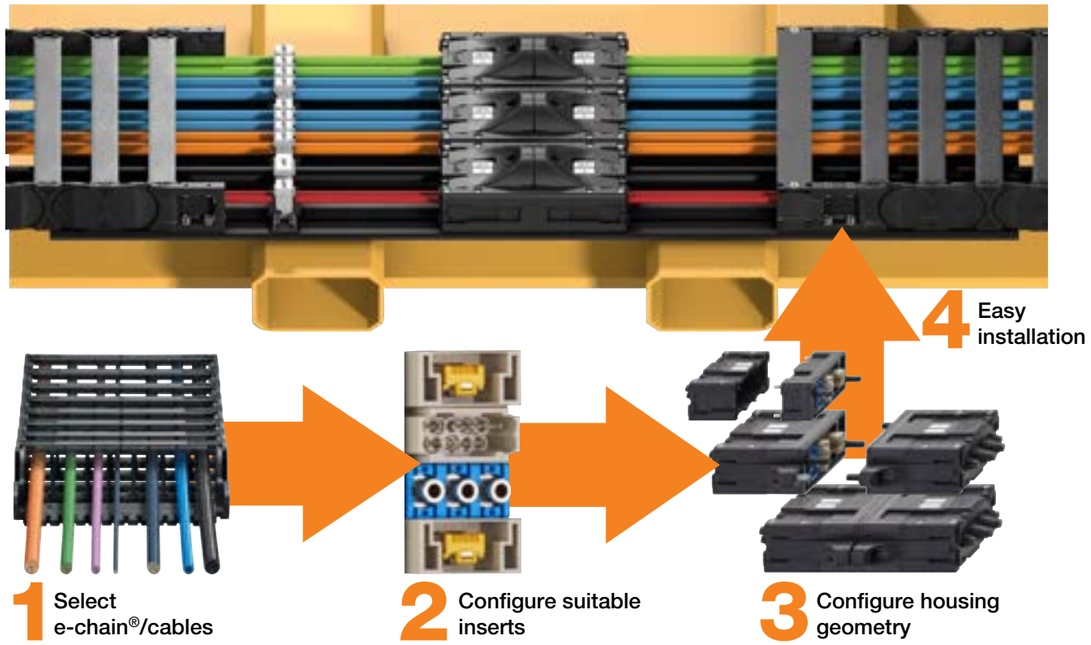
... for your tailor-made interface ...



igus EU2024

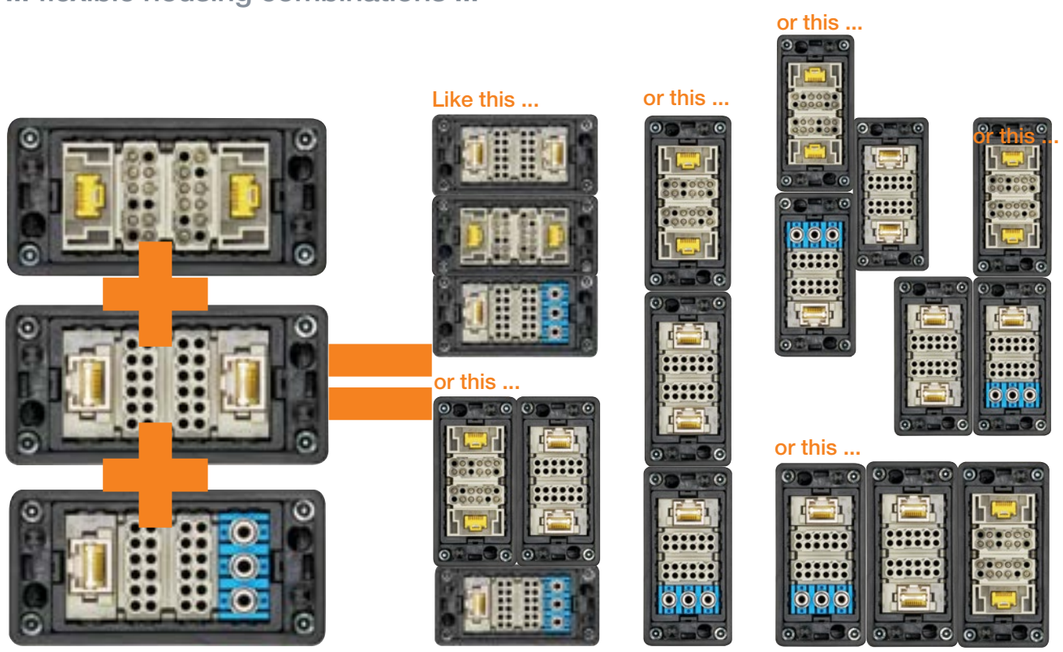
Easily configured ...

... match to your application in four steps ...



Easily combined ...

... flexible housing combinations ...



Easily fitted ...

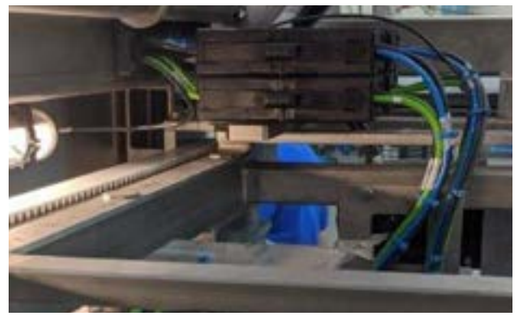
... application examples ...

Example 1:
Module Connect ensures fast commissioning of the energy supply system in the wood-working industry



Source: NowyStyl Group

Example 2:
Module Connect interface in an automatic packaging machine



Source: GHD Georg Hartmann Maschinenbau GmbH

Easily explained ...

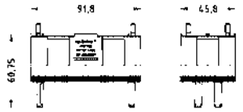
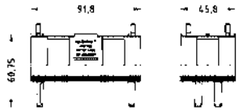
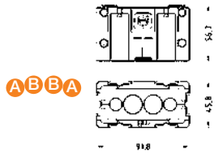
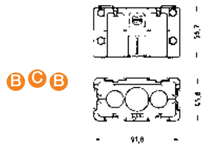
www.igus.eu/moduleconnect

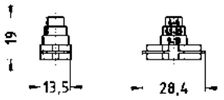
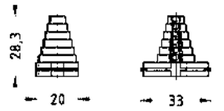
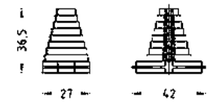
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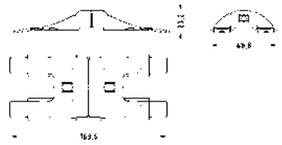
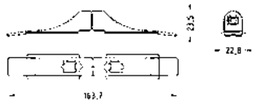
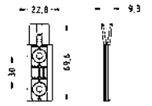
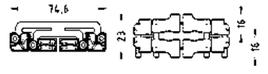
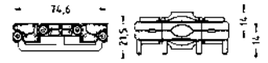
Module Connect connector housing			
ID	**Part No.**	Image	Drawing
Module Connect housing a ... d	MAT01745430		
Module Connect housing A ... D	MAT01745928		
Module Connect connector housing, 4 cable entries	MAT01745431		
Module Connect connector housing, 3 cable entries	MAT01745432		

Module Connect sealing inserts				
ID	**Part No.**	Clamping range [mm]	Image	Drawing
Bellows sealing insert, small, for housing with 4 cable entries	MAT01745438	4.0-1.00		
Bellows sealing insert, medium for housing with 3 or 4 cable entries	MAT01745439	5.0-16.0		
Bellows sealing insert, large, for housing with 3 cable entries	MAT01745440	7.0-24.0		

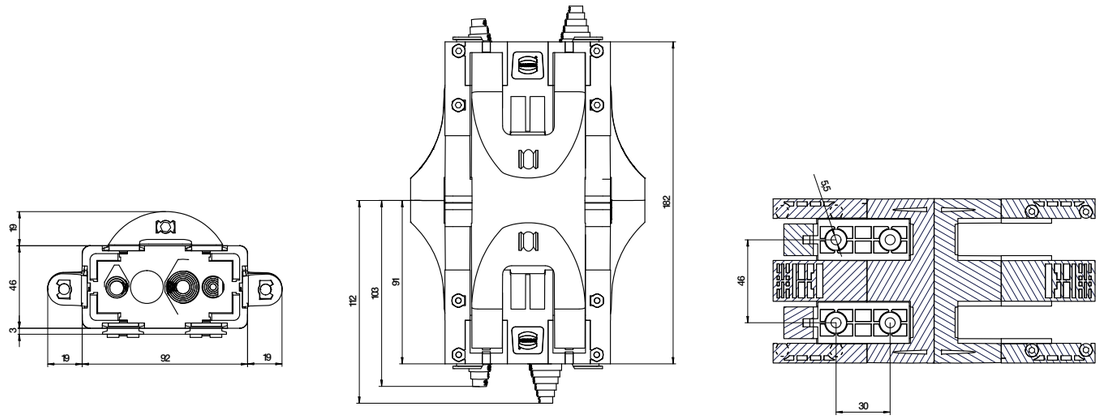
Just order online ...
Complete assemblies and individual parts
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Module Connect | **Components**

Module Connect

Module Connect accessories			
ID	**Part No.**	Image	Drawing
Double locking	MAT01745433		
Single locking	MAT01745434		
Fastening element	MAT01745435		
Strain relief Module Connect connector housing, 4 cable entries	MAT01745437		
Strain relief Module Connect connector housing, 3 cable entries	MAT01745436		

Dimensional drawing



Signal connectors SUB-D Standard [9 to 44-pole]

Types
- Connector, standard and angular connector

Number of poles in insulation body
- Standard 9, 15, 25
- High Density 15, 26, 44

Electrical information

Max. continuous nominal current	5A
Testing voltage	1,200V
Contact resistance	$10^{16}\Omega$/cm
Insertion cycles	50





Metal hood, straight		
Part No.	Solder contact pin	
MAT01716504	Pin, standard 9-pole	
MAT01716505	Socket, standard 9-pole	
MAT01716506	Pin, HighDensity 15-pole	
MAT01716507	Socket, HighDensity 15-pole	



Metal hood, angled		
Part No.	Solder contact pin	
MAT01716508	Pin, standard 9-pole	
MAT01716509	Socket, standard 9-pole	
MAT01716510	Pin, HighDensity 15-pole	
MAT01716511	Socket, HighDensity 15-pole	

Crimping tools and inserts ▶ Page 818



Metal hood, straight		
Part No.	Solder contact pin	
MAT01716512	Pin, standard 15-pole	
MAT01716513	Socket, standard 15-pole	
MAT01716514	Pin, HighDensity 26-pole	
MAT01716515	Socket, HighDensity 26-pole	



Metal hood, angled		
Part No.	Solder contact pin	
MAT01716516	Pin, standard 15-pole	
MAT01716517	Socket, standard 15-pole	
MAT01716518	Pin, HighDensity 26-pole	
MAT01716519	Socket, HighDensity 26-pole	

Crimping tools and inserts ▶ Page 818





Metal hood, straight		
Part No.	Solder contact pin	
MAT01716520	Pin, standard 25-pole	
MAT01716521	Socket, standard 25-pole	
MAT01716522	Pin, HighDensity 44-pole	
MAT01716523	Socket, HighDensity 44-pole	



Metal hood, angled		
Part No.	Solder contact pin	
MAT01716524	Pin, standard 25-pole	
MAT01716525	Socket, standard 25-pole	
MAT01716526	Pin, HighDensity 44-pole	
MAT01716527	Socket, HighDensity 44-pole	

Crimping tools and inserts ▶ Page 818

Electrical information

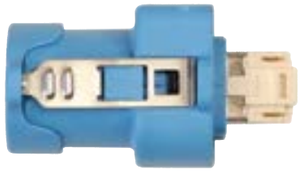
Max. continuous nominal current	2.1A
Insertion cycles	1,000
Temperature range	-20°C up to +120°C



Housing PA66		
Manufacturer Part No.	Part No.	Number of poles
Y-CONKIT-10	MAT01719769	4 (Ethernet)
Y-CONKIT-11	MAT0176641	4 (Ethernet) + 2 (Power)



Zinc die-casting housing		
Manufacturer Part No.	Part No.	Number of poles
Y-CONKIT-15	MAT01719236	4 (Ethernet) + 2 (Power)
Y-CONKIT-17	MAT01719770	4 (Ethernet)



Housing Plastic PBT, UL94V-0		
Manufacturer Part No.	Part No.	Number of poles
Y-CONKIT-20	MAT01719771	4 (Ethernet)
Y-CONKIT-21	MAT0176759	4 (Ethernet) + 2 (Power)



Zinc die-casting housing		
Manufacturer Part No.	Part No.	Number of poles
Y-CONKIT-40	MAT01719772	4 (Ethernet)
Y-CONKIT-40-E	MAT01719773	4 (Ethernet)
Y-CONKIT-41	MAT01717218	4 (Ethernet) + 2 (Power)
Y-CONKIT-41-E	MAT01718801	4 (Ethernet) + 2 (Power)

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Y-CONKIT

Manufacturer Part No.	Part No.
Cable dismantle tool	
	MAT01719767 
Crimping tool	
Y-CONTOOL-11	MAT0176447 
Assembly tool	
Y-CONTOOL-30	MAT01717349 

HARTING | Connector sets with pin inserts

HARTING Connectors sets, pin				
Part No.	Cable entry	Insert	Pin insert - manufacturer Part No.	Connector housing - manufacturer Part No.
Han 6B connector housing, straight cable entry				
MAT90489802.U	M20	6+PE	09330062601	19300061440
Han 6B connector housing, angled cable entry				
MAT90489804.U	M20	6+PE	09330062601	19300061540
Han 10B connector housing, straight cable entry				
MAT90489806.U	M25	10+PE	09330102601	19300101441
Han 10B connector housing, angled cable entry				
MAT90489808.U	M25	10+PE	09330102601	19300101541
Han 16B connector housing, straight cable entry				
MAT90489810.U	M25	16+PE	09330162601	19300161441
Han 6B connector housing, angled cable entry				
MAT90489812.U	M25	16+PE	09330162601	19300161541
Han 24B connector housing, straight cable entry				
MAT90489814.U	M32	24+PE	09330242601	19300241442
Han 24B connector housing, angled cable entry				
MAT90489816.U	M32	24+PE	09330242601	19300241542

HARTING

HARTING | Connector sets with socket inserts

HARTING connector sets, socket				
Part No.	Cable entry	Insert	Socket insert - manufacturer Part No.	Connector housing - manufacturer Part No.
Han 6B connector housing, straight cable entry				
MAT90489803.U	M20	6+PE	09330062701	19300061440
Han 6B connector housing, angled cable entry				
MAT90489805.U	M20	6+PE	09330062701	19300061540
Han 10B connector housing, straight cable entry				
MAT90489807.U	M25	10+PE	09330102701	19300101441
Han 10B connector housing, angled cable entry				
MAT90489809.U	M25	10+PE	09330102701	19300101541
Han 16B connector housing, straight cable entry				
MAT90489811.U	M25	16+PE	09330162701	19300161441
Han 6B connector housing, angled cable entry				
MAT90489813.U	M25	16+PE	09330162701	19300161541
Han 24B connector housing, straight cable entry				
MAT90489815.U	M32	24+PE	09330242701	19300241442
Han 24B connector housing, angled cable entry				
MAT90489817.U	M32	24+PE	09330242701	19300241542

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HARTING | Connector sets Premium (pin + socket)

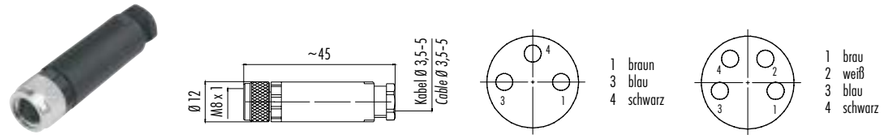
HARTING Connector sets Premium, pin + socket						
Part No.	Cable entry	Insert	Pin insert - manufacturer Part No.	Socket insert - manufacturer Part No.	Connector housing - manufacturer Part No.	Connector base - manufacturer Part No.
Han 6B connector housing and base, straight cable entry						
MAT90489818.U	M20	6+PE	09330062601	09330062701	19300061440	19300061250
Han 6B connector housing and base, angled cable entry						
MAT90489819.U	M20	6+PE	09330062601	09330062701	19300061540	19300061250
Han 10B connector housing and base, straight cable entry						
MAT90489820.U	M25	10+PE	09330102601	09330102701	19300101441	19300101250
Han 10B connector housing and base, angled cable entry						
MAT90489821.U	M25	10+PE	09330102601	09330102701	19300101541	19300101250
Han 16B connector housing and base, straight cable entry						
MAT90489822.U	M25	16+PE	09330162601	09330162701	19300161441	19300161251
Han 16B connector housing and base, angled cable entry						
MAT90489823.U	M25	16+PE	09330162601	09330162701	19300161541	19300161251
Han 24B connector housing and base, straight cable entry						
MAT90489824.U	M32	24+PE	09330242601	09330242701	19300241442	19300241251
Han 24B connector housing and base, angled cable entry						
MAT90489825.U	M32	24+PE	09330242601	09330242701	19300241542	19300241251

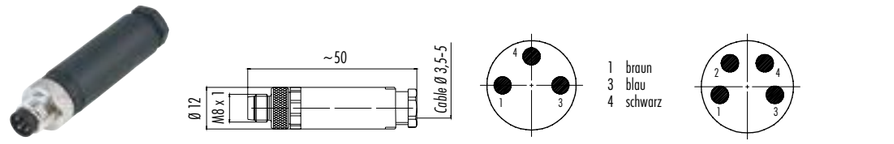
BINDER | Series 768

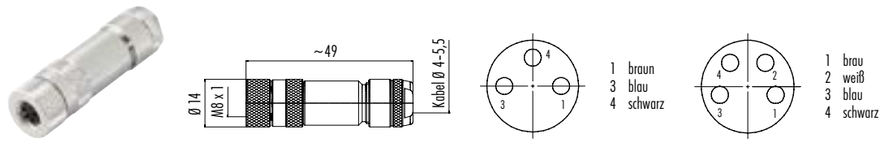
Electrical information series 768

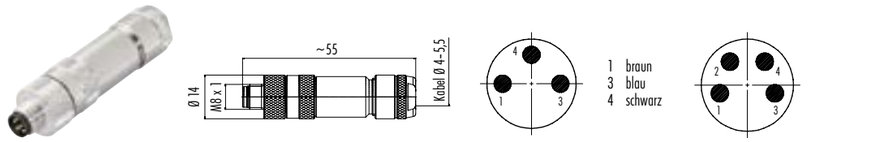
Number of poles	3	4
Terminal cross section	0.14mm² – 0.5mm² (AWG26–AWG20)	
Mechanical service life	> 100 insertion cycles	
Temperature limit	–40°C up to +80°C	
Rated voltage	60V (30V UL)	
Pollution degree	3	
Rated current (40°C)	4A	
Contact surface	Au (gold)	
Housing material	PBT/PA/CuZn (brass)	

Binder connector M8 – A-coded, screw connection				
Part No.	Manufacturer Part No.	Number of poles	Contact type	Clamping range [mm]
Binder M8 cable socket				
MAT0174945	99 3400 100 03	3-pole	Socket	3.5-5.0
MAT0174989	99 3376 100 04	4-pole	Socket	3.5-5.0
Binder M8 cable connector				
MAT01712009	99 3379 100 03	3-pole	Pin	3.5-5.0
MAT0173041	99 3383 100 04	4-pole	Pin	3.5-5.0
Binder M8 cable socket, shielded				
MAT01747828	99 3360 100 03	3-pole	Socket	4.0-5.5
MAT01743277	99 3362 100 04	4-pole	Socket	4.0-5.5
MAT01733873	99 3360 300 03	3-pole	Socket	6.0-8.0
MAT01731011	99 3362 300 04	4-pole	Socket	6.0-8.0
Binder M8 cable connector, shielded				
MAT01715998	99 3361 100 03	3-pole	Pin	4.0-5.5
MAT01717508	99 3363 100 04	4-pole	Pin	4.0-5.5
MAT01733874	99 3361 300 03	3-pole	Pin	6.0-8.0
MAT01730059	99 3363 300 04	4-pole	Pin	6.0-8.0









BINDER | Series 820

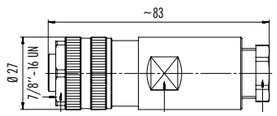
Electrical information series 820

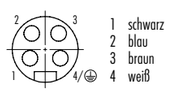
Number of poles	3+PE	4+PE
Terminal cross section	max. 1.5mm² (AWG 16)	max. 2.5mm² (AWG14)
Mechanical service life	> 100 insertion cycles	> 50 insertion cycles
Temperature limit	–25°C up to +80°C	–25°C up to +85°C
Rated voltage	300V (600V UL)	
Pollution degree	3	
Rated current (40°C)	9A	
Contact surface	Au (gold)	
Housing material	PUR, PBT	

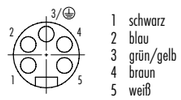
Binder connector 7/8“, screw connection

Part No.	Part No.	Number of poles	Contact type	Clamping range [mm]





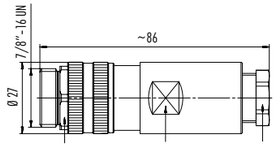


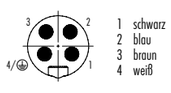


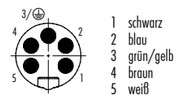
Binder 7/8" cable socket

MAT01723423	99 2442 21 04	3+PE	Socket	8.0-10.0
MAT01718734	99 2444 21 05	4+PE	Socket	8.0-10.0









Binder 7/8“ cable connector shielded

MAT01732663	99 2443 21 04	3+PE	Pin	8.0-10.0
MAT01722513	99 2445 21 05	4+PE	Pin	8.0-10.0

BINDER | Series 825

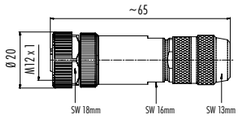
Electrical information series 825

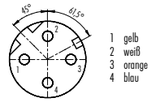
Number of poles	4
Terminal cross section	max. 0.75mm² (AWG 20)
Mechanical service life	> 100 insertion cycles
Temperature limit	-40°C up to +85°C
Rated voltage	250V
Pollution degree	3
Rated current (40°C)	4A
Contact surface	Au (gold)
Housing material	Zinc die-casting nickel-plated, PUR

Binder connector M12 – D-coded, screw connection

Part No.	Part No.	Number of poles	Contact type	Clamping range [mm]



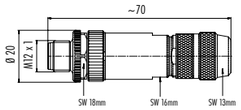


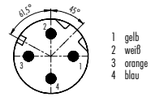


Binder M12 cable socket

MAT01749274	99 3728 810 04	4-pole	Socket	5.0-8.0







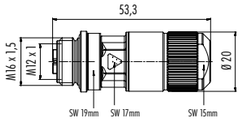
Binder M12 cable connector, shielded

MAT01738281	99 3727 810 04	4-pole	Pin	5.0-8.0

Binder connector M12 – X-coded, insulation displacement connection

Part No.	Part No.	Number of poles	Contact type	Clamping range [mm]



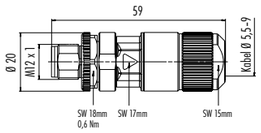




Binder M12 cable socket

MAT01746538	99 3788 810 08	8-pole	Socket	5.0-8.0







Binder M12 cable connector, shielded

MAT01742976	99 3787 810 08	8-pole	Pin	5.0-8.0

Electrical information series 713 plastic

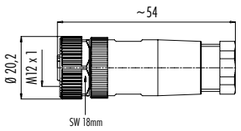
Number of poles	3	4	5	8
Terminal cross section	max. 0.75mm² (AWG 20)			max. 0.5mm² (AWG 20)
Mechanical service life	> 50 insertion cycles			> 100 insertion cycles
Temperature limit	-40°C up to +85°C, outdoor -40°C up to +100°C			
Rated voltage	250V		60V	30V
Pollution degree	3			
Rated current (40°C)	4A			2A
Contact surface	CuSnZn (Optalloy)			Au (gold)
Housing material	PA			

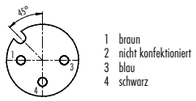
Electrical information series 713 metal

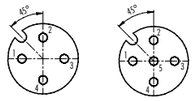
Number of poles	4	5	8
Terminal cross section	max. 0.75mm² (AWG 20)		max. 0.5mm² (AWG 20)
Mechanical service life	> 100 insertion cycles		
Temperature limit	-40°C up to +85°C		
Rated voltage	250V	60V	30V
Pollution degree	3		
Rated current (40°C)	4A		2A
Contact surface	Au (gold)		
Housing material	straight: CuZn (brass, nickel-plated), angled: zinc die-casting, nickel-plated		

Binder connector M12 – A-coded, screw connection

Part No.	Part No.	Number of poles	Contact type	Clamping range [mm]

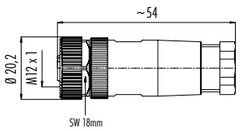



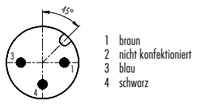


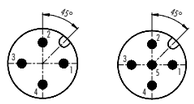


Binder M12 cable socket

MAT01717316	99 0430 07 04	3-pole	Socket	4.0-6.0
MAT01715145	99 0430 12 04	4-pole	Socket	6.0-8.0
MAT0175659	99 0436 12 05	5-pole	Socket	6.0-8.0
MAT0178575	99 0486 12 08	8-pole	Socket	6.0-8.0



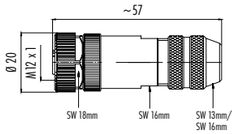


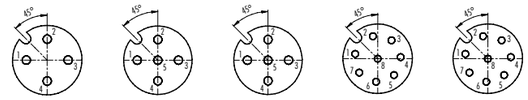
Binder M12 connector

MAT0173490	99 0429 07 04	3-pole	Pin	4.0-6.0
MAT01710555	99 0429 12 04	4-pole	Pin	6.0-8.0
MAT01718305	99 0437 12 05	5-pole	Pin	6.0-8.0
MAT01710219	99 0487 12 08	8-pole	Pin	6.0-8.0

Binder connector M12 – A-coded, screw connection

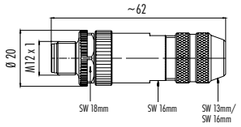
Part No.	Part No.	Number of poles	Contact type	Clamping range [mm]

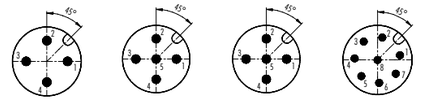





Binder M12 cables socket, shielded

MAT0171842	99 1430 812 04	4-pole	Socket	4.0-6.0
MAT0173023	99 1436 812 05	5-pole	Socket	6.0-8.0
MAT01749490	99 1436 914 05	5-pole	Socket	8.0-10.0
MAT0176266	99 1486 812 08	8-pole	Socket	6.0-8.0
MAT01724437	99 1486 914 08	8-pole	Socket	8.0-10.0

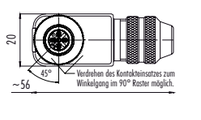


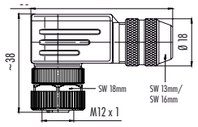
Binder M12 cable connector, shielded

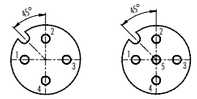
MAT0171841	99 1429 812 04	4-pole	Pin	4.0-6.0
MAT0170880	99 1437 812 05	5-pole	Pin	6.0-8.0
MAT01749489	99 1437 914 05	5-pole	Pin	8.0-10.0
MAT0176267	99 1487 812 08	8-pole	Pin	6.0-8.0
MAT01729497	99 1487 914 08	8-pole	Pin	8.0-10.0

Binder connector M12 – A-coded, angled sockets, screw connection

Part No.	Part No.	Number of poles	Contact type	Clamping range [mm]

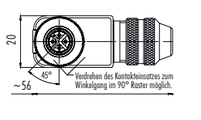



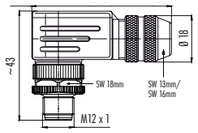


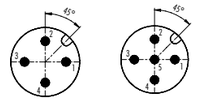


Binder M12 angled socket

MAT0172523	99 1430 822 04	4-pole	Socket	6.0-8.0
MAT01717529	99 1436 822 05	5-pole	Socket	6.0-8.0





Binder M12 angled connector shielded

MAT01725700	99 1429 822 04	4-pole	Pin	6.0-8.0
MAT01727838	99 1437 822 05	5-pole	Pin	6.0-8.0

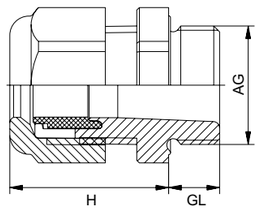
HUMMEL | Cable glands HSK-K

Material	PA V0 according to UL 94
Moulded seal	NBR
Protection class	IP 68 – 10 bar / IP 69K within the specified clamping range only with optional O-ring* (* not included in delivery)
Continuous operating temperature	-40°C – 100°C
Colour	grey (RAL 7035)



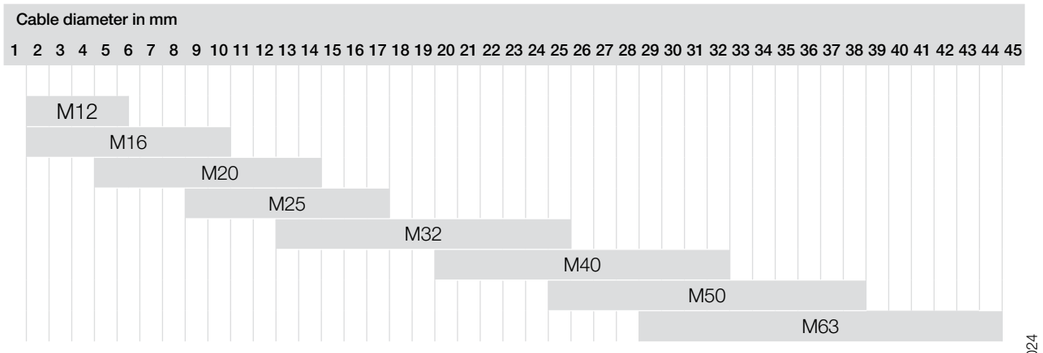






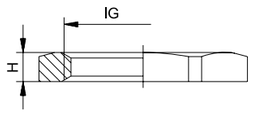
AG	×∅k mm	GL mm	H mm	mm	Pack size	Part No. grey	igus® Part No.
M12 x 1.5	3 - 6.5	8	21	15	5	1.209.1200.50	MAT0179492
M12 x 1.5	2 - 5	8	21	15	5	1.209.1200.51	MAT01712319
M16 x 1.5	4 - 8	8	22	19	5	1.209.1600.50	MAT0179493
M16 x 1.5	2 - 6	8	22	19	5	1.209.1600.51	MAT01712320
M16 x 1.5	5 - 10	8	25	22	5	1.219.1600.50	MAT01712321
M20 x 1.5	6 - 12	9	27	24	5	1.209.2000.50	MAT0179494
M20 x 1.5	5 - 9	9	27	24	5	1.209.2000.51	MAT01712322
M20 x 1.5	10 - 14	9	28	27	5	1.219.2000.50	MAT0179563
M25 x 1.5	13 - 18	11	31	33	5	1.209.2500.50	MAT0179495
M25 x 1.5	9 - 16	11	31	33	5	1.209.2500.51	MAT01712323
M32 x 1.5	18 - 25	11	39	42	5	1.209.3200.50	MAT0179496
M32 x 1.5	13 - 20	11	39	42	5	1.209.3200.51	MAT01712324
M40 x 1.5	22 - 32	13	48	53	5	1.209.4000.50	MAT0179497
M40 x 1.5	20 - 26	13	48	53	5	1.209.4000.51	MAT01712325
M50 x 1.5	32 - 38	13	49	60	5	1.209.5000.50	MAT0179498
M50 x 1.5	25 - 31	13	49	60	5	1.209.5000.51	MAT01712326
M63 x 1.5	37 - 44	14	49	65 / 68	5	1.209.6300.50	MAT0179499
M63 x 1.5	29 - 35	14	49	65 / 68	5	1.209.6300.51	MAT01712327

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HUMMEL | K counter nuts

Material	SB / PA
Continuous operating temperature	-20°C – 40°C (SB) -40°C – 100°C (PA)
Colour	grey (RAL 7035)





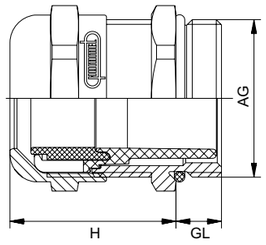
IG	H mm	mm	Pack size	Part No.	igus® Part No.
M12 x 1.5	5	17	5	1.262.1200.50	MAT0179500
M16 x 1.5	5	22	5	1.262.1600.50	MAT0179501
M20 x 1.5	6	27	5	1.262.2000.50	MAT0179502
M25 x 1.5	7	36	5	1.262.2500.50	MAT0179503
M32 x 1.5	7	41	5	1.262.3200.50	MAT0179504
M40 x 1.5	7	50	5	1.262.4000.50	MAT0179505
M50 x 1.5	8	60	5	1.262.5000.50	MAT0179506
M63 x 1.5	8	75	5	1.262.6300.50	MAT0179507

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HUMMEL | Cable glands HSK-M

Material	Brass, nickel-plated
Clamping insert	PA
Moulded seal	NBR
O ring	NBR
Protection class	IP 68 – 10 bar / IP 69K within the specified clamping range only
Continuous operating temperature	-40°C – 100°C

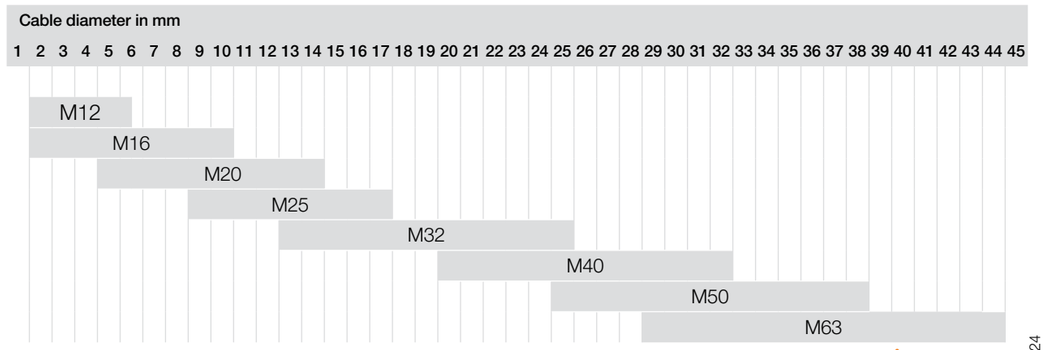




AG	×∅× mm	GL mm	H mm	mm	Pack size	Part No. grey	igus® Part No.
M12 x 1.5	3 - 6.5	6.5	19	14	5	1.609.1200.50	MAT0179476
M12 x 1.5	2 - 5	6.5	19	14	5	1.609.1200.51	MAT01712328
M16 x 1.5	4 - 8	6	21	17 / 19	5	1.609.1600.50	MAT0179477
M16 x 1.5	2 - 6	6	21	17 / 19	5	1.609.1600.51	MAT01712329
M16 x 1.5	5 - 10	6	22	20	5	1.609.1611.50	MAT01712330
M20 x 1.5	6 - 12	6	23	22	5	1.609.2000.50	MAT0179478
M20 x 1.5	5 - 9	6	23	22	5	1.609.2000.51	MAT01712331
M20 x 1.5	10 - 14	6	24	24	5	1.609.2016.50	MAT0179562
M25 x 1.5	13 - 18	7	26	30	5	1.609.2500.50	MAT0179479
M25 x 1.5	9 - 16	7	26	30	5	1.609.2500.51	MAT01711769
M32 x 1.5	18 - 25	8	31	40	5	1.609.3200.50	MAT0179480
M32 x 1.5	13 - 20	8	31	40	5	1.609.3200.51	MAT01712332
M40 x 1.5	22 - 32	8	37	50	5	1.609.4000.50	MAT0179481
M40 x 1.5	20 - 26	8	37	50	5	1.609.4000.51	MAT01712333
M50 x 1.5	32 - 38	9	37	57	5	1.609.5000.50	MAT0179482
M50 x 1.5	25 - 31	9	37	57	5	1.609.5000.51	MAT01712334
M63 x 1.5	37 - 44	10	38	64 / 68	5	1.609.6300.50	MAT0179483
M63 x 1.5	29 - 35	10	38	64 / 68	5	1.609.6300.51	MAT01712335

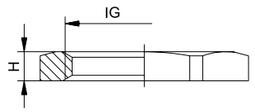
Material surcharge included.

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HUMMEL | M counter nuts

Material	Brass, nickel-plated





IG	H mm	mm	Pack size	Part No.	igus® Part No.
M12 x 1.5	2.8	15	5	1.161.1200.50	MAT0179484
M16 x 1.5	2.8	19	5	1.161.1600.50	MAT0179485
M20 x 1.5	3.0	23	5	1.161.2000.50	MAT0179486
M25 x 1.5	3.5	29	5	1.161.2500.50	MAT017948
M32 x 1.5	4.0	36	5	1.161.3200.50	MAT0179488
M40 x 1.5	4.5	45	5	1.161.4000.50	MAT0179489
M50 x 1.5	5.5	55	5	1.161.5000.50	MAT0179490
M63 x 1.5	6.0	70	5	1.161.6300.50	MAT0179491

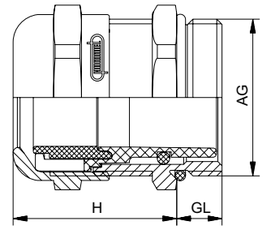
Material surcharge included.

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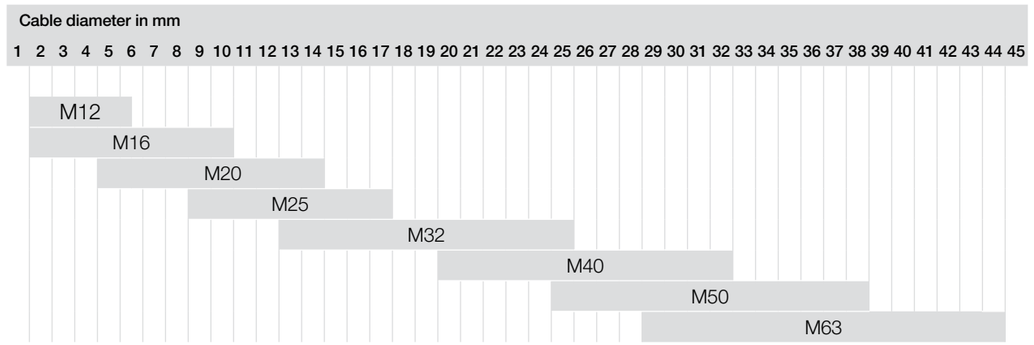
HUMMEL | Cable glands HSK-M-EMV

Material	Brass, nickel-plated
Clamping insert	PA
Moulded seal	NBR
O ring	NBR
Protection class	IP 68 – 10 bar / IP 69K within the specified clamping range only
Continuous operating temperature	-40°C – 100°C





AG	⌀k mm	GL mm	H mm	mm	Pack size	Part No. grey	igus® Part No.
M12 x 1.5	3 - 6.5	6.5	19	14	5	1.691.1200.50	MAT0179508
M12 x 1.5	2 - 5	6.5	19	14	5	1.691.1200.51	MAT01712336
M16 x 1.5	5 - 10	6	22	20	5	1.691.1600.50	MAT0179509
M16 x 1.5	3 - 7	6	22	20	5	1.691.1600.51	MAT01712337
M20 x 1.5	10 - 14	6	23	24	5	1.691.2000.50	MAT0179510
M20 x 1.5	7 - 12	6	23	24	5	1.691.2000.51	MAT01712338
M25 x 1.5	13 - 18	7	24	30	5	1.691.2500.50	MAT0179511
M25 x 1.5	9 - 16	7	24	30	5	1.691.2500.51	MAT01712339
M32 x 1.5	18 - 25	8	31	40	5	1.691.3200.50	MAT0179512
M32 x 1.5	13 - 20	8	31	40	5	1.691.3200.51	MAT01712340
M40 x 1.5	22 - 32	8	37	50	5	1.691.4000.50	MAT0179513
M40 x 1.5	20 - 26	8	37	50	5	1.691.4000.51	MAT01712341
M50 x 1.5	32 - 38	9	37	57	5	1.691.5000.50	MAT0179514
M50 x 1.5	25 - 31	9	37	57	5	1.691.5000.51	MAT01712342
M63 x 1.5	37 - 44	10	38	64 / 68	5	1.691.6300.50	MAT0179515
M63 x 1.5	29 - 35	10	38	64 / 68	5	1.691.6300.51	MAT01712343



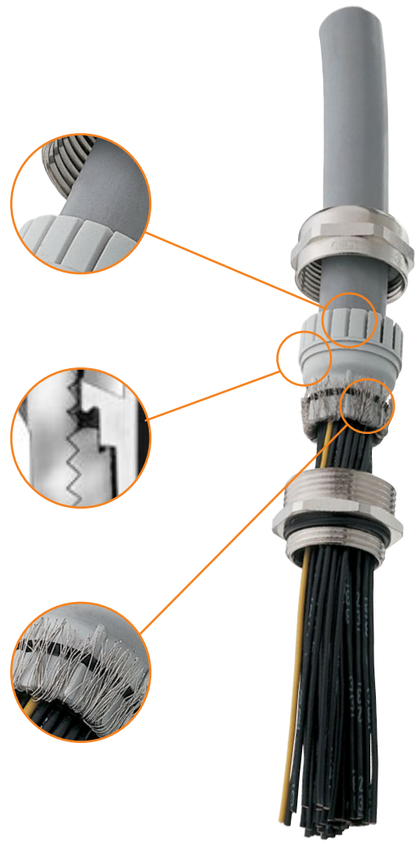
HUMMEL | HSK-EMV Industry standard

HSK-M-EMV

Flexible overlapping clamping splines prevent the form seal from being pulled out of the fitting

The internal sealing edge results in a superior seal between the splined Nylon clamping insert and the nickel-plated brass body

Patented 360° grounding. The internal O-Ring, which results in a perfect contact between braided shield of cable and fitting.

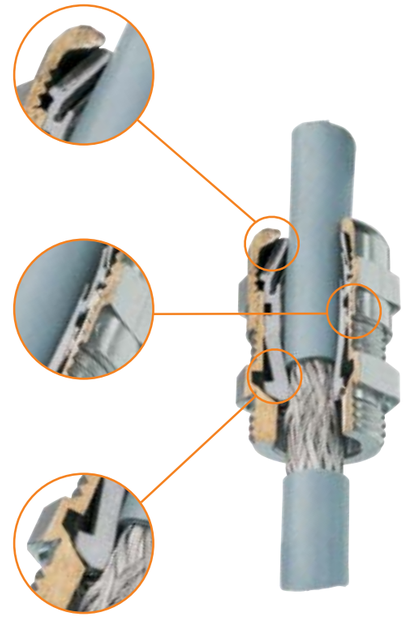


HSK-M-EMV-D

Flexible overlapping clamping splines prevent the form seal from being pulled out of the fitting

Metallised spline insert provides electrical conductivity.

Flexible contact points allow contact with variable braid diameters.

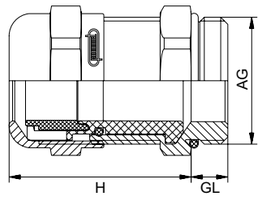


HUMMEL | Cable glands HSK-M-EMV-D

Material	Brass, nickel-plated
Clamping insert	Metal-coated PA
Moulded seal	NBR
O ring	NBR
Protection class	IP 68 – 10 bar / IP 69K within the specified clamping range only
Continuous operating temperature	-40°C – 100°C



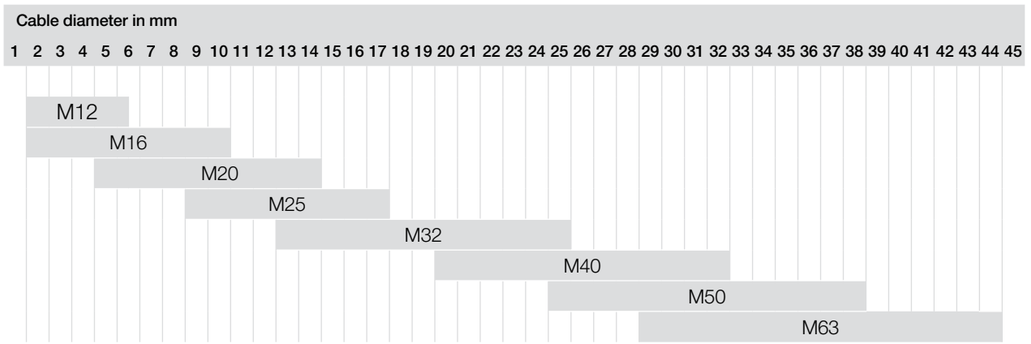




AG	×∅× mm	GL mm	H mm	mm	Pack size	Part No. grey	igus® Part No.
M12 x 1.5	3 - 6.5	6.5	25	14	5	1.631.1200.50	MAT0179524
M16 x 1.5	5 - 10	6	32	20	5	1.631.1600.50	MAT0179525
M20 x 1.5	10 - 14	6	33	24	5	1.631.2000.50	MAT0179526
M25 x 1.5	13 - 18	7	39	30	5	1.631.2500.50	MAT0179527
M32 x 1.5	18 - 25	8	45	40	5	1.631.3200.50	MAT0179528
M40 x 1.5	24 - 32	8	51	50	5	1.631.4000.50	MAT0179529
M50 x 1.5	32 - 38	9	57.5	57	5	1.631.5000.50	MAT0179530
M63 x 1.5	37 - 44	10	52	64 / 68	5	1.631.6300.50	MAT0179531

Material surcharge included.

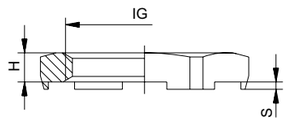
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HUMMEL | EMV counter nuts

SERIES HSK-M-EMV-D

Material	Brass, nickel-plated





IG	H mm	mm	S mm	Pack size	Part No.	igus® Part No.
M12 x 1.5	2.8	15	0.7	5	1.167.1200.50	MAT0179516
M16 x 1.5	2.8	19	0.7	5	1.167.1600.50	MAT0179517
M20 x 1.5	3.0	24	0.7	5	1.167.2000.50	MAT0179518
M25 x 1.5	3.5	30	0.7	5	1.167.2500.50	MAT0179519
M32 x 1.5	4.5	36	0.7	5	1.167.3200.50	MAT0179520
M40 x 1.5	5.0	46	0.7	5	1.167.4000.50	MAT0179521
M50 x 1.5	5.0	60	0.7	5	1.167.5000.50	MAT0179522
M63 x 1.5	6.0	70	0.7	5	1.167.6300.50	MAT0179523

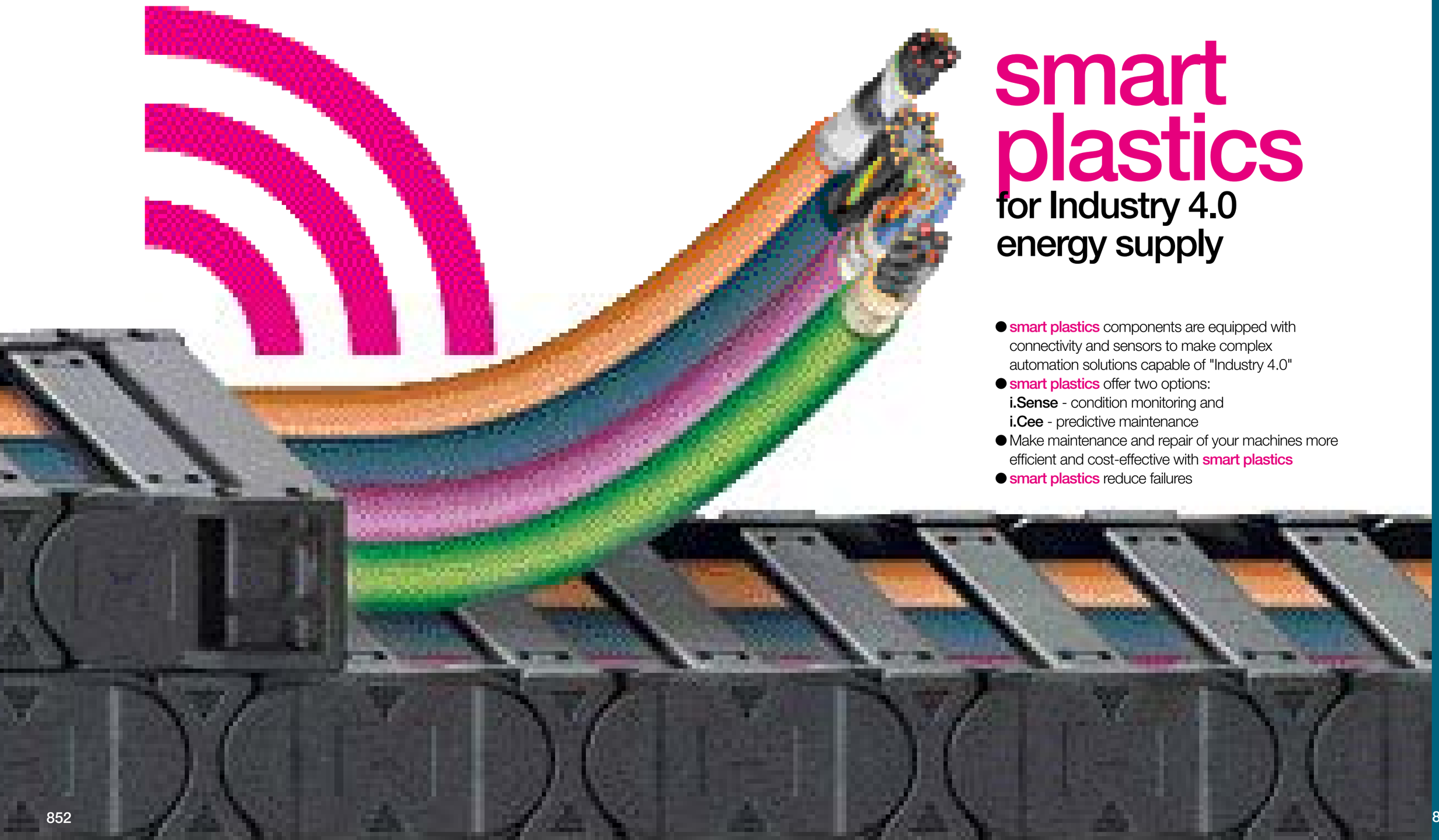
Material surcharge included.

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Solutions for predictive maintenance and condition monitoring

smart plastics

for Industry 4.0 energy supply



- **smart plastics** components are equipped with connectivity and sensors to make complex automation solutions capable of "Industry 4.0"
- **smart plastics** offer two options:
  i.Sense - condition monitoring and
  i.Cee - predictive maintenance
- Make maintenance and repair of your machines more efficient and cost-effective with **smart plastics**
- **smart plastics** reduce failures



smart plastics components are equipped with connectivity and sensors to make complex automation solutions suitable for "**Industry 4.0**"

smart plastics
Industry 4.0 energy supply

In the future, automation solutions across different industries will all have digitalisation. If you want to entirely network the machines in your manufacturing plant with the internet of things (**IoT**) in order to be **Industry 4.0**-compatible and optimise such items as maintenance, you will need time and money. A digitalisation strategy that begins by connecting and networking individual assemblies and components is faster and costs much less. Plant operators benefit immediately from the connectivity of smart components: status monitoring for automated plant can be implemented in real time without additional personnel, and maintenance can be organised predictively. smart plastics offer two options: the simple and rather analogue condition monitoring **i.Sense** (sense = perception), for integration with maximum safety. For the complete networking of the machines with the internet (**IoT**), the predictive maintenance **i.Cee** (Cee, derived from "see") is just right.

i.Sense - condition monitoring

- Simplest, fastest way for a self-monitoring smart plastics product, by attachment of sensors
- Alarm or message when a previously defined limit value is exceeded
- Values outside defined limits can directly trigger a system shut-down

i.Cee - predictive maintenance

- Sensors and software help to create a system for dynamic service life calculation and optimal maintenance times
- Wide variety of designs, offering a high degree of individuality
- Maximum system and user safety and product service life

Typical industries and applications

● Harbour installations ● Cranes ● Automotive production ● Bulk Handling ● Logistics ● Semi conductor industry



smart plastics Website

Always stay up to date. New products, new techniques, new applications

▶ **www.igus.eu/smartplastics**



smart plastics brochure

Overview with the following topics:

- Condition monitoring (**i.Sense**)
- Condition monitoring products
- Condition monitoring application examples
- Predictive maintenance (**i.Cee**)
- Application examples for predictive maintenance
- Predictive maintenance data flows

▶ **www.igus.eu/smartplastics**



smart plastics online shop

Order systems with push/pull force monitoring and breakage detection online as a complete package ▶ **www.igus.eu/smart-plastics-shop**



The igus® white paper on predictive maintenance

Clarifies the distinction between condition monitoring and predictive maintenance

- What igus® condition monitoring (**i.Sense**) means
- What igus® predictive maintenance (**i.Cee**) means
- What technology is behind both systems
- What the two systems offer industrial energy supply

▶ **www.igus.eu/smartplastics**

Condition monitoring - i.Sense

- igus® products for condition monitoring
- Detects machine status regularly or continuously
- Uses fast switch-off to avoid crashes

If smart plastics are used for condition monitoring, they immediately report any unexpected operating state, switch off the system, or sound an alarm. Industrial manufacturers use this function to minimise system failures and downtime. ► www.igus.eu/condition-monitoring

Control cabinet

- Simple module installation on top-hat (DIN) rail
- Integration into the existing plant control system via NC contacts
- 24V DC voltage supply

i.Sense:module

- Evaluate all sensor data based on igus® algorithms
- Inform the plant controls in real time of any mechanical faults that occur

Sensor units

- **IS.CF.P** tensile force monitoring for cables
- **IS.CF.Q** cable quality monitoring
- **IS.CF.D** data transmission monitoring

i.Sense
Condition monitoring





Condition Monitoring
The concept of condition monitoring is based on a regular or constant recording of the machine condition by measuring and analysing physical parameters, e.g. vibration, temperature, position/ proximity. Condition monitoring pursues two goals: safety and machine efficiency. (Source: Wikipedia)



i.Sense:module

Sensor units



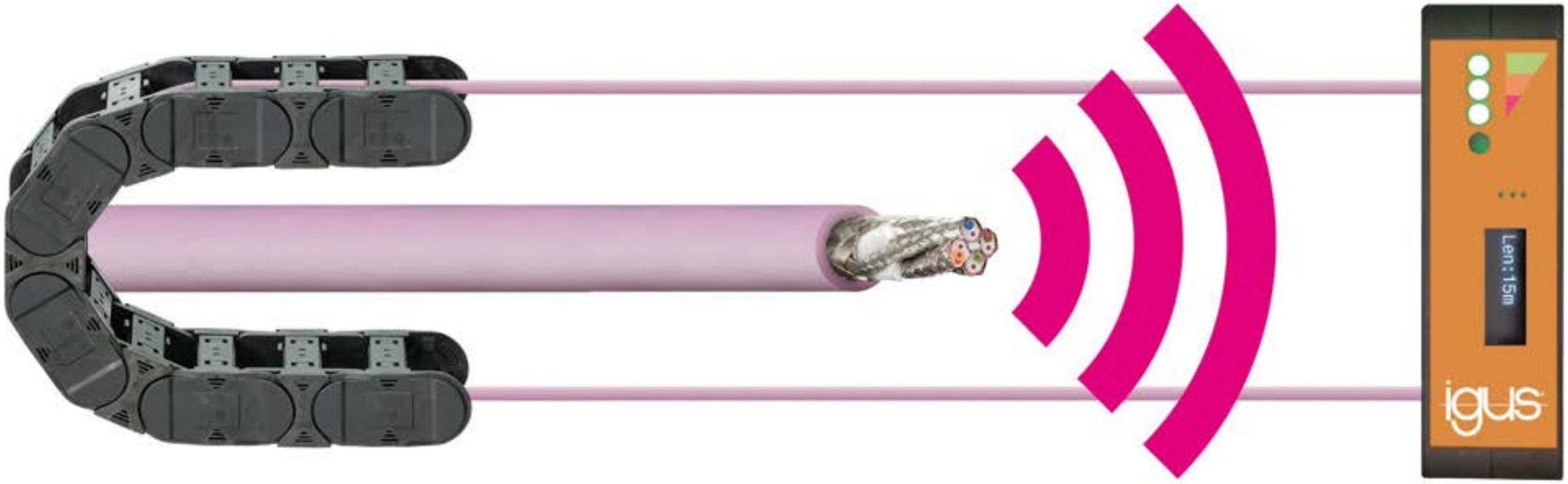
CF.P



CF.Q



CF.D



CF.D

i.Sense cable monitoring systems:

Tensile force monitoring for cables with i.Sense CF.P

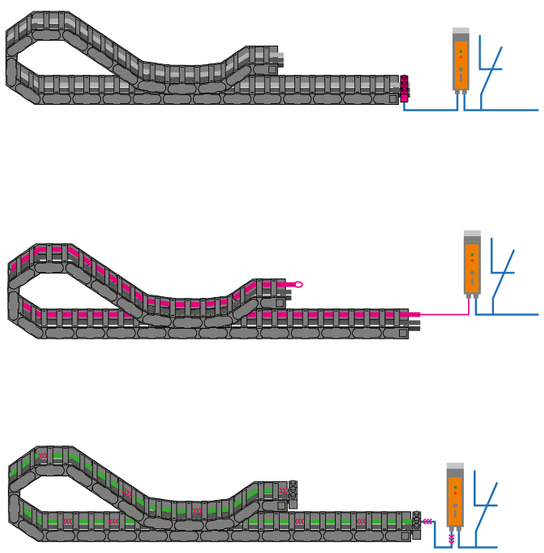
- Measures the forces directly at the strain relief element
- Triggers a shutdown by means of the NC contact if forces are excessive
- Cable damage caused by jacket abrasion is reliably avoided

Cable quality monitoring with i.Sense CF.Q

- Measures the quality of the cable cores
- Early notification via contact if core rupture starts

Data transmission monitoring with i.Sense CF.D

- The measuring is carried out on the actual used cores; no extra cores or sensor elements needed
- Identification of the alleged damaged cable area
- Early notification via contact, network or visual status display

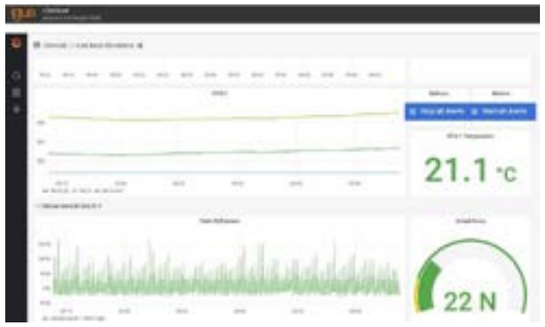


System components of i.Sense CF.D

Acquire data - Evaluate data - Visualise data







- **Sensors:** A new measuring method determines the data transmission characteristics of the cables during operation. This means that no extra cores are needed.
- **Evaluation module:** Every sensor data is processed by the CF.D module during operation. If the transmission properties begin to deteriorate, this can immediately indicate the need for a cable replacement in good time avoiding plant downtime.
- **Dashboard:** The dashboard provides detailed information on the detected deterioration in transmission properties and shows the distance in meters of the affected cable section. In this way, maintenance work can be carried out specifically, promptly and quickly.

smart plastics | i.Sense in a packaging machine
i.Sense

i.Sense protects a modern packaging machine ...





Challenge

Sliced, packaged bread is an everyday product for many households. But it takes rather complex technology to make it that way. The bread must be carefully cut and securely packaged and sealed. GHD Georg Hartmann Maschinenbau is one of the world's leading manufacturers of systems for slicing and packaging foodstuffs. These operations require speed as well as precision.

Cutting-edge machines, such as the GBK 440, package up to 80 pieces of sliced bread per minute – less than a second for each. So it works with high strokes in a relatively small installation space. In particular, the energy chains with cables for energy supply, control and measurement are heavily stressed by the rapid movements. So all cables must be optimised for a minimum bend radius of just 63 millimetres. This places high demands on cable quality. Unfortunately, cable damage cannot be avoided entirely. They result in costly downtime, since the high throughput quickly adds up to large production backlogs.

So GHD wanted a warning system that would detect failures in advance so that they could be prevented. It commissioned igus® GmbH, a manufacturer of lubrication-free high-performance plastics and fail-safe energy supply systems, to implement the system.

The solution

For energy chains, cables and plain bearing products, igus® has developed a product family in which sensors make plastic components intelligent. It is called smart plastics. The principle is simple: intelligent sensors record the status of the components involved and report it to the i.Cee module, which passes the data on – to the cloud, for example. igus® uses the CF.Q module for cable monitoring to avoid cable damage in such applications like the GHD Hartmann bread packaging machine.

The principle of the monitoring system is as follows: it assumes that two cables from a production batch behave in the same way when stressed and should therefore also approach their breaking point at the same time. So a second, identical cable is added to the measuring cable. The system continuously monitors the two additional cores. The device measures push/pull forces and detects the beginning of a damage very early by the changes in the electrical properties.

For this, igus® has collected a large amount of data from load tests and historical data from various application scenarios which are used to generate a comparative value for forecasting. The software can therefore predict just how many more work cycles a chain can handle without failure. The process data collected at the same time makes it possible to predict the remaining number of working days the chain has, so that companies can precisely plan maintenance and replacement.





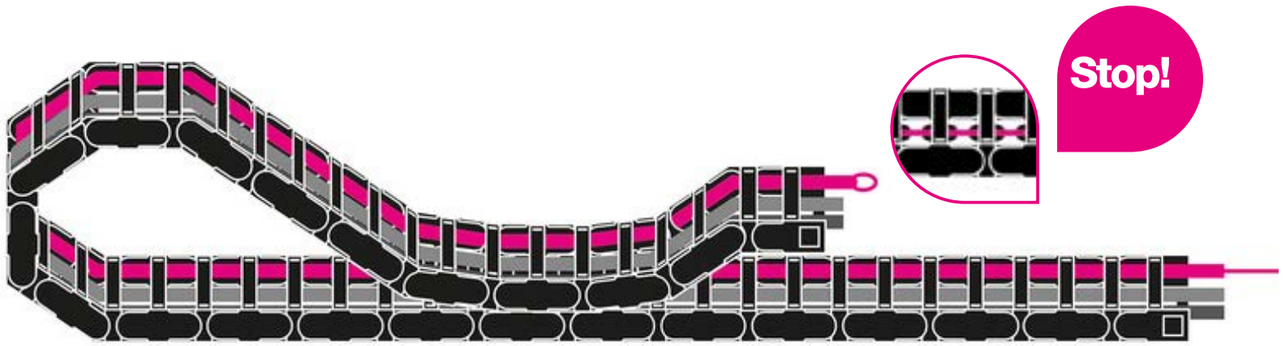
→ The result

The igus® CF.Q system is an integral part of the GBK 440 packaging machine. It allows the interval between maintenance sessions to be greatly extended. All data is evaluated in the customer control system and output as notifications on the Human Machine Interface (HMI).

This concept allows cables to operate far beyond the igus® guarantee period. The user company thus saves several thousand euros in maintenance costs each year. The i.Sense CF.Q's modern technology detects core ruptures before they occur, saving the user high downtime costs.

CF.Q - cable quality monitoring

- Measures the push/pull forces acting on the e-chain®
- Recommends shutdown of the equipment if a force limit is exceeded
- Prevents failure



i.Sense| Condition Monitoring
i.Sense

... and other exciting challenges

... sewage treatment plants...







Challenge

As the plant runs around the clock, and some of the time without any human presence, faults sometimes remain undetected for hours. Although the plant runs at a very slow speed, in the event of a failure it can lead to a total breakdown. This total breakdown of the energy supply system leads to significantly higher costs than a standstill for several hours, where the system can be put back into operation after a short maintenance period.

The solution with smart plastics

In this case the solution is the push/pull force monitoring system EC.P. This sensor continuously measures the force which the plant requires to move the energy supply system. If these forces change due to external influences such as ice, an animal or a tool forgotten during maintenance, the sensor detects this change and switches the system off immediately. This prevents expensive total damage to the sewage treatment plant.

... car plants

"A high price can be avoided."

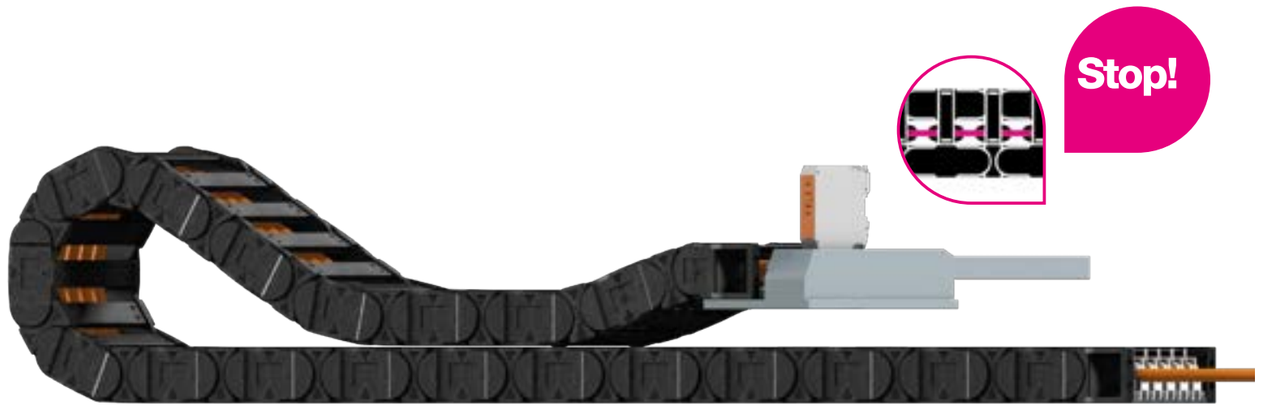
To avoid unplanned breakdowns and plant shutdown, smart plastics from igus® are used on indoor gantry cranes for the automated handling of engine blocks at an Austrian automotive supplier. EC.B modules monitor the status of the e-chain®. In the event of a chain breakage, the machine is stopped automatically to prevent subsequent damage. Additional EC.W modules signal advanced wear of the e-chain®. The measurement of wear data means that a chain's remaining service life can be predicted and replacement can be planned at an early stage.

Read more about this application at

▶ **www.igus.eu/smartplastics**



The i.Sense system has been the standard in container cranes for many years.



EC.P - push/pull force detection for e-chains®

- Measures the push/pull forces acting on the e-chain®
- Recommends shutdown of the equipment if a force limit is exceeded
- Prevents failure

EU2024 igus

Predictive maintenance - i.Cee

- Precisely predicts maintenance
- Prevents downtime or loss of quality
- Two options for data transmission: i.Cee:local / i.Cee:cloud

Both the service life calculation sensors mentioned above and the i.Sense sensor units for condition information provide data from which, in many cases, indicators of maintenance necessary to minimise the risk of product failure can be detected at a very early stage. Based on the experience gained in the 3,800m² test laboratory for plain bearings and energy transmission solutions, in combination with self-developed algorithms, the system alerts and notifies the user at an early stage about possible failure risks and/or the next maintenance date.

Offline: i.Cee:local / Online: i.Cee:cloud

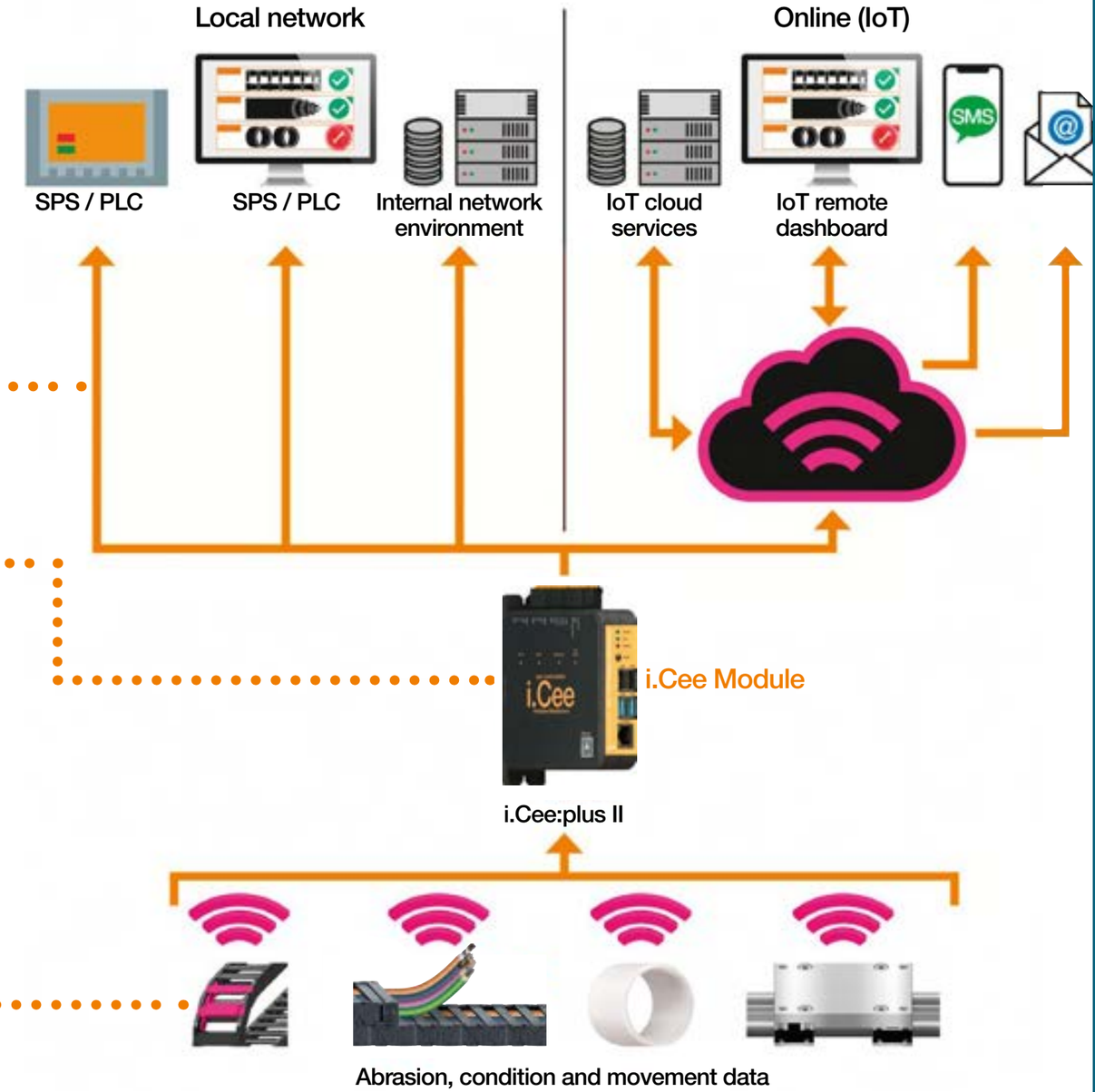
i.Cee hardware

Standard: i.Cee:plus II module

- Installation on top-hat (DIN) rail in control cabinet
- Storage and processing of sensor data
- Constant calculation of the product's service life
- Additional connection of i.Sense modules via USB possible
- Can be integrated into existing Industry 4.0 cloud solutions via IoT

Sensors

- Provide abrasion, condition and movement data



i.Cee ... ... in use at train washing station in Luxembourg ...



Challenge

The previous energy chain systems of a competitor caused disruptions in the operation of the plant, as they were often failing. This was particularly problematic because the washing plant is operated autonomously and a failure of an energy chain system could bring the entire washing process to a halt. The necessary repair measures were therefore time-consuming and partly necessary at night and on weekends. Failure would mean the confinement of a rail vehicle in the wash hall, which could result in the cancellation of several train runs.

The solution with smart plastics

The aim was to find a product that not only safely supplies the washing trolleys with data, voltage, compressed air, water and cleaning agents, but also fulfils CFL's requirement to operate Europe's most modern train washing plant. For this purpose, a system was required that allows the operator to monitor each individual energy chain and to avoid a breakdown of the plant. Besides an igus® energy chain designed for long travels, igus® smart plastics components were installed. Sensors monitor the status of every igus® energy chain during operation with regard to the application of force but also with regard to wear and tear, and inform in good time as soon as a repair or replacement is required. In the course of the modernisation of the energy chain systems, the entire cleaning system was also renewed, so that in addition to particularly environmentally friendly cleaning agents, the used washing water was also reused again and again through reprocessing.



EC.P/EC.W/EC.M

- EC.P sensor measures the tensile forces acting on the e-chain®
- EC.W Sensor measures the e-chain® wear
- EC.M sensor measures all dynamic parameters of the energy supply

... and many other exciting projects



"If the containers stop ..."

A big German crane manufacturer relies on the **i.Sense** online system to ensure optimum production. Here, using "machine learning" and AI algorithms, a calculation of the service life is performed and displayed in a Web dashboard on any Internet-enabled device as a statement of "days until the next recommended maintenance".

Read more about this application at

▶ www.igus.eu/smartplastics





I would be happy to answer your questions.
Richard Habering

... Input options

Motion profile

... Siemens PLC connection

... integrated acceleration sensors EC.W/EC.IM

... OPC UA customer application server

... GPS position data

... igus® positioning system EC.PP

... Standard positioning systems, e.g. 4-20mA

i.Cee:software

i.Cee Module



i.Sense Module

... Output options

i.Cee:output

... Siemens S7

... OPC-UA-Server

... IoT-Cloud-Dashboard

... HTTP Dashboard via private IP address

... MES/SCADA

... JSON-File via MQTT Broker

... REST via HTTP

... Text or .CSV file

... Text messages via SMS

... Sensor raw data management via SMB protocol

... Sensor raw data management via FTP

... FANUC Field System Integration

Anyone who can make reliable and useful predictions about maintenance work is one step ahead of the competition. In the age of digitisation, more than Big Data is required for such predictions. In order to be able to use the sensor data to derive the correct recommendations for maintenance to be accurately scheduled, long term empirical values from the igus® test database are used.

- 3,800m² test area
- 4,100 energy chain system tests annually at 180 test stations: climate chamber, outdoor tests, noise chamber, travel lengths up to 130m, robot systems, etc.
- 2 billion test cycles a year for highly flexible cables
- 1 million electrical measurements recorded annually
- 15,000 tribological tests (friction and wear) in 300 test set-ups
- 140 trillion test movements in the bearings business unit
- Sensors on the test machines provide permanent measurement data, processing in the central database



P4.1 e-chain® with EC.PP in the igus® outdoor test



Switch cabinet with smart plastics modules

Calculate service life online and get a 4-years guarantee!



igus® lab, Cologne. A section of the motion plastics® test laboratory spread over 3,800m²

igus®
chainfix
Strain relief



The illustration shows the new CFU honeycomb strain relief for fast assembly. Simply insert cables and hoses into the honeycomb and close.

igus® chainfix strain relief. Flexible, secure and fast.

Strain relief from igus® is specifically developed for use in e-chains® and dynamic applications. The combination of polymer strain relief components and chainflex® cable materials offers maximum holding force and very high service life for the cables. For a wide variety of applications, igus® offers the best solution with respect to cost and benefits; from the CFXL strain relief for long travels in harsh environments, or the new CFU honeycomb strain relief for fast assembly to the CFN chainfix nuggets for simple and inexpensive strain relief. igus® chainfix strain relief components have been successfully used in thousands of applications around the world for years.

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

EU2023

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C-profile - standard and for heavy-duty applications — Page



- **Standard C-profile Part No. 92.42** (can be integrated into KMA) — 884
- **C-profile Part No. 92.52** for increased holding force (mounting in front of e-chain®) — 884

Steel and stainless steel clamps - for maximum holding force — Page



- **CFX*** single, double, triple clamps with standard base — 888
- **CFXL*** single, double, triple clamps with wide base for increased holding force — 889
- chainfix multi-clamps CFX12* — 891
- chainfix multi-clamps CFX16* — 892

chainfix tiewrap plates - universal, bolted or clip-on — Page



- **Option 1A:** tiewrap plates as individual parts "series 2000" + cable tiewraps — 894
- **Option 1B:** tiewrap plates as individual parts "series 3000" + cable tiewraps — 895

chainfix tiewrap plates - optional variants — Page



- **Option 1:** tiewrap plates with clip-on connection to C-profile — 896
- **Option 2:** integrated strain relief for R series E2 e-tubes — 897
- **Option 3:** tiewrap plates for fixed crossbars — 898
- **Option 4:** tiewrap plates for openable crossbars — 899

CFU.V - strain relief with innovative honeycomb design for fast assembly — Page



- 80% faster filling (compared to CFX strain relief), openable from both sides for assembly in seconds — 900

Strain relief separators - separators with integrated strain relief teeth — Page



- For easy strain relief with cable tiewraps — 902

CFV strain relief element - stepped strain relief — Page



- Relieve cable strain easily, for use outside of the e-chain® section. With stepped strain relief teeth, even for fully enclosed e-tubes — 906

CFN - chainfix nuggets for C-profile and top-hat (DIN) rail 35 — Page



- **Option 1:** simple and universal cable fixation (for cable diameters of Ø 20mm and Ø 30mm) — 907
- **Option 2:** fastening through clipping onto standard top-hat (DIN) rail 35 — 907

CFB - strain relief connector system, modular and customised — Page



- **CFB** polymer strain relief connector system, for many cables in a very confined space — 908

*Standard material: galvanised steel. Also available as stainless steel version (stainless steel material: 1.4301/AISI 304)

e-chain® Series/system	CFX Clamp, standard	CFXL Clamp, for increased holding force	CFU honeycomb strain relief	CFN chainfix nugget	Strain relief separator	CFV Stepped strain relief	Strain relief can be clipped onto mounting brackets/KMA		Tiewrap plate Series 2000	Tiewrap plate Series 3000	Tiewrap plate with clip-on connection to C-profile	Tiewrap plate for fixed crossbars	Tiewrap plate for openable crossbars	Tiewrap plate for triflex® R and triflex® 2)	Tiewrap plate for E2 e-tubes	Tiewrap plate/ teeth directly moulded on the mounting bracket	CFB strain relief connector system
E1																	
E1.17.021.	–	–	–	–	–	–	–		–	–	–	E1.021.Z	–	–	–	–	–
easy chain®																	
E03	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E04	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E045/Z045	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E06/Z06	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E065/Z065	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E08/Z08	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E14/Z14	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E200/Z200	X 1)	–	–	–	–	–	–		2XXX.ZB	–	–	2050.Z	–	–	–	–	–
E16/Z16	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E26/Z26	X 1)	–	–	–	–	–	–		–	3XXX.ZB	–	–	–	–	–	–	–
E300/Z300	X 1)	–	–	–	–	–	–		–	3XXX.ZB	–	–	–	–	–	–	–
zipper																	
047	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
07/R07	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
09/R09	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
15/R15	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
17/R17	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E2 micro																	
03	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
04	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
045	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
B07	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
06	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
074	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
094	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
B09	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
08	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E2 mini																	
10	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
11.031	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
11.080	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
11.1/11.2	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
14	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
B15/B15i	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
B17/B17i	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
F17	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–

1) Assembled in front of the mounting bracket. (CFXL clamps are always assembled before the mounting bracket in a separate C-profile 92.52.XX)
2) Can be found on the product page of each e-chain® series
3) Half e-tube only
4) For KMA mounting bracket only
= recommended strain relief for selected e-chain®

e-chain® Series/system	CFX Clamp, standard	CFXL Clamp, for increased holding force	CFU honeycomb strain relief	CFN chainfix nugget	Strain relief separator	CFV Stepped strain relief	Strain relief can be clipped onto mounting brackets/KMA		Tiewrap plate Series 2000	Tiewrap plate Series 3000	Tiewrap plate with clip-on connection to C-profile	Tiewrap plate for fixed crossbars	Tiewrap plate for openable crossbars	Tiewrap plate for triflex® R and triflex® 2)	Tiewrap plate for E2 e-tubes	Tiewrap plate/ teeth directly moulded on the mounting bracket	CFB strain relief connector system
E2.1 micro																	
E2.10	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E2.15	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E2.1																	
E2.26	X 1)	X 1)	–	–	26.Z 4)	–	–		2XXX.ZB	–	–	–	–	–	–	–	–
E2.38	X 1)	X 1)	–	X	–	CFV.42.C	–		2XXX.ZB	3XXX.ZB	–	C.2.522.XXX.ZS	–	–	–	–	–
E2.48	X 1)	X 1)	X 1)	X	–	CFV.42.C	–		–	3XXX.ZB	–	C.2.522.XXX.ZS	–	–	–	–	–
E2/000																	
1400/1500	X 1)	X 1)	–	–	21.1.Z	–	–		2XXX.ZB	–	–	–	–	–	–	X	–
1450/1480	X 1)	X 1)	–	–	21.1.Z	–	–		2XXX.ZB	–	–	–	–	–	–	X	–
2400/2500	X 1)	X 1)	–	–	2020.Z	–	–		2XXX.ZB	–	–	2050.Z	–	–	–	–	–
2450/2480	X 1)	X 1)	–	–	2020.ZR	–	–		2XXX.ZB	–	–	–	–	–	–	–	–
2600/2700	X	X 1)	–	X	262.Z	CFV.42.C	–		2XXX.ZB	3XXX.ZB	30XX.ZC	2050.Z	2050.Z	–	–	–	Upon request
2650/2680	X	X 1)	–	X	–	CFV.42.C	–		–	3XXX.ZB	30XX.ZC	–	2050.Z 3)	–	–	–	Upon request
3400/3500	X	X 1)	X 1)	X	301.Z	CFV.42.C	–		–	3XXX.ZB	30XX.ZC	30XX.Z	30XX.ZS	–	–	–	Upon request
3450/3480	X	X 1)	X 1)	X	34501.Z	CFV.42.C	–		–	3XXX.ZB	30XX.ZC	–	30XX.ZS 3)	–	–	–	Upon request
255	–	–	–	–	–	–	–		2XXX.ZB	–	–	–	–	–	–	–	–
E2 R100																	
R117/118	X 1)	X 1)	–	–	–	–	–		2XXX.ZB	–	–	–	–	–	–	–	–
R157/158	X 1)	X 1)	–	–	1585.01.Z	–	–		–	–	–	–	–	–	–	–	–
R167/168	X 1)	X 1)	X 1)	–	1685.01.Z	–	–		–	–	–	–	–	–	–	–	–
E2 R																	
R48	X 1)	X 1)	–	–	481.ZR	–	–		2XXX.ZB	–	–	–	–	–	–	–	–
R58	X 1)	X 1)	–	–	–	–	–		–	–	–	–	–	–	5850.Z	–	–
R68	X 1)	X 1)	X 1)	–	–	–	–		–	–	–	–	–	–	30XX.Z	–	–
R2.1																	
R2.26	X 1)	X 1)	–	–	R2.26.Z	CFV.R2.26.Z	–		–	–	–	–	–	–	–	–	–
R2.40	X 1)	X 1)	–	–	R2.40.Z	CFV.R2.40.Z	–		–	–	–	–	–	–	–	–	–
R2.48	X 1)	X 1)	X 1)	–	–	CFV.R2.48.Z	–		–	3XXX.ZB	30XX.ZC	–	–	–	–	–	–
R2.75	X 1)	X 1)	–	–	–	CFV.80.C	–		–	3XXX.ZB	30XX.ZC	–	–	–	–	–	–
RX																	
RX32	–	–	–	–	–	–	X		–	–	–	–	–	–	–	–	X
RX40	–	–	–	–	–	–	X		–	–	–	–	–	–	–	–	X
RX48	–	–	–	–	–	–	X		–	–	–	–	–	–	–	–	X
RX56	–	–	–	–	–	–	Upon request		–	–	–	–	–	–	–	–	X

1) Assembled in front of the mounting bracket. (CFXL clamps are always assembled before the mounting bracket in a separate C-profile 92.52.XX)
2) Can be found on the product page of each e-chain® series
3) Half e-tube only
4) For KMA mounting bracket only
= recommended strain relief for selected e-chain®

e-chain® Series/system	CFX Clamp, standard	CFXL Clamp, for increased holding force	CFU honeycomb strain relief	CFN chainfix nugget	Strain relief separator	CFV Stepped strain relief	Strain relief can be clipped onto mounting brackets/KMA		Tiewrap plate Series 2000	Tiewrap plate Series 3000	Tiewrap plate with clip-on connection to C-profile	Tiewrap plate for fixed crossbars	Tiewrap plate for openable crossbars	Tiewrap plate for triflex® R and triflex® 2)	Tiewrap plate for E2 e-tubes	Tiewrap plate/ teeth directly moulded on the mounting bracket	CFB strain relief connector system
E4.1L																	
E4.31L/R4.31L	X 1)	X 1)	–	–	31.Z	CFV.31.N15	–		–	–	–	–	–	–	–	–	–
E4.38L/R4.38L	X	X 1)	–	X	38.Z	CFV.42.C	–		–	3XXX.ZB	30XX.ZC	–	C622.100.ZS	–	–	–	X
E4.48L/R4.48L	X	X 1)	X 1)	X	48.Z / 48.ZS	CFV.42.C	–		–	3XXX.ZB	30XX.ZC	–	C622.100.ZS	–	–	–	X
E4.64L	X	X 1)	–	X	–	CFV.42.C	–		–	3XXX.ZB	30XX.ZC	–	–	–	–	–	X
E4Q																	
E4Q.34/E4Q.34 New	X	X 1)	–	X	–	CFV.42.C	–		–	3XXX.ZB	30XX.ZC	–	–	–	–	–	–
E4Q.44/E4Q.44 New	X	X 1)	X 1)	X	–	CFV.42.C	–		–	3XXX.ZB	30XX.ZC	–	–	–	–	–	X
E4Q.58/E4Q.58 New	X	X 1)	–	X	–	CFV.80.C	–		–	3XXX.ZB	30XX.ZC	–	–	–	–	–	X
E4Q.82/E4Q.82 New	X	X 1)	–	X	–	CFV.80.C	–		–	3XXX.ZB	30XX.ZC	–	–	–	–	–	X
E4.1																	
E4.21	X 1)	X 1)	–	–	T2103.Z	–	–		2XXX.ZB	–	–	–	–	–	–	–	–
E4.28/R4.28	X 1)	X 1)	–	–	28.Z / 28.ZT	–	–		2XXX.ZB	–	–	–	2050.Z	–	–	–	–
E4.32/H4.32/R4.32	X	X 1)	–	X	–	CFV.42.C	–		–	3XXX.ZB	30XX.ZC	–	3850.ZS	–	–	–	X
E4.42/H4.42/R4.42	X	X 1)	X 1)	X	–	CFV.42.C	–		–	3XXX.ZB	30XX.ZC	–	3850.ZS	–	–	–	X
E4.56/H4.56/R4.56	X	X 1)	–	X	–	CFV.80.C	–		–	3XXX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
E4.80/H4.80/R4.80	X	X 1)	–	X	–	CFV.80.C	–		–	3XXX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
E4.112	X 1)	X 1)	–	–	–	–	–		–	3XXX.ZB	–	–	45XX.ZS	–	–	–	X
E4.162	X 1)	X 1)	–	–	–	–	–		–	3XXX.ZB	–	–	–	–	–	–	X
800	X 1)	X 1)	–	–	–	–	–		–	3XXX.ZB	–	–	–	–	–	–	–
840	X 1)	–	–	–	–	–	–		–	–	–	–	–	–	–	–	–
E4/light																	
14040/14140/18840	X	X 1)	–	X	–	–	–		–	3XXX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
14240/14340	X	X 1)	–	X	–	–	–		–	3XXX.ZB	30XX.ZC	–	3850.ZS	–	–	–	X
14550/14650/19050	X	X 1)	–	X	–	–	–		–	3XXX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
15050/15150/19850	X	X 1)	–	–	–	–	–		–	3XXX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
15250/15350	X	X 1)	–	–	–	–	Upon ~~r~~equest		–	3XXX.ZB	30XX.ZC	–	3850.ZS	–	–	–	X
1640/R1608	X	X 1)	–	–	–	–	Upon ~~r~~equest		–	3XXX.ZB	–	–	45XX.ZS	–	–	–	–
YE																	
YE.42 New	X 1)	X 1)	–	–	–	–	–		–	–	–	–	3850.ZS	–	–	–	–
YE.56 New	X 1)	X 1)	–	–	–	–	–		–	–	–	–	45XX.ZS	–	–	–	–

1) Assembled in front of the mounting bracket. (CFXL clamps are always assembled before the mounting bracket in a separate C-profile 92.52.XX)
2) Can be found on the product page of each e-chain® series
3) Half e-tube only
4) For KMA mounting bracket only
= recommended strain relief for selected e-chain®

e-chain® Series/system	CFX Clamp, standard	CFXL Clamp, for increased holding force	CFU honeycomb strain relief	CFN chainfix nugget	Strain relief separator	CFV Stepped strain relief	Strain relief can be clipped onto mounting brackets/KMA		Tiewrap plate Series 2000	Tiewrap plate Series 3000	Tiewrap plate with clip-on connection to C-profile	Tiewrap plate for fixed crossbars	Tiewrap plate for openable crossbars	Tiewrap plate for triflex® R and triflex® 2)	Tiewrap plate for E2 e-tubes	Tiewrap plate/ teeth directly moulded on the mounting bracket	CFB strain relief connector system
T3																	
T3.29	–	–	–	–	E6.29.02.Z	–	20XX.ZB		–	–	–	–	–	–	–	–	–
E3																	
E3.10	–	–	–	–	–	–	E3.00.020		–	–	–	–	–	–	–	–	–
E3.15	–	–	–	–	–	–	E3.00.020		–	–	–	–	–	–	–	–	–
E3.22	–	–	–	–	–	–	E3.00.020		–	–	–	–	–	–	–	–	–
E6.1																	
E61.29/EF61.29	X [1]	X [1]	–	–	E6.29.02.Z	–	–		2XXX.ZB	–	–	–	–	–	–	–	–
E61.35	X [1]	X [1]	–	–	E6.35.02.Z	–	–		2XXX.ZB	–	–	–	–	–	–	–	X
E61.40	X	X [1]	–	X	E6.40.02.Z	–	–		2XXX.ZB	–	–	–	–	–	–	–	X
E61.52	X	X [1]	–	X	–	–	–		–	3XXX.ZB	30XX.ZC	–	2050.Z	–	–	–	X
E61.62	X	X [1]	–	X	–	–	–		–	3XXX.ZB	30XX.ZC	–	3850.ZS	–	–	–	X
E61.80	X	X [1]	–	X	–	–	–		–	3XXX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
E6																	
E6.29	X [1]	X [1]	–	–	E6.29.02.Z	–	–		2XXX.ZB	–	–	–	–	–	–	–	–
R6.29	X [1]	X [1]	–	–	–	–	–		2XXX.ZB	–	–	–	–	–	–	–	–
E6.35	X [1]	X [1]	–	–	E6.35.02.Z	–	–		2XXX.ZB	–	–	–	–	–	–	–	X
E6.40	X	X [1]	–	X	E6.40.02.Z	–	–		2XXX.ZB	–	–	–	–	–	–	–	X
E6.52	X	X [1]	–	X	–	–	–		–	3XXX.ZB	30XX.ZC	–	2050.Z	–	–	–	X
R6.52	X	X [1]	–	X	–	–	–		–	3XXX.ZB	30XX.ZC	–	–	–	–	–	X
E6.62	X	X [1]	–	X	–	–	–		–	3XXX.ZB	30XX.ZC	–	3850.ZS	–	–	–	X
E6.80L	X	X [1]	–	X	–	–	–		–	3XXX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
e-skin®																	
SK28	–	–	–	–	–	–	2000.077.ZB		–	–	–	–	–	–	–	–	–
SK40	–	–	–	–	–	–	2000.077.ZB		–	–	–	–	–	–	–	–	–
triflex® R																	
TRC	X [1]	X [1]	–	–	–	–	–		–	–	–	–	–	X	–	–	–
TRC	X [1]	X [1]	–	–	–	–	–		–	–	–	–	–	X	–	–	–
TRCF	X [1]	X [1]	–	–	–	–	–		–	–	–	–	–	X	–	–	–
TRL	X [1]	X [1]	–	–	–	–	–		–	–	–	–	–	X	–	–	–
TRLF	X [1]	X [1]	–	–	–	–	–		–	–	–	–	–	X	–	–	–
triflex®																	
easy triflex®	X [1]	–	–	–	–	–	–		–	–	–	–	–	E33X.XX.2	–	–	
triflex®	X [1]	–	–	–	–	–	–		–	–	–	–	–	33X.XX	–	–	

1) Assembled in front of the mounting bracket. (CFXL clamps are always assembled before the mounting bracket in a separate C-profile 92.52.XX)
2) Can be found on the product page of each e-chain® series
3) Half e-tube only
4) For KMA mounting bracket only
= recommended strain relief for selected e-chain®

chainfix strain relief | Parameters | Overview

igus® chainfix strain relief									
	CFX - clamps	**Tiewrap plates - bolted, clip-on**	**CFU.V - with innovative honeycomb design**			**CFN nuggets**	**Strain relief separators**	**CFV - strain relief element**	**CFB - strain relief connector system**
Recommended standard for the following e-chains®:	**E4, E6, for all KMA* with C-profile** *Polymer metal mounting bracket	**easy chain®, E2/000, E2 e-tubes, E4, E6**	**E2.48, 3400/3500, 3450/3480, R68, R167/168, R2.48, E4.48L/R4.48L, E4.42/H4.42/R4.42, E61.52, E6.52/R6.52**			**For all KMA* with C-profile or top-hat (DIN) rail 35** *Polymer metal mounting bracket	**E2/000, E2 e-tubes, E6, T3**	**E2/000, R2.1, E4.1L, E4.1**	**E4, E6, for all KMA* with C-profile** *Polymer metal mounting bracket
When to use this strain relief?	Standard for high accelerations, loads and demanding applications. For many cables, large cable diameters and stacked cables. For long travels, cranes, offshore, machine tools, high speeds and hydraulic cables.	Standard for many applications at medium and low accelerations. For unsupported, gliding, hanging and standing applications in general machinery and machine tools. Also available as an individual part, for example in control cabinets.	CFU.V strain relief with innovative honeycomb design for fast assembly and high holding force. Openable from both sides. Easy positioning of cables for a variable filling. Cables with different diameters can be strain-relieved easily in one layer. Different attachment options in front of the e-chain®, strain relief can be screwed in from above and below.			Cost-effective, fast strain relief for simple application with small spaces and medium accelerations. Also available as individual parts for fixed applications, such as in cabinets, etc.	Combination of separator and strain relief, ideal for small spaces. For applications with medium accelerations. For small cable diameters. Ideal for e-tubes. For machine tools and automation.	For both in e-chains® and e-tubes. Stepped strain relief for use outside of the e-chain® cross section - even with different connectors. Easy to retrofit. Simple installation into top-hat rail 15 (TS92.31) or C-profile on KMA mounting brackets.	Space-saving, modular strain relief with many cables in confined spaces. For applications with high accelerations and loads, e.g. in machine tools.
When not to use it?	No limitation	For large cable diameters	For high loads and large cable diameters			For high loads	For high loads	For high loads	No limitation
Properties									
Assembly time index	+	+	+ + +			+ −	+	+ +	+ −
Adjustable tensile strength	+ +	−	+			−	−	−	+
Price index	●●◐	●○○	●●●			●○○	●○○	●○○	●●●
Modularity	yes	yes	yes			yes	yes	yes	yes (special fabrication)
Dynamics	high to very high	high	medium			high	high	medium	high to very high

Price index
- ◐○○ low price category
- ●◐○ medium price category
- ●●● highest price category

+++ = best suitability
\+ = good suitability
+ − = suitable
− = limited suitability

Standard C-profile Part No. 92.42.XXX

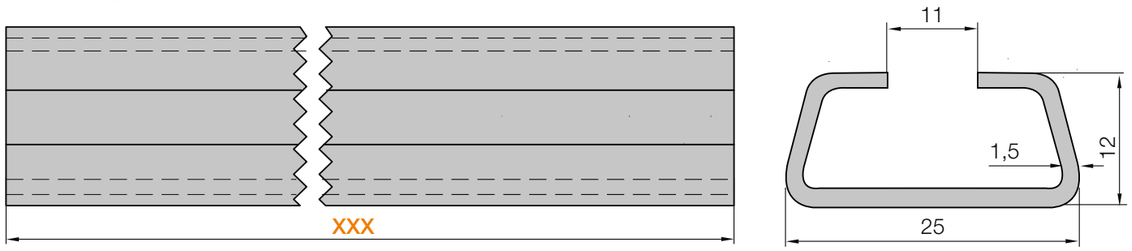
- For all igus® CFX clamps and KMA mounting brackets with C-profile option
- Standard material galvanised steel
- Also available as stainless steel* version
- Length tolerances for C-profiles of ±1mm possible!

Complete Part No. with the required length **XXX** in mm. Example:**92.42.075** for 75mm. *For stainless steel material AISI 304, please add index .E. Example:**92.42.075**.E



Standard C-profile Part No. 92.42. | For standard applications

Can be integrated into KMA with C-profile option!



Optional | For heavy-duty applications

C-profile Part No. 92.52.XXX

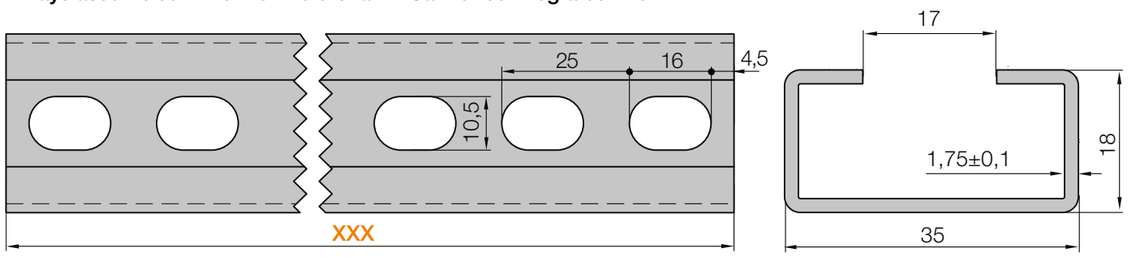
- For all igus® **CFXL** clamps
- With increased holding force - even for harsh applications
- Standard material galvanised steel
- Also available as stainless steel* version
- Length tolerances for C-profiles of ±5mm possible!

Complete Part No. with the required length **XXX** in mm. Example:**92.52.075** for 75mm. *For stainless steel material AISI 304, please add index .E. Example:**92.52.075**.E



C-profile Part No. 92.52 | For increased holding force for harsh applications

Always assembled in front of the e-chain®. Cannot be integrated into KMA!

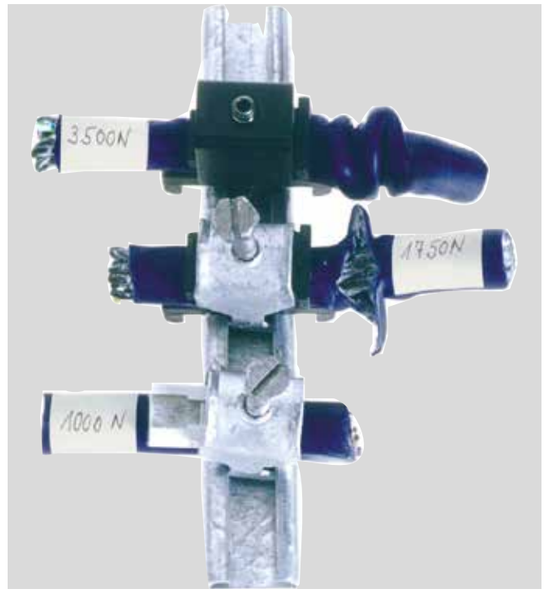


igus® chainfix strain relief devices are tested in the in-house igus® laboratory under real-world conditions, taking many parameters into account

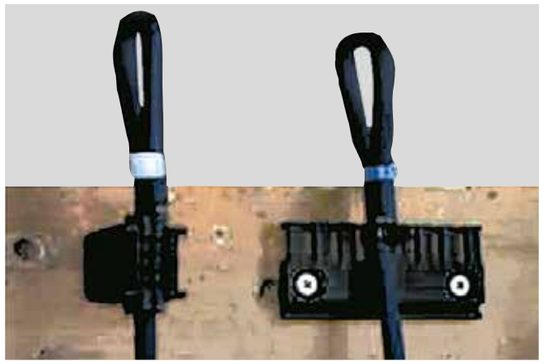
Whether under the influence of fluids like water or oil, or at different ambient temperatures. The interaction of chainfix systems with different jacket materials of cables and hoses plays a big role in the in-house test program.



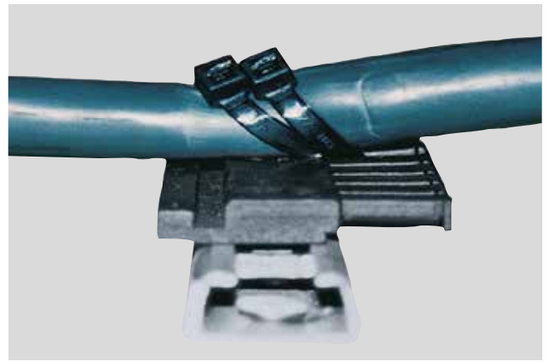
igus® tensile strength test CFX clamps with stacker saddle. **Conclusion**: the tensile strength of igus® chainfix clamps is three times higher when compared with conventional strain relief



Test: comparison of three different strain reliefs. **Conclusion**: triple tensile strength of igus® chainfix clamps when compared with conventional products



Tensile strength tests with chainflex® cables.



Tensile strength tests of igus® chainfix tiewrap plate with cable tiewraps.



Can be integrated into igus® KMA mounting bracket

For up to three cables stacked above one another

Reduced installation height, space-saving

High strength for dynamic applications

chainfix clamps - fitted quickly and securely

- New: now also cost-effective strain relief for large hose and cable diameters - new sizes for cable diameters 42mm - 46mm and 46mm - 50mm are available
- chainfix clamps with up to 15mm reduced installation height compared to conventional clamps due to optimised housing height
- Tested in the igus® laboratory - up to 3.5 times higher force absorption compared to conventional clamps
- Easy to read the part number and mark indicating the correct installation direction
- Space and time-saving assembly
- Delivery options for complete systems with cables and preassembled strain relief
- Improved base for easier fit into the C-profile
- Simple assembly with hex head set screw
- High strength for dynamic applications with improved stacker elements
- Built-in ribs on the stacker elements give secure grip on the cables
- Optional: CFXL clamps for increased holding force for heavy-duty applications (**Note:** CFXL clamps are always assembled in front of the e-chain®. They cannot be integrated into KMA mounting brackets with C-profile option!)

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Product range and materials

- Steel clamp: clamp and screw black painted steel
- Stainless steel clamp: clamp and screw: blank (material AISI 304)
- Stacker elements: bottom saddle and stacker saddle (igumid G material)
- Steel C-profile available (material galvanised steel)
- Stainless steel C-profile available (material AISI 304)

Installation height

If the e-chain® glides on itself for long travels, the screw heads of the strain relief at the fixed end of the e-chain® must have a distance of at least 10mm from the top of the e-chain®. As a result, many strain relief elements described here may not be suitable for use at the fixed end on long gliding e-chains®. For unsupported e-chains® strain relief elements can always be safely used.

Please note

- Ideally, the cables should be secured at both ends of the e-chain® with strain relief. **As a minimum they need to be attached at the moving end of the e-chain®!**
- When using chainfix clamps on C-profiles in the mounting bracket for series E4.38L/R4.38L, E4Q.34/H4Q.34, E4.32/H4.32/R4.32 (also for the classic series 280/290/R770, 2828/2928/R7728) a shortened bottom saddle must be used. For shortened bottom saddles supplement Part No. with index "**K**". Example: **CFX12.1K**



CFX - chainfix housing with reduced height



Save both time and space during installation with igus® chainfix clamps

For the following igus® series

E2.1
- E2.38
- E2.48

E2/000
- 2600/2700/2650/2680
- 3400/3500/3450/3480

E4.1L
- E4.38L/R4.38L
- E4.48L/R4.48L
- E4.64L

E4Q
- E4Q.34/H4Q.34
- E4Q.44/H4Q.44
- E4Q.58/H4Q.58
- E4Q.82/H4Q.82

E4.1
- E4.32/H4.32/R4.32
- E4.42/H4.42/R4.42
- E4.56/H4.56/R4.56
- E4.80/H4.80/R4.80
- E4.112/R4.112
- E4.162

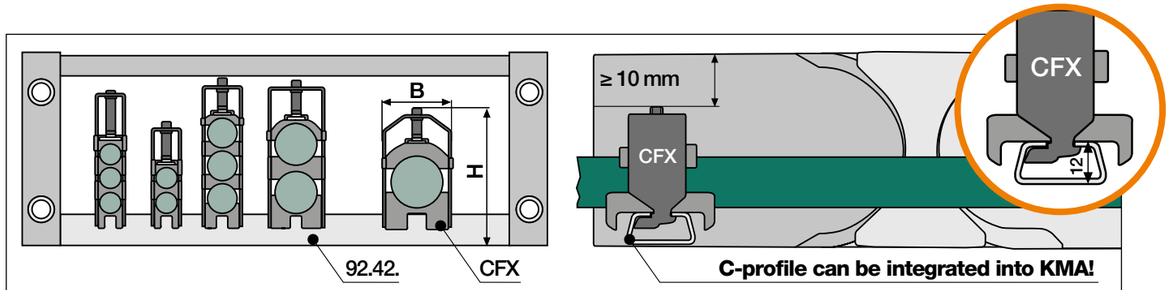
E4/light
- 14040/14140/18840
- 14240/14340
- 14550/14650/19050
- 15050/15150/19850
- 15250/15350

E6.1
- E61.40
- E61.52
- E61.62
- E61.80

E6
- E6.40
- E6.52/R6.52
- E6.62
- E6.80L
- E6.80

chainfix strain relief | CFX clamps

Now even for larger hose and cable diameters New



The **H** dimension in the tables is based on the maximum cable diameter. Cables with smaller diameters may result in a lower overall clamp housing heights. Tightening torque for CFX clamps 1.5Nm.

CFX | Standard clamps with standard base

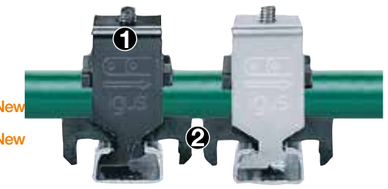
(suitable for C-profile **92.42.XXX**, can be integrated into KMA with C-profile option)

Single clamp housing, incl. bottom saddle

Part No. Steel	Part No. Stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]	Part No. Steel	Part No. Stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFX12.1	CFX12.1.E	06 - 12	16	54	CFX30.1	CFX30.1.E	26 - 30	34	71
CFX14.1	CFX14.1.E	12 - 14	18	50	CFX34.1	CFX34.1.E	30 - 34	38	75
CFX16.1	CFX16.1.E	14 - 16	20	52	CFX38.1	CFX38.1.E	34 - 38	42	79
CFX18.1	CFX18.1.E	16 - 18	22	54	CFX42.1	CFX42.1.E	38 - 42	46	83
CFX20.1	CFX20.1.E	18 - 20	24	56	CFX46.1	CFX46.1.E	42 - 46	51	115 New
CFX22.1	CFX22.1.E	20 - 22	26	58	CFX50.1	CFX50.1.E	46 - 50	55	121 New
CFX26.1	CFX26.1.E	22 - 26	30	67					

*Stainless steel material: AISI 304

❶ Clamp
❷ Bottom saddle
❸ Stacker saddle



Double clamp housing, incl. bottom and stacker saddles

Part No. Steel	Part No. Stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]	Part No. Steel	Part No. Stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFX12.2	CFX12.2.E	06 - 12	16	72	CFX22.2	CFX22.2.E	20 - 22	26	90
CFX14.2	CFX14.2.E	12 - 14	18	74	CFX26.2	CFX26.2.E	22 - 26	30	109
CFX16.2	CFX16.2.E	14 - 16	20	78	CFX30.2	CFX30.2.E	26 - 30	34	117
CFX18.2	CFX18.2.E	16 - 18	22	82	CFX34.2	CFX34.2.E	30 - 34	38	125
CFX20.2	CFX20.2.E	18 - 20	24	86					

*Stainless steel material: AISI 304



Triple clamp housing, incl. bottom and stacker saddles

Part No. Steel	Part No. Stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]	Part No. Steel	Part No. Stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFX12.3	CFX12.3.E	06 - 12	16	100	CFX18.3	CFX18.3.E	16 - 18	22	108
CFX14.3	CFX14.3.E	12 - 14	18	96	CFX20.3	CFX20.3.E	18 - 20	24	114
CFX16.3	CFX16.3.E	14 - 16	20	102	CFX22.3	CFX22.3.E	20 - 22	26	120

*Stainless steel material: AISI 304



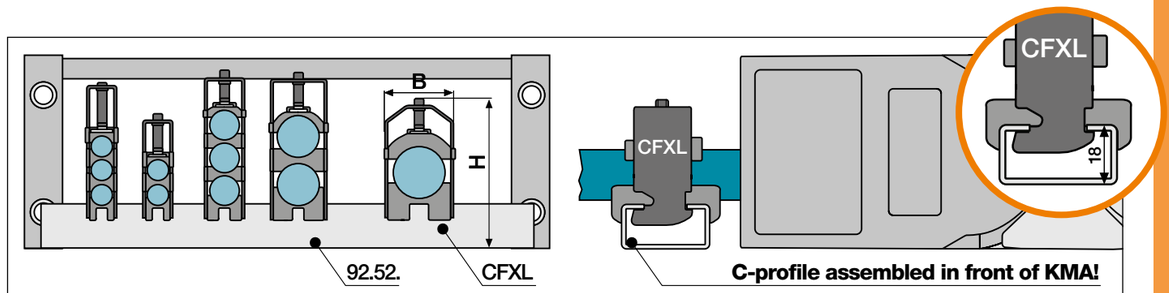
Suitable C-profile for CFX clamps ▶ Page 884

igus EU2023

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chainfix strain relief | Optional CFXL clamps

Now even for larger hose and cable diameters New



The **H** dimension in the tables is based on the maximum cable diameter. Cables with smaller diameters may result in a lower overall clamp housing heights. Tightening torque for CFX clamps 1.5Nm.

CFXL | Clamps with wide base for increased holding force

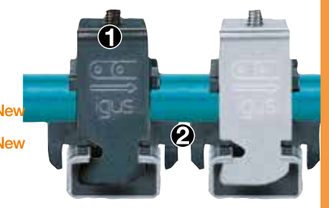
Suitable for C-profile **92.52.XXX**, C-profile always assembled in front of the e-chain®. Cannot be integrated into KMA)

Single clamp housing, incl. bottom saddle

Part No. Steel	Part No. Stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]	Part No. Steel	Part No. Stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFXL12.1	CFXL12.1.E	06 - 12	16	60	CFXL30.1	CFXL30.1.E	26 - 30	34	77
CFXL14.1	CFXL14.1.E	12 - 14	18	56	CFXL34.1	CFXL34.1.E	30 - 34	38	81
CFXL16.1	CFXL16.1.E	14 - 16	20	58	CFXL38.1	CFXL38.1.E	34 - 38	42	85
CFXL18.1	CFXL18.1.E	16 - 18	22	60	CFXL42.1	CFXL42.1.E	38 - 42	46	89
CFXL20.1	CFXL20.1.E	18 - 20	24	62	CFX46.1	CFX46.1.E	42 - 46	51	122 New
CFXL22.1	CFXL22.1.E	20 - 22	26	64	CFX50.1	CFX50.1.E	46 - 50	55	125 New
CFXL26.1	CFXL26.1.E	22 - 26	30	73					

*Stainless steel material: AISI 304

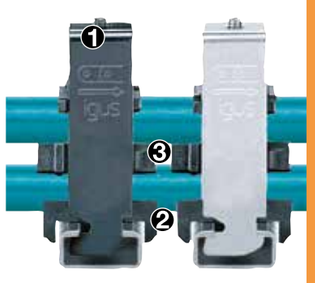
❶ Clamp
❷ Bottom saddle
❸ Stacker saddle



Double clamp housing, incl. bottom and stacker saddles

Part No. Steel	Part No. Stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]	Part No. Steel	Part No. Stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFXL12.2	CFXL12.2.E	06 - 12	16	78	CFXL22.2	CFXL22.2.E	20 - 22	26	86
CFXL14.2	CFXL14.2.E	12 - 14	18	80	CFXL26.2	CFXL26.2.E	22 - 26	30	115
CFXL16.2	CFXL16.2.E	14 - 16	20	84	CFXL30.2	CFXL30.2.E	26 - 30	34	123
CFXL18.2	CFXL18.2.E	16 - 18	22	86	CFXL34.2	CFXL34.2.E	30 - 34	38	131
CFXL20.2	CFXL20.2.E	18 - 20	24	92					

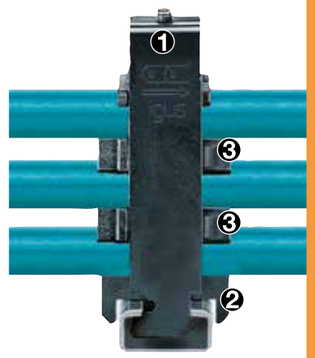
*Stainless steel material: AISI 304



Triple clamp housing, incl. bottom and stacker saddles

Part No. Steel	Part No. Stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]	Part No. Steel	Part No. Stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFXL12.3	–	06 - 12	16	106	CFXL18.3	–	16 - 18	22	114
CFXL14.3	–	12 - 14	18	102	CFXL20.3	–	18 - 20	24	120
CFXL16.3	–	14 - 16	20	108	CFXL22.3	–	20 - 22	26	126

*Stainless steel material: AISI 304

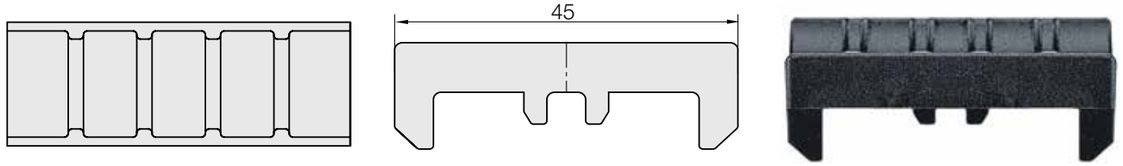


Suitable C-profile for CFXL clamps ▶ Page 884

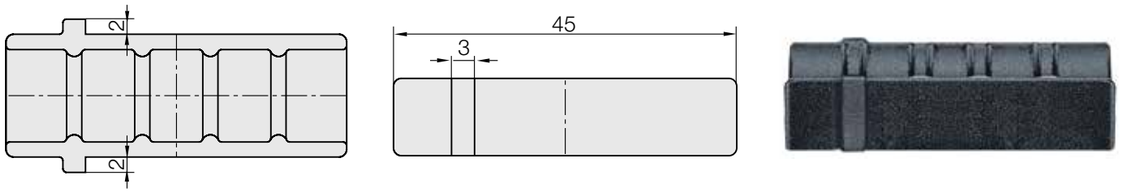
Stacker elements for CFX and CFXL clamps
- Built-in ribs for secure grip on cables
- Optimised stacker saddle, captive due to ❶ locking spring and with ❷ spring groove for an easy and precise installation
- Conventional stacker saddle
- Long contact surface improves the clamp's stability
- More secure due to high strength



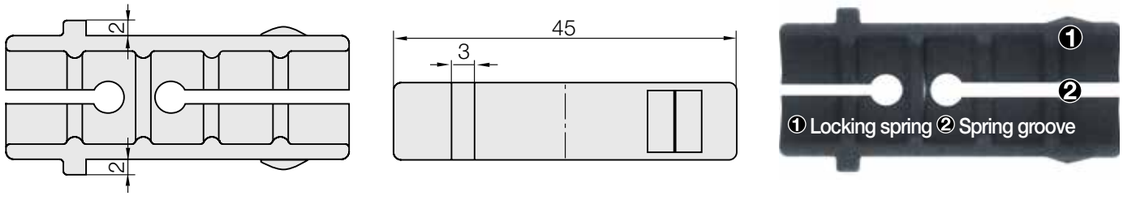
CGXX | Bottom saddle to fit into the clamp housing as an individual part



CDXX | Conventional stacker saddles for all double and triple clamps as an individual part



CD.XX.C | Optimised stacker saddles for all double and triple clamps as an individual part



CGXX Bottom saddle	CDXX Stacker saddle	CDXX.C Stacker saddle	For clamp	≤ Ø [mm]
CG12	CD12	CD.12.C	CFX/CFXL12.X	06 - 12
CG14	CD14	CD.14.C	CFX/CFXL14.X	12 - 14
CG16	CD16	CD.16.C	CFX/CFXL16.X	14 - 16
CG18	CD18	CD.18.C	CFX/CFXL18.X	16 - 18
CG20	CD20	CD.20.C	CFX/CFXL20.X	18 - 20
CG22	CD22	CD.22.C	CFX/CFXL22.X	20 - 22

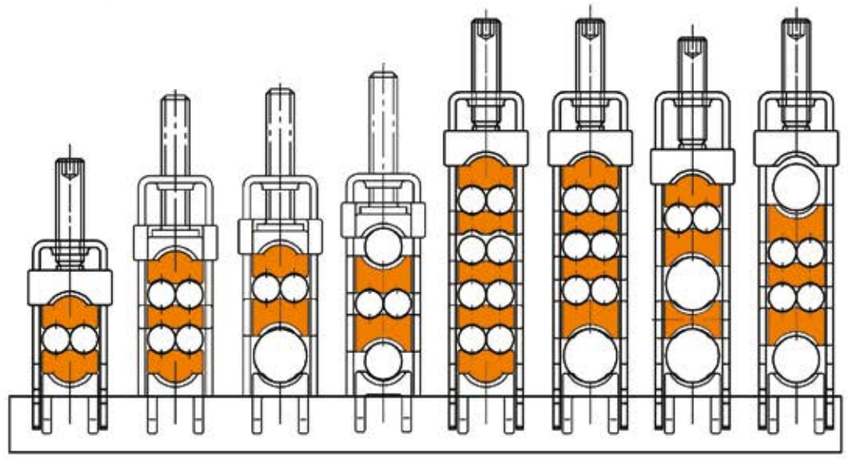
CGXX Bottom saddle	CDXX Stacker saddle	CDXX.C Stacker saddle	For clamp	≤ Ø [mm]
CG26	CD26	CD.26.C	CFX/CFXL26.X	22 - 26
CG30	CD30	CD.30.C	CFX/CFXL30.X	26 - 30
CG34	CD34	CD.34.C	CFX/CFXL34.X	30 - 34
CG38	–	–	CFX/CFXL38.X	34 - 38
CG42	–	–	CFX/CFXL42.X	38 - 42

Please note: When using chainfix clamps on C-profile in the mounting bracket for series E4.38L/R4.38L, E4Q.34/H4Q.34, E4.32/H4.32/R4.32 a shortened bottom saddle has to be used. For shortened bottom saddles supplement Part No. with index "**K**". Example: **CFX12.1K**

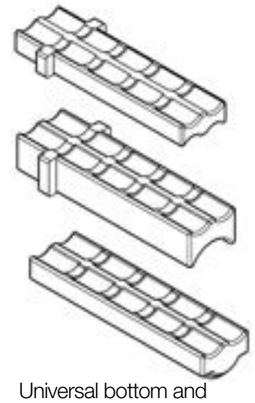
CFX12 - multi-clamps
- More modular options of the proven igus® chainfix strain system
- Universal strain relief for various assembly options
- Save both time and space during installation
- Cost-effective, compact and modular
- For cable diameters from 6mm to 12mm



CFX12 | Multi-clamps, universal strain relief



CFX12.1.Z1 CFXL12.1.Z1 | CFX12.2.Z1 CFXL12.2.Z1 | CFX12.2.Z2 CFXL12.2.Z2 | CFX12.2.Z3 CFXL12.2.Z3 | CFX12.3.Z1 CFXL12.3.Z1 | CFX12.3.Z2 CFXL12.3.Z2 | CFX12.3.Z3 CFXL12.3.Z3 | CFX12.3.Z4 CFXL12.3.Z4



Universal bottom and stacker saddles

CFX12 | Multi-clamps, universal strain relief

Part No.Type	CDA.4/4-8	CD4/4	CD.4/4-8	CD12	≤ Ø [mm]
CFX12.1.Z1 / CFXL12.1.Z1	2 x	–	–	–	6
CFX12.2.Z1 / CFXL12.2.Z1	2 x	1 x	–	–	6
CFX12.2.Z2 / CFXL12.2.Z2	1 x	–	1 x	–	6 + 12
CFX12.2.Z3 / CFXL12.2.Z3	–	–	2 x	–	6 + 8
CFX12.3.Z1 / CFXL12.3.Z1	2 x	3 x	–	–	6
CFX12.3.Z2 / CFXL12.3.Z2	1 x	2 x	1 x	–	6 + 12
CFX12.3.Z3 / CFXL12.3.Z3	1 x	–	1 x	1 x	6 + 12
CFX12.3.Z4 / CFXL12.3.Z4	–	1 x	2 x	–	6 + 10

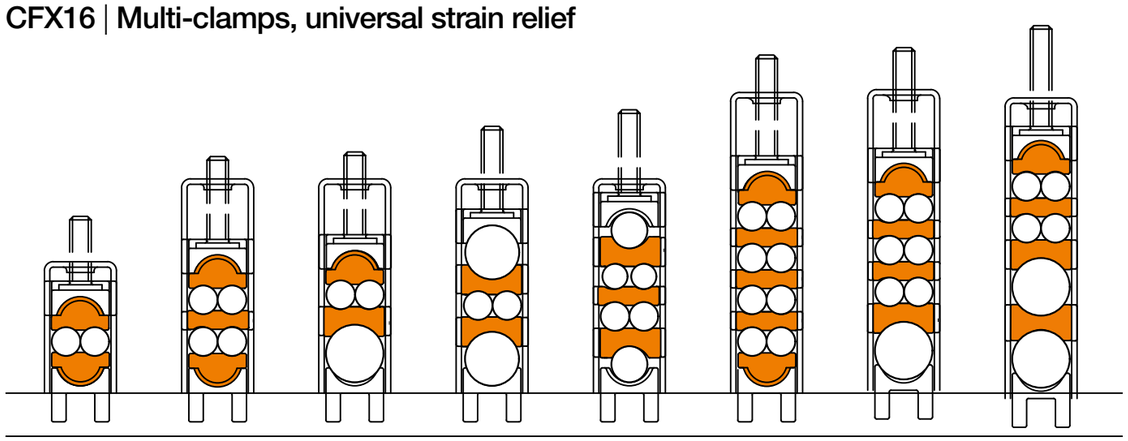
Standard material: galvanised steel. For the stainless steel version (material 1.4301/AISI 304), please add the part number with index **.E**. Example: **Part No. CFX.12.3.Z1.E**

Suitable C-profiles for CFX clamps ▶ Page 884

CFX16 - multi-clamps
- Very versatile, infinite assembly options
- **CFX** clamps with standard base
- Optional **CFXL** clamps with wide base for increased holding force available
- Save both time and space during installation
- Cost-effective, compact and modular
- Maximum cable or hose diameters: 8 to 16mm



CFX16 | Multi-clamps, universal strain relief

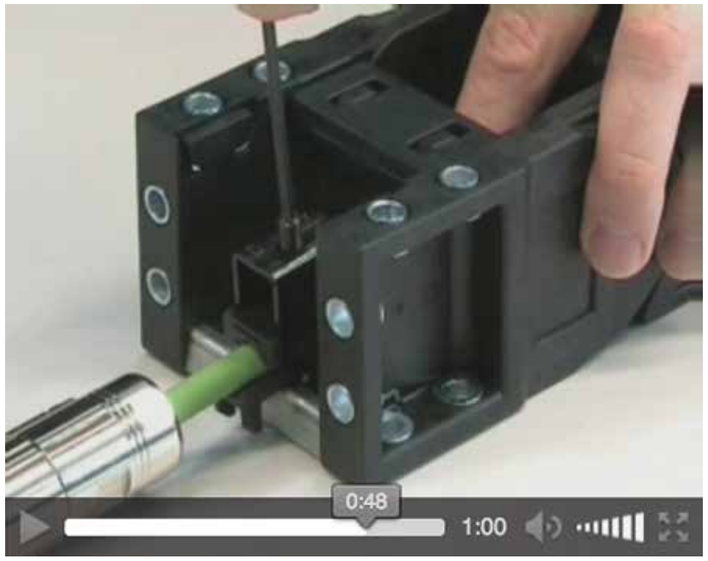


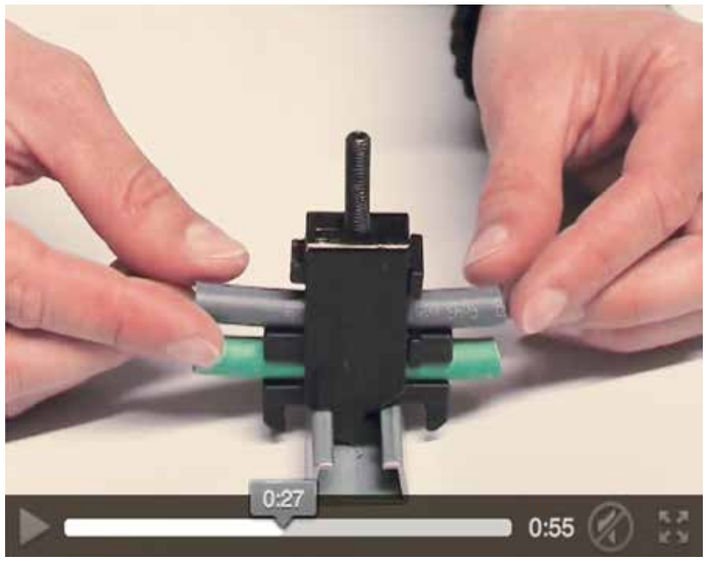
CFX16.1.Z1 CFXL16.1.Z1 | CFX16.2.Z1 CFXL16.2.Z1 | CFX16.2.Z2 CFXL16.2.Z2 | CFX16.2.Z3 CFXL16.2.Z3 | CFX16.2.Z4 CFXL16.2.Z4 | CFX16.3.Z1 CFXL16.3.Z1 | CFX16.3.Z2 CFXL16.3.Z2 | CFX16.3.Z3 CFXL16.3.Z3

Stacker saddles - individual parts | Maximum cable or hose diameter

Part No.Type	CDA.8/8-16	CD.8/8	CD.8/8-16	CD.16	≤ Ø [mm]
CFX16.1.Z1 / CFXL16.1.Z1	2 x	–	–	–	8
CFX16.2.Z1 / CFXL16.2.Z1	2 x	1 x	–	–	8
CFX16.2.Z2 / CFXL16.2.Z2	1 x	–	1 x	–	8 + 16
CFX16.2.Z3 / CFXL16.2.Z3	–	–	2 x	–	8 + 15
CFX16.2.Z4 / CFXL16.2.Z4	–	1 x	2 x	–	8 + 10
CFX16.3.Z1 / CFXL16.3.Z1	2 x	3 x	–	–	8
CFX16.3.Z2 / CFXL16.3.Z2	1 x	3 x	1 x	–	8 + 16
CFX16.3.Z3 / CFXL16.3.Z3	1 x	1 x	2 x	1 x	8 + 16

Suitable C-profiles for CFX clamps ▶ Page 884



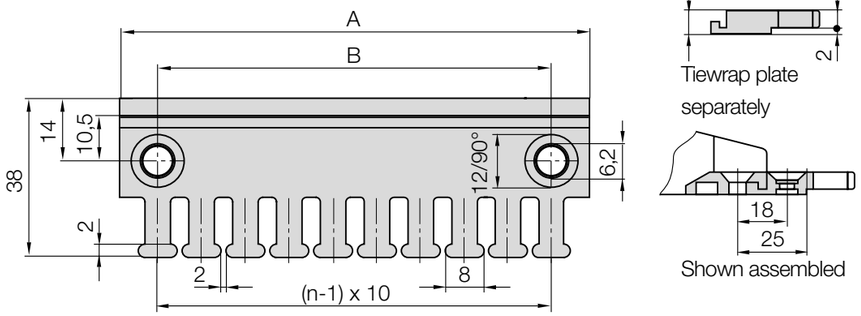


You can find assembly videos for chainfix clamps online at ▶ www.igus.eu/chainfix

Option 1A: chainfix tiewrap plate series 2000
Available as an individual component
- Screwed on KMA with C-profile (KMA = polymer metal mounting bracket)
- Can be clipped onto some mounting brackets
- Can be used as an individual part in switchgear cabinets or in the assembly of machines



Series 2000 | Tiewrap plate as an individual part



Part No.Tiewrap plate	Number of teeth [n]	A [mm]	B [mm]	C [mm]	Centre bore – = no / + = yes
2020.ZB*	3	30	15	–	–
2030.ZB	4	40	20	–	–
2040.ZB	5	50	30	–	–
2050.ZB	6	58	40	–	–
2070.ZB	8	80	60	–	–
2090.ZB (= 2030.ZB + 2040.ZB)**	9	90	–	–	–
2100.ZB	10	100	80	–	–
2125.ZB (= 2050.ZB + 2050.ZB)**	12	120	–	–	–

***Not suitable for E4.21.030.** series **Strain relief consisting of 2 tiewrap plates

Cable tiewraps as individual parts

Part No. cable tiewraps 100-piece bag	Width x length [mm]	≤ Ø [mm]	Holding force [N]
CFB.001	4.8 x 150	36	222 N

For the following igus® series

easy chain®
- E200/Z200

E2.1
- E2.26

E2/000
- 1400/1500/1450/1480
- 2400/2500/2450/2480
- 255

E2 R100
- R117/R118

E2 R
- R48

E4.1
- E4.21

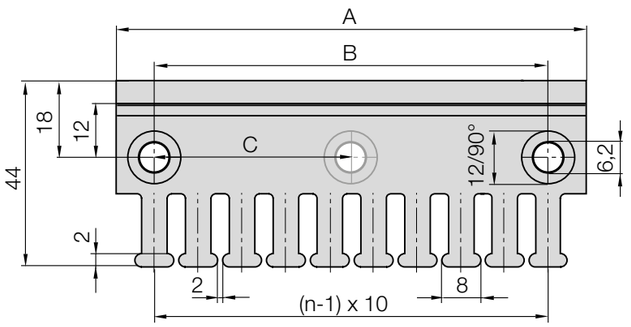
E6.1
- E61.29/EF61.29
- E61.35
- E61.40

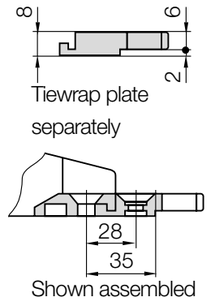
E6
- E6.29/R6.29
- E6.35
- E6.40

Option 1B: chainfix tiewrap plate Series 3000
Available as an individual component
- Screwed on KMA with C-profile (KMA = polymer metal mounting bracket)
- Can be clipped onto some mounting brackets
- Can be used as an individual part in switchgear cabinets or in the assembly of machines



Series 3000 | tiewrap plate as an individual part





Part No.Tiewrap plate	Number of teeth [n]	A [mm]	B [mm]	C [mm]	Centre bore – = no / + = yes
3050.ZB	5	50	30	–	–
3075.ZB	7	75	55	–	–
3100.ZB	10	100	80	–	–
3115.ZB	11	115	95	–	–
3125.ZB	12	125	105	–	–
3150.ZB	15	150	130	–	–
3175.ZB	17	175	155	–	–
3200.ZB	20	200	180	90	+
3225.ZB	22	225	205	102.5	+
3250.ZB	25	250	230	115	+

Cable tiewraps as individual parts

Part No. cable tiewraps 100-piece bag	Width x length [mm]	≤ Ø [mm]	Holding force [N]
CFB.001	4.8 x 150	36	222 N

For the following igus® series

easy chain®
- E26/Z26
- E300/Z300

E2.1
- E2.38
- E2.48

E2/000
- 2600/2700/2650/2680
- 3400/3500/3450/3480

E4.1L
- E4.38L/R4.38L
- E4.48L/R4.48L
- E4.64L

E4Q
- E4Q.34/H4Q.34
- E4Q.44/H4Q.44
- E4Q.58/H4Q.58
- E4Q.82/H4Q.82

E4.1
- E4.32/H4.32/R4.32
- E4.42/H4.42/R4.42
- E4.56/H4.56/R4.56
- E4.80/H4.80/R4.80
- E4.112/R4.112
- E4.162
- 800
- 840

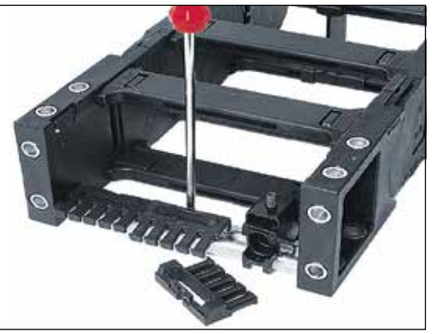
E4/light
- 14040/14140/18840
- 14240/14340
- 14550/14650/19050
- 15050/15150/19850
- 15250/15350
- 1640/1608

E6.1
- E61.52
- E61.62
- E61.80

E6
- E6.52/R6.52
- E6.62
- E6.80L
- E6.80

Option 1: chainfix tiewrap plates with clip-on connection to C-profile

- Can be clipped into the KMA C-profile
- Easy to assemble without any screws
- Easy to remove with screwdriver but secure when in use
- Can be used as an individual part in switchgear cabinets or in the assembly of machines



Option 1 | Tiewrap plate for C-profile

Part No.Tiewrap plate	Width [mm]	Number of teeth	For series
3050.ZC	50	5	**For all mounting brackets with C-profile**
3075.ZC	75	7	**For all mounting brackets with C-profile**

For the following igus® series

C-profile

- For all mounting brackets with C-profile

chainfix strain relief | Tiewrap plates | Optional

chainfix

Option 2: integrated strain relief for R series E2 e-tubes

- Strain relief integrates completely into the e-tube
- Easy to assemble without any screws
- Can be used as an individual part in switchgear cabinets or in the assembly of machines



Option 2 | Tiewrap plate for R series E2 e-tubes

Part No.Tiewrap plate	Width [mm]	Number of teeth	For series	
3050.Z*	50	5	**R68**	
3075.Z	75	7	**R68**	
5850.Z	46	4	**R58**	
5835.Z	32	3	**R58**	for series 58.050. ***Bi*** 50 only.

*Only possible from e-chain® width 100mm and larger

For the following igus® series

E2 R

- R58
- R68

Option 3: tiewrap plates for fixed crossbars
- Can be clipped on fixed crossbars
- For use with many harnessed cables
- If the KMA is too small for C-profile
- Easy to assemble without any screws



Option 3 | Tiewrap plate for fixed crossbars

Part No.Tiewrap plate	Width [mm]	Number of teeth	For series
2050.Z	60	6	E/Z200, 2400/2500, 2600/2700
3050.Z	50	5	3400/3500
3075.Z	74	7	3400/3500
C.2.522.050.ZS New	48	4	E2.38, E2.48
C.2.522.065.ZS	63	6	E2.38, E2.48
C.2.522.075.ZS	73	7	E2.38, E2.48

For the following igus® series

easy chain®
- E200/Z200

E2.1
- E2.38
- E2.48

E2/000
- 2400/2500
- 2600/2700
- 3400/3500

EU2023

chainfix strain relief | Tiewrap plates | Optional

Option 4: chainfix tiewrap plates for openable crossbars
- Can be clipped on openable crossbars
- For use with many harnessed cables
- If the KMA is too small for C-profile
- Easy to assemble without any screws



Option 4 | Tiewrap plate for openable crossbars

Part No.Tiewrap plate	Width [mm]	Number of teeth	For series
2050.Z	60	6	2600/2700/2650, E4.28, E61.52, E6.52
3035.ZS	35	3	3400/3500/3450
3050.ZS	50	5	3400/3500/3450
3075.ZS	75	7	3400/3500/3450
3850.ZS	48	5	E4.32/H4.32, E4.42/H4.42, 14240/14340, 15250/15350, E61.62, E6.62
3875.ZS New	74	7	E4.32/H4.32, E4.42/H4.42, 14240/14340, 15250/15350, E61.62, E6.62
4550.ZS	74	5	E4.56/H4.56, E4.80/H4.80, E4.112, 14040/14140,14550/14650, 15050/15150, E61.80, E6.80L, E6.80, 1640
4575.ZS	80	7	E4.56/H4.56, E4.80/H4.80, E4.112, 14040/14140, 14550/14650, 15050/15150, E61.80, E6.80L, E6.80, 1640
C622.100.ZS		8	E4.38L, E4.48L

For the following igus® series

E2/000
- 2600/2700/2650
- 3400/3500/3450

E4.1L
- E4.38L
- E4.48L

E4.1
- E4.28
- E4.32/H4.32
- E4.42/H4.42
- E4.56/H4.56
- E4.80/H4.80
- E4.112

E4/light
- 14040/14140
- 14240/14340
- 14550/14650
- 15050/15150
- 15250/15350
- 1640

E6
- E6.52
- E6.62
- E6.80L
- E6.80

E6.1
- E61.52
- E61.62
- E61.80

chainfix strain relief elements | Honeycomb strain relief

CFU.V Honeycomb strain relief | Product range

CFU.V strain relief with innovative honeycomb design for fast assembly and high holding force.

- 80% faster filling (compared to CFX strain relief), openable from both sides for assembly in seconds
- Flexible honeycomb design for increased holding force
- Tribologically optimised honeycomb design for the best hold
- Different cables with diameters from 2mm to 17mm can be strain-relieved without problems
- Cables can be replaced easily
- Easy positioning of cables
- CFU.V cannot be attached to mounting bracket, but has to be installed beforehand on-site



CFU.V | Honeycomb strain relief | Product range

Part No.CFU.V	*Bi* [mm]	Height [mm]	For series
CFU.V.64.40.100.25.01	100	62	See table on the right
CFU.V.64.40.125.25.01	125	62	See table on the right
CFU.V.64.40.150.25.01	150	62	See table on the right
CFU.V.64.40.175.25.01	175	62	See table on the right
CFU.V.64.40.200.25.01	200	62	See table on the right
CFU.V.64.40.225.25.01	225	62	See table on the right
CFU.V.64.40.250.25.01	250	62	See table on the right
CFU.V.64.40.275.25.01	275	62	See table on the right
CFU.V.64.40.300.25.01	300	62	See table on the right
CFU.V.64.40.325.25.01	325	62	See table on the right
CFU.V.64.40.350.25.01	350	62	See table on the right
CFU.V.64.40.375.25.01	375	62	See table on the right
CFU.V.64.40.400.25.01	400	62	See table on the right

For the following igus® series

E2.1
E2.48

E2/000
- 3400/3500/3450/3480

R2.1
- R2.48

E2R100
- 167/68

E2R
- R68

E4.1L
- E4.48L/R4.48L

E4.1
- E4.42/H4.42/R4.42

E6.1
- E61.52*

E6
- E6.52/R6.52*

*Available upon request.
Delivery time upon request.

reddot design award
winner 2018



Installation note: 80% faster (compared to CFX strain relief) for different cable types in different chambers, fully flexible, with strong holding force and easy assembly.

chainfix

chainfix strain relief elements | Honeycomb strain relief

CFU.V Honeycomb strain relief | Assembly instruction | Design

1



Remove the top side with a hexagon wrench, openable from both sides ...

2



... fill the CFU.V honeycomb with different cables (with diameters from 2mm to 17mm)

3



Close the top side ...

4



... and screw the top side down with a hexagon wrench

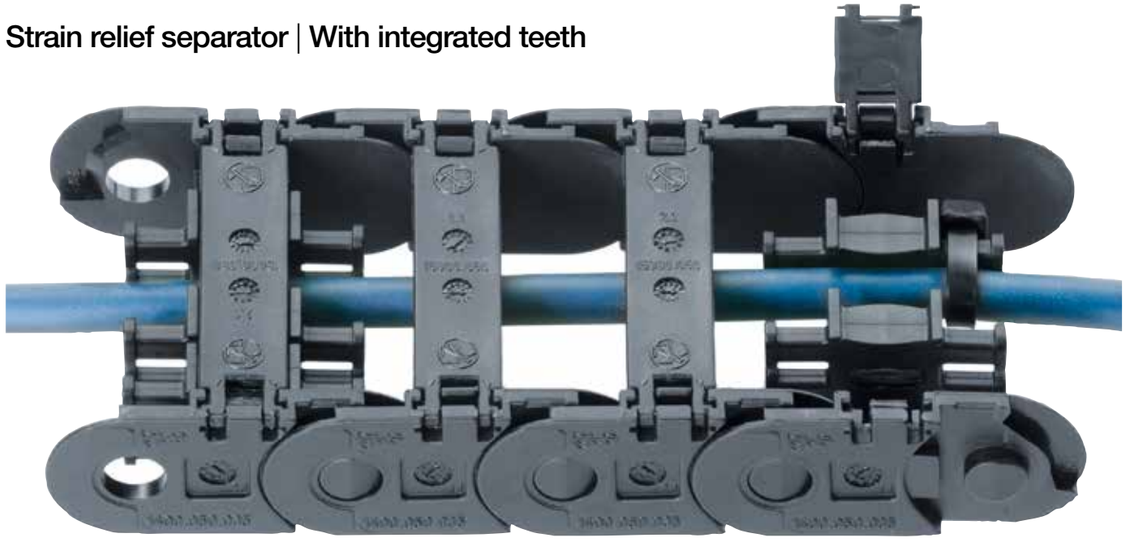
An installation video can be found on the Internet at ▶ www.igus.eu/cfu-honeycomb

Strain relief separators - separators with integrated strain relief teeth

- To be fitted at the first and last e-chain® link
- For restricted space conditions
- Easy to assemble without any screws
- The number ***n*** depends on the selection of the cables (diameter, type) and the available space

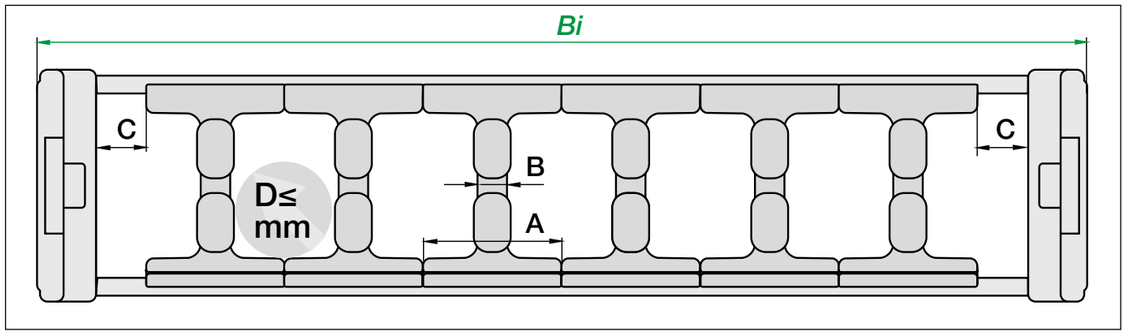


Strain relief separator | With integrated teeth



Strain relief separators are assembled either at the first or last e-chain® link. Alternatively they can be fitted within the e-chain® as an intermediate strain relief

Product range | Installation dimensions



Strain relief separator | Product range | Installation dimensions

Part No.	For series	Number of teeth	A [mm]	B [mm]	C [mm]	D [mm]
26.Z*	**E2.26**	6	12	3	–	7
21.1.Z	**1400/1500**	4	10	4	–	6
2020.Z	**2400/2500**	2	10	4	–	6
2020.ZR	**2450/2480**	4	10	4	–	6
262.Z	**2600/2700**	3	10	4	–	6
301.Z	**3400/3500**	3	18	4	–	14
34501.Z	**3450/3480**	6	14	4	–	10
1585.01.Z	**R157/R158**	6	22	4	–	18
1685.01.Z	**R167/R168**	8	22	4	–	18
481.ZR	**R48**	4	10	3.5	10	6.5
R2.26.Z	**R2.26/R2.26i**	4	10	3	–	6
R2.40.Z	**R2.40/R2i.40**	8	12	3	–	7
31.Z	**E4.31L/R4.31L**	4	9	4	6	6
38.Z	**E4.38L/R4.38L**	4	14	4.5	8	15
48.Z	**E4.48L/R4.48L**	4	14	4.5	8	20
48.ZS	**E4.48L/R4.48L**	4	14	4.5	8	20
T2103.Z	**E4.21**	2	8	4	1	4
28.Z	**E4.28**	4	10	4	–	6
28.ZT	**R4.28**	4	10	4	15	6
E6.29.02.Z	**T3.29**	2	8	4	1	4
E6.29.02.Z	**E6.29/E61.29**	2	8	4	1	4
R6.29.02.Z	**R6.29**	2	10	4	10	4
E6.35.02.Z	**E6.35/E61.35**	3	8	4	1	4
E6.40.02.Z	**E6.40/E61.40**	3	13	4	–	8

*For KMA mounting bracket only

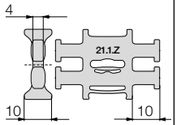
For the following igus® series

- **E2.1**
  - E2.26
- **E2/000**
  - 1400/1500
  - 2400/2500
  - 2450/2480
  - 2600/2700
  - 3400/3500
  - 3450/3480
- **E2 R100**
  - R157/R158
  - R167/R168
- **E2 R**
  - R48
- **R2.1**
  - R2.26/R2i.26
  - R2i.40/R2i.40
- **E4.1L**
  - E4.31L/R4.31L
  - E4.38L/R4.38L
  - E4.48L/R4.48L
- **E4.1**
  - E4.21
  - E4.28/R4.28
- **T3**
  - T3.29
- **E6.1**
  - E61.29/EF61.29
  - E61.35
  - E61.40
- **E6**
  - E6.29
  - R6.29
  - E6.35
  - E6.40

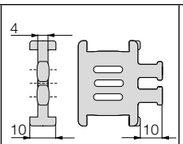
chainfix strain relief | Clip-on solutions

Strain relief separator | Overview

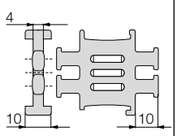
For series E2/000

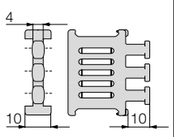
1400/1500 e-chains®
unassembled 21.1.Z
assembled 21.1.Z.1

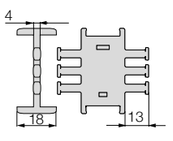
2400/2500 e-chains®
unassembled 2020.Z
assembled 2120.Z

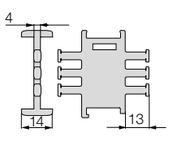
2450/2480 e-tubes
unassembled 2020.ZR
assembled 2120.ZR

2600/2700 e-chains®
unassembled 262.Z
assembled 263.Z

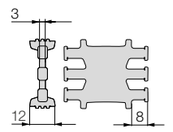
3400/3500 e-chains®
unassembled 301.Z
assembled 311.Z

3450/3480 e-tubes
unassembled 34501.Z
assembled 34511.Z

For series E2.1 e-chains®

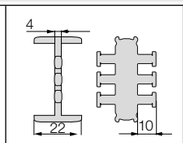




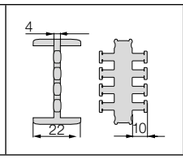
E2.26·E2i.26* e-chains®
unassembled 26.Z
assembled 26.Z.1

*For KMA mounting bracket only

For series R100 E2 e-tubes

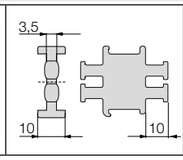



R157/R158 e-tubes
unassembled 1585.01.Z
assembled 1586.01.Z

R167/R168 e-tubes
unassembled 1685.01.Z
assembled 1686.01.Z

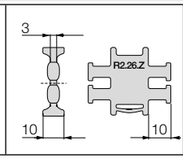
For series R E2 e-tubes

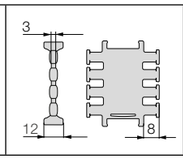
R48 e-tubes
unassembled 481.ZR
assembled 482.ZR

For series R2.1 e-tubes





R2.26·R2i.26 e-tubes
unassembled R2.26.Z
assembled R2.26.Z.1

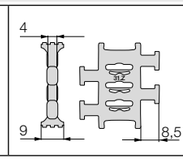
R2.40·R2i.40 e-tubes
unassembled R2.40.Z
assembled R2.40.Z.1

chainfix

chainfix strain relief | Clip-on solutions

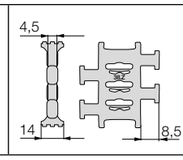
Strain relief separator | Overview

For series E4.1L

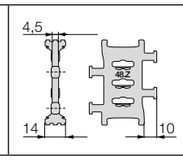



E4.31L/R4.31L e-chains®/e-tubes
unassembled 31.Z
assembled 31.Z.1

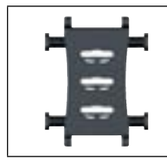
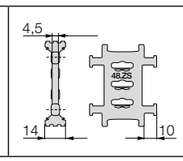




E4.38L/R4.38L e-chains®/e-tubes
unassembled 38.Z
assembled 38.Z.1

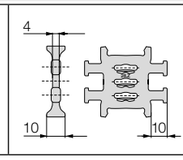



E4.48L/R4.48L e-chains®/e-tubes
unassembled 48.Z
assembled 48.Z.1

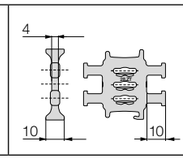



E4.48L/R4.48L e-chains®/e-tubes
unassembled 48.ZS
assembled 48.ZS.1

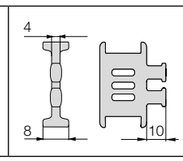
For series E4.1

E4.28 e-chains®
unassembled 28.Z
assembled 28.Z.1

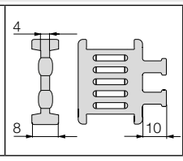



R4.28 e-tubes
unassembled 28.ZT
assembled 28.ZT.1

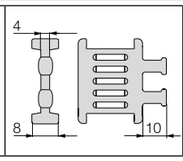
E4.21 e-chains®
unassembled T2103.Z
assembled T2113.Z

For series T3

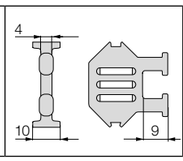



T3.29 e-chains®
unassembled E6.29.02.Z
assembled E6.29.12.Z

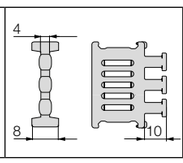
For series E6.1 / E6 / R6

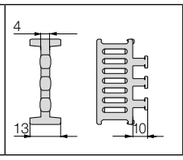
E6.29/E61.29 e-chains®
unassembled E6.29.02.Z
assembled E6.29.12.Z

R6.29 e-tubes
unassembled R6.29.02.Z
assembled R6.29.12.Z

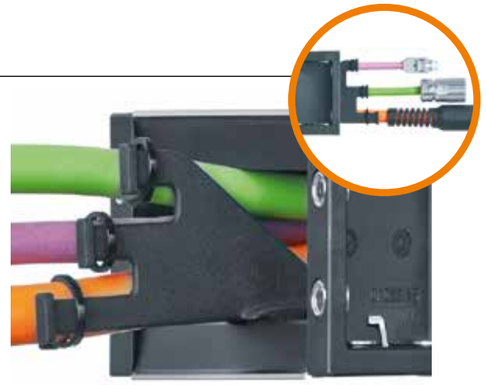
E6.35/E61.35 e-chains®
unassembled E6.35.02.Z
assembled E6.35.12.Z

E6.40/E61.40 e-chains®
unassembled E6.40.02.Z
assembled E6.40.12.Z

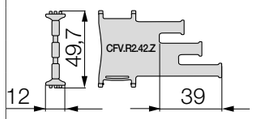
CFV strain relief element - for a stepped strain relief for use outside of the e-chain® section

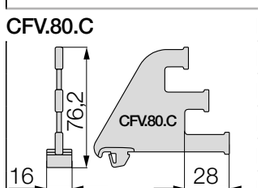
- Easy strain relief for cables, even in fully enclosed tubes and with different connectors
- For e-chains® and e-tubes
- Subsequent installation into KMA mounting bracket or top-hat (DIN) rail 15 (TS92.31) possible

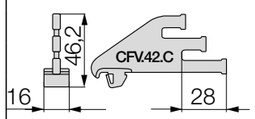


CFV | Strain relief elements with tiewrap teeth

Part No.	For series	Inner height *hi* [mm]	For use in
CFV.31.N15	**E4.31L/R4.31L**	31	Top-hat (DIN) rail 15 (TS92.31)
CFV.R2.26.Z	**R2.26**	26	KMA*
CFV.R2.40.Z	**R2.40**	40	KMA*
CFV.42.C	**2600/2700/2650/2680**	35	KMA*
	3400/3500/3450/3480	45	KMA*
	E4Q.34/H4Q.34	32	KMA*
	E4.32/H4.32/R4.32	32	KMA*
	E4Q.44/H4Q.44	42	KMA*
	E4.42/H4.42/R4.42	42	KMA*
	E4.38L/R4.38L	38	KMA*
	E4.48L/R4.48L	48	KMA*
CFV.80.C	**R2.75**	75	KMA*
	E4.64L	64	KMA*
	E4Q.58/H4Q.58	56	KMA*
	E4.56/H4.56/R4.56	56	KMA*
	E4Q.82/H4Q.82	80	KMA*
	E4.80/H4.80/R4.80	80	KMA*







*KMA = polymer metal mounting bracket

For the following igus® series

E2/000
- 2600/2700
- 2650/2680
- 3400/3500
- 3450/3480

R2.1
- R2.26
- R2.40

E4.1L
- E4.31L/R4.31L
- E4.38L/R4.38L
- E4.48L/R4.48L
- E4.64L

E4Q
- E4Q.34/H4Q.34
- E4Q.44/H4Q.44
- E4Q.58/H4Q.58
- E4Q.82/H4Q.82

E4.1
- E4.32/H4.32/R4.32
- E4.42/H4.42/R4.42
- E4.56/H4.56/R4.56
- E4.80/H4.80/R4.80



CFV stepped strain relief element easily clipped in from above

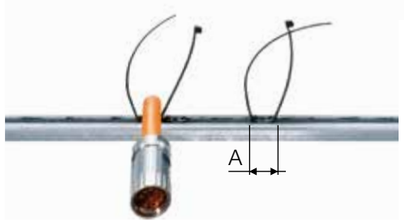
Option 1: CFN nuggets for C-profile
Option 2: CFN nuggets for top-hat (DIN) rail 35

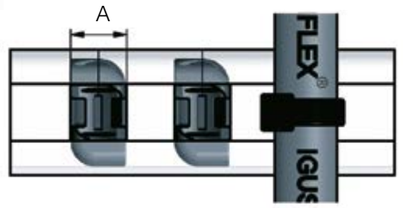
- Universal cable fixation in C-profile or clip onto a standard top-hat (DIN) rail 35
- Simple strain relief with cable tiewraps
- Very little space required
- Easy to assemble without any screws and tools
- Adjustable to every e-chain® filling



Option 1 | CFN nuggets for C-profile

Part No. Nugget	For C-profiles	≤ Ø [mm]	A [mm]
CFN.20	**92.42 ... /92.42 ... E**	20	10.8
CFN.30.52	**92.52 ... /92.52 ... E**	30	16.4



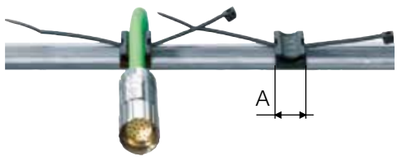


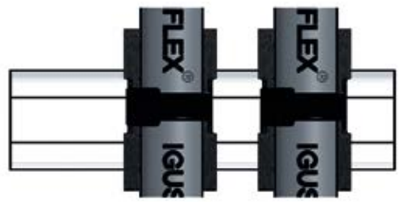
For the following igus® series

C-profile
- For all mounting brackets with C-profile

Option 2 | CFN nuggets for top-hat (DIN) rail 35

Part No. Nugget	For top-hat (DIN) rails	≤ Ø [mm]	A [mm]
CFN.20.N35	**Top-hat (DIN) rail 35**	20	20





For the following igus® series

Top-hat (DIN) rail
- Top-hat (DIN) rail 35

CFB strain relief connector system - polymer, modular, can be mounted into the C-profile

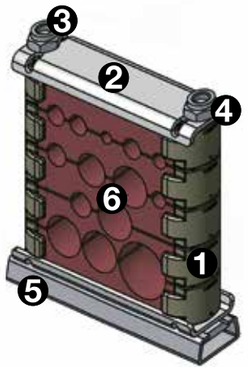
- Customised strain relief solutions can be offered
- 2 options available, cost-effective and strong
- Fast assembly with bolted connection
- Can be mounted in the mounting bracket or in front of the e-chain®
- Customised production from 1 piece



CFB strain relief connector system | Series 907.881

Please consult igus® when designing this product

Parts list Description	Part No.	Quantity
❶ Outer fixing block	**CFB20.1**	N x 2
❷ Clamping bar	**907.881.1.XXX**	2
❸ Threaded bolt with plate	**907.825.2.LLL**	2
❹ Hexagon nut M8	**MAT 0040012**	2
❺ C-profile (part of KMA)	**92.42.XXX**	1
❻ Strain relief block	Customer-specific	1



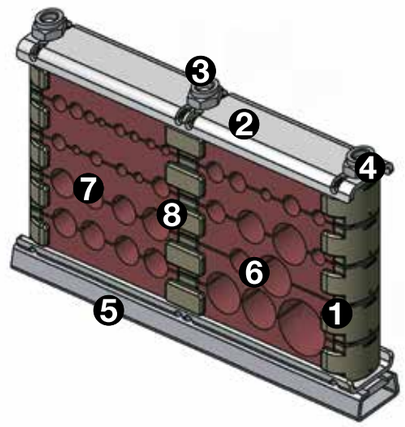
Order key
907.881.XXX.N

N = Number of layers of fixing blocks
XXX = ***Bi*** - 3mm (mounting bracket)
Part No. with version 881

CFB strain relief connector system | Series 907.825

Please consult igus® when designing this product

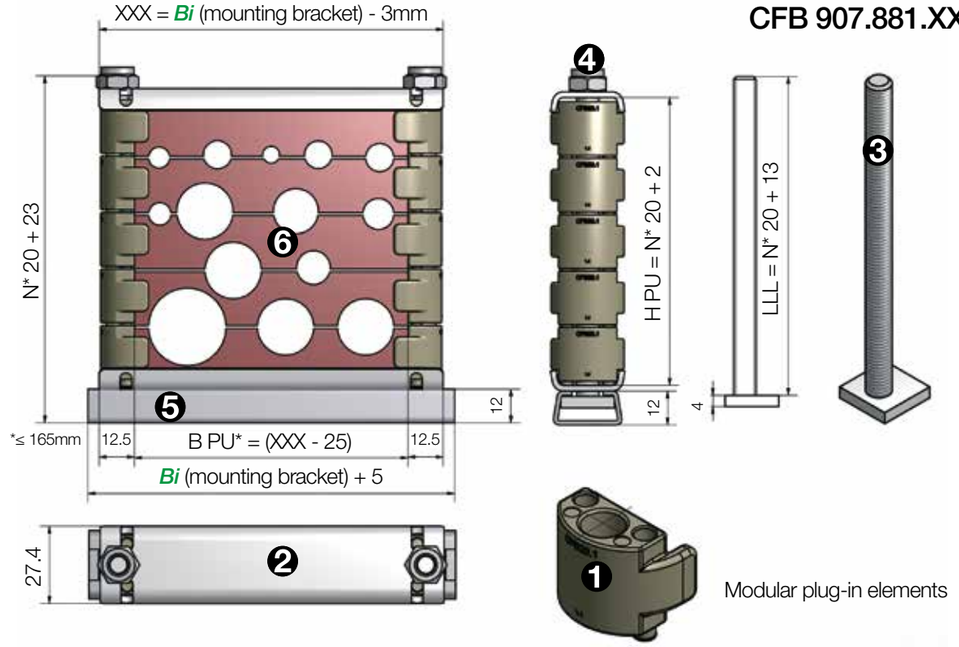
Parts list Description	Part No.	Quantity
❶ Outer fixing block	**CFB20.1**	N x 2
❷ Clamping bar	**907.825.1.XXX**	2
❸ Threaded bolt with plate	**907.825.2.LLL**	3
❹ Hexagon nut M8	**MAT 0040012**	3
❺ C-profile (part of KMA)	**92.42.XXX**	1
❻ Strain relief block	Customer-specific	1
❼ Strain relief block	Customer-specific	1
❽ Inner fixing block	**CFB20.2**	N



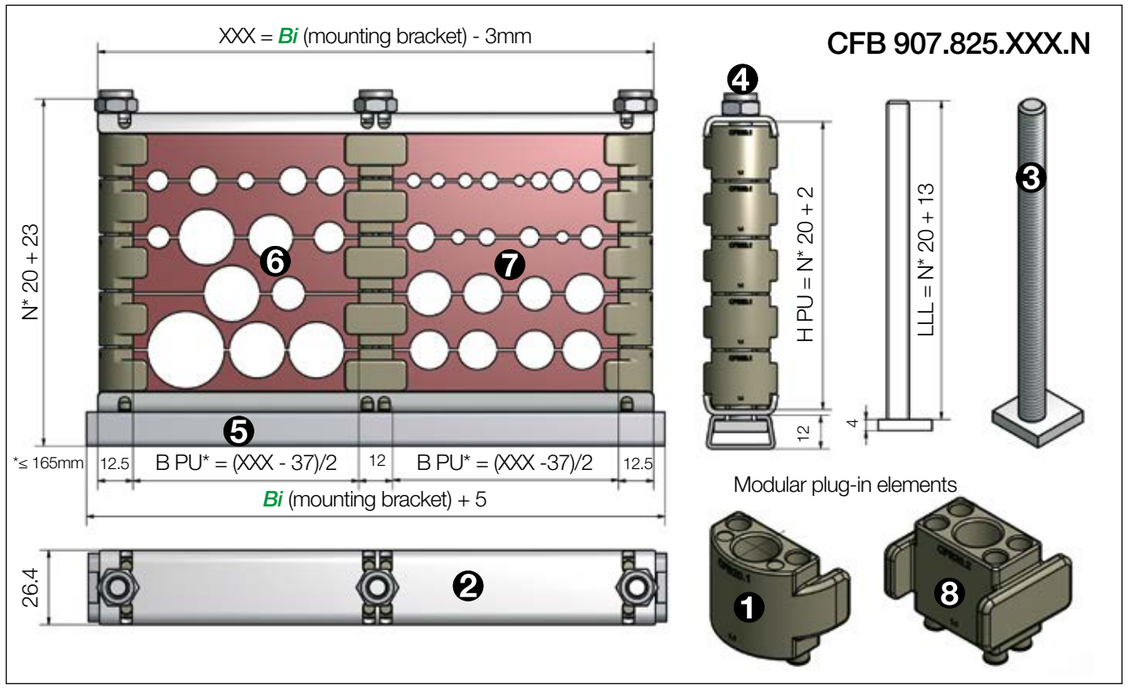
Order key
907.825.XXX.N

N = Number of layers of fixing blocks
XXX = ***Bi*** - 3mm (mounting bracket)
Part No. with version 825

CFB 907.881.XXX.N



CFB 907.825.XXX.N

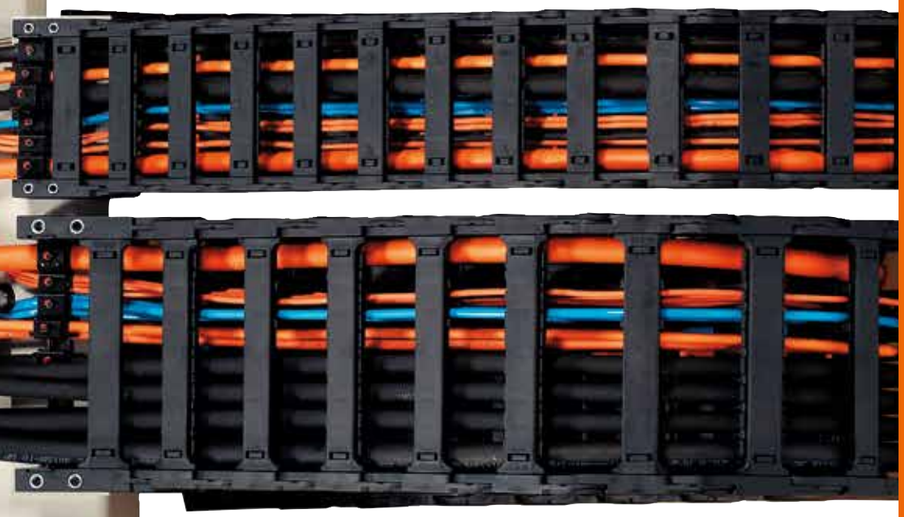


Delivery time upon request, due to customer-specific fabrication!

igus®
readychain®
& readycable®

Ready-to-install energy supply systems.
Cables with connectors.
Minimise process costs.
Everything from one source.







readychain® | Ready-to-install harnessed e-chain systems®

Harnessed energy supply systems, connectors, cables and attachment parts by igus® ... Everything from one source - directly from the manufacturer - quick delivery to your machine



Ready-to-install systems, from connectors through assembled cables up to complex energy supply modules, delivered in 1-10 days.



Customer-specific production



From one off to mass production

readychains® - increase your capacity and cash flow quickly with igus®

- Lower your overhead costs
- Cut your throughput times from days to hours
- Respond flexibly to order variations
- Utilise igus® manufacturing capacities and our know-how in cable assembly

Reduce the number of suppliers and orders by 75%

- One order, one invoice, one delivery
- One partner for minimal machine downtimes
- All readychain® components are subjected to extensive quality checks and function tests

readychain® | You decide, igus® delivers

Industrial harnessed energy chain modules directly from the manufacturer ... you decide quantity, travel distance and level of harnessing ...

3 Benefits: readychain® basic





1 ONE supplier - combine suppliers
2 Reduced assembly time
3 Reduce failures

Reduction of assembly time
Reduction of logistics cost
Optimisation of procurement process

Further information, videos, configurators and product finders
▶ www.igus.eu/RCbasic

6 Benefits: readychain® standard





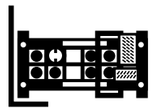
4 No electrical termination needed
5 100% digitally tested
6 No cable surplus

Reduction of assembly time
Reduction of logistics cost
Optimisation of procurement process

Further information, videos, configurators and product finders
▶ www.igus.eu/RCstandard

9 Benefits: readychain® standard+





7 Reduce interfaces
8 Optimise points of connection/interfaces
9 Ready-to-install multi-axis system

Reduction of assembly time
Reduction of logistics cost
Optimisation of procurement process

Further information, videos, configurators and product finders
▶ www.igus.eu/RCstandard+

13 Benefits: readychain® premium





10 Optimise your transport/assembly
11 One single assembly
12 One Part No./Product group
13 Plug & Play

Reduction of assembly time
Reduction of logistics cost
Optimisation of procurement process

Further information, videos, configurators and product finders
▶ www.igus.eu/RCpremium

readychain® | The igus® readychain® factory

600 orders/week, more than 3,000m² of floorspace, "chain-cable guarantee" since 1989… 3 shifts, 13 project engineers, 160 employees dedicated only to harnessing



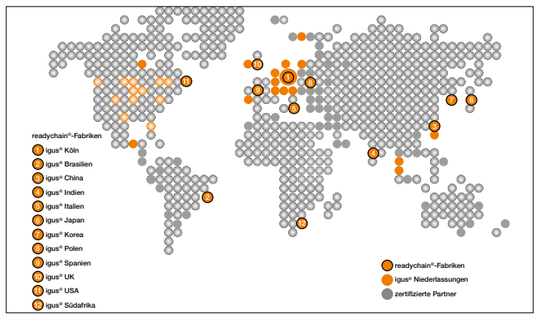
Ready-to-install systems, from connectors through assembled cables up to complex energy supply modules, delivered in 1-10 days



Up-to-date production processes, custom-build or serial production



Customised cable assembling



12 readychain® factories worldwide



Full service from system acceptance to installation

readychain® | You decide, igus® delivers

1 Everything from one source

The readychain® includes pre-harnessed, customised energy chain systems. The "plug and play" solutions are configured, manufactured and delivered according to individual customer specifications. The use of the transport rack can yield benefits even at low quantities.



2 Flexible components

The telescoping supports and braces of the readychain® rack allow flexible adaption to the installation on site. Changes in mass production can be undertaken easily. Additional components can also be easily attached to the rack due to the modular joining mechanism.



Save 80% when prototyping: Assembly transport rack for ready-to-install energy supply systems.

3 Sustainable use

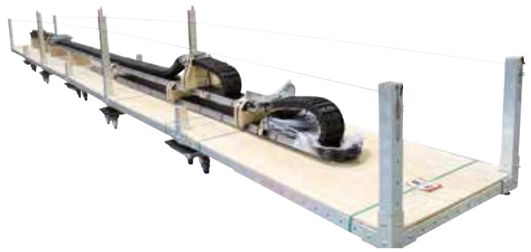
The components of the readychain® rack are galvanised and thus designed for a long life. Each rack is constructed within a few hours. The individual elements can be reused at any time removing the need to dispose of custom made parts - as with conventional welded transport racks.

4 Precisely fitting plug & play

All interfaces and attachments are designed in such a way that the installation of the energy chain can be managed quickly and easily. The complete package includes the matching plugs and connectors, plates, sensor actuator boxes, linear bearings, links to the central lubrication, etc., all reducing the installation time considerably.









readychain® | Connector ... cable ... accessories

igus® connectors



Round connector kit



D-Sub as a service kit



Tools and accessories

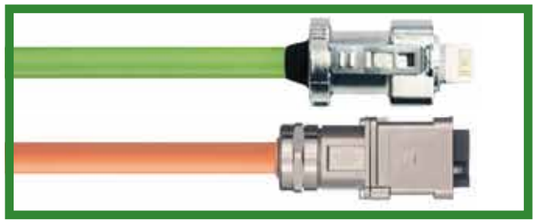
igus® readycable®



Control cables with industrial connectors



Harnessed dress packs and cables for robots



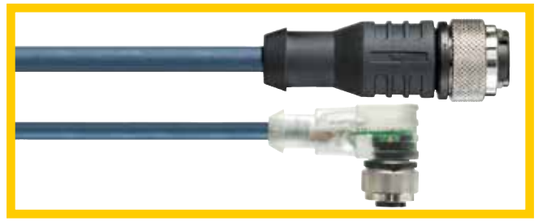
Drive technology: more than 4,200 cables



Catalogue standards: video/vision/bus technology

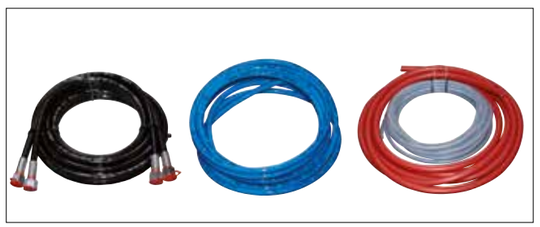


Catalogue standards: network/Ethernet/FOC/Field bus



Catalogue standards: initiator cables down to 4 x d

igus® hoses and attachments



Configured online with hose cable configurator - to meet your needs



readychain® | Configured, assembled, with system guarantee

1 System acceptance
2 Project phase
3 Initial acceptance of prototype
4 igus® installation



readychain® service
- We visit you
- Define interfaces
- Logistics planning
- Cycle integration
- Time schedule



System acceptance on your machine



readychain® service
- Component selection
- Interface optimisation
- Documentation
- Integrated project management
- Cost optimisation



Project planning



readychain® Skype service*
- Initial acceptance from your work place
- Build your prototype with an igus® project engineer, live in your meeting
- Your requests for change explained with a model

... or visit us for acceptance in production

*only available in Germany



Prototype including transport rack



readychain® installation
- System installation by igus® specialists
- igus® supervision service for your own installation
- Transparent, fixed price



Installation on site

readychain® | Cable assembly

Capacity for 600,000 assembled cables a year ... more than 18,000 test programmes ... 1,800 test adapters



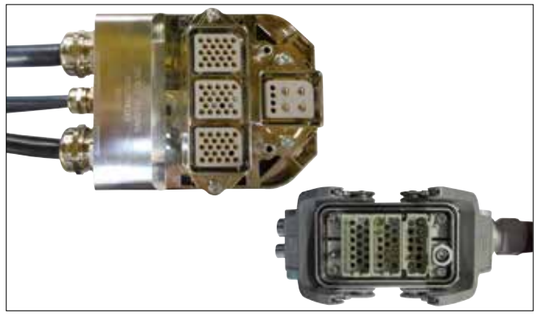
Process reliability ... crimp forces monitored ... automated ... time-optimised ...



Computer-based high-voltage testing and inspection of all assembled cables



Modern machinery ... automatic stripper-crimper



Special cable assemblies



Worldwide system guarantee



readychain® | You decide, igus® delivers

In our warehouse the material waits for your order... ... and not your order for the materials!

e-chains® ...



90,000 e-chain® components

... chainflex® cables ...



3 million metres of cable on stock

... harnessing



3,500 connector components



Hundreds of metres of guide troughs



3,800m² igus® test lab - more than 8,000 tests every year



Quickly within reach



Numerous strain relief solutions



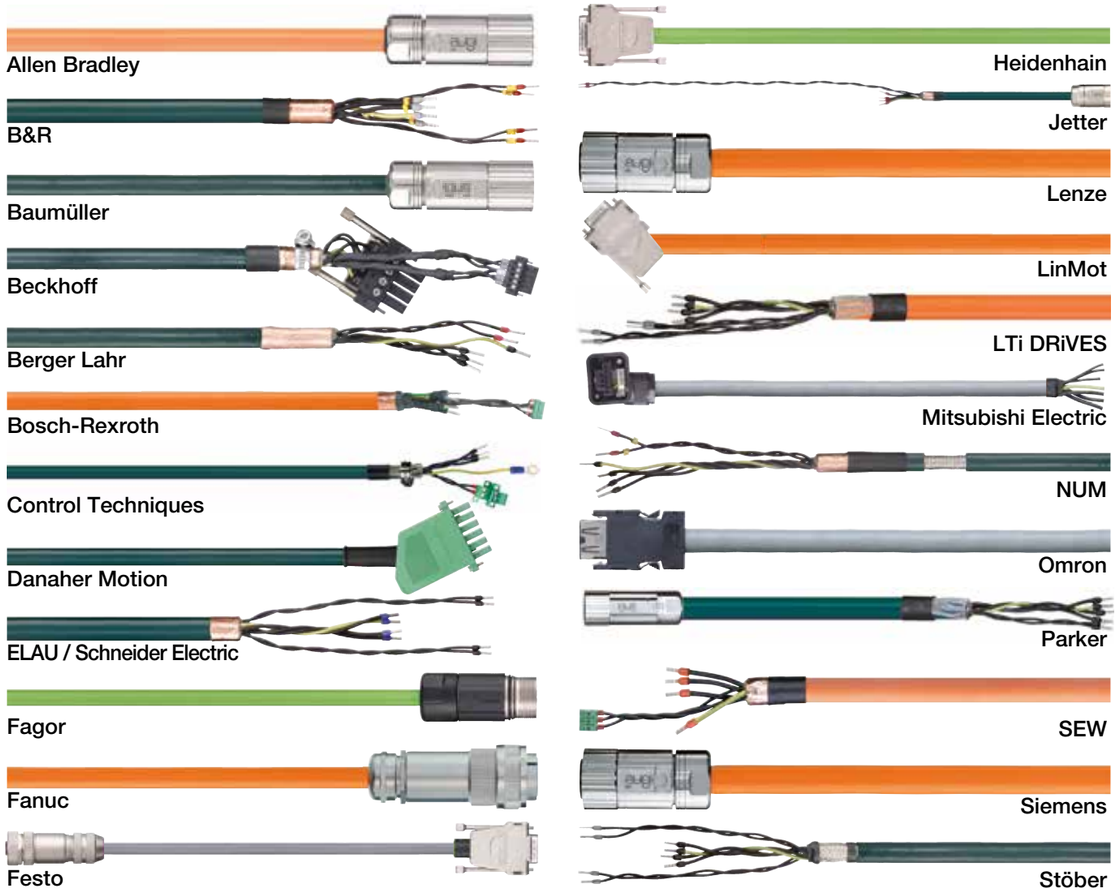
More than 8,000 cables per week



Just in time supply

readyable® | Harnessed cables in 24-48hrs

readycable® – harnessed cables in 24hrs or today



- igus® offers more than 5,000 harnessed cables online
- Servo, motor and signal/encoder cables suitable for 24 manufacturers
- No cutting costs, no surcharges for small quantities and packaging
- Cable length accurate to the centimetre to the customer spec
- Smallest bend radii from 7.5 x d
- Reduce storage costs and increase cashflow
- Available in 24hrs or today

... over 5,000 drive cables ... in just 8 seconds ...

readycable® finder 2.0



Ready-to-connect drive cables - find and choose online in seconds

- Find drive cables suitable for 24 manufacturers quickly and easily online
- Price for different cable lengths and batch sizes available instantly
- Search by manufacturer or igus® part number
- Important information such as jacket material, oil resistance or bend radius at a glance
- Submit an enquiry or order with just one click
- 5,000 drive cables, suitable for 24 manufacturers, to choose from

1. Enter manufacturer or igus® part number
2. Compare cables with different jacket materials
3. Choose and order directly/ submit enquiry



www.igus.eu/readycable-finder



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Tested, tested, tested

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Designing with igus®

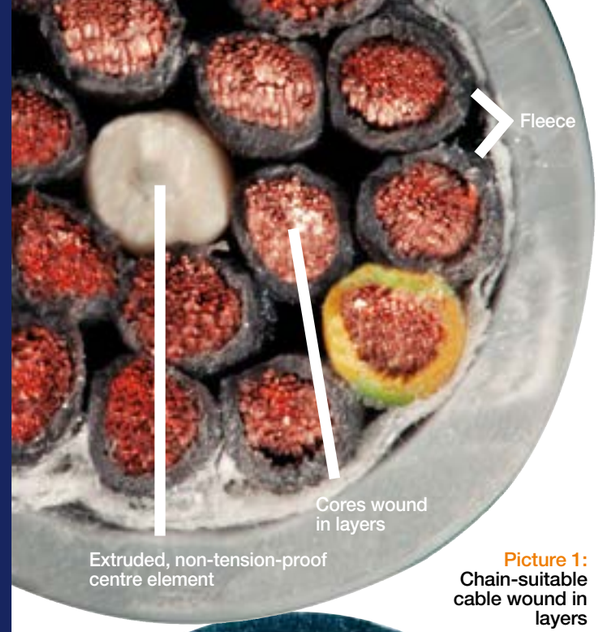
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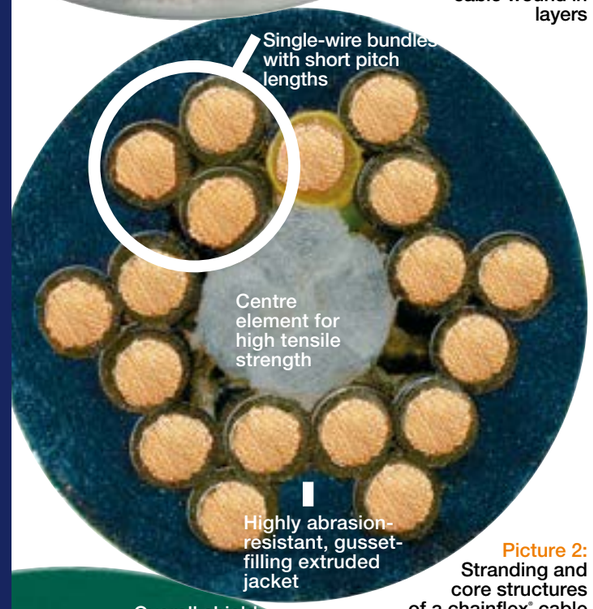
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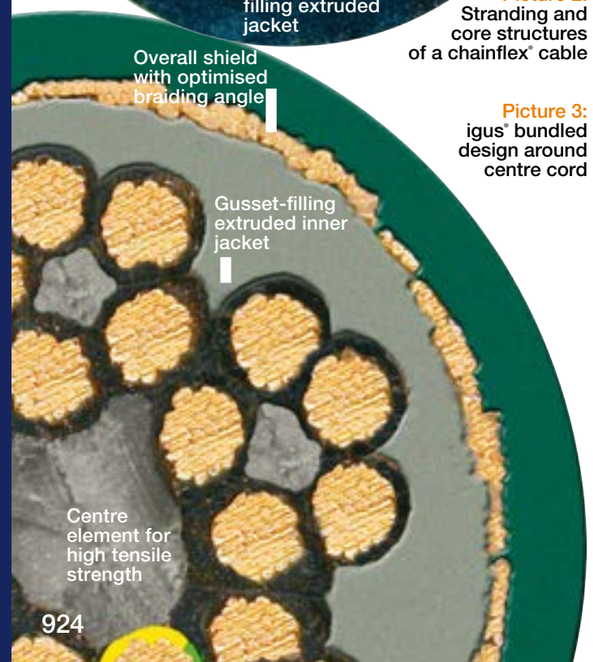
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Picture 1: **Chain-suitable cable wound in layers**



Picture 2: **Stranding and core structures of a chainflex® cable**



Picture 3: **igus® bundled design around centre cord**

chainflex®...

The tricks and ingenious features of...

From the customer's point of view, a flexible energy supply system needs to function properly. However, this demand assumes the perfect operation of all components, including the cables being used in this system. And this is exactly where problems came up in the early 1980s. Due to constantly increasing loads resulting from the constant movement, guided cables often failed even though the energy supply system itself was functioning perfectly. In extreme cases, failures caused by "corkscrews" and core ruptures brought the entire production process to a standstill and resulted in high costs.

In order to find a solution to this problem for its customers, igus® decided to take the initiative. As the first worldwide company to do so, igus® began to develop complete energy chain systems. chainflex® cables and energy chains are now being offered from one source and with a system guarantee depending on the individual application. Based on the increasing know-how gained since 1989 and on the very sophisticated series of tests that have been conducted since then, design principles were, and still are, being developed that help prevent machine downtime in factories throughout the world today.

How can "corkscrews" be prevented?

Here, the term "corkscrew" does not refer to a useful instrument for wine connoisseurs. Instead, it refers to the permanent deformation of guided, moving cables caused by excessive strain - which, in most cases, results in core rupture almost immediately afterwards. How does this happen? How can "corkscrews" be prevented? An important factor here - in addition to a sensible design of the total energy chain system - is the construction of the cables. Simply speaking, a clear distinction can be made between cables braided in bundles and cables wound in layers ▶ see pictures 1 and 2.

Properties of winding in layers

Winding in layers is significantly easier to produce and is therefore offered on the market in so-called "chain-suitable" cables at low cost. But what appears to be tempting at first glance can quickly turn into an expensive mistake when a "corkscrew" immobilises the system being operated with these cables. How do these problems arise? Looking at the cable structure can be quite helpful ▶ see picture 1.
In the case of winding in layers, the cable cores are mostly wound more or less firmly and relatively long in several layers around a centre and are then provided with a jacket extruded to the form of a tube. In the case of shielded cables, the cores are wrapped up with fleece or foils. But what happens to a similarly structured 12-core cable, for example, during normal operation?

The bending process compresses the inner radius of the cable and stretches the outer radius. Initially, this works quite well because the elasticity of the material is sufficient. But very soon, material fatigue causes permanent deformations, and then, due to excursion from the specified paths, the cores make their own compression and tension zones: The corkscrew is created, often followed rather quickly by core ruptures.

... lasts or your money back!

...the chainflex® design and why we feel so confident about this design

Bundled design tried and tested millions of times since 1989

The bundled design eliminates these problems by means of its very sophisticated, internal structure. Here, the core wires are wound with a special pitch length first and then the resulting cores are bundled. For large cross sections, this is done around a strain relief element. The next step is the winding of these bundles around a tension-proof centre cord ▶ see picture 2.

Due to this multiple winding of the cores, all cores move through the inner radius and the outer radius of the cable several times at identical spacing distances. Tensile and compressive forces balance one another around the high-tensile centre cord giving the structure its stability. In this way, the structure remains stable even under maximum bending stress ▶ see picture 3.

Picture 4: **Shielded "chain-suitable" control cable after only 400,000 double strokes with a bending factor of 10 x d**



What are EMC problems and shield wire breakage?

In principle, cable shields must fulfill two tasks:
- Preventing interference getting into the cable
- Preventing interference being transmitted out of the cable

Both tasks are equally important because faulty signals can cause considerable consequential damage in the system itself as well as to any external systems. Furthermore, this is especially problematic due to the fact that incorrect shielding usually cannot be detected from outside, and this is something that makes the trouble-shooting procedure extremely difficult.
How do these kinds of problems arise in the first place?
Once again, the answer is to be found in the internal structure of the cable itself: Is the shielding designed for the movements of the cable? Although it may be very easy to shield a fixed cable, it is much more difficult to guarantee the permanent shielding of a moving cable.

In the case of so-called "chain-suitable" cables, for example, an intermediate layer is formed with foils or fleeces. This layer is supposed to guarantee the separation between the cores and the shield braid. But something that functions quite well for the fixed installation of cables is quite insufficient for moving cables. This has to do with the fact that the foils and fleeces do not stay put between the cores, shield and jacket and may fall apart under stress. Consequently, the metallic shield then rubs on the insulation of the cores - short circuits can then be expected.

Dictionary of defects

Broken wires

Failure of electric conductivity due to broken copper wires as a result of subjecting the individual cores to mechanical load under constant bending stress. In most cases, the causes are incorrect strand wires and/or incorrect stranding pitch directions and lengths.

Insulation damage

Short circuits due to damage to the insulation around the conductor. The cause can be material fatigue under constant bending stress or material abrasion within the core structure. Single wire breakage of the conductor or the shield braid result in perforation of the insulation.

Corkscrew

An externally detectable corkscrew-like deformation of the entire cable due to broken copper wires as the result of subjecting the individual cores to mechanical load during the bending process. In most cases, the causes are poor structure (winding in layers, missing centre, loose jackets extruded to the form of a "tube") and subjecting the cables to high bending stress.

Jacket abrasion

The jacket is abraded down to the cores or to the shield. In most cases, the causes are incorrect selection of materials and/or unfavourable extrusion processes resulting in poor surface properties such that abrasion is an unavoidable effect.

Jacket swelling/jacket breakage

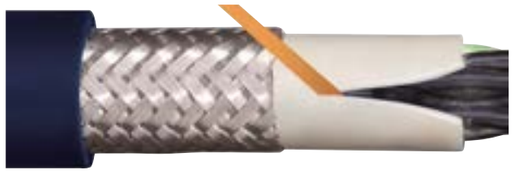
Jacket becomes soft and deformed or breaks until the cores/shield can be seen. The cause can be the incorrect selection of materials with respect to the oils or other chemical substances being used.

Shielding losses/EMC problems

Electromagnetic interferences inside or outside an electric cable. In most cases, the cause is shield wire breakage due to mechanical overload with incorrect shield braid angles. Other causes include loose braids over foils without supporting effects or very open coverings.



Jacket breakage of (36x0.14mm²) after only 900,000 double strokes with a bend radius factor of 7.8 x d



Picture 1: **Optimised shield braiding angle over gusset-filling extruded inner jacket**

chainflex®...

The tricks and ingenious features of...

The production of the shield itself is very time-consuming and cost-intensive and may have been the reason for the use of open braid shields or even simple wire wrappings. The disadvantages are obvious: open shields only possess a limited shielding effect when moving - motion reduces this effect even further. The type of shield is therefore an important point that is not even mentioned in some catalogues.

In its approx. 70% linear and approx. 90% optical coverage cables, igus® eliminates these weaknesses by means of an optimised internal structure. In virtually all shielded chainflex® cables, a gusset-filling extruded inner jacket over the core structure is used. This "second jacket" fulfils two tasks:

- It holds the core structure together and guides the individual cores as in a channel.
- It serves as a firm, round base for a very tight-fitting shield. ▶ see picture 1.

Shield wire breakage - and how this can be prevented

Even during the production of the shield, there are many things that can be done correctly - or incorrectly. Here, an important parameter is the braiding angle.
In the case of "chain-suitable" cables, tensile load on the shield wires in the outer radius of the cable must be taken into account. If an unfavourable braiding angle is used, the tensile load increases even further and shield wire breakage is the result. The consequences range from reduced shielding effects right up to short circuits whenever the sharp wire ends penetrate through the fleeces or foils into the cores. Here is a useful tip: If, after the insulation has been stripped off, the shield can be easily pushed back over the jacket, the shield is then usually unsuitable for use in moving energy supply systems! This is a problem that igus® has now solved with its novel approach:

- The shield braiding angle determined in long-term tests efficiently neutralises the tensile strengths and is therefore highly suitable for energy chains.
- Due to the stable inner jacket, the shield cannot become uncontrolled.
- The shield itself has a torsion protection effect on the wound structure.

Jacket abrasion/jacket breakage

Whilst defects in the internal structure are hardly detectable on the outside, jacket problems are immediately obvious. The jacket is the first protection for the complicated internal structure. This is why broken, worn and swollen jackets are a serious quality defect. To prevent this problem, the igus® customer can select from 7 jacket materials to adapt their energy chain cables to suit the conditions of the respective environment.

... lasts or your money back!

...the chainflex® design and why we feel so confident about this design

Gusset-filling extruded jacket

Here, not only is the material an important factor but also the production process. In the case of the so-called "chain-suitable" cables, the jackets are usually produced extruded to the form of a tube and therefore do not provide the structure with the necessary support for constant bending. The wound structure can fall apart.

Therefore, igus® is the first manufacturer of energy chain systems to offer the so-called the "gusset-filling extruded" jacket.

Here, the jacket material is injected between the core structure powdered with talc and ensures that the core structure does not open up and also makes sure that the cores are guided as in a channel. The special characteristic of this type of production is that the intermediate spaces created between the cores during the winding process, are completely filled with jacket material by the high extrusion pressure. As a result, the jacket material creates a channel-like guide which ensures the cores have a defined longitudinal movement. The jacket also provides a supporting function for the structure. ▶ see picture 2.

The quality bundles of igus® chainflex® cables

- Strain-relieving centre
- Cores in bundles
- Gusset-filling extruded inner jacket in shielded cables
- Enclosed shield braid
- Optimised shield braiding angle
- Gusset-filling extruded jacket



Picture 2: **Gusset-filling extruded jacket**

7 basic rules for a good cable

1. Strain-relieving centre

Clear space is created in the centre of a cable according to the number of cores and the cross section of each cable. This centre should be filled, as far as possible, with a genuine centre cord (and not, as frequently the case, with fillers or dummy cores consisting of waste materials). These measures will then efficiently protect the structure and prevent it from wandering into the middle of the cable.

2. Stranded core

With respect to the selection of core strand wires, the maximum flexibility has proved to be the best solution. Although very flexible conductors can be made using very thin individual wires, these conductors can allow formation of kinks. Long-term testing provided the result of a combination of strand wire diameter, pitch length and pitch direction as the best overall bending-resistant solution.

3. Core insulation

The insulation materials must be made so that they do not stick to one another within the cable. Furthermore, the insulation is also required to support the stranded individual wires of the conductor. Accordingly, only the highest-quality, high-pressure-extruded PVC or TPE materials that have proved their tested reliability in millions of core kilometres are then used in energy chain applications.

4. Structure

The structure must be wound around a stable, tension-proof centre with an optimised short pitch length. However, due to the insulating materials being used, this wound structure should still used. Starting from a quantity of 12 cores, a bundled design should be used.

5. Inner jacket

A gusset-filling extruded inner jacket must be used instead of inexpensive fleeces, fillers or accessory fillers. This measure ensures that the core structure is efficiently guided in longitudinal direction. Moreover, the wound structure cannot fall apart or wander off.

6. Shielding

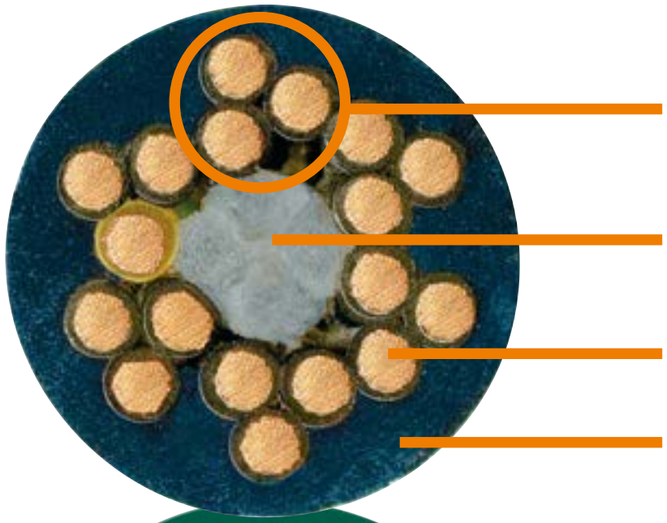
The overall shield should be made tight using an optimised shield braiding angle over an extruded inner jacket. Loose open braids or wrapped stranding reduce the EMC protection considerably and can fail very quickly due to shield wire breakage. A tight total braid shield also has a torsion protection effect on the wound structure.

7. Outer jacket

The material-optimised outer jacket can fulfil many different requirements: from UV-resistant to low-temperature-flexible, and from oil-resistant to cost-optimised. But these outer jackets must have one thing in common: A jacket material must be highly abrasion-resistant but not be allowed to stick to anything. It must be flexible but also provide a supporting function. In any case, the jacket should also be extruded under pressure (gusset-filling).

Sectional views through the

Detailed structure of igus® control, data, servo and motor cables



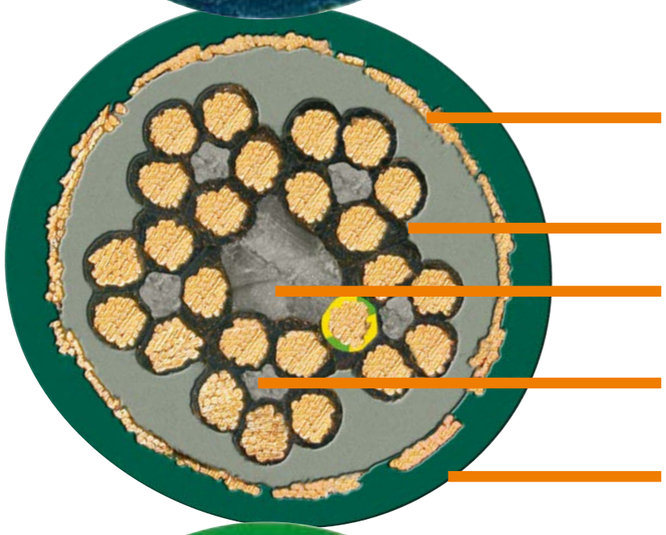
chainflex® control cable, unshielded

Individual bundles with optimised pitch length and pitch direction

Centre element for high tensile strength

Strand wire diameter optimised for energy chains

Highly abrasion-resistant, gusset-filling extruded jacket



chainflex® control cable, shielded

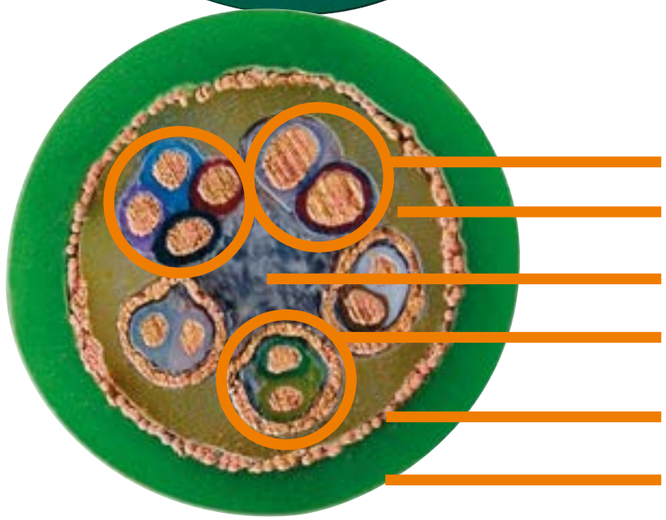
Overall shield with optimised braiding angle (approx. 70% linear, approx. 90% optical coverage)

Gusset-filling extruded inner jacket supports bundles

Centre element for high tensile strength

Centre element for high tensile strength in the individual bundles

Pressure-extruded outer jacket



chainflex® data/sensor cable, shielded

Stranded elements with optimised pitch length and pitch direction

Gusset-filling extruded inner jacket supports bundles

Centre element for high tensile strength

Pair braided shield

Overall shield with optimised braiding angle (approx. 70% linear, approx. 90% optical coverage)

Pressure-extruded outer jacket

igus® chainflex® cable types

chainflex® FOC graded index glass-fibre cable

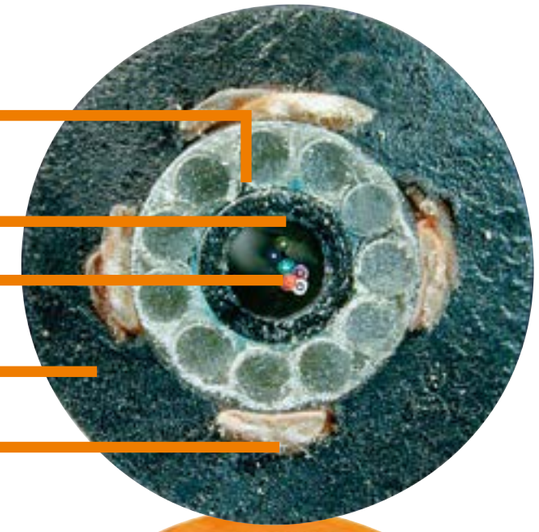
Supporting braid made of glass-yarn GRP rods

Gel-filled fibre tube

FOC fibres

Highly abrasion-resistant TPE jacket

Integrated torsion protection



chainflex® servo cable, shielded

Overall shield with optimised braiding angle (approx. 70% linear, approx. 90% optical coverage)

Optimised strand-wire diameter

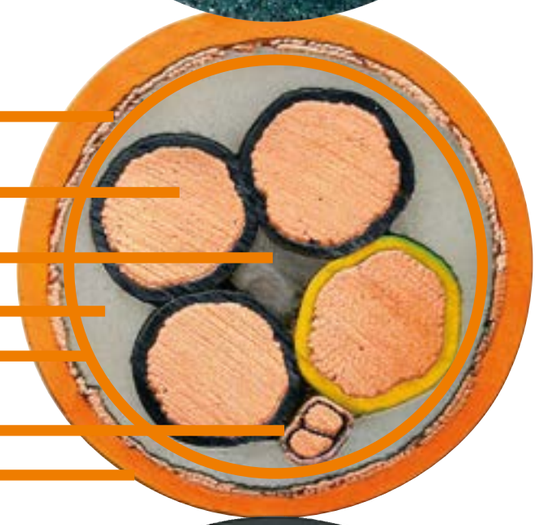
Centre element for high tensile strength

Gusset-filling extruded inner jacket

Cores wound with optimised pitch length and pitch direction

Pair braid shield over optimised wound pair

Highly abrasion-resistant pressure extruded jacket



chainflex® motor cable, shielded

Overall shield with optimised braiding angle (approx. 70% linear, approx. 90% optical coverage)

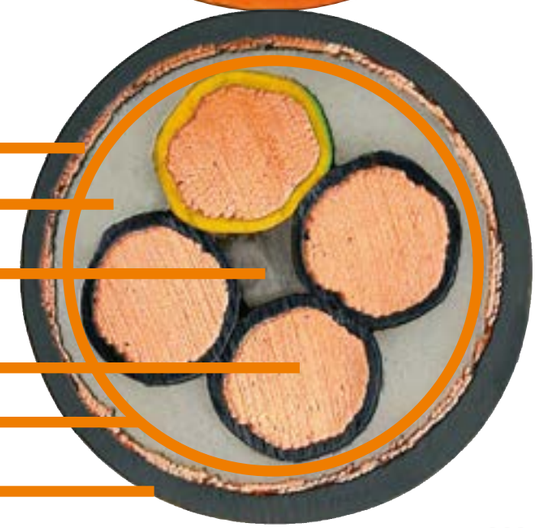
Gusset-filling extruded inner jacket

Centre element for high tensile strength

Optimised strand-wire diameter

Cores wound with optimised pitch length and pitch direction

Highly abrasion-resistant pressure extruded jacket



Example: Test 4876 Tested at -40°C

Bending tests in cold conditions in e-chains® with amazing results.

25 years of tests in the igus® in-house chainflex® test lab have clearly shown that international standards for the testing of cables are quite useful, but do not meet the special requirements for continuous movement in e-chains®. Thus we have the standard ratings for "*Mechanical tests - Low temperature bending tests for insulating sheaths and jackets*" according to IEC 60811-504.

According to this international standard, cables, according to the outer diameter, are wound around a mandrel and cooled down for a certain time to the temperature to be tested.
After the removal, a visual inspection is carried out. For the material tested, the test is deemed to have been passed if the material (in this case outer jacket) does not show damage, e.g. cracks.
Based on this standard, all cables for movement are tested in this way and the limit temperature is specified in catalogues as the lowest temperature for a moving application.
Thanks to many different series of tests, igus® has shown that these values are in accordance with the standards, but in continuous movement in e-chains® the materials tested in this way do not withstand the temperature.

Example: igus® test 4876. Here, the so-called chain-compatible PUR cables were tested in comparison with those with chainflex® TPE jacket material.
The cables to be tested were moved in continuous motion in the igus® 40-foot cooling container in an e-chain® at -40°C with a bend radius factor of 6.5 x d and a travel of 5m.



Media and cold tests **of chainflex® cables and e-chains® in the 40-foot climatic container**

The results of this experiment make for interesting reading:
Cables, which are available on the market as cold-flexible down to -40°C with a PUR outer jacket and are marketed as having a service life of 10 million cycles in the catalogue, fail in a real test in an e-chain® at -40°C with a massive jacket break after less than 41,000 strokes!



Jacket damage **after 41,000 strokes ...**

The parallel test of the CF9.15.18, however, was discontinued after more than 520,000 double strokes since no change could be detected at all.
On the basis of this and many other test series, igus® is the only supplier on the market that is able to list three different temperature ranges in its catalogue:
For fixed installation, flexible movement according to DIN EN 60811-504, as well as for continuously moving applications in e-chains®.

A test result from the igus® database	
Test no.	4876
Bend radius factor in e-chain®	6.5 x d
Test temperature	-40°C
Result PUR jacket	Breaks after 41,000 strokes
Result chainflex® TPE jacket	520,000 strokes without any damage

Details of the test online:
www.igus.eu/test4876

Calculate service life online:
www.igus.eu/chainflexlife



40-foot climatic container **for cable tests in continuous motion at -40°C**



520,000 strokes without any damage, **which the CF9.15.18 achieved in this test**



Result PUR jacket: **Broken after 41,000 strokes**



Result chainflex® TPE jacket: **Cable after the 520,000 strokes test**

Example: Test 4866
9 year continuous test
chainflex® Profinet

Bending tests in e-chain® with chainflex®: Profinet bus cable lasts for more than 65 million double strokes.

Due to its extensive equipment, the igus® laboratory with a floor area of 3,800m² offers the necessary environment to carry out continuous flexing tests under real-world conditions, even over many years. Only these real long-term tests lead to the necessary understanding of the behaviour of cable design and materials.

These long-term studies are used to equip the chainflex® **online service life calculator** with its data.

The chainflex® **online service life calculator** offers the user the great advantage of being able to determine the expected service life in advance so as not to be surprised by unscheduled breakdowns due to the cable.

In test 4866, the following question was posed:

To what extent is the continuous bending of the Profinet bus cable of the chainflex® CFBUS.060 type affecting the electrical transmission quality.

Or, in other words, if a chainflex® bus cable is moved in an e-chain® for years, can secure data transmission still be expected?

The CFBUS.060 Profinet cable has been in the long-term test since 2013 and has covered over 65 million double strokes without a measurable change in the electrical properties.



Linear chain tests with continuous monitoring of the electrical cable parameters

LINKWARE™PC
CABLE TEST MANAGEMENT SOFTWARE

Kabelkennung: 4866-1.1
Datum/Uhrzeit: 03/08/2017 11:24:16 AM
Reserve 15.9 dB (NEXT 12-36)
Grenzwert: Profinet
Kabeltyp: Cat 5e F/UTP
NVP: 66.0%

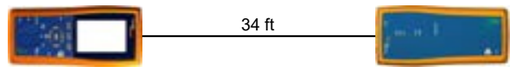
Bediener: A.FINKE
Software-Version: 2.7800
Grenzwerte Version: 1.9500
Kalibrierungsdatum:
Hauptgerät (Tester): 03/03/2017
Remote (Tester): 03/03/2017

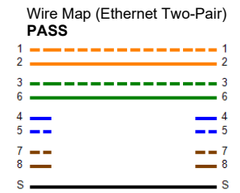
Testzusammenfassung: PASS
Modell: DTX-ELT
Hauptgerät S/N: 9751011
Remote S/N: 9751012
Adapter Hauptgerät: DTX-CHA002
Adapter Remote: DTX-CHA002

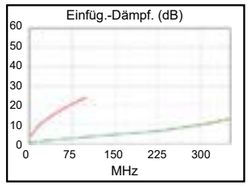
Länge (ft)	[Paar 12]	34
Laufzeit (ns), Grnz. 555	[Paar 12]	52
Abweichung (ns), Grnz. 20	[Paar 12]	0
Widerstand (Ohm), Grnz. 25.0	[Paar 12]	1.3
Einfüg.-Dämpf. Reserve (dB)	[Paar 12]	20.5
Frequenz (MHz)	[Paar 12]	100.0
Grenzwert (dB)	[Paar 12]	24.0

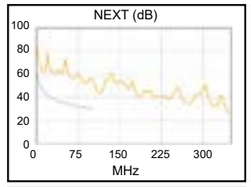
	Min. Abstand		Min. Wert	
N.A.	MAIN	SR	MAIN	SR
Schlechtest Paar	12-36	12-36	12-36	12-36
NEXT (dB)	15.9	16.4	20.8	19.7
Freq. (MHz)	11.9	11.0	86.0	90.0
Grenzwert (dB)	45.8	46.3	31.2	30.9
Schlechtest Paar	12	12	12	12
PS NEXT (dB)	18.9	19.4	23.8	22.7
Freq. (MHz)	11.9	11.0	86.0	90.0
Grenzwert (dB)	42.8	43.3	28.2	27.9
PASS	MAIN	SR	MAIN	SR
Schlechtest Paar	12-36	36-12	12-36	36-12
ACR-F (dB)	28.1	28.1	28.1	28.1
Freq. (MHz)	99.3	99.3	99.5	99.5
Grenzwert (dB)	17.5	17.5	17.4	17.4
Schlechtest Paar	36	12	36	12
PS ACR-F (dB)	31.1	31.1	31.1	31.1
Freq. (MHz)	99.3	99.3	99.5	99.5
Grenzwert (dB)	14.5	14.5	14.4	14.4
PASS	MAIN	SR	MAIN	SR
Schlechtest Paar	12-36	12-36	12-36	12-36
ACR-N (dB)	21.8	21.0	39.7	39.4
Freq. (MHz)	3.0	2.1	86.0	91.3
Grenzwert (dB)	51.6	54.0	9.1	7.9
Schlechtest Paar	12	12	12	36
PS ACR-N (dB)	24.8	24.0	42.6	42.4
Freq. (MHz)	3.0	2.1	86.0	91.3
Grenzwert (dB)	48.6	51.0	6.1	4.9
PASS	MAIN	SR	MAIN	SR
Schlechtest Paar	12	12	12	12
RL (dB)	6.9	6.7	7.2	6.7
Freq. (MHz)	85.5	89.8	99.8	89.8
Grenzwert (dB)	10.7	10.5	10.0	10.5

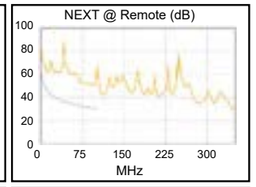
Erfüllte Network Standards:
10BASE-T, 100BASE-TX, 100BASE-T4, 1000BASE-T, ATM-25, ATM-51, ATM-155, 100VG-AnyLan, TR-4, TR-16 Active, TR-16 Passive

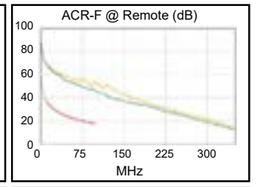


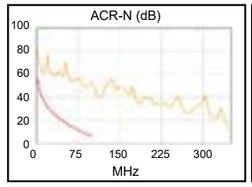


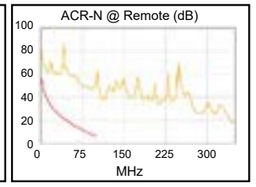


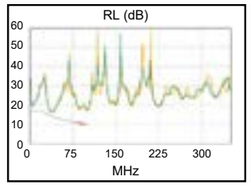


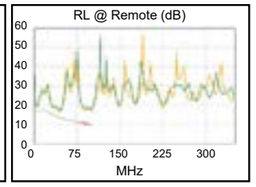












LinkWare™ PC Version 9.6

Projekt: CHAINFLEX
Unbenannt1

Ort: LABOR

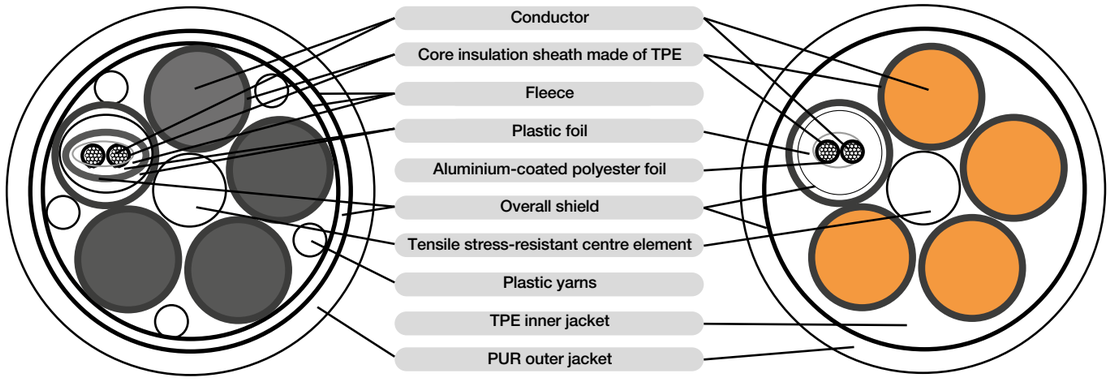
FLUKE networks

A test result from the igus® database	
Test no.	4866
Bend radius factor in e-chain®	8.5 x d
Measuring device	Fluke DTX-ELT
Double strokes without damage	29 million

Details of the test online:
www.igus.eu/test4866

Calculate service life online:
www.igus.eu/chainflexlife

Example: tested, tested, tested!
Servo cable structure



Sample B with fleece and filler experimental production 4x10+(2x1.0) C



The purpose of the test is to determine the advantages of the more expensive internal jacket in shielded servo cables versus the less expensive fleece taping with fillers.

In the case of flexible shielded cables, the shield is usually separated from the core structure. On the one hand, this is done in order to achieve a rounder braid form and, on the other hand, the friction of the core insulation against the braided shield is prevented due to the separation of the cores and shield. This can be achieved with an internal jacket or a fleece taping which is wrapped around the core structure. The internal jacket is more sophisticated and therefore more expensive to produce. Following the twisting process, the core structure must run through the extruder in which the internal jacket is then put on. In contrast to this method, the fleece tape can be put on between twisting and reeling-up during the twisting process and therefore does not require an extra operation.

Product information CF27.D
▶ Page 288

Sample A with inner jacket igus® chainflex® CF27.100.10.02.01.D



Comparison between the igus® solution with the gusset-filling internal jacket and the fleece version with fillers

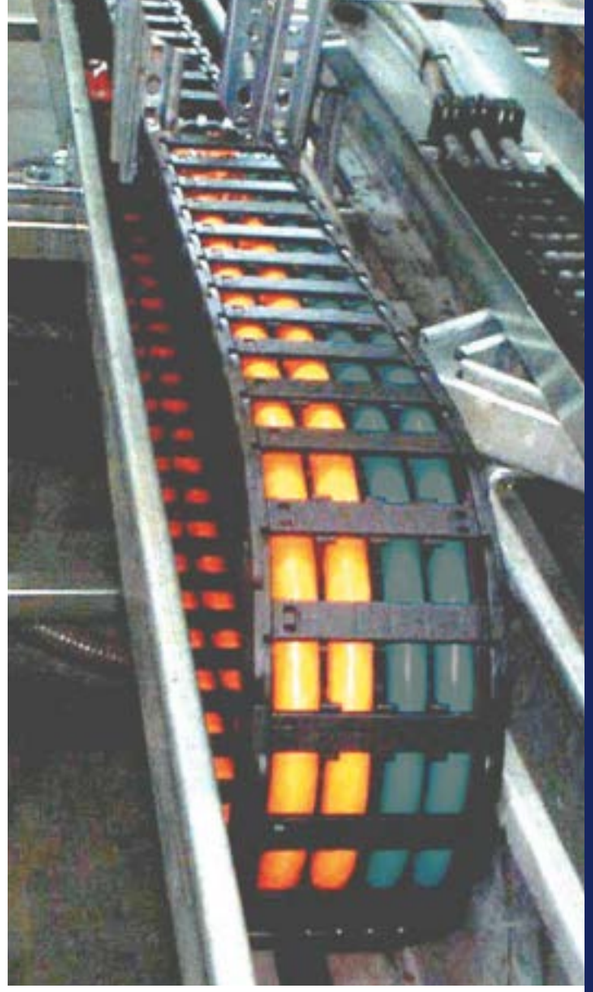
Here, the servo cables are highly flexible motor cables with a complete copper shield and an integrated, shielded pair of control cores. This cable type was selected due to the fact that the structure is not axisymmetric due to the different core cross sections, and therefore emphasises the bending behaviours of the different production methods.

- **Sample A: CF27.100.10.02.01.D (igus® GmbH) (4x10mm²) + (2x1.0mm²)**
- **Sample B: experimental (4x10mm²) + (2x1.0mm²)**

Both cables are provided with identical nominal cross sections and insulation materials. Cable A is equipped with an internal jacket and cable B with a fleece taping and fillers.

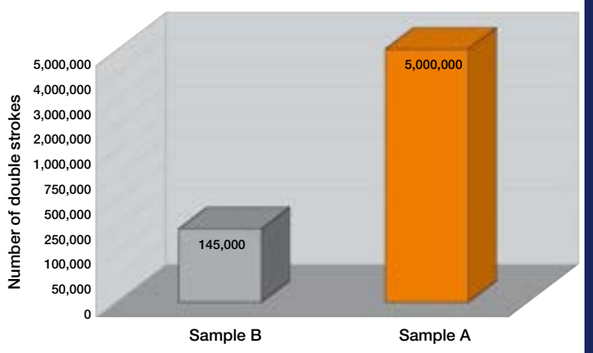
The experimental production (sample B) shows the formation of a corkscrew after just 145,000 double strokes. In the case of a cable, the so-called corkscrew refers to the wave-shaped deformation like that seen in the picture of sample B.

In the case of cable A, the internal jacket fills up the gussets and a round braided structure is created as a result, cable B requires fillers in the gussets. Like the core, the fillers are made of filbrated polyethylene. They are easy to compress and are therefore don't offer much support. By contrast, the internal jacket, which is made of TPE, and the cable A centre element hold the cores in a defined position. The cores of cable B are able to move about with no resistance. During the bending process, cores can detach themselves from the braid structure and shift into the inner bend radius or outer radius. This results in the corkscrew-type deformations that repeat themselves periodically along the length.



Assessment

Despite the extremely low bending factor of 4.76, no signs of wear can be detected in sample A (CF27.100.10.02.01.D) even after 5 million double strokes. Sample B, on the other hand, with its fillers and fleece taping, succumbs to a corkscrew formation after just 145,000 double strokes. Therefore, the result justifies the extra expenditure of the cable with the gusset-filling internal jacket.





Sample A: CF27.100.10.02.01.D



Sample B: experimental production

Example: tested, tested, tested! "Millions of double strokes" in an energy chain

Profibus cables for constant moving industrial use

For customers, it is hard to get an overview of the cable market. Competition between cable suppliers is intensifying and manufacturers are outshining one another with their promises to "guarantee service life for cables used in energy chains". Catalogues claim ten million - or even as many as 50 million - double strokes service life of cables used in moving applications.

Taking a closer look at figures claimed, one must ask what testing was done, or how realistic the tests carried out actually were (for example length of travel, test radii, etc.) in order to be able to provide such a guarantee. Even information stating that cables are tested in accordance with VDE (Association of German electrical engineers) 0472, part 603, test method H, is not helpful when it comes to determining the service life of a cable in energy chains, since the roller testing stand cannot provide any conclusive results and there is no VDE test for special cables in energy chains.

Differences in service life

At the beginning of 2002, a test to determine the service life of Profibus cables in a real application was commissioned in igus® test laboratory. The aim was to examine any differences in the service life of igus' CFBUS.001 chainflex® cable and another market leading Profibus cable. The parameters required for the test were selected on the basis of data contained in the competitor's catalogue:

Catalogue details	Test item "A" Twin-core Profibus cable	Test item "B" igus® chainflex® CFBUS.001
Cross section	(2 x AWG24)C	(2 x 0.25mm²)C
Guaranteed service life	Min. 4.0 million cycles	To be determined in a test
Bend radius	> = 60mm	85mm
Diameter	8.0mm	8.5mm
Catalogue details	Issue 2002	Issue 2002

Table 2: Test parameters according to catalogue data of the competition



Picture 1: Gliding e-chain® application as the basis of the test

A gliding application was chosen as a suitable test structure since Profibus cable systems are often used here because of their data integrity, particularly over long travel lengths and transmission distances.

In order to be able to carry out non-destructive testing and achieve a large number of bending cycles in a short period of time, a genuine Profibus transmission path was constructed. In a PC at the fixed end of the test chain there was a Profibus master insert card. A connection to a profibus slave was located on the moving end. This enabled the transmission rate to be determined with the help of a diagnostic program. Any data packets which might have been transmitted incorrectly would be indicated. The highest-possible transmission rate of 12 megabits/s was set.

This important test, which commenced at the beginning of 2002 and is still in progress today, showed that only a relatively low number of cycles (420,000) led to the total failure of test item "A", which, according to the competitor's catalogue, should have functioned safely for at least 4.0 million cycles. Thus the real lifetime reaches only about 10% of the stated catalogue value.

On the other hand test item "B", the CFBUS.001, is still undergoing testing without any faulty data transmissions. So far, it has accomplished more than 14.0 million double strokes.

Structure and materials

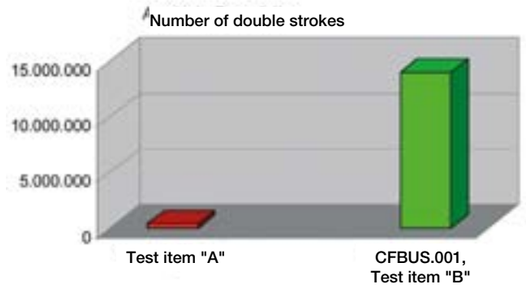
The main reason for the major differences in service life is the differing structural parameters of test item "A" and test item "B" (CFBUS.001), as well as the different materials used for producing the cables.
The conductor insulation of the bus pair comprised of a foam material for both test items. The electrical properties of this material ensured better transmission properties were achieved. A disadvantage of this material, however, was its weakness under mechanical stresses. The forces which affect the bus pair should be absorbed by the element insulation in order to alleviate the mechanical stress on a conductor insulation.

Highly-elastic element insulation

For this reason, test item "B" (igus®) was provided with a mechanically superior, extruded TPE inner, or element, gusset-filling insulation, in order to protect the bus pair against mechanical influences during the bending procedure. The element insulation must be highly elastic. A mechanically inferior element insulation made of inexpensive filling material only serves to make the bus pair round, just like often used fillers or banding. It is not able to protect the bus pairs from the high degree of mechanical stress present in the chain. Tensile and compressive forces which occur particularly affect those parts of the cable core in which there is a break in the element insulation.

Test parameters	
Travel distance:	S = 5.0m
Speed, approx.:	V = 3.5m/s
Acceleration, approx.:	a = 7.5m/s²
Bend radius, approx.:	55mm

The insulation of test item "B" (CFBUS.001) is on the one hand characterised by a mechanically superior, gusset-filling TPE element jacket, which mechanically relieves the bus pair, fixes the cores in a defined position.



The extremely short pitch of the core strands ensure that no great tensile or compressive force has an effect on a long length of core. So relatively small bend radii with high cycle rates can be realised.

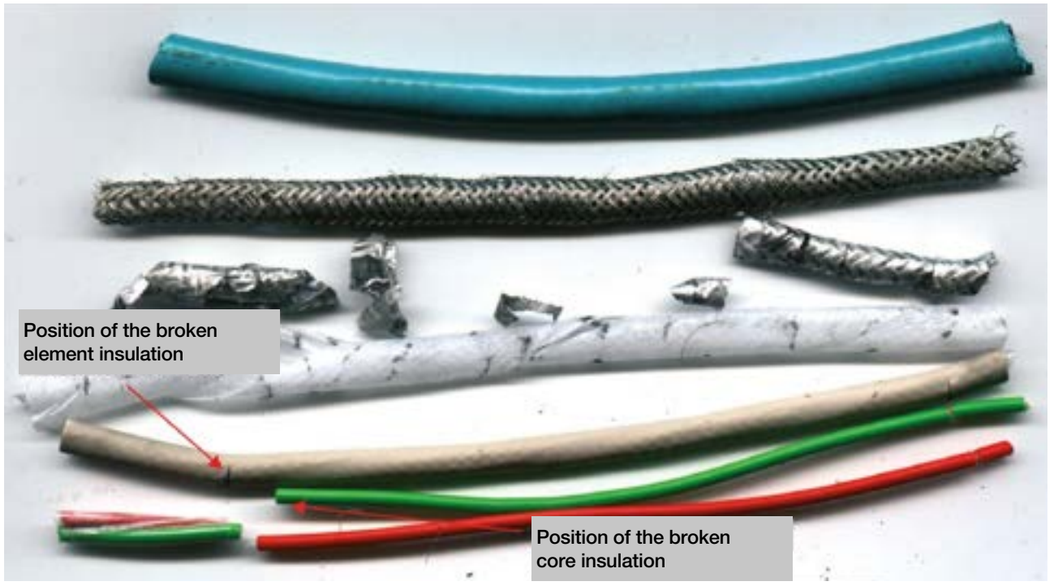
New: UL and CSA approval

chainflex® CFBUS cables are now also available for all standard field bus systems, complete with UL and CSA approval and DESINA compliance. The highly abrasion-resistant, flame-retardant TPE outer jacket is extruded onto the fully braided shield with an optimised angle in order to provide the cable with additional stability.

The bus elements wound with a particularly short pitch are protected by means of a gap-filling, extruded TPE inner jacket. The bus parameters required are fulfilled by means of a combination of optimised insulating materials and production procedures.

As with all chainflex® cables, the new standard field bus cables of the CFBUS series are now available ex-stock, without any cutting costs or extra charges for small quantities.

Product information CFBUS
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Picture 3: A mechanically low-quality element jacket can't protect the bus pair against the high mechanical loads inside an energy chain.

Example: tested, tested, tested! CF98 with < 4xd!

For users of very small energy supply chains with very small bend radii, the question of a suitable cable for very high cycle life has come up many times in the past.

At bend radii of less than 5xd, copper quickly reaches its physical limits, which necessitated the search for suitable substitute conductor materials or for a fundamentally different conductor structure.

Many series of tests with a variety of conductor structures and materials were performed in order to find out how cables must be manufactured in order to be able to endure several million bending operations in e-chains®, even at bend radii of less than 4xd.

Test setup:
Horizontal, short travel distance

Test parameters	
Travel distance:	S = 0.8m
Speed, approx.:	V = 1.5m/s
Acceleration, approx.:	a = 0.5m/s²
Bend radius, approx.:	18 m



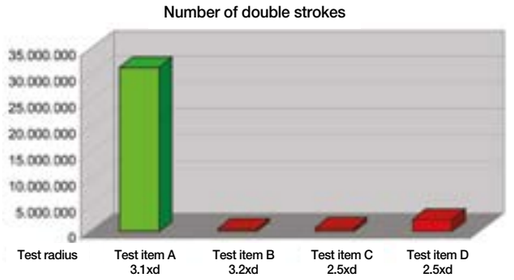
Product information CF98
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Test 1:
Inspection of four different cable designs

Four different cable designs have been analysed:
Test item A - conductor in special conductor alloy
Test item B - conductor same as test item A, but in copper
Test item C - conductor with braided structure
Test item D - conductor with layered construction

This long-term inspection, which was carried out over a period of 2 years, provided the following results:

	Number of double strokes	Cross section	d [mm]	Test radius
Test item A	47,434,277	7x0.20	5.8	3.1xd = 18
Test item B	450,000	7x0.20	5.6	3.2xd = 18
Test item C	638,000	7x0.25	7.3	2.5xd = 18
Test item D	2,350,000	7x0.25	7.3	2.5xd = 18

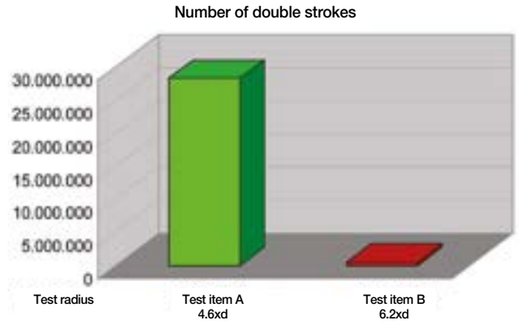


Test 2:

Two different cable designs were tested, and different core numbers and cross-sections were selected in comparison with test 1:
Test item A - conductor in special conductor alloy
Test item B - conductor in copper

In this case, test item B was manufactured completely identically to test item A except for the conductor material. The test showed that not a single case of wire breakage could be detected for test item A even after 28 million double strokes. Test item B, however, only achieved approx. 1.4 million double strokes before complete destruction of the conductor was observed. This test demonstrates that the alloy concept clearly surpasses the life of the copper conductor by more than 19 times and achieves these extraordinary results in the critical area of very small cross sections!

	Number of double strokes	Cross section	d [mm]	Test radius
Test item A	28,267,000	2x0.14	3.9	4.6xd = 18
Test item B	1,450,000	2x0.14	2.9	6.2xd = 18





Conductivity of alloys

However, the outstanding mechanical properties of this alloy also come with a reduced conductivity versus copper, but this can be compensated for by means of slightly increased cross-sections. This means that the cross-sections mentioned in the catalogue meet the electrically defined cross-section defined using the conductivity value. The conductor diameter of the alloyed conductor increases slightly compared to the conductor diameter of a copper conductor.

This compromise results in a 10% greater external diameter for the CF98 series versus a comparable CF9 type, although the service life differences between the CF98 versus the CF9 speak for themselves and increase by a multiple factor in comparison with other so-called chain-suitable cables.

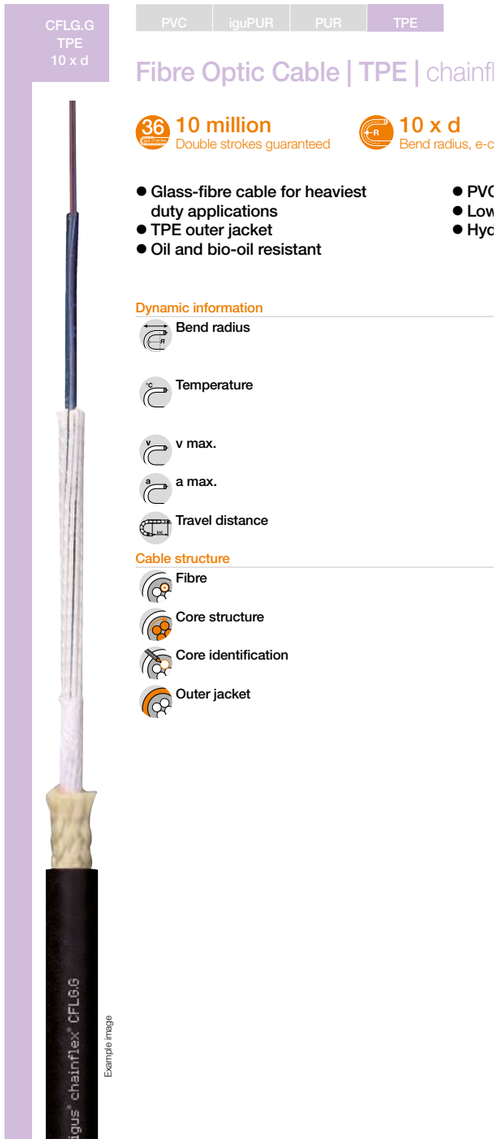
As in the case of the CF9 series, further characteristics of the chainflex® CF98 include the highly abrasion-resistant, gusset-filling extruded TPE outer jacket, the oil resistance and the UV resistance as well as the absence of any PVC and halogen compounds.

In application areas with minimum space but which demand a large number of strokes, the igus® cable offers an increased degree of operational safety and reliability. Relevant application areas are in the: semiconductor and component parts industry, automation sector as well as the automotive and banking sector. New application possibilities can also be found in automatic doors for motor vehicles and trains as well as in automatic food and self-service machines, and in the packaging industry.

Example: ...tested!
Light in the cold

Light in the cold - igus® graded index glass-fibre cable in a deep freeze test

The igus® CFLG graded index glass-fibre cable has already become a standard in numerous crane applications for the safe transmission of large amounts of bus data at high speeds and over long distances. Insensitivity to electro-magnetic interference and resistance to tough environmental influences enable this, alongside the energy supply cables in very long travels.





What happens in crane facilities in regions with extremely low temperatures? Does the maximum possible cable length of several hundred metres reduce through increase in attenuation at low temperatures, or can the cable even break in extreme applications, for example at -40 °C?

The sensitive glass fibres are carried in a gel-filled tube. How does the gel behave in highly dynamic conditions and what happens in restarts after long downtimes? As no precise information about this could be found in relevant technical journals, and as little was known particularly about the thermal features of the gel, igus® undertook its own tests to determine the reliable specifications for applications in e-chain systems®. To carry out this task, the igus® test laboratory was equipped with a cold chamber that can generate constant temperatures of -40 °C and a test facility was created for long travels up to 7 m with a speed of 1.6 m/s and an acceleration up to 6 m/s². The igus® graded index glass-fibre cable CFLG.6G.50/125.TC was tested with a length of about 15 m as loop within an igus® e-chain system® 3500.125.200.0 with a bend radius of 200 mm. Varied and extreme temperatures simulated environmental influences, particularly when the temperature plunged during downtimes from above freezing to -40 °C in a short time and the motion was restarted afterwards.

Under these application conditions, the attenuation of the cable was not permitted to rise above 3dB at 850nm wave length. After one million double strokes, which correspond to an operational performance of about 7,000 kilometres, the maximum attenuation was reached and remained significantly below 3dB.

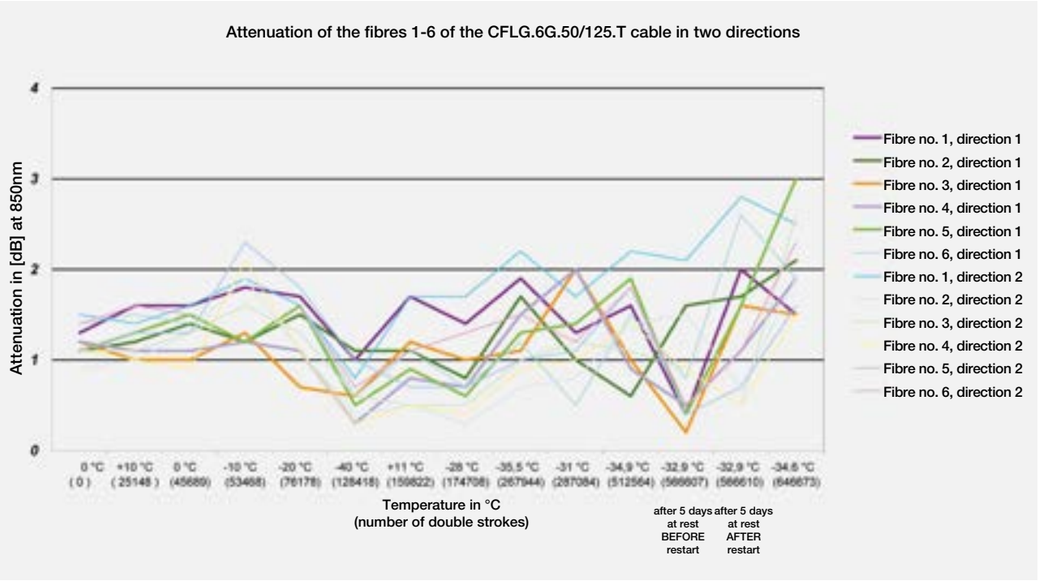
The measurements highlighted in the diagram reveal that variations in temperature combined with the constant movement in the e-chain have only minor effects on the attenuation of the CFLG.6G.TC cable. The noticeable high initial attenuation is attributed to the plugs used and also reflects the reality here because, in practice, 90% of the cables used in automation are plugged fibre optic cables.

The test with the igus® cable makes it quite clear that only expensive and realistic tests can offer clarity about the service life of cables.

Product information CFLG.G
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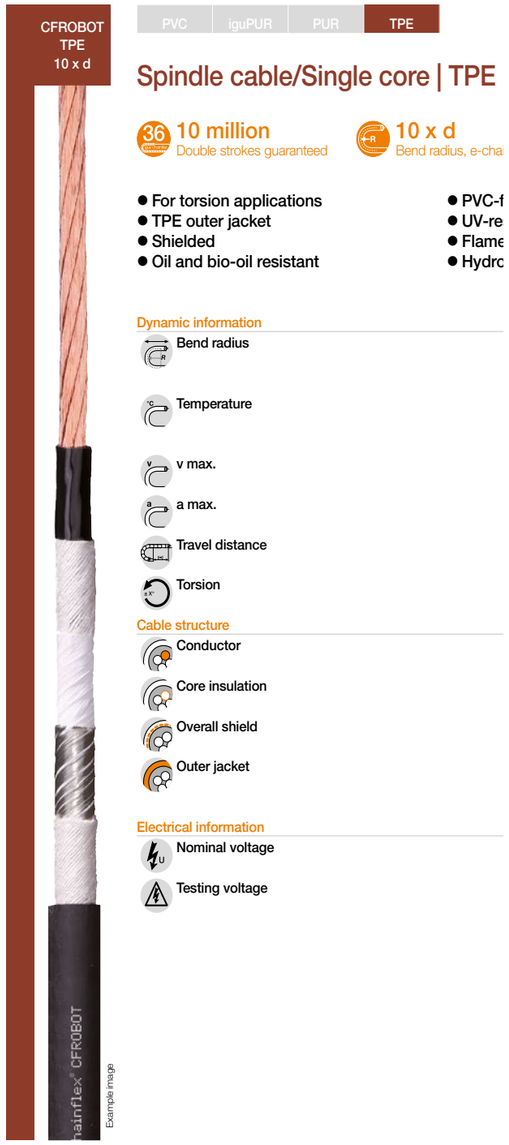


Example: ...tested!
Completely twisted

chainflex® cables for e-chain system® are designed for application in linear movements and their efficiency has been proved a million times.

But industrial applications and their motion sequences are becoming increasingly complex, so that special cables are needed more and more for torsional movements. The service life of the different designs are even harder to calculate for torsion applications, as there are no fixed parameters such as radii, travels etc. Shielded cables however are particularly vulnerable in torsion applications. Braided shields are generally braided in the opposite directions. Whether a cable survives the torsional demands is very strongly dependent on the application and type of installation.

Unshielded cables, particularly bundled chainflex® types, can be successfully used in many twisted applications.
In twisting movements with a braided shield, the strand wires wound in one direction are in tension and the other direction in compression. This leads quickly to shield breakage.





At igus®, the emphasis is not only on technology but also on aesthetically designed products. The TRC and TRE series both received the iF-Design-Award.

Product information CFROBOT
▶ Page 408

The igus® development of a new twistable, shielded single core cable accounts for this and ensures, due to its special shield design and structure, that no, or absolutely minimal, forces act on the shield wire.

As the test clearly shows, massive service life extension can be observed when compared, for example, to a CF310.250.01.

Test setup:
The new CFROBOT cable was tested at the igus® laboratory in a specially developed torsion test rig.
The torsion angle is ±270° for a total cable length of about 2.5 m (tested within different versions of the triflex® R).

Cables tested were:
- **3 cables of CFROBOT.037**
- **3 cables of the series CF310.250.01.UL**
- **3 cables of the series CF310.250.01**



igus® test lab: The cables were tested in movements of ± 270°

The initial test sample of the CF310 with braided shield and the CFROBOT were taken after 250,000 movements with a torsion angle of ± 270°.

The cable dissection was undertaken in three areas of the cable length. In the sample illustrated in Picture 1, distinct damage to the overall shield is noticeable in the upper third of the cable.



Picture 1: Damaged overall shield sample of the braid version after 250,000 movements



The detail inspection of the shield braid shows damage on the shield strand wires.

The samples (picture 2) of the CFROBOT.037 (so far samples were taken after 250,000, 1.5 million and 3 million movements) showed no damage in the area of the cable or the overall shield even after above 3 million torsional movements of ± 270°.



Picture 2: The CFROBOT shows absolutely no damage after more than 3 million movements

The detailed analyses (picture 3) of the shield wires, buffer fibres, PTFE film and the cable show no damage. The test is being continued further to determine the maximum service life of the cable.



Picture 3: Detail pictures of the CFROBOT after more than 3 million movements of ±270°

Example: tested live! Container crane with 50m travel distance

In the crane engineering industry, energy supply systems are increasingly proving their technical and economic benefits.Flexibility, variability, and space-saving installation are just a few of the important criteria. An important building block of an energy supply system is the cable. Here, users expect a high degree of operational reliability.

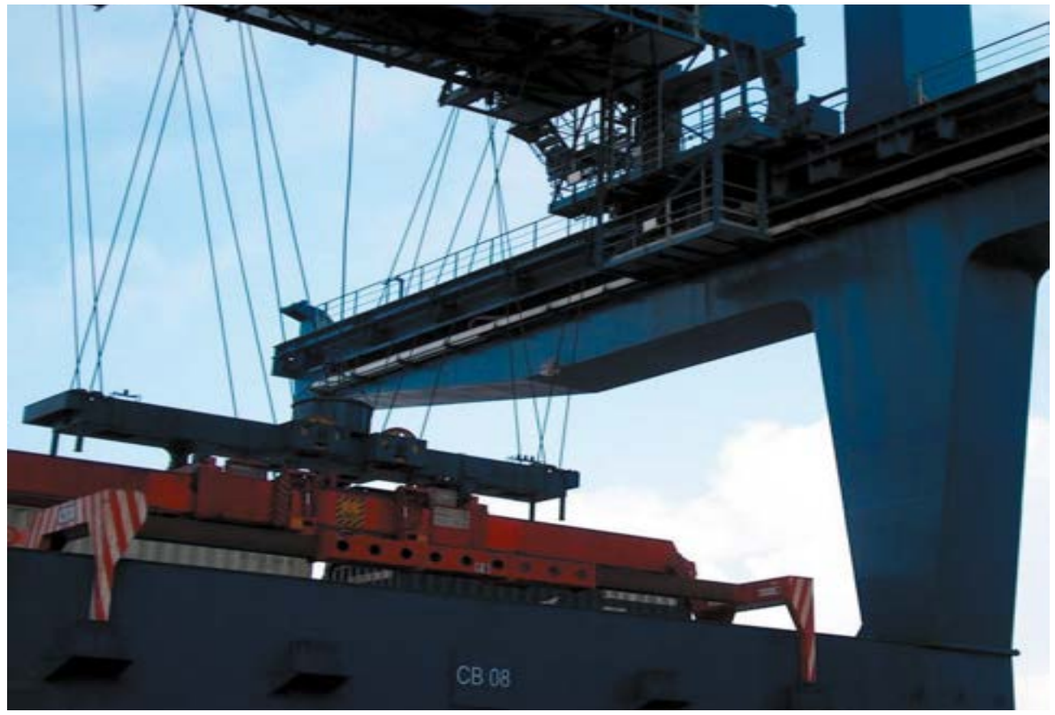
In the chainflex® laboratory, igus® cables undergo constant testing which can be used to obtain important information on the service life of a cable and to develop improvements for the future structural design of the cable. However, the situation becomes very exciting if you get the rare opportunity to remove cables from their tough, real-life applications and inspect them.

Current inspection
The chainflex® cable CF9.60.05 has been used in container cranes for many years; in the case here with a total travel distance of approx. 47m.
An inspection contract commissioned by the owner-operator was to present a performance balance sheet after more than 40,000 chain kilometres and determine the date for which the next preventive maintenance work should be planned.

Following the removal of the CF9.60.05, inspections were performed with the following objectives:
1. outer jacket, abrasion behaviour, other damage;
2. overall structure, insulation behaviour of the individual cores;
3. strand wire structure, number of any individual broken wires which might be an indication of an early failure of the entire cable.



An igus® energy supply system with a length of approx. 26m in a stainless steel trough.



The energy chain system was filled with many different igus® chainflex® cables, including the CF9.60.05

Result regarding 1:
No or only barely measurable traces of abrasion could be detected on the highly abrasion-resistant TPE outer jacket. This means that a failure due to abrasion or jacket breakage, despite the extreme environmental factors (temperature differences, UV irradiation, etc.), is not expected.

Result regarding 2:
The overall structure showed no indications of fatigue and had not changed in its pitch length.
Due to the large amount of talc, no abrasion was observed between the TPE-insulated cores. The high-voltage tests did not show any age-related changes.

Result regarding 3:
The cable was opened all the way to the copper conductor in the most stressed section of the radius. Here too, after more than 40,000 km, the inspection of the individual strand wires also showed no fatigue breakages which would indicate an early failure of the cable.

To sum up, it can be said that this cable, which was used in a real crane application in the trolley of an STS crane, was still completely intact even after more than 40,000 km and that preventive repair work was not required.

Product information CF9
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An igus® energy supply system with a length of approx. 26m in a stainless steel trough.


The individual elements of the CF9 from the dissected cable.


A close-up of the completely intact copper conductor. The inspection performed over the entire length shows that the conductor is still completely intact and does have any individual strand wire breakages.

Example: ...tested!
Comparison of jacket materials exposed to different oils

For years now, specially developed tests tailored to the individual requirements of igus® customers have been used to obtain more meaningful results than if standard tests were used. The relatively general terms such as "oil-resistant" or "coolant-resistant" are little help in making the right selection in terms of jacket material to be used for an application with oil, lubricant or coolant influence.

Alongside the generally applicable tests according to e.g. DIN EN 60811-2-1 and IEC 60811-1-1, "everyday application conditions" are simulated as realistically as possible in a test set-up matching our customers' requirements. Thus, for example, test samples are mounted in an energy chain that moves into an "oil bath" and then back out of it again. There is direct and alternating contact between the outer jacket and the medium to be tested and the air surrounding the energy chain and cable - just as in a real application.

After a test duration for a customer application or defined according to the igus® standard, test samples can be examined for changes in material characteristics e.g. by comparing material strength, elongation at tear and swelling with the values noted before the test started.

In this way, customers not only get a statement about the different resistance of the various materials such as given by following the above-mentioned standards, but also an estimation of the real service life of the cable in an e-chain® in these conditions.

If the test samples - such as the cables shown - do not complete the prescribed test duration, we advise against use in the respective application.











Cracks in the outer jackets of materials from competitors caused by the use in e-chains®.

Example: ...tested!
Completely twisted, take two.

The "torsion-resistant" requirement for cables for energy chains is not new, but is seldom exactly defined. So how is a statement such as "This cable is torsion-resistant up to ±180 °" to be understood? This makes it all the more important to be able to deliver comparable and meaningful test results.

In order to satisfy this requirement, the "torsion test bench" was developed according to the igus® standard. Here, various cable types are twisted to a prescribed cable length of 1 metre, which also corresponds to the distance between the fixed points. The degree of torsion can be chosen, and is defined individually according to the test requirement, and the standard test is ±180 °.

After a prescribed number of double strokes or a negative electrical or mechanical test result, the test specimen is dissected, and the type and position of any damage can be exactly determined.

The first chainflex® CFROBOT cable types were developed to series with help of the data of these tests.

Product information CFROBOT
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The "torsion test bench" developed according to the igus® standard

Information | **DIN 47100 colour code**

DIN 47100 colour code (however, deviating from DIN: without colour repetition after 44th core)*

1	white
2	brown
3	green
4	yellow
5	grey
6	pink
7	blue
8	red
9	black
10	violet
11	grey-pink
12	red-blue
13	white-green
14	brown-green
15	white-yellow
16	yellow-brown
17	white-grey
18	grey-brown
19	white-pink
20	pink-brown
21	white-blue
22	brown-blue
23	white-red
24	brown-red
25	white-black
26	brown-black
27	grey-green
28	yellow-grey
29	pink-green
30	yellow-pink
31	green-blue
32	yellow-blue
33	green-red
34	yellow-red
35	green-black
36	yellow-black
37	grey-blue
38	pink-blue
39	grey-red
40	pink-red
41	grey-black
42	pink-black
43	blue-black
44	red-black
45	white-brown-black
46	yellow-green-black
47	grey-pink-black
48	red-blue-black
49	white-green-black
50	brown-green-black
51	white-yellow-black
52	yellow-brown-black
53	white-grey-black
54	grey-brown-black
55	white-pink-black
56	pink-brown-black
57	white-blue-black
58	brown-blue-black
59	white-red-black
60	brown-red-black
61	black-white

*Exception: 4-core cables are braided in the colour sequence white, green, brown, yellow.

The first colour indicates the basic colour of the core insulation, and the second colour indicates the colour of the printed-on ring. In the case of three colours, the second and colours are printed on the basic colour.

Information | **Copper price**

Calculation of the copper surcharge

The copper surcharge is the calculation of the difference between the calculated price (copper basis) and the actual price listed on the stock exchange of the copper share in a cable. In calculatory terms, the price of each chainflex® cable listed in the catalogue is based on a copper price to the amount of €150.–/100kg copper.

Calculation of the copper surcharge:

- LME[1] (London Metal Exchange) price in USD/ton
- ECB exchange rate, USD/euro
- Plus surcharges

[1] LME stands for London Metal Exchange.
Together with Shanghai and New York, it is one of the world's largest metal trading centres.This basis has been used in Europe for many decades to determine the copper price listed on the stock.

More Information online
▶ igus.eu/CF-copper

Calculate the copper surcharge online
The copper surcharge can be calculated directly for each chainflex® cable and individual length in our copper surcharge calculator on the igus® website:
▶ igus.eu/quickcopper

Copper wire dimensions according to Anglo-American AWG numbers

AWG No.	Diameter [mm]	Cross section [mm²]	AWG No.	Diameter [mm]	Cross section [mm²]
500	17.96	253.00	18	1.024	0.823
350	15.03	177.00	20	0.813	0.519
250	12.70	127.00	22	0.643	0.324
4/0	11.88	107.20	24	0.511	0.205
3/0	10.40	85.00	26	0.405	0.128
2/0	9.27	67.50	28	0.320	0.0804
1/0	8.25	53.50	30	0.255	0.0507
1	7.35	42.40	32	0.203	0.0324
2	6.54	33.60	34	0.160	0.0200
4	5.19	21.20	36	0.127	0.0127
6	4.12	13.30	38	0.102	0.00811
8	3.26	8.37	40	0.079	0.00487
10	2.59	5.26	42	0.064	0.00317
12	2.05	3.31	44	0.051	0.00203
14	1.63	2.08			
16	1.29	1.31			

Information | **Load-carrying capacity of cores**

	Control/data cables			Motor/servo cables			Single-core cables	
chainflex® type	CF5, CF6, CF150.UL, CF160.UL	CF880, CF881, CF130.UL, CF140.UL, CF890, CF891, CF240, CF211, CF884	CF77.UL.D, CF78.UL, CF2, CF9, CF10, CF9.UL, CF10.UL, CF98, CF98.PLUS, CF99, CF99.PLUS, CF112, CF11, CF12, CF298, CF299, CF894, CF113.D, CF111.D, CF11.D, CFROBOT2, CFROBOT3, CFROBOT9	CF885, CF886, CF30, CF31, CF887, CF897, CF210.UL, CF220.UL.H, CF21.UL , CF895, CF896	CFROBOT6, CFROBOT7	CF34.UL.D, CF35.UL, CF37.D, CF38, CF270.UL.D, CF280.UL.H, CF27.D, CF29.D	CF885, CF885.PE, CF886	CF270.UL.D, CF300.UL, CF310.UL, CF330.D, CF340, CFPE, CFROBOT
Insulation material	PVC	TPE	TPE	TPE/XLPE	TPE	XLPE	PVC	TPE
Loaded cores	2 or 3	2 or 3	2 or 3	2 or 3	2 or 3	2 or 3	1	1
Nominal cross section of copper core [mm²]	Load capacity [A]	Load capacity [A]	Load capacity [A]	Load capacity [A]	Load capacity [A]	Load capacity [A]	Load capacity [A]	Load capacity [A]
0.14	2.5	2.5	2.5	-	-	-	-	-
0.25	4	5	5	-	5	-	-	-
0.34	5	7	7	7	7	-	-	-
0.5	8	10	10	10	10	11	-	-
0.75	12	13	14	13	14	14	-	-
1	15	15	17	15	17	17	-	-
1.5	18	19	21	19	21	21	-	25
2.5	26	27	30	27	30	30	30	34
4	-	37	41	37	41	41	41	46
6	-	48	53	48	53	53	53	58
10	-	-	74	69	74	74	74	81
16	-	-	99	92	99	99	99	110
25	-	-	131	121	131	131	131	144
35	-	-	162	152	-	162	162	179
50	-	-	-	191	-	202	202	228
70	-	-	-	239	-	-	250	285
95	-	-	-	-	-	-	301	348
120	-	-	-	-	-	-	-	394
150	-	-	-	-	-	-	-	466
185	-	-	-	-	-	-	-	532
240	-	-	-	-	-	-	-	610
300	-	-	-	-	-	-	-	754
400	-	-	-	-	-	-	-	903

Table 1: Load-carrying capacity for chainflex® cables fixed or moving in e-chains® and e-tubes

Information | **Load-carrying capacity of cores**

The values in these tables have been taken from the standard DIN VDE 0298, Part 4. These values have been simplified and only apply approximately. For each application, it is advisable to obtain and comply with the regulations that apply to each individual case (e.g. measures for protection in case of indirect contact in accordance with DIN VDE 0100 Part 410, overcurrent protective devices in accordance with DIN VDE 0100 Part 430 or voltage drop in accordance with DIN VDE 0100 Part 520). It is not possible to provide all the regulations or overviews in this catalogue. Due to the harmonisation that has been carried out, it is possible that different load-carrying values may be permissible for the same cable in some cases. For the selection of the relevant cross section, the load capacity in undisturbed operation is the determining factor, i.e. the use with permissible operating temperature or permissible maximum temperature on the core.
The load-carrying capacity according to **Table 1** applies to operating-current-carrying cores.

Ambient temperature [°C]	Conversion factor	
	PVC insulation	TPE /XLPE insulation
10	1.22	1.15
15	1.17	1.12
20	1.12	1.08
25	1.06	1.04
30	1.00	1.00
35	0.94	0.96
40	0.87	0.91
45	0.79	0.87
50	0.71	0.82
55	0.61	0.76
60	0.50	0.71
65	–	0.65
70	–	0.58
75	–	0.50
80	–	0.41
85	–	0.29
90	–	0.14

Table 2: Conversion factors in case of varying ambient temperature

Normally, these are 2 loaded cores in the case of 2-core and 3-core cables, as well as 3 loaded cores in the case of 4-core and 5-core cables. Please take this into account when planning for the use of multi-core cables in electrical installation conduits or energy chains. This information is based on an ambient temperature of 30°C and a non-loaded cable. Please apply the conversion factors according to **Table 2** if the air temperature is increased due to the heat loss of the cables (please take thermal radiation into account as well, e.g. effects of exposure to the sun).

The possible cable installation types in energy chains result in such a broad range of loading profiles that no generalised conversion factors can be offered for this large range of cables. The installation type and the conversion factors must be taken from **Table 3**, according to each individual application.

Loaded cores	Conversion factor
5	0.75
7	0.65
10	0.55
14	0.50
19	0.45
24	0.40
40	0.35
61	0.30

Table 3: Conversion factors for multi-core cables with cable cross sections up to 10 mm²

Information | **Strombelastbarkeit CFCLEAN Elemente**

	Leitungs-Elemente
chainflex® Typ	CFCLEAN1, CFCLEAN2, CFCLEAN3, CFCLEAN4, CFCLEAN7, CFCLEAN8
Anzahl der belasteten Adern	2 oder 3
Nennquerschnitt Kupferleitung [mm²]	Belastbarkeit [A]
0,14	4
0,25	7
0,34	9
0,5	12
0,75	15
1	18
1,5	22
2,5	30

Tabelle 1: Strombelastbarkeit von Leitungen beim Einsatz in Energieführungsketten und -rohren

Information | **Load-carrying capacity of cores**

Die Werte aus diesen Tabellen sind der DIN VDE 0298, Teil 4, entnommen. Die Werte sind vereinfacht und gelten nur annähernd. Es empfiehlt sich für jeden Anwender, die für den einzelnen Einsatzfall geltenden Vorschriften (z.B. Maßnahmen zum Schutz bei indirektem Berühren nach DIN VDE 0100 Teil 410, Überstromschutz-einrichtungen nach DIN VDE 0100 Teil 430 oder Spannungsabfall nach DIN VDE 0100 Teil 520) zu beschaffen und einzuhalten. Es können nicht sämtliche Vorschriften bzw. Übersichten in diesem Katalog wiedergegeben werden. Bedingt durch die stattgefundene Harmonisierung, sind unter Umständen unterschiedliche Strombelastbarkeitswerte für dieselbe Leitung zulässig. Für die Auswahl der jeweiligen Querschnitte ist die Belastung im ungestörten Betrieb maßgeblich, d.h. die Verwendung mit zulässiger Betriebs-temperatur bzw. höchster zulässiger Temperatur am Leiter.
Die Belastbarkeit nach **Tabelle 1** auf der linken Seite gilt für die betriebsstromführenden Leiter.

Normalerweise sind dies 2 belastete Leiter bei 2- und 3-adrigen Leitungen, sowie 3 belastete Leiter bei 4- und 5-adrigen Leitungen. Bitte beachten Sie dies bei der Planung mit vieladrigen Leitungen in Elektroinstallations-kanälen oder e-ketten®. Ausgegangen wird von einer Umgebungslufttemperatur von 30°C bei nicht belasteter Leitung. Bitte wenden Sie die Umrechnungsfaktoren nach **Tabelle 2** an, falls die Lufttemperatur durch Verlustwärme der Leitungen erhöht wird (bitte berücksichtigen Sie hierbei auch Wärmestrahlungen, z.B. Sonneneinwirkung).

Die möglichen Verlegearten von Leitungen in e-ketten® führen zu einer so großen Bandbreite von Belastungs-profilen, dass keine pauschalen Umrechnungsfaktoren für die Häufung von Leitungen genannt werden können. Die Verlegeart und die Umrechnungsfaktoren sind, entsprechend jeder einzelnen Anwendung, der **Tabelle 3** zu entnehmen.

Umgebungs-temperatur °C	Umrechnungsfaktor	
	PVC-Isolierung	TPE-/XLPE-Isolierung
10	1,22	1,15
15	1,17	1,12
20	1,12	1,08
25	1,06	1,04
30	1,00	1,00
35	0,94	0,96
40	0,87	0,91
45	0,79	0,87
50	0,71	0,82
55	0,61	0,76
60	0,50	0,71
65	–	0,65
70	–	0,58
75	–	0,50
80	–	0,41
85	–	0,29
90	–	0,14

Tabelle 2: Umrechnungsfaktoren bei verschiedenen Umgebungstemperaturen

Belastete Adern	Umrechnungsfaktor
5	0,75
7	0,65
10	0,55
14	0,50
19	0,45
24	0,40
40	0,35
61	0,30

Tabelle 3: Umrechnungsfaktoren für vieladrige Leitungen mit Leitungsquerschnitten bis 10 mm²

Chemical resistance | **Selection chart**

Group	chainflex® cable	Jacket material	1	2	3	4	5	Page
Control cables								
Control cable	CF880	PVC	1					58
Control cable	CF881	PVC	1					62
Control cable	CF130.UL	PVC	1					66
Control cable	CF140.UL	PVC	1					70
Control cable	CF150.UL	PVC		2				74
Control cable	CF160.UL	PVC		2				78
Control cable	CF5	PVC		2				82
Control cable	CF6	PVC		2				86
Control cable	CFSOFT1	PVC		2				90
Control cable	CFSOFT2	PVC		2				92
Control cable	CF890	iguPUR			3			94
Control cable	CF891	iguPUR			3			98
Control cable	CF77.UL.D	PUR				4		102
Control cable	CF78.UL	PUR				4		106
Control cable	CF2	PUR				4		110
Control cable	CF9.UL	TPE					5	114
Control cable	CF10.UL	TPE					5	118
Control cable	CF9	TPE					5	122
Control cable	CF10	TPE					5	126
Control cable	CF98.PLUS	TPE					5	130
Control cable	CF99.PLUS	TPE					5	134
Data cables								
Data cable	CF240	PVC		2				142
Data cable	CF240.PUR	PUR				4		146
Data cable	CF211	PVC		2				150
Data cable	CF211.PUR	PUR				4		154
Data cable	CF11	TPE					5	158
Data cable	CF112	PUR				4		162
Data cable	CF12	TPE					5	166
Data cable	CFKoax	TPE					5	168
Bus cables								
Bus cable	CF888	PVC	1					180
Bus cable	CFBUS.PVC	PVC		2				184
Bus cable	CF898	iguPUR			3			188
Bus cable	CFBUS.PUR	PUR				4		192
Bus cable	CFBUS	TPE					5	196
Bus cable	CFBUS.LB	TPE					5	202
Fibre Optic Cables								
Fibre Optic Cable	CFLK	PUR				4		212
Fibre Optic Cable	CFLG88	PVC	1					214
Fibre Optic Cable	CFLG.LB.PUR	PUR				4		216
Fibre Optic Cable	CFLG.LB	TPE					5	220
Fibre Optic Cable	CFLG.G	TPE					5	224
Measuring system cables								
Measuring system cable	CF884	PVC	1					234
Measuring system cable	CF211	PVC		2				238
Measuring system cable	CF894	iguPUR			3			244
Measuring system cable	CF111.D	PUR				4		248
Measuring system cable	CF113.D	PUR				4		254
Measuring system cable	CF11.D	TPE					5	260

Chemical resistance | **Selection chart**

Group	1	2	3	4	5
Inorganic chemicals					
Aqueous solutions, neutral					
Water	+	+	O	+	+
Common salt (10%)	+	+	O	+	+
Glauber's salt (10%)	+	+	O	+	+
Aqueous solutions, alkaline					
Soda (10%)	O	+	+	O	+
Aqueous solutions, acid					
Sodium bisulfate (10%)	O	+	+	O	+
Aqueous solutions, oxidising					
Hydrogen peroxide (10%)	+	+	O	+	+
Potassium permanganate (2%)	+	+	O	+	+
Inorganic acids					
Hydrochloric acid, concentrated	–	–	–	–	–
Hydrochloric acid (10%)	O	O	+	O	+
Sulfuric acid, concentrated	–	–	–	–	–
Sulfuric acid (10%)	O	O	+	O	+
Nitric acid, concentrated	–	–	–	–	–
Nitric acid (10%)	O	O	+	–	O
Inorganic caustic solutions					
Sodium hydroxide, concentrated	–	–	–	–	O
Soda lye (10%)	O	O	+	O	+
Caustic potash, concentrated	–	–	–	–	O
Caustic potash (10%)	O	O	+	O	+
Ammonia, concentrated	O	O	–	O	+
Ammonia (10%)	+	+	+	+	+
Organic chemicals					
Organic acids					
Acetic acid, concentrated (glacial acetic acid)	–	–	–	–	O
Acetic acid(10% in H_2O)	O	+	+	O	+
Tartaric acid (10% in H_2O)	O	+	+	+	+
Citric acid (10% in H_2O)	O	+	+	+	+
Ketone					
Acetone	–	–	–	–	O
Methyl ethyl ketone (MEK)	–	–	–	–	O
Alcohols					
Ethyl alcohol (spirit)	–	O	+	O	+
Isopropyl alcohol	–	O	+	O	+
Diethylene glycol	O	O	+	+	+
Aromatic compounds					
Toluol	–	–	–	O	–
Xylol	–	–	–	O	–
Fuels					
Gasoline	–	O	O	+	+
Diesel fuel	–	O	O	+	+
Synthetic oils					
Lubricating oil					
ASTM oil #2	O	+	+	+	+
Hydraulic oil					
Mineral oil base	–	O	+	+	+
Glycol base	O	O	+	+	+
Synthetic ester base	–	O	–	+	+
Vegetable oils					
Rapeseed oil	O	+	O	+	+
Olive oil	O	+	O	+	+
Soya bean oil	O	+	O	+	+
Cold cleaning agent					
Cold cleaning agent	–	O	+	+	O

\+ no or minimum negative influence
O medium reciprocal effect, short-term exposure permissible
– unstable, material partly destroyed

All information applies to room temperature

Chemical resistance | **Selection chart**

Group	chainflex® cable	Jacket material	1	2	3	4	5	Page
Servo cables								
Servo cable	CF887	PVC	1					272
Servo cable	CF210.UL	PVC		2				274
Servo cable	CF21.UL	PVC		2				278
Servo cable	CF897	iguPUR			3			282
Servo cable	CF270.UL.D	PUR				4		284
Servo cable	CF27.D	PUR				4		288
Servo cable	CF29.D	TPE					5	292
Servo cable	CF220.UL.H	PVC		2				294
Servo cable	CF280.UL.H	PUR				4		298
Motor cables								
Motor cable	CF885	PVC	1					310
Motor cable	CF886	PVC	1					312
Motor cable	CF210.UL	PVC		2				314
Motor cable	CF30	PVC		2				316
Motor cable	CF31	PVC		2				320
Motor cable	CF33.UL	PVC		2				324
Motor cable	CF895	iguPUR			3			328
Motor cable	CF896	iguPUR			3			330
Motor cable	CF270.UL.D	PUR				4		332
Motor cable	CF27.D	PUR				4		336
Motor cable	CF34.UL.D	TPE					5	340
Motor cable	CF35.UL	TPE					5	344
Motor cable	CF37.D	TPE					5	348
Motor cable	CF38	TPE					5	352
Spindle cable/Single core	CF885	PVC	1					356
Spindle cable/Single core	CF885.PE	PVC	1					358
Spindle cable/Single core	CF886	PVC	1					360
Spindle cable/Single core	CF270.UL.D	PUR				4		362
Spindle cable/Single core	CF300.UL.D	TPE					5	364
Spindle cable/Single core	CFPE	TPE					5	368
Spindle cable/Single core	CF310.UL	TPE					5	370
Spindle cable/Single core	CF330.D	TPE					5	374
Spindle cable/Single core	CF340	TPE					5	376
Medium voltage cable	CFCRANE.PUR	TPE					5	378
Twistable cables								
Twistable cable	CF77.UL.D	PUR				4		388
Twistable cable	CFROBOT2	PUR				4		392
Twistable cable	CFROBOT3	PUR				4		394
Twistable cable	CFROBOT4	PUR				4		396
Twistable cable	CFROBOT5	TPE					5	400
Twistable cable	CFROBOT6	PUR				4		402
Twistable cable	CFROBOT7	PUR				4		404
Twistable cable	CFROBOT	TPE					5	408
Twistable cable	CFROBOT8	PUR				4		410
Twistable cable	CFROBOT8.PLUS	PUR				4		414
Twistable cable	CFROBOT9	PUR				4		418
Special cables								
Special cable	CFTHERMO	PUR				4		424
Special cable	CFFLAT	TPE					5	426
Special cable	CFSPECIAL.182	PUR				4		428
Special cable	CFSPECIAL.192	PUR				4		430
Special cable	CFSPECIAL.532	PUR				4		432
Spezialleitung	CFSPECIAL.562.PE	PUR				4		434
Spezialleitung	CFSPECIAL.572	PUR				4		436
Spezialleitung	CFSPECIAL.592	PUR				4		438
Spezialleitung	CFSPECIAL.792	PUR				4		440

Chemical resistance | **Selection chart**

Group	1	2	3	4	5
Inorganic chemicals					
Aqueous solutions, neutral					
Water	+	+	O	+	+
Common salt (10%)	+	+	O	+	+
Glauber's salt (10%)	+	+	O	+	+
Aqueous solutions, alkaline					
Soda (10%)	O	+	+	O	+
Aqueous solutions, acid					
Sodium bisulfate (10%)	O	+	+	O	+
Aqueous solutions, oxidising					
Hydrogen peroxide (10%)	+	+	O	+	+
Potassium permanganate (2%)	+	+	O	+	+
Inorganic acids					
Hydrochloric acid, concentrated	–	–	–	–	–
Hydrochloric acid (10%)	O	O	+	O	+
Sulfuric acid, concentrated	–	–	–	–	–
Sulfuric acid (10%)	O	O	+	O	+
Nitric acid, concentrated	–	–	–	–	–
Nitric acid (10%)	O	O	+	–	O
Inorganic caustic solutions					
Sodium hydroxide, concentrated	–	–	–	–	O
Soda lye (10%)	O	O	+	O	+
Caustic potash, concentrated	–	–	–	–	O
Caustic potash (10%)	O	O	+	O	+
Ammonia, concentrated	O	O	–	O	+
Ammonia (10%)	+	+	+	+	+
Organic chemicals					
Organic acids					
Acetic acid, concentrated (glacial acetic acid)	–	–	–	–	O
Acetic acid (10% in H_2O)	O	+	+	O	+
Tartaric acid (10% in H_2O)	O	+	+	+	+
Citric acid (10% in H_2O)	O	+	+	+	+
Ketone					
Acetone	–	–	–	–	O
Methyl ethyl ketone (MEK)	–	–	–	–	O
Alcohols					
Ethyl alcohol (spirit)	–	O	+	O	+
Isopropyl alcohol	–	O	+	O	+
Diethylene glycol	O	O	+	+	+
Aromatic compounds					
Toluol	–	–	–	O	–
Xylol	–	–	–	O	–
Fuels					
Gasoline	–	O	O	+	+
Diesel fuel	–	O	O	+	+
Synthetic oils					
Lubricating oil					
ASTM oil #2	O	+	+	+	+
Hydraulic oil					
Mineral oil base	–	O	+	+	+
Glycol base	O	O	+	+	+
Synthetic ester base	–	O	–	+	+
Vegetable oils					
Rapeseed oil	O	+	O	+	+
Olive oil	O	+	O	+	+
Soya bean oil	O	+	O	+	+
Cold cleaning agent					
Cold cleaning agent	–	O	+	+	O

\+ no or minimum negative influence
O medium reciprocal effect, short-term exposure permissible
– unstable, material partly destroyed

All information applies to room temperature

Design parameters | **Cable and hose packages**

Rules for:
- **Maximum cable diameters**
- **Separation**
- **Bend radius**

General rules for cables and hoses in e-chains®

Data and energy supply in all forms – in an energy chain system

The key advantage of an igus® e-chain system® is the safe accommodation of various forms of data cables and energy supply in one system. We recommend the optimal separation layout of the cables and hoses in the e-chain®, but you, the customer, are still afforded the final choice. It is possible, for instance, to maintain minimum distances between bus and motor cables and mix pneumatics, electric and hydraulics in the same compartments.

In addition to the quality of the cables used, the arrangement of each service within the e-chain® and the space allowed, are important for the service life of the system. Various separation options enable the adaptation of the e-chains® to the specific requirements of each respective application. Generalised rules such as "No more than 80% of the clear space of energy chains should be used" no longer make sense given the complexity of present-day applications. In this chapter, we give you detailed recommendations. Due to the variety of the application parameters, we strongly recommend you take advantage of our free consultation services.Simply give us a list of your cable requirements (or merely the required electrical or other services) and you will receive our recommendation.



Hydraulics and electric cables are separated from one another in this example

Well ordered cables with igus® interior separation

Maximum cable and hose diameters

The maximum cable and/or hose diameter corresponds to the inner height of the selected e-chain®/e-tube, with additional minimum clearance. This minimum clearance would be, for example, 10% for round electrical cables, 20% for hydraulic hoses. An e-chain® is ideal if a minimum lateral gap to the next cable or hose has been factored in. Depending on the nature of the cables, the dynamics, and the expected service life, more clearance must be allowed. In specific cases, clearances may be altered further. Please contact us.

Electrical cables need at least 10% clearance space all around, hydraulic hoses need 20%

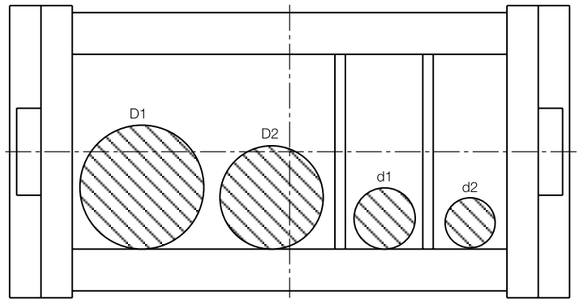
The maximum cable diameter is specified for each series in its respective chapter

Design parameters | **Cable and hose packages**

Designing with igus®

Distribution in e-chains®

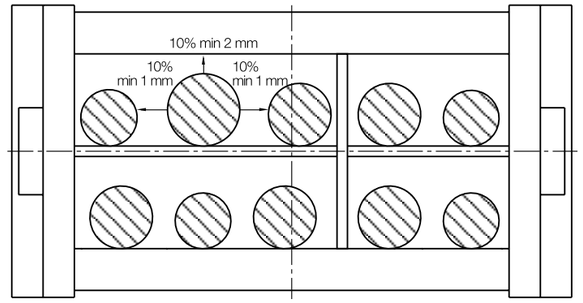
- Cables and hoses with very different diameters should be laid separately. The separation is achieved using modular separators.
- Cables and hoses must under no circumstances have the opportunity to tangle. Therefore, the clearance height of a compartment with several similar cables or hoses next to one another must **not amount to more than one and a half times the cable/hose diameter.**



D1 + D2 > 1.2 x hi **d1 + d2 ≤ 1.2 x hi**

Expressed in rules, this means:

Rule 1:
If D1 + D2 > 1.2 x e-chain® inner height, no separation between the two cables/ hoses is necessary. Two cables/ hoses should never be left unguided on top of one another or be allowed to become tangled.



d1 + d2 ≤ 1.2 x hi

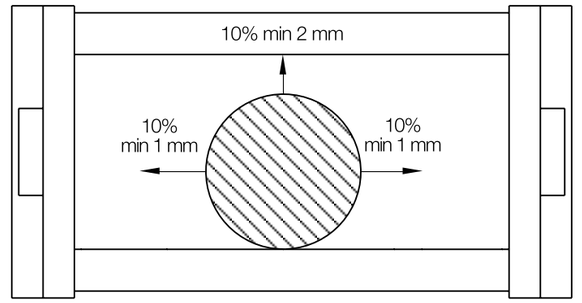
Rule 2:
if d1 + d2 ≤ 1.2 x e-chain® inner height, a vertical separator or a horizontal shelf must be used to reduce the inner height. Thereby preventing the entanglement of d1 and d2.

The reason for this rule is:
The cables and hoses must be laid so that they can move freely at all times and so that no tensile force is exerted at the radius of the e-chains®.

For high-speed applications and high cycles, cables or hoses **must not be laid on top of each other without horizontal separation**. The standard values for this are:

Travel speed over **0.5m/s** and cycles over **10,000 p.a.**

igus® interior separation offers a safe solution for this situation.



Clearance space for round electrical cables

Clearance space in % for various cables

Cables	Clearance space
Round electrical cables	**10%**
Electrical flat cables	**10%**
Pneumatics	**5-10%**
Hydraulics	**20%**
Media hoses	**15-20%**

Design parameters | **Cable and hose packages**

Further guidelines for distribution

- The cable weight should be symmetrically distributed across the width of the e-chain®.
- Cables with different outer jacket materials must not be allowed to rub together. If necessary, they must be laid separately. All igus® chainflex® cables can be combined with each other and other brands of cables.
- The cables should always be fixed at the moving end. The fixed end should also always have strain relief. Exceptions are made only for certain hydraulic hoses with length compensation issues or other high pressure hoses. (refer to "hydraulic hoses").
- Generally, the faster and more frequently the e-chain® operates, the more important the exact positioning of the cables and hoses inside the e-chain® becomes. Due to the wide variety of the possibilities, we strongly recommend you take advantage of our free consultation services for your specific applications.

Bend radius R

- The bend radius of your e-chain® depends on the thickest or stiffest cable or hose in your application.
- The bend radii of the e-chains® should be adjusted to the recommendations of the cable or hose manufacturer. The selection of a larger radius than the minimum will positively affect service life.
- The specification of minimum bend radii for cables refers to use at normal temperatures. Other bend radii may be recommended. Please ask your cable supplier for details.



The igus® construction kit of energy chain systems solves all the requirements for interior separation known today.



igus® chainflex® cables permit the smallest bend radius of 5 x d for one million strokes.



The igus® product range offers up to 12 different bend radii for each chain series from stock. Here series 50 in the Storebaelt bridge project.

We recommend complete e-chain systems®, - where bend radii for all cables and hoses, interior separation and service life are optimally matched. Also ask for the igus® system guarantee. ▶ readychain® **from page 910**

Design parameters | **Round electrical cables**

Round electrical cables

For electrical cables, the round cable is a safe, modular and cost-effective solution for e-chain systems®. We recommend the following criteria for selecting the proper round electrical cables:

Selection criteria:

- Small minimum bend radii and mounting heights
- Long service life at minimum bend radius
- Service life expectations for your application (short or long travel, hanging)
- Test data on service life from realistic tests
- Uncomplicated installation process - no hanging, laying out, etc, of cables required
- Strain relief integrated directly into the mounting bracket
- Flexible shields for shielded cables
- Abrasion-resistant and non-adhesive outer jackets
- Large selection to avoid expensive custom designs

For bus cables and fibre optic cables, special attention must be paid to how effective transmission rates and shielding remain after millions of cycles at the minimum bend radius.



Example at igus® test laboratory: constant development and testing of chainflex® cables

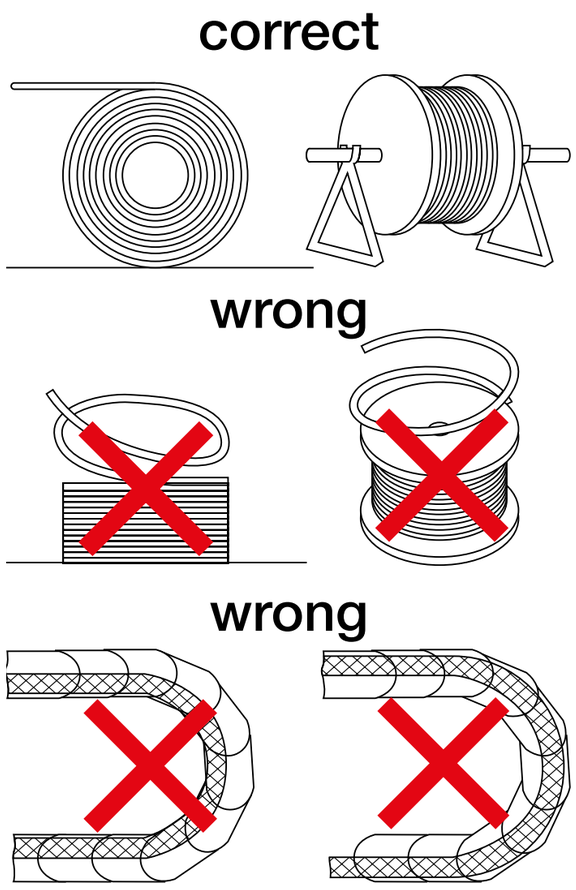
Design parameters | **Round electrical cables**

Installation and strain relief of round electrical cables

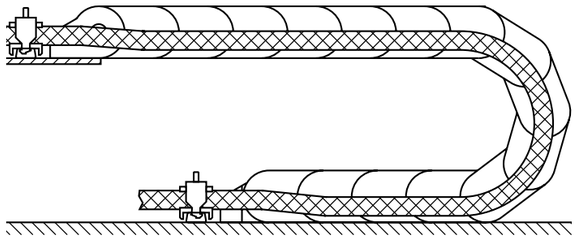
1. The cables must be laid straight, without twisting. Cables must not be uncoiled from the top of the spool. igus® chainflex® cables are immediately ready for fitting directly into the e-chain®. They need not be disconnected or laid out before installation.
2. The cables must be laid so that each individual cable can move freely from side to side.
3. The cables must be able to move freely along the radius. This must be double-checked if the upper run operates at the cable's maximum bend radius.
4. The division of the e-chains® interior using igus® interior separators or shelves is necessary if several cables and/or hoses with varying diameters are laid out. It is important to prevent cables and hoses from tangling.
5. For cables and hoses with different jacket materials, it is important to prevent them from "sticking" to one another. If necessary, they should be separated. igus® chainflex® cables can be combined with all others.
6. Round electrical cables must be secured with strain relief at both ends. In exceptional cases, the cables may be fixed with strain relief at the moving end of the e-chain® only. A gap of 10-30 x cable diameter between the end of the bend segment and the fixed point is recommended for most cables. chainflex® cables can, on the other hand, be secured directly to the mounting bracket with strain relief (this has been confirmed with testing).

We will be pleased to provide you with recommendations for complete e-chain systems®:
"readychain®: chain-cable harnessing".

▶ readychain® **from page 910**



The cables must be able to move freely along the radius



chainflex® cables can be strain-relieved directly at the mounting bracket.



Corkscrewing: an effect of improper cable and hose placement in an e-chain®

Design parameters | **Pneumatic hoses**

Pneumatic hoses

In principle, the same rules apply for pneumatic hoses as for round cables. In practice, it has been demonstrated that pneumatic hoses are less susceptible to wear. After consultation, they can be laid together more closely than the "10% all-around clearance" rule. A double-sided strain relief is required under these conditions. For pneumatic hoses made of rubber, we recommend strictly following the "10% clearance" rule because they tend to adhere to each other and to other cables and hoses.



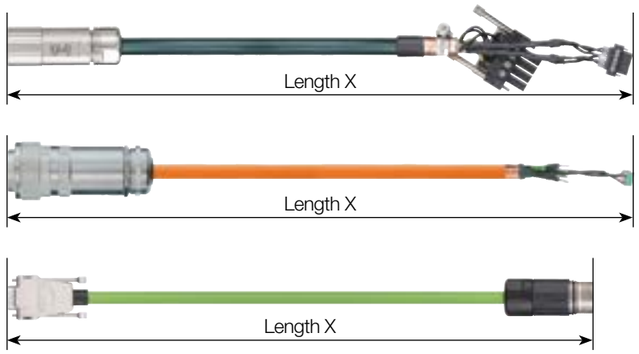
Fully pre-assembled e-chain system® with several pneumatic and hydraulic hoses.

The igus® product range also offers thermo polymer pneumatic hoses called "chainflex® CFAir and CFCleanAir" ▶ **Page 462**

Design parameters| **Definition of length**

Harnessed cables

igus® GmbH defines cable length as entire length including connectors or open harnessing.
Further length definitions possible on request. Feel free to contact us!



Welcome to the world ...

The chainflex® approvals and their significance:
www.igus.eu/chainflex-certificates



UL Marketing Claim Verification

Today, plant safety or availability can be the decisive reason to choose one machine over another.
As the complexity of the machines and number of electrical parts increases, the difficulty for designers to choose the best product also increases.
This is not helped by the fact that there is a lot of marketing information given, which is not norm based, and therefore difficult for the designer to verify the facts.
This is where the UL Marketing Claim Verification initiated by UL will help the designer.
This is because UL checks the marketing statements of the supplier for the technical data and accuracy.

The UL verified label now proves that the guarantee and quality statements for chainflex® cables and their durability, service life and functionality have been certified by UL. For companies that use these cables in their equipment, they offer more safety from purchasing parts for machine construction, customs clearance and shipping of the machines to America, right through to commissioning. Those who use chainflex® cables in energy chains can have confidence in terms of parameters such as temperature, type of movement, torsion, media influence or minimum bend radius.

The complex certification procedure (diagram 1) for the "igus® 4-year chainflex® cable guarantee and service life calculator based on 2 billion test cycles per year" claim, was carried out by auditors of the US institute at the igus® HQ in Cologne.

To achieve this, the processes and logic of service life determination were evaluated in a comprehensive audit program of the 3,800 m² chainflex® test laboratory, which has over 800 parallel running tests and over 2 billion test cycles per year.

The following four areas were scrutinised:



Figure 1: The complex process to get the UL marketing certificate (source: igus®)

More details online:
verify.ul.com/verifications/368

More information:
www.igus.eu/chainflex-welcome-to-the-world

UL listed

Cables for applications that can be fully described in a standard are certified as "UL Listed". Example: A cable for a washing machine power supply can be clearly described for its application; therefore a normative description of the application of the cable and the associated test setup can be clearly defined. To certify that the cable is in accordance with "UL Listed" and then to manufacture, test and mark according to "UL Listed". It is not permissible to use a different kind of cable in such a clearly described application in the USA.

UL/CSA Recognized

The "UL/CSA Recognized" certification marks are issued for components of larger systems. In this case, only components that are not intended for a single, precisely defined installation or application are certified.
Cables for applications that cannot be described normatively and completely are then certified according to "UL/CSA Recognized" (AWM).

Example: Cables for use in energy chains are so diverse and complex that a normative description is impossible. This is where the " UL/CSA Recognized" certification is applicable. It allows cable developers a whole range of different combinable options with respect to insulation material, jacket material and design. From this cable manufacturers develop a combination that works, which means that it can be used for a specific customer application.

Be aware: "UL/CSA Recognized" describes a large, extremely varied range of applications. Here, it is the responsibility of the designer and manufacturer of such an "AWM cable" to work out and carry out appropriate additional tests to prove a specific application, e.g. in an energy chain.

UL

The institution responsible for approval in the USA is Underwriters Laboratories (UL). The Canadian Standards Association (CSA) is responsible for it in Canada. Certification guidelines and certification processes differ in their complexity, depending on the market and country. A so-called Memorandum of Understanding allows use in both countries, regardless of the place of certification. Both testing organisations distinguish between the so-called "UL/CSA Listed" and "UL/CSA Recognized" certification, both of which fulfil normative safety requirements that are verified by test procedures.

More details online:
iq.ul.com/

More information:
www.igus.eu/chainflex-welcome-to-the-world

NFPA

The US **N**ational **F**ire **P**rotection **A**ssociation (NFPA), is a non-profit organisation that has been active in fire protection since 1896.
NFPA publishes numerous safety standards including electrical standards that are used in the USA today.
These include the "NFPA 79 - Electrical Standard for Industrial Machinery". The subject of the standard is primarily the correct application of electrical systems in industrial machinery and equipment used in the USA. With the help of the standard, designers can develop safe machines with the highest level of protection for operating personnel.
NFPA 79-2018 includes the topic "*Special Cables and Conductors*" relevant for chainflex cables in section 12.9.

More details online:
www.nfpa.org/

CLPA

The **C**C-**L**ink **P**artner **A**ssociation is an organisation based in Japan and represented in 11 regions of the world.
The purpose of CLPA is to spread and establish the industry network "CC-Link" standard worldwide.
In addition to the marketing of this standard, CC-Link products that are to be used for this standard are tested by this organisation and, if they are technically compliant with the corresponding certificates, are approved for use in CC-Link networks.

More details online:
www.cc-link.org/sch/c012List?userSeqNo=76&menuSeqNo=2

DNV approval

The maritime economy is developing towards more automation and digitalisation: Whether vessel manufacture, shipping companies or the gas and oil industry - ships are becoming autonomous factories, shipping companies are becoming fully-fledged logistics providers, and refineries are becoming automated conveyor systems.
DNV is responsible for certifications in the maritime environment, offshore facilities, gas and oil pipelines, and onshore applications such as wind, tidal or solar energy. The classification society was formed in 2012 through the merger of the Norwegian company Det Norske Veritas (DNV) and Germanischer Lloyd (GL).
The components used in maritime environments have to meet different requirements than those of classic factory automation on land.
This requires a separate approval for the operation of these components. The certification society checks compliance with international standards and guidelines, which are applied accordingly to these components. If existing regulations or standards do not describe the application sufficiently, additional testing measures are defined or developed.

If products have DNV approval, it simplifies and speeds up their use in the maritime sector, as it is not necessary to test individual components.

More details online:
www.dnv.com

More information:
www.igus.eu/chainflex-welcome-to-the-world

REACH directive

The term REACH stands for a regulation called **R**egistration, **E**valuation, **A**uthorisation and Restriction of **Ch**emicals.

Its scope covers manufacturers or importers of more than one tonne of substances per year into the European Union.

The REACH directive is only partially valid for igus®: As a manufacturer of cables, the company is defined as a so-called "downstream user" with regard to the value add chain. Nevertheless, the contents of the REACH directive and its rules for the production and processing of chemical substances are observed at igus®. For example, no chemicals are used in the production of chainflex® cables that are above the valid REACH limits. The entire range of chainflex® cables is free from materials such as sodium peroxometaborates, cadmium sulphides or also dihexyl phthalates.

More details online:
echa.europa.eu/de/regulations/reach/understanding-reach

RoHS-II / RoHS-III

More safety for people and the environment
The abbreviation RoHS stands for **R**estriction **o**f **H**azardous **S**ubstances and regulates the use of selected hazardous substances in electrical and electronic equipment, which includes cables. By complying with this directive, companies prove that problematic materials such as lead, mercury or phthalates - known as plasticisers - have been banned from electronic waste and also from working environments. One example is lead. It occurs, among other things, in the form of solder on circuit boards, which are installed in complex machine systems in a variety of ways.
Materials research in recent years has also produced new jacket materials which, among other things, do not contain hazardous plasticisers and thus function flexibly in dynamic applications. Until now, plasticisers have been used in industry mainly where plastics had to remain particularly pliable, soft and elastic in use.

igus® develops and tests special jacket materials for use in e-chains in its own laboratory, which are RoHS II /III compliant according to the respective requirements.

More details online:
ec.europa.eu/environment/waste/rohs_eee/legis_en.htm

CE mark

The CE marking makes it clear that the manufacturer of a product such as chainflex® cables complies with the applicable EU directives. The CE marking is not a seal of approval or quality mark and was created for trade in the European Economic Area.

- The CE certification basis has come to encompass more than 25 EU directives (issue 2020).
- The CE certificate is a kind of voluntary commitment.
- The CE mark on a machine and the corresponding signature confirms that this machine was planned, designed and built in accordance with the applicable standards.
- The CE marking is part of further regulations. These include the Machinery Directive, the Electromagnetic Compatibility (EMC) Directive, the Low Voltage Directive (often referred to as LVD), RoHS substance restrictions and protective equipment, etc.

CE conformity is based on a complex risk assessment.

Risk assessment - the iterative procedure consists of:

- Verification of the intended use of e.g. e-chain® and chainflex® cables
- Analysis of conceivable, foreseeable misuse
- Determination of relevant and valid standards for the production of chainflex® cables and e-chains®
- Determination of specific requirements and conditions for the use of chainflex® cables
- Research of the responsible "notified body", e.g. at the accreditation body DAkkS (Institute for the monitoring of all certification, testing and inspection bodies)
- (Laboratory) tests of the chainflex® cables and e-chains®
- Data evaluation
- Preparation of technical documentation and translation into target languages
- Creation of the certificate/provision for download
- Attaching the CE mark

More details online:
c.europa.eu/growth/single-market/ce-marking_de

More information:
www.igus.eu/chainflex-welcome-to-the-world

igus® chainflex® cables for DESINA

DESINA: **DE**central and **S**tandardised **IN**st**A**llation technique is a recommendation of the Verein Deutscher Werkzeugmaschinenfabriken (VDW = Association of German machine tool industry) for the purpose of standardising components, interfaces and connecting systems.
DESINA describes an extensive whole concept for standardisation and decentralisation of the fluid technical and electrical installation of machines and plants.
For further information: www.desina.de

Det Norske Veritas Germanischer Lloyd

For further information: www.dnvgl.com

Underwriters Laboratories Inc.

For further information: www.ul-europe.com

Canadian Standards Association

For further information: www.csa.ca

Commission Électrotechnique Internationale

Communauté Européenne

General conditions

The General Conditions of Sale of igus® shall apply. Excessive and short deliveries of ± 10 % for cables conform with contractual agreements. Deliveries can be made in part-lengths. Statutory VAT must be added to the prices. The General Conditions of Sale and Delivery of igus® GmbH, Cologne, can be found online under www.igus.eu.
The prices quoted in the catalogue or other media are subject to alteration. igus® can modify the prices at any time at their own discretion.

User information

Since our products are constantly being developed further in the interest of our customers, we reserve the right to make technical alterations at any time. With the issue of this catalogue, all previous publications lose their validity. Subject to printing errors.

Disclaimer

The terms "igus", "chainflex", "CFRIP", "readycable", "readychain", "e-chain", "e-chain systems", "e-ketten", "e-kettensysteme", "flizz", "iglidur", "drylin" are legally protected trademarks in the Federal Republic of Germany and in case also in foreign countries.

Outer jacket color according to RAL

chainflex® cable jacket colours are given with the similar RAL colour number; for example yellowgreen, similar to RAL 6018. Slight differences can occur from the exact RAL colour, depending on the cable jacket material. However, this has no effect on the quality or functionality of the cable.

A RAL number is used to describe different shades of colour more consistently. For example, RAL 7040 is light grey and RAL 7016 is a dark grey. The RAL number describes the colour, but cannot guarantee the same shade in different applications.

RAL: German Institute for Quality Assurance and Certification e.V. ▶ www.RAL.de

KTG

If cable drums are to be used, please visit KTG directly online.▶ www.kabeltrommel.de

Product illustrations

The products illustrated are photos showing examples for whole series, i.e. the original cable can deviate from the cable shown.

Technical notes

The USB, FireWire and GigE cables listed on this page have been developed and manufactured for the mechanically demanding industrial application in e-chain systems®. High resistance against oil and lubricants are guaranteed, and also a high protection against electro-magnetic interference fields. This high mechanical service life was reached with the usage of high quality materials which even care for the electrical safeness.
In single cases communication errors can occur, if very different hardware and software is combined. We recommend tests with all components and the cables before starting serial production, to get the proof for a perfectly running system.
Of course we support you with the details of these electrical tests.

The specifications in the catalogue referring to temperature range, bend radius and travel must be seen as limiting value specifications. If two limiting value specifications are combined, this can lead to a reduction of the cable's service life.

The term "oil-resistant" refers to a few selected oil types which have been tested accordingly. This does not mean, however, that the products are automatically resistant to all the oils on the market.

Length printing: Respective printing of the metre length is already on many cables. These are not calibrated measurements, they are only intended as an orientation aid.
Just give us a call!

Storage made easy ...







The chainflex® CASE is a cardboard box that allows cable drum shipping without a pallet. This means that the goods can be sent by a parcel carrier. The chainflex® CASE is not only used for transport, but also works as a storage system for cable drums. The cable can be easily unreeled directly from the box. Thanks to its stackability, you can set up flexible storage facilities. The QR code on the shipping box makes online re-ordering easy. All in all, this system helps you save shipping, process and storage costs.

chainflex® CASE allows cable drums to be shipped in a cardboard box via parcel carriers. Very simple and you can save up to 84% shipping cost compared to standard shipping on a pallet by a freight forwarder.

Remove expensive storage systems for cable drums. Unreel the cable immediately from the chainflex® CASE. Carrying handles and stackability allow for individual storage spaces.

This system makes storage mobile and can be used directly on construction sites, for instance. Expensive special shelving is not required; instead, it can be stored in standard shelving systems.

With the QR code on every chainflex® CASE, you can re-order your cable online in a few seconds. Simply use your smartphone's scanner.

▶ www.igus.eu/cf-case

Just add the required CASE to your order



chainflex®
CASE M



chainflex®
CASE S

chainflex® CASE S and CASE M



chainflex® CASE Refill
Replacing cables in the chainflex® CASE made easy

New



Thanks to the new refill element, the chainflex® CASE shipping and storage solution becomes even more practical and sustainable.

- Easy refilling of the cable by replacing the roll, saving complex logistics processes
- Save up to 38% with every reorder of cables sold by the metre for an existing chainflex® CASE
- Tested and developed in collaboration with our customers
- Save up to 2.6kg of packaging waste with every refill reorder
- Simply add CASE as an option in the online shop

Cables available in the chainflex® CASE

Control cables

Part No.	Number of cores and conductor nominal cross section [mm²]	Max. cable length [m] CASE M	CASE S
Control cables			
CF880.05.02	2x0.5	200	200
CF880.05.03	3G0.5	200	200
CF880.05.04	4G0.5	200	200
CF880.05.05	5G0.5	200	200
CF880.05.07	7G0.5	200	150
CF880.05.12	12G0.5	150	100
CF880.05.18	18G0.5	100	100
CF880.07.02	2x0.75	200	200
CF880.07.03	3G0.75	200	200
CF880.07.04	4G0.75	200	200
CF880.07.05	5G0.75	200	150
CF880.07.07	7G0.75	200	150
CF880.07.12	12G0.75	150	100
CF880.07.18	18G0.75	100	-
CF880.10.02	2x1.0	200	200
CF880.10.03	3G1.0	200	200
CF880.10.04	4G1.0	200	150
CF880.10.05	5G1.0	200	150
CF880.10.07	7G1.0	150	100
CF880.10.12	12G1.0	100	-
CF880.15.02	2x1.5	200	200
CF880.15.03	3G1.5	200	150
CF880.15.04	4G1.5	200	150
CF880.15.05	5G1.5	150	100
CF880.15.07	7G1.5	100	100
CF880.25.03	3G2.5	150	100
CF880.25.04	4G2.5	150	100
CF880.25.05	5G2.5	100	100
CF881.05.03	(3G0.5)C	200	200
CF881.05.04	(4G0.5)C	200	200
CF881.05.05	(5G0.5)C	200	150
CF881.05.07	(7G0.5)C	200	150
CF881.05.12	(12G0.5)C	150	100
CF881.05.18	(18G0.5)C	100	-
CF881.07.02	(2x0.75)C	200	200
CF881.07.03	(3G0.75)C	200	150
CF881.07.04	(4G0.75)C	200	150
CF881.07.05	(5G0.75)C	200	150
CF881.07.07	(7G0.75)C	150	100
CF881.07.12	(12G0.75)C	100	-
CF881.10.02	(2x1.0)C	200	200
CF881.10.03	(3G1.0)C	200	150
CF881.10.04	(4G1.0)C	200	150
CF881.10.05	(5G1.0)C	200	150
CF881.10.07	(7G1.0)C	150	100
CF881.10.12	(12G1.0)C	100	-
CF881.15.02	(2x1.5)C	200	150
CF881.15.03	(3G1.5)C	200	150
CF881.15.04	(4G1.5)C	150	100
CF881.15.05	(5G1.5)C	100	100
CF881.15.07	(7G1.5)C	100	-
CF881.25.04	(4G2.5)C	100	100
CF881.25.05	(5G2.5)C	100	-
CF130.02.03.UL	3x0.25	200	200
CF130.02.04.UL	4x0.25	200	200
CF130.02.06.UL	6x0.25	200	200
CF130.02.07.UL	7x0.25	200	200
CF130.02.12.UL	12x0.25	200	100
CF130.02.18.UL	18x0.25	150	100
CF130.02.20.UL	20x0.25	150	-
CF130.02.25.UL	25x0.25	100	-
CF130.02.30.UL	30x0.25	100	-
CF130.03.02.UL	2x0.34	200	200
CF130.03.05.UL	5x0.34	200	200
CF130.05.02.UL	2x0.5	200	200
CF130.05.03.UL	3G0.5	200	200
CF130.05.04.UL	4G0.5	200	200
CF130.05.05.UL	5G0.5	200	200
CF130.05.07.UL	7G0.5	200	150
CF130.05.12.UL	12G0.5	150	100
CF130.05.18.UL	18G0.5	100	-
CF130.07.02.UL	2x0.75	200	200
CF130.07.03.UL	3G0.75	200	200
CF130.07.04.UL	4G0.75	200	200
CF130.07.05.UL	5G0.75	200	150
CF130.07.07.UL	7G0.75	200	150
CF130.07.12.UL	12G0.75	100	-
CF130.10.02.UL	2x1.0	200	200
CF130.10.03.UL	3G1.0	200	200
CF130.10.04.UL	4G1.0	200	150
CF130.10.05.UL	5G1.0	200	150
CF130.10.07.UL	7G1.0	200	100
CF130.10.12.UL	12G1.0	100	-
CF130.15.02.UL	2x1.5	200	200
CF130.15.03.UL	3G1.5	200	150
CF130.15.04.UL	4G1.5	200	150
CF130.15.05.UL	5G1.5	200	100
CF130.15.07.UL	7G1.5	150	-
CF130.15.12.UL	12G1.5	100	-
CF130.25.03.UL	3G2.5	200	100
CF130.25.04.UL	4G2.5	150	100
CF130.25.07.UL	7G2.5	100	-
CF130.40.03.UL	3G4.0	100	100
CF140.02.12.UL	(12x0.25)C	150	-
CF140.03.05.UL	(5x0.34)C	200	150
CF140.05.03.UL	(3G0.5)C	200	150
CF140.05.05.UL	(5G0.5)C	200	150

Cables available in the chainflex® CASE

Control cables

chainflex® CASE

Part No.	Number of cores and conductor nominal cross section [mm²]	Max. cable length [m] CASE M	CASE S
CF140.07.03.UL	(3G0.75)C	200	150
CF140.07.04.UL	(4G0.75)C	200	100
CF140.07.05.UL	(5G0.75)C	200	100
CF140.07.07.UL	(7G0.75)C	150	100
CF140.07.12.UL	(12G0.75)C	100	-
CF140.10.02.UL	(2x1.0)C	200	150
CF140.10.03.UL	(3G1.0)C	200	100
CF140.10.04.UL	(4G1.0)C	200	100
CF140.10.05.UL	(5G1.0)C	150	100
CF140.10.07.UL	(7G1.0)C	150	-
CF140.15.03.UL	(3G1.5)C	200	100
CF140.15.04.UL	(4G1.5)C	150	100
CF140.15.05.UL	(5G1.5)C	150	100
CF140.15.07.UL	(7G1.5)C	100	-
CF140.25.03.UL	(3G2.5)C	100	-
CF140.25.04.UL	(4G2.5)C	100	-
CF150.UL.10.03	3G1.0	200	150
CF150.UL.10.04	4G1.0	200	100
CF150.UL.10.05	5G1.0	200	100
CF150.UL.10.07	7G1.0	150	-
CF150.UL.15.03	3G1.5	200	100
CF150.UL.15.04	4G1.5	200	100
CF150.UL.15.05	5G1.5	150	100
CF150.UL.15.07	7G1.5	100	-
CF150.UL.25.03	3G2.5	150	100
CF150.UL.25.04	4G2.5	150	100
CF150.UL.25.05	5G2.5	100	-
CF150.UL.25.07	7G2.5	100	-
CF160.UL.10.03	(3G1.0)C	150	100
CF160.UL.10.04	(4G1.0)C	150	100
CF160.UL.10.05	(5G1.0)C	100	-
CF160.UL.10.07	(7G1.0)C	100	-
CF160.UL.15.03	(3G1.5)C	150	100
CF160.UL.15.04	(4G1.5)C	100	-
CF160.UL.15.05	(5G1.5)C	100	-
CF160.UL.25.03	(3G2.5)C	100	-
CF160.UL.25.04	(4G2.5)C	100	-
CF160.UL.25.05	(5G2.5)C	100	-
CF5.03.18	18x0.34	100	-
CF5.05.02	2x0.5	200	200
CF5.05.03	3G0.5	200	200
CF5.05.04	4G0.5	200	200
CF5.05.05	5G0.5	200	150
CF5.05.07	7G0.5	200	150
CF5.05.12	12G0.5	100	-
CF5.05.18	18G0.5	100	-
CF5.07.03	3G0.75	200	200
CF5.07.04	4G0.75	200	150
CF5.07.05	5G0.75	200	150
CF5.07.07	7G0.75	200	100
CF5.07.12	12G0.75	100	-
CF5.10.03	3G1.0	200	200
CF5.10.04	4G1.0	200	150
CF5.10.05	5G1.0	200	150
CF5.10.07	7G1.0	150	100
CF5.10.12	12G1.0	100	-
CF5.15.03	3G1.5	200	150
CF5.15.04	4G1.5	200	150
CF5.15.05	5G1.5	200	100
CF5.15.07	7G1.5	150	-
CF5.25.04	4G2.5	150	100
CF5.25.05	5G2.5	100	-
CF6.02.04	(4x0.25)C	200	150
CF6.03.05	(5x0.34)C	200	150
CF6.05.02	(2x0.5)C	200	150
CF6.05.05	(5G0.5)C	200	100
CF6.05.07	(7G0.5)C	150	100
CF6.05.09	(9G0.5)C	100	-
CF6.05.12	(12G0.5)C	100	-
CF6.07.03	(3G0.75)C	200	150
CF6.07.04	(4G0.75)C	200	100
CF6.07.05	(5G0.75)C	200	100
CF6.07.07	(7G0.75)C	150	-
CF6.10.03	(3G1.0)C	200	150
CF6.10.04	(4G1.0)C	200	100
CF6.10.05	(5G1.0)C	150	100
CF6.10.07	(7G1.0)C	100	-
CF6.15.03	(3G1.5)C	200	100
CF6.15.04	(4G1.5)C	150	100
CF6.15.05	(5G1.5)C	150	-
CF6.15.07	(7G1.5)C	100	-
CF6.25.03	(3G2.5)C	150	-
CF6.25.04	(4G2.5)C	100	-
CFSOFT1.02.03	3x0.25	200	200
CFSOFT1.02.08	8x0.25	200	150
CFSOFT1.03.04	4x0.34	200	200
CFSOFT1.05.04	4x0.5	200	150
CFSOFT2.02.03	(3x0.25)C	200	200
CFSOFT2.02.08	(8x0.25)C	200	150
CFSOFT2.03.04	(4x0.34)C	200	200
CFSOFT2.05.04	(4x0.5)C	200	150
CF890.05.02	2x0.5	200	200
CF890.05.03	3G0.5	200	200
CF890.05.04	4G0.5	200	200
CF890.05.05	5G0.5	200	200
CF890.05.07	7G0.5	200	150
CF890.05.12	12G0.5	150	100
CF890.05.18	18G0.5	100	100

Cables available in the chainflex® CASE

Control cables

Part No.	Number of cores and conductor nominal cross section [mm²]	Max. cable length [m] CASE M	CASE S
Control cables			
CF890.07.02	2x0.75	200	200
CF890.07.03	3G0.75	200	200
CF890.07.04	4G0.75	200	200
CF890.07.05	5G0.75	200	150
CF890.07.07	7G0.75	200	150
CF890.07.12	12G0.75	150	100
CF890.07.18	18G0.75	100	-
CF890.10.02	2x1.0	200	200
CF890.10.03	3G1.0	200	200
CF890.10.04	4G1.0	200	150
CF890.10.05	5G1.0	200	150
CF890.10.07	7G1.0	150	100
CF890.10.12	12G1.0	100	-
CF890.15.02	2x1.5	200	200
CF890.15.03	3G1.5	200	150
CF890.15.04	4G1.5	200	150
CF890.15.05	5G1.5	150	100
CF890.15.07	7G1.5	100	100
CF890.25.03	3G2.5	200	100
CF890.25.04	4G2.5	150	100
CF890.25.05	5G2.5	100	100
CF891.05.02	(2x0.5)C	200	200
CF891.05.03	(3G0.5)C	200	200
CF891.05.05	(5G0.5)C	200	150
CF891.05.12	(12G0.5)C	150	100
CF891.05.18	(18G0.5)C	100	-
CF891.07.02	(2x0.75)C	200	200
CF891.07.03	(3G0.75)C	200	150
CF891.07.04	(4G0.75)C	200	150
CF891.07.05	(5G0.75)C	200	150
CF891.07.07	(7G0.75)C	150	100
CF891.07.12	(12G0.75)C	100	-
CF891.10.02	(2x1.0)C	200	200
CF891.10.03	(3G1.0)C	200	150
CF891.10.04	(4G1.0)C	200	150
CF891.10.05	(5G1.0)C	200	150
CF891.10.07	(7G1.0)C	150	100
CF891.10.12	(12G1.0)C	100	-
CF891.15.02	(2x1.5)C	200	150
CF891.15.03	(3G1.5)C	200	150
CF891.15.04	(4G1.5)C	150	100
CF891.15.05	(5G1.5)C	100	100
CF891.15.07	(7G1.5)C	100	-
CF891.25.04	(4G2.5)C	100	100
CF891.25.05	(5G2.5)C	100	-
CF77.UL.02.03.INI	3x0.25	200	200
CF77.UL.02.04.D	4x0.25	200	200
CF77.UL.02.05.D	5x0.25	200	200
CF77.UL.02.07.D	7x0.25	200	200
CF77.UL.02.12.D	12x0.25	200	100
CF77.UL.02.18.D	18x0.25	150	-
CF77.UL.02.25.D	25x0.25	100	-
CF77.UL.03.04.INI	4x0.34	200	200
CF77.UL.03.05.INI	5x0.34	200	200
CF77.UL.03.05.INI.D	5x0.34	200	200
CF77.UL.05.04.D	4G0.5	200	200
CF77.UL.05.05.D	5G0.5	200	200
CF77.UL.05.07.D	7G0.5	200	150
CF77.UL.05.12.D	12G0.5	150	100
CF77.UL.05.18.D	18G0.5	100	-
CF77.UL.07.03.D	3G0.75	200	200
CF77.UL.07.04.D	4G0.75	200	150
CF77.UL.07.05.D	5G0.75	200	150
CF77.UL.07.07.D	7G0.75	200	100
CF77.UL.07.12.D	12G0.75	100	-
CF77.UL.10.02.D	2x1.0	200	200
CF77.UL.10.03.D	3G1.0	200	200
CF77.UL.10.04.D	4G1.0	200	150
CF77.UL.10.05.D	5G1.0	200	150
CF77.UL.10.07.D	7G1.0	200	100
CF77.UL.10.12.D	12G1.0	100	-
CF77.UL.15.03.D	3G1.5	200	150
CF77.UL.15.04.D	4G1.5	200	150
CF77.UL.15.05.D	5G1.5	200	150
CF77.UL.15.07.D	7G1.5	150	100
CF77.UL.25.03.D	3G2.5	200	100
CF77.UL.25.04.D	4G2.5	150	100
CF77.UL.25.05.D	5G2.5	150	100
CF77.UL.25.07.D	7G2.5	100	-
CF77.UL.40.04.D	4G4.0	100	-
CF78.UL.05.04	(4G0.5)C	200	150
CF78.UL.05.05	(5G0.5)C	200	150
CF78.UL.05.07	(7G0.5)C	150	100
CF78.UL.05.09	(9G0.5)C	100	-
CF78.UL.05.12	(12G0.5)C	100	-
CF78.UL.07.03	(3G0.75)C	200	150
CF78.UL.07.04	(4G0.75)C	200	100
CF78.UL.07.05	(5G0.75)C	150	100
CF78.UL.07.07	(7G0.75)C	150	-
CF78.UL.10.03	(3G1.0)C	200	100
CF78.UL.10.04	(4G1.0)C	200	100
CF78.UL.10.05	(5G1.0)C	150	100
CF78.UL.10.07	(7G1.0)C	100	-
CF78.UL.15.03	(3G1.5)C	150	100
CF78.UL.15.04	(4G1.5)C	150	100
CF78.UL.15.05	(5G1.5)C	150	-
CF78.UL.15.07	(7G1.5)C	100	-

Cables available in the chainflex® CASE

chainflex® CASE

Control cables

Part No.	Number of cores and conductor nominal cross section [mm²]	Max. cable length [m] CASE M	CASE S
CF78.UL.25.03	(3G2.5)C	150	100
CF78.UL.25.04	(4G2.5)C	100	-
CF78.UL.25.05	(5G2.5)C	100	-
CF2.01.04	(4x0.14)C	200	200
CF2.01.08	(8x0.14)C	200	150
CF2.01.12	(12x0.14)C	150	100
CF2.01.18	(18x0.14)C	150	-
CF2.01.24	(24x0.14)C	100	-
CF2.02.04	(4x0.25)C	200	150
CF2.02.08	(8x0.25)C	200	150
CF2.02.18	(18x0.25)C	100	-
CF9.02.02	2x0.25	200	200
CF9.02.03.INI	3x0.25	200	200
CF9.02.06	6x0.25	200	200
CF9.02.07	7x0.25	200	200
CF9.02.08	8x0.25	200	200
CF9.02.12	12x0.25	200	150
CF9.02.18	18x0.25	150	100
CF9.02.20	20x0.25	150	100
CF9.02.25	25x0.25	100	-
CF9.03.04.INI	4x0.34	200	200
CF9.03.05.INI	5x0.34	200	200
CF9.03.06	6x0.34	200	200
CF9.03.08	8x0.34	200	150
CF9.03.16.07.03.INI	16x0.34+3x0.75	100	-
CF9.05.02	2x0.5	200	200
CF9.05.03	3x0.5	200	200
CF9.05.04	4x0.5	200	200
CF9.05.05	5x0.5	200	200
CF9.05.07	7x0.5	200	150
CF9.05.12	12x0.5	150	100
CF9.05.18	18x0.5	100	-
CF9.05.25	25x0.5	100	-
CF9.07.04	4G0.75	200	200
CF9.07.05	5G0.75	200	200
CF9.07.07	7G0.75	200	150
CF9.07.12	12G0.75	100	-
CF9.10.03	3G1.0	200	200
CF9.10.04	4G1.0	200	200
CF9.10.05	5G1.0	200	150
CF9.10.12	12G1.0	100	-
CF9.15.02	2x1.5	200	200
CF9.15.04	4G1.5	200	150
CF9.15.05	5G1.5	200	150
CF9.15.07	7G1.5	150	100
CF9.25.04	4G2.5	150	100
CF9.25.05	5G2.5	150	100
CF9.25.07	7G2.5	100	-
CF9.40.04	4G4.0	100	-
CF10.01.12	(12x0.14)C	200	150
CF10.01.18	(18x0.14)C	150	100
CF10.02.04	(4x0.25)C	200	200
CF10.02.08	(8x0.25)C	200	150
CF10.02.12	(12x0.25)C	150	100
CF10.02.25	(25x0.25)C	100	-
CF10.03.05.INI	(5x0.34)C	200	150
CF10.05.04	(4x0.5)C	200	150
CF10.05.05	(5x0.5)C	200	150
CF10.05.07	(7x0.5)C	200	100
CF10.05.12	(12x0.5)C	100	-
CF10.07.04	(4G0.75)C	200	150
CF10.07.05	(5G0.75)C	200	150
CF10.07.07	(7G0.75)C	150	100
CF10.07.12	(12G0.75)C	100	-
CF10.10.02	(2x1.0)C	200	150
CF10.10.03	(3G1.0)C	200	150
CF10.10.04	(4G1.0)C	200	150
CF10.10.05	(5G1.0)C	200	100
CF10.10.07	(7G1.0)C	150	100
CF10.15.04	(4G1.5)C	150	100
CF10.15.05	(5G1.5)C	150	100
CF10.15.07	(7G1.5)C	100	-
CF10.25.04	(4G2.5)C	100	-
CF9.UL.02.02	2x0.25	200	200
CF9.UL.02.03.INI	3x0.25	200	200
CF9.UL.02.04	4x0.25	200	200
CF9.UL.02.06	6x0.25	200	200
CF9.UL.02.08	8x0.25	200	150
CF9.UL.02.12	12x0.25	200	100
CF9.UL.03.04.INI	4x0.34	200	200
CF9.UL.03.05.INI	5x0.34	200	200
CF9.UL.03.06	6x0.34	200	200
CF9.UL.03.08	8x0.34	200	150
CF9.UL.05.02	2x0.5	200	200
CF9.UL.05.03	3x0.5	200	200
CF9.UL.05.04	4x0.5	200	150
CF9.UL.05.05	5x0.5	200	150
CF9.UL.05.07	7x0.5	200	100
CF9.UL.05.12	12x0.5	150	-
CF9.UL.05.18	18x0.5	100	-
CF9.UL.07.05	5G0.75	200	150
CF9.UL.07.07	7G0.75	200	100
CF9.UL.07.12	12G0.75	100	-
CF9.UL.10.03	3G1.0	200	150
CF9.UL.10.04	4G1.0	200	150
CF9.UL.10.12	12G1.0	100	-
CF9.UL.15.04	4G1.5	200	100
CF9.UL.15.05	5G1.5	200	100

Cables available in the chainflex® CASE

Control and data cables

Part No.	Number of cores and conductor nominal cross section [mm²]	Max. cable length [m] CASE M	CASE S
Control cables			
CF9.UL.15.07	7G1.5	150	-
CF9.UL.25.04	4G2.5	100	-
CF9.UL.25.05	5G2.5	100	-
CF9.UL.40.04	4G4.0	100	-
CF10.UL.02.04	(4x0.25)C	200	150
CF10.UL.02.08	(8x0.25)C	200	100
CF10.UL.02.12	(12x0.25)C	150	-
CF10.UL.02.25	(25x0.25)C	100	-
CF10.UL.05.04	(4x0.5)C	200	100
CF10.UL.05.05	(5x0.5)C	200	100
CF10.UL.05.12	(12x0.5)C	100	-
CF10.UL.07.04	(4G0.75)C	200	100
CF10.UL.07.05	(5G0.75)C	200	100
CF10.UL.07.07	(7G0.75)C	150	-
CF10.UL.07.12	(12G0.75)C	100	-
CF10.UL.10.02	(2x1.0)C	200	100
CF10.UL.10.03	(3G1.0)C	200	100
CF10.UL.10.04	(4G1.0)C	200	100
CF10.UL.10.05	(5G1.0)C	200	-
CF10.UL.10.07	(7G1.0)C	100	-
CF10.UL.15.04	(4G1.5)C	100	-
CF10.UL.15.05	(5G1.5)C	150	-
CF10.UL.15.07	(7G1.5)C	100	-
CF10.UL.25.04	(4G2.5)C	100	-
CF98.01.02	2x0.14	200	200
CF98.01.03	3x0.14	200	200
CF98.01.04	4x0.14	200	200
CF98.01.08	8x0.14	200	200
CF98.02.03.INI	3x0.25	200	200
CF98.02.04	4x0.25	200	200
CF98.02.08	8x0.25	200	150
CF98.03.04.INI	4x0.34	200	200
CF98.05.04	4x0.5	200	200
CF98.PLUS.01.02	2x0.14	200	200
CF98.PLUS.01.03	3x0.14	200	200
CF98.PLUS.01.04	4x0.14	200	200
CF98.PLUS.01.08	8x0.14	200	200
CF98.PLUS.02.03.INI	3x0.25	200	200
CF98.PLUS.02.04	4x0.25	200	200
CF98.PLUS.02.08	8x0.25	200	150
CF98.PLUS.03.04.INI	4x0.34	200	200
CF98.PLUS.05.04	4x0.5	200	200
CF99.01.02	(2x0.14)C	200	200
CF99.01.04	(4x0.14)C	200	200
CF99.01.08	(8x0.14)C	200	150
CF99.02.04	(4x0.25)C	200	150
CF99.03.08	(8x0.34)C	200	150
CF99.PLUS.01.02	(2x0.14)C	200	200
CF99.PLUS.01.04	(4x0.14)C	200	200
CF99.PLUS.01.08	(8x0.14)C	200	150
CF99.PLUS.02.04	(4x0.25)C	200	150
CF99.PLUS.03.08	(8x0.34)C	200	100
Data cables			
CF240.01.03	(3x0.14)C	200	200
CF240.01.04	(4x0.14)C	200	200
CF240.01.05	(5x0.14)C	200	200
CF240.01.07	(7x0.14)C	200	200
CF240.01.14	(14x0.14)C	200	150
CF240.01.18	(18x0.14)C	200	150
CF240.01.24	(24x0.14)C	200	100
CF240.02.03	(3x0.25)C	200	200
CF240.02.04	(4x0.25)C	200	200
CF240.02.05	(5x0.25)C	200	200
CF240.02.07	(7x0.25)C	200	200
CF240.02.08	(8x0.25)C	200	150
CF240.02.14	(14x0.25)C	200	150
CF240.02.18	(18x0.25)C	200	100
CF240.02.24	(24x0.25)C	150	100
CF240.03.02	(2x0.34)C	200	200
CF240.03.03	(3x0.34)C	200	200
CF240.03.04	(4x0.34)C	200	200
CF240.03.05	(5x0.34)C	200	200
CF240.03.07	(7x0.34)C	200	150
CF240.03.10	(10x0.34)C	200	150
CF240.03.14	(14x0.34)C	200	150
CF240.03.18	(18x0.34)C	150	100
CF240.03.24	(24x0.34)C	100	100
CF240.PUR.01.04	(4x0.14)C	200	200
CF240.PUR.01.07	(7x0.14)C	200	200
CF240.PUR.01.08	(8x0.14)C	200	150
CF240.PUR.01.14	(14x0.14)C	200	150
CF240.PUR.01.18	(18x0.14)C	200	150
CF240.PUR.01.25	(25x0.14)C	150	100
CF240.PUR.02.03	(3x0.25)C	200	200
CF240.PUR.02.04	(4x0.25)C	200	200
CF240.PUR.02.05	(5x0.25)C	200	200
CF240.PUR.02.07	(7x0.25)C	200	150
CF240.PUR.02.08	(8x0.25)C	200	150
CF240.PUR.02.14	(14x0.25)C	200	150
CF240.PUR.02.18	(18x0.25)C	200	100
CF240.PUR.02.25	(25x0.25)C	150	-
CF240.PUR.03.03	(3x0.34)C	200	200
CF240.PUR.03.04	(4x0.34)C	200	200
CF240.PUR.03.05	(5x0.34)C	200	200
CF240.PUR.03.07	(7x0.34)C	200	200
CF240.PUR.03.14	(14x0.34)C	150	150
CF240.PUR.03.18	(18x0.34)C	150	100

Cables available in the chainflex® CASE

chainflex® CASE

Data, coax and bus cables

Part No.	Number of cores and conductor nominal cross section [mm²]	Max. cable length [m] CASE M	CASE S
CF211.02.01.02	(2x0.25)C	200	200
CF211.02.02.02	(2x(2x0.25))C	200	200
CF211.02.03.02	(3x(2x0.25))C	200	150
CF211.02.04.02	(4x(2x0.25))C	200	150
CF211.02.05.02	(5x(2x0.25))C	200	100
CF211.02.06.02	(6x(2x0.25))C	200	100
CF211.02.08.02	(8x(2x0.25))C	150	-
CF211.02.10.02	(10x(2x0.25))C	100	-
CF211.02.14.02	(14x(2x0.25))C	100	-
CF211.03.03.02	(3x(2x0.34))C	200	150
CF211.03.08.02	(8x(2x0.34))C	100	-
CF211.05.01.02	(2x0.5)C	200	200
CF211.05.02.02	(2x(2x0.5))C	200	100
CF211.05.03.02	(3x(2x0.5))C	200	100
CF211.05.04.02	(4x(2x0.5))C	150	100
CF211.05.05.02	(5x(2x0.5))C	150	-
CF211.05.06.02	(6x(2x0.5))C	100	-
CF211.05.08.02	(8x(2x0.5))C	100	-
CF211.PUR.02.01.02	(2x0.25)C	200	200
CF211.PUR.02.02.02	(2x(2x0.25))C	200	200
CF211.PUR.02.03.02	(3x(2x0.25))C	200	150
CF211.PUR.02.04.02	(4x(2x0.25))C	200	150
CF211.PUR.02.05.02	(5x(2x0.25))C	200	100
CF211.PUR.02.06.02	(6x(2x0.25))C	200	100
CF211.PUR.02.08.02	(8x(2x0.25))C	150	-
CF211.PUR.02.10.02	(10x(2x0.25))C	100	-
CF211.PUR.03.03.02	(3x(2x0.34))C	200	150
CF211.PUR.03.08.02	(8x(2x0.34))C	100	-
CF211.PUR.05.01.02	(2x0.5)C	200	200
CF211.PUR.05.02.02	(2x(2x0.5))C	200	100
CF211.PUR.05.03.02	(3x(2x0.5))C	200	100
CF211.PUR.05.04.02	(4x(2x0.5))C	150	100
CF211.PUR.05.05.02	(5x(2x0.5))C	150	-
CF211.PUR.05.06.02	(6x(2x0.5))C	100	-
CF211.PUR.05.08.02	(8x(2x0.5))C	100	-
CF11.01.04.02	(4x(2x0.14))C	200	150
CF11.01.18.02	(18x(2x0.14))C	100	-
CF11.02.01.02	(2x0.25)C	200	200
CF11.02.02.02	(2x(2x0.25))C	200	200
CF11.02.03.02	(3x(2x0.25))C	200	150
CF11.02.04.02	(4x(2x0.25))C	200	100
CF11.02.05.02	(5x(2x0.25))C	200	100
CF11.02.06.02	(6x(2x0.25))C	150	100
CF11.02.10.02	(10x(2x0.25))C	100	-
CF11.03.08.02	(8x(2x0.34))C	100	-
CF11.05.04.02	(4x(2x0.5))C	150	100
CF11.05.06.02	(6x(2x0.5))C	100	-
CF11.07.03.02	(3x(2x0.75))C	150	-
CF11.10.04.02	(4x(2x1.0))C	100	-
CF112.02.02.02	(2x(2x0.25)C)C	150	100
CF112.02.03.02	(3x(2x0.25)C)C	150	100
CF112.02.04.02	(4x(2x0.25)C)C	100	-
CF112.02.05.02	(5x(2x0.25)C)C	100	-
CF112.05.02.02	(2x(2x0.5)C)C	100	-
CF112.05.04.02	(4x(2x0.5)C)C	100	-
CF12.02.04.02	(4x(2x0.25)C)C	100	-
CF298.01.02	2x0.14	200	200
CF298.01.04	4x0.14	200	200
CF298.01.08	8x0.14	200	150
CF298.02.03	3x0.25	200	200
CF298.02.04	4x0.25	200	200
CF298.02.07	7x0.25	200	150
CF298.02.08	8x0.25	200	150
CF298.03.04	4x0.34	200	200
CF298.03.07	7x0.34	200	150
CF298.05.04	4x0.5	200	200
CF299.01.02	(2x0.14)C	200	200
CF299.01.04	(4x0.14)C	200	200
CF299.01.08	(8x0.14)C	200	100
CF299.02.04	(4x0.25)C	200	150
CF299.02.07	(7x0.25)C	200	100
Coax cables			
CFKoax1.01	1xHF75-0.3/1.6	200	200
CFKoax1.05	5xHF75-0.3/1.6	150	100
CFKoax2.01	1xHF50-0.9/2.95	200	200
CFKoax3.01	1xHF50-0.3/0.84	200	200
Bus cables			
CFBUS.LB.001	(2x0.25)C	200	100
CFBUS.LB.020	(4x0.25)C	200	200
CFBUS.LB.021	(2x0.5)C	200	150
CFBUS.LB.022	(4x0.5)C	200	150
CFBUS.LB.040	(4x0.25)C	200	150
CFBUS.LB.045	(4x(2x0.15))C	200	100
CFBUS.LB.049	(4x(2x0.15))C	200	100
CFBUS.LB.060	(4x0.38)C	200	150
CF888.001	(2x0.25)C	200	150
CF888.021	(2x0.5)C	200	100
CF888.045	(4x(2x0.14))C	200	150
CF888.060	(4x0.34)C	200	150
CFBUS.PVC.001	(2x0.25)C	200	100
CFBUS.PVC.020	(4x0.25)C	200	150
CFBUS.PVC.021	(2x0.5)C	200	100
CFBUS.PVC.022	(4x0.5)C	200	100
CFBUS.PVC.035	(3x0.5)C	200	150
CFBUS.PVC.040	(4x0.25)C	200	200
CFBUS.PVC.045	(4x(2x0.15))C	200	150
CFBUS.PVC.049	(4x(2x0.15))C	200	150
CFBUS.PVC.050	4x(2x0.20)C	150	100

Cables available in the chainflex® CASE

Bus, FOC and measuring system cables

Part No.	Number of cores and conductor nominal cross section [mm²]	Max. cable length [m] CASE M	CASE S
Bus cables			
CFBUS.PVC.052	(4x(2x0.15)C)C	150	100
CFBUS.PVC.060	(4x0.38)C	200	150
CFBUS.PVC.068	(2x(2xAWG28) +2x(2xAWG28)C)C	200	150
CF898.001	(2x0.25)C	200	150
CF898.021	(2x0.5)C	200	100
CF898.045	(4x(2x0.14))C	200	150
CF898.060	(4x0.34)C	200	150
CF898.061.FC	(4x0.34)C	200	150
CFBUS.PUR.001	(2x0.25)C	200	100
CFBUS.PUR.020	(4x0.25)C	200	150
CFBUS.PUR.021	(2x0.5)C	150	100
CFBUS.PUR.022	(4x0.5)C	200	100
CFBUS.PUR.035	(3x0.5)C	200	150
CFBUS.PUR.040	(4x0.25)C	200	200
CFBUS.PUR.042	(2x0.15)C	200	200
CFBUS.PUR.045	(4x(2x0.15))C	150	150
CFBUS.PUR.049	(4x(2x0.15))C	150	150
CFBUS.PUR.050	4x(2x0.20)C	200	100
CFBUS.PUR.052	(4x(2x0.15)C)C	200	100
CFBUS.PUR.056	(2x(2x0.15)C+2x0.38)C	200	100
CFBUS.PUR.060	(4x0.38)C	200	150
CFBUS.PUR.068	(2x(2xAWG28) +2x(2xAWG28)C)C	200	150
CFBUS.PUR.H01.049	((4x(2x0.15))C+4x1.5)C	200	-
CFBUS.PUR.H01.060	((4x0.38)C+4x1.5)C	150	-
CFBUS.001	(2x0.25)C	100	100
CFBUS.002	(2x0.25)C+4x1.5	100	-
CFBUS.003	(2x0.25)C+3G0.75	200	-
CFBUS.010	(3x(2x0.25))C	100	100
CFBUS.011	(3x(2x0.25)+(3G1.0))C	100	-
CFBUS.020	(4x0.25)C	200	200
CFBUS.021	(2x0.5)C	200	150
CFBUS.022	(4x0.5)C	200	150
CFBUS.030	((2xAWG24)C+2xAWG22)C	150	150
CFBUS.031	((2xAWG18)C+2xAWG15)C	150	-
CFBUS.035	(3xAWG20)C	100	100
CFBUS.040	(4x0.25)C	100	150
CFBUS.045	(4x(2x0.15))C	200	100
CFBUS.049	(4x(2x0.15))C	200	100
CFBUS.050	(4x(2x0.15)C)C	200	-
CFBUS.052	(4x(2x0.15)C)C	200	-
CFBUS.055	2x(2x0.15)C+2x(0.34)C	200	150
CFBUS.060	(4x0.38)C	200	150
CFBUS.065	((2xAWG28)+2xAWG20)C	150	200
CFBUS.066	((2xAWG24)+2xAWG20)C	100	200
CFBUS.070	(4x(2xAWG28)C +(2xAWG28)+3xAWG28)C	100	100

Part No.	Number of cores and conductor nominal cross section [mm²]	Max. cable length [m] CASE M	CASE S
Fibre Optic Cable			
CFLK.L1.01	1x980/1,000	200	200
CFLK.L1.02	2x980/1,000	200	150
CFLG88.2.50/125	2x50/125	200	150
CFLG88.2.62.5/125	2x62.5/125	200	150
CFLG.2LB.PUR.62.5/125	2x62.5/125	200	100
CFLG.4LB.PUR.62.5/125	4x62.5/125	200	100
CFLG.6LB.PUR.50/125	6x50/125	100	-
CFLG.6LB.PUR.62.5/125	6x62.5/125	100	-
CFLG.6LB.PUR.9/125	6x9/125	100	-
CFLG.2LB.200/230	2x200/230	200	100
CFLG.2LB.50/125	2x50/125	200	100
CFLG.2LB.62.5/125	2x62.5/125	200	100
CFLG.4LB.50/125	4x50/125	200	100
CFLG.4LB.62.5/125	4x62.5/125	200	100
CFLG.6LB.50/125	6x50/125	100	-
CFLG.6LB.62.5/125	6x62.5/125	100	-
CFLG.12E.9/125.TC	12x9/125	150	100
CFLG.12G.50/125.TC	12x50/125	150	100
CFLG.12G.62.5/125.TC	12x62.5/125	150	100
CFLG.6G.50/125.TC	6x50/125	150	100
CFLG.6G.62.5/125.TC	6x62.5/125	150	100
Measuring system cables			
CF884.001	(3x(2x0.14)C +(4x0.14)+(2x0.5))C	200	100
CF884.006	(3x(2x0.14)C+(4x0.14) +(4x0.22)+(2x0.5))C	200	100
CF884.009	(4x(2x0.25)+2x0.5)C	200	150
CF884.011	(4x(2x0.34)+4x0.5)C	150	100
CF884.015	(4x(2x0.14)+4x0.5)C	200	100
CF884.022	((2x0.25)+5x0.5)C	200	150
CF884.028	(2x(2x0.15)+(2x0.38))C	200	150
CF211.001	(3x(2x0.14)C +(4x0.14)+(2x0.5))C	200	100
CF211.002	(3x(2x0.14)C+2x(0.5)C)C	150	100
CF211.004	(2x(2x(2x0.14)) +(4x0.14)C+(4x0.5))C	150	100
CF211.006	(3x(2x0.14)C+(4x0.14) +(4x0.25)+(2x0.5))C	150	100
CF211.009	(4x(2x0.25)+2x0.5)C	200	150
CF211.010	(4x(2x0.25)+2x1.0)C	200	100
CF211.011	(4x(2x0.34)+4x0.5)C	200	100
CF211.014	(4x(2x0.25)C+(2x0.5))C	150	-
CF211.015	(4x(2x0.14)+4x0.5)C	200	100
CF211.016	(3x(2x0.25)C)C	200	100
CF211.017	(4x(2x0.14) +(4x0.14)C+4x1.0)C	150	100
CF211.018	(2x(2x0.25)+2x0.5)C	200	200

chainflex® CASE

Measuring system cables

Part No.	Number of cores and conductor nominal cross section [mm²]	Max. cable length [m] CASE M	CASE S
CF211.019	(3x(2x0.25)C +(3x0.25)+2x1.0)C	150	100
CF211.022	((2x0.25)+5x0.5)C	200	150
CF211.024	((4x0.14)+2x(2x0.34))C	200	150
CF211.027	(5x(2x0.14)+2x0.5)C	200	150
CF211.028	(2x(2x0.15)+(2x0.38))C	200	150
CF211.032	3x(2x0.14)C+(3x0.14)C	200	150
CF211.033	4x(2x0.14)C+2x(1.0)C	150	100
CF211.036	(5x(2x0.25))C	200	150
CF211.037	(6x(2x0.25))C	200	100
CF211.038	(3x(2x0.14)+(2x0.34))C	200	150
CF211.039	(4x(2x0.14)C+2x(0.5)C)C	150	100
CF211.041	(2x(2x0.18)+5x0.5)C	200	150
CF211.042	(3x(2x0.18)+6x0.5)C	200	100
CF894.001	(3x(2x0.14)C +(4x0.14)+(2x0.5))C	200	100
CF894.006	(3x(2x0.14)C+(4x0.14) +(4x0.22)+(2x0.5))C	200	100
CF894.009	(4x(2x0.25)+2x0.5)C	200	150
CF894.011	(4x(2x0.34)+4x0.5)C	150	100
CF894.015	(4x(2x0.14)+4x0.5)C	200	100
CF894.022	((2x0.25)+5x0.5)C	200	150
CF894.028	(2x(2x0.15)+(2x0.38))C	200	150
CF111.001.D	(3x(2x0.14)C +(4x0.14)+(2x0.5))C	200	100
CF111.002.D	(3x(2x0.14)C+2x(0.5)C)C	150	100
CF111.004.D	(2x(2x(2x0.14)) +(4x0.14)C+(4x0.5))C	150	-
CF111.006.D	(3x(2x0.14)C+(4x0.14) +(4x0.25)+(2x0.5))C	150	100
CF111.009.D	(4x(2x0.25)+2x0.5)C	200	150
CF111.010.D	(4x(2x0.25)+2x1.0)C	200	100
CF111.011.D	(4x(2x0.34)+4x0.5)C	200	100
CF111.014.D	(4x(2x0.25)C+(2x0.5))C	150	-
CF111.015.D	(4x(2x0.14)+4x0.5)C	200	100
CF111.020.D	(3x(2x0.14) +2x(4x0.14)+(2x0.5))C	200	100
CF111.021.D	((4x0.25) +3x(2x0.25+2x0.5))C	150	100
CF111.022.D	((2x0.25)+5x0.5)C	200	150
CF111.024.D	((4x0.14)+2x(2x0.34))C	200	150
CF111.026.D	(6x(2x0.25) +(2x0.34)C+(2x0.5))C	150	-
CF111.027.D	(5x(2x0.14)+2x0.5)C	200	150
CF111.028.D	(2x(2x0.15)+(2x0.38))C	200	150
CF111.032.D	3x(2x0.14)C+(3x0.14)C	200	100
CF111.040.D	(3x(4x0.14) +(2x0.14+2x0.34)+2x1.5)C	200	100
CF111.041.D	(2x(2x0.18)+5x0.5)C	200	150

Part No.	Number of cores and conductor nominal cross section [mm²]	Max. cable length [m] CASE M	CASE S
CF111.042.D	(3x(2x0.18)+6x0.5)C	200	100
CF113.001.D	(3x(2x0.14)C +(4x0.14)+(2x0.5))C	150	100
CF113.002.D	(3x(2x0.14)C+2x(0.5)C)C	100	100
CF113.003.D	(3x(2x0.14)+2x1.0)C	200	150
CF113.004.D	(2x(2x(2x0.14)) +(4x0.14)C+(4x0.5))C	100	-
CF113.005.D	(4x(2x0.14)+4x0.5)C	150	100
CF113.006.D	(3x(2x0.14)C+(4x0.14) +(4x0.25)+(2x0.5))C	100	-
CF113.007.D	(4x0.34)C	200	200
CF113.008.D	(3x(2x0.25))C	200	150
CF113.009.D	(4x(2x0.25)+2x0.5)C	150	100
CF113.010.D	(4x(2x0.25)+2x1.0)C	150	100
CF113.011.D	(4x(2x0.34)+4x0.5)C	100	100
CF113.013.D	(3x(2x0.14)C+2x0.5)C	150	100
CF113.014.D	(4x(2x0.25)C+(2x0.5))C	100	-
CF113.015.D	(4x(2x0.14)+4x0.5)C	150	100
CF113.016.D	(3x(2x0.25)C)C	150	100
CF113.017.D	(4x(2x0.14) +(4x0.14)C+4x1.0)C	100	100
CF113.018.D	(2x(2x0.25)+2x0.5)C	200	200
CF113.019.D	(3x(2x0.25)C +(3x0.25)+2x1.0)C	100	100
CF113.022.D	((2x0.25)+5x0.5)C	200	150
CF113.025.D	(3x(2x0.14)C+(2x0.5)C)C	100	100
CF113.027.D	(5x(2x0.14)+2x0.5)C	200	100
CF113.028.D	(2x(2x0.20)+(2x0.38))C	200	150
CF113.029.D	(5x(2x0.25)C +(2x0.25+2x0.5))C	100	-
CF113.031.D	(2x(2x0.25)C+2x1.0)C	150	100
CF113.032.D	3x(2x0.14)C+(3x0.14)C	150	100
CF113.033.D	4x(2x0.14)C+2x(1.0)C	100	100
CF113.036.D	(5x(2x0.25))C	150	100
CF113.037.D	(6x(2x0.25))C	150	100
CF113.038.D	(3x(2x0.14)+(2x0.34))C	200	100
CF113.040.D	(3x(4x0.14) +(2x0.14+2x0.34)+2x1.5)C	150	100
CF11.001.D	(3x(2x0.14) C+(4x0.14)+(2x0.5))C	150	100
CF11.002.D	(3x(2x0.14)C+2x(0.5)C)C	150	100
CF11.003.D	(3x(2x0.14)+2x1.0)C	200	150
CF11.004.D	(2x(2x(2x0.14)) +(4x0.14)C+(4x0.5))C	100	-
CF11.005.D	(4x(2x0.14)+4x0.5)C	150	100
CF11.006.D	(3x(2x0.14)C+(4x0.14) +(4x0.25)+(2x0.5))C	100	-
CF11.007.D	(4x0.34)C	200	200
CF11.008.D	(3x(2x0.25))C	200	150

Cables available in the chainflex® CASE

Measuring system, servo and motor cables

Part No.	Number of cores and conductor nominal cross section [mm²]	Max. cable length [m] CASE M	CASE S
Measuring system cables			
CF11.009.D	(4x(2x0.25)+2x0.5)C	150	100
CF11.010.D	(4x(2x0.25)+2x1.0)C	150	100
CF11.011.D	(4x(2x0.34)+4x0.5)C	100	100
CF11.012.D	(3x(2x0.14)C+(3x0.14)C +(4x0.14) +(2x0.14+2x0.5))C	100	-
CF11.013.D	(3x(2x0.14)C+2x0.5)C	150	100
CF11.014.D	(4x(2x0.25)C+(2x0.5))C	100	-
CF11.015.D	(4x(2x0.14)+4x0.5)C	200	100
CF11.017.D	(4x(2x0.14) +(4x0.14)C+4x1.0)C	100	100
CF11.018.D	(2x(2x0.25)+2x0.5)C	200	200
CF11.019.D	(3x(2x0.25)C +(3x0.25)+2x1.0)C	100	100
CF11.021.D	((4x0.25) +3x(2x0.25+2x0.5))C	100	100
CF11.022.D	((2x0.25)+5x0.5)C	200	150
CF11.025.D	(3x(2x0.14)C+(2x0.5)C)C	150	100
CF11.027.D	(5x(2x0.14)+2x0.5)C	200	100
CF11.028.D	(2x(2x0.20)+(2x0.38))C	200	150
CF11.031.D	(2x(2x0.25)C+2x1.0)C	150	100
CF11.032.D	3x(2x0.14)C+(3x0.14)C	150	150
CF11.033.D	4x(2x0.14)C+2x(1.0)C	100	100
CF11.034.D	3x(2x0.14)C+(4x0.14)C +2x(2x0.5)C	100	-
CF11.035.D	(4x(2x0.25)C+2x(2x0.5))C	100	-
CF11.038.D	(3x(2x0.14)+(2x0.34))C	200	150
Servo cables			
CF887.07.05.02.01	(4G0.75+(2x0.5)C)C	150	100
CF887.10.07.02.02	(4G1.0+2x(2x0.75)C)	100	-
CF887.15.15.02.01	(4G1.5+(2x1.5)C)	100	-
CF210.UL.15.15.02.01	(4G1.5+(2x1.5)C)	100	-
CF21.07.03.02.02.UL	(4G0.75+2x(2x0.34)C)C	100	-
CF21.07.05.02.01.UL	(4G0.75+(2x0.5)C)C	100	-
CF21.15.15.02.01.UL	(4G1.5+(2x1.5)C)	100	-
CF897.15.15.02.01	(4G1.5+(2x1.5)C)	100	-
CF270.UL.07.03.02.02.D	(4G0.75+2x(2x0.34)C)C	100	-
CF270.UL.10.07.02.02.D	(4G1.0+2x(2x0.75)C)	100	-
CF270.UL.15.15.02.01.D	(4G1.5+(2x1.5)C)	100	-
CF27.07.03.02.02.D	(4G0.75+2x(2x0.34)C)C	100	-
CF27.07.05.02.01.D	(4G0.75+(2x0.5)C)C	100	-
CF27.15.05.04.D	(4G1.5+(4x0.5)C)C	100	-
CF27.15.15.02.01.D	(4G1.5+(2x1.5)C)	100	-
CF29.15.15.02.01.D	(4G1.5+(2x1.5)C)	100	-
Hybrid servo cables			
CF220.UL.H100.07.04	(4G0.75+(2x0.34)C +(2xAWG22)C)C	100	-
CF220.UL.H101.10.04	(4G1.0+(2x0.75)C +(2xAWG22)C)C	100	-
CF220.UL.H304.15.04.D	(4G1.5+(2x1.5)C +(4xAWG26)C)C	100	-
CF280.UL.H100.07.04.D	(4G0.75+(2x0.34)C +(2xAWG22)C)C	100	-
CF280.UL.H101.10.04.D	(4G1.0+(2x0.75)C +(2xAWG22)C)C	100	-
CF280.UL.H203.15.04.D	(4G1.5+(3x1.0)C)C	100	-
CF280.UL.H300.03.04.D	(4G0.34+(2x0.34)C +(4xAWG26)C)C	150	100
CF280.UL.H301.07.04.D	(4G0.75+(2x0.5)C +(4xAWG26)C)C	100	-
CF280.UL.H304.15.04.D	(4G1.5+(2x1.5)C +(4xAWG26)C)C	100	-
CF280.UL.H401.07.04.D	(4G0.75+(2x0.5)C +(4xAWG24)C)C	100	-
Motor cables			
CF885.15.04	4G1.5	200	150
CF885.25.04	4G2.5	150	100
CF885.40.04	4G4.0	100	-
CF886.15.04	(4G1.5)C	150	100
CF886.25.04	(4G2.5)C	100	-
CF886.40.04	(4G4.0)C	100	-
CF210.UL.05.04	(4G0.5)C	200	150
CF210.UL.15.04	(4G1.5)C	150	100
CF210.UL.25.04	(4G2.5)C	100	-
CF30.15.04	4G1.5	200	150
CF30.25.04	4G2.5	150	100
CF30.25.05	5G2.5	100	-
CF30.40.04	4G4.0	100	-
CF31.15.04	(4G1.5)C	150	100
CF31.25.04	(4G2.5)C	100	-
CF895.15.04	4G1.5	200	150
CF895.25.04	4G2.5	150	100
CF895.40.04	4G4.0	100	-
CF896.07.04	(4G0.75)C	200	150
CF896.15.04	(4G1.5)C	200	100
CF896.25.04	(4G2.5)C	150	-
CF896.40.04	(4G4.0)C	100	-
CF270.UL.07.04.D	(4G0.75)C	200	150
CF270.UL.15.04.D	(4G1.5)C	150	100
CF270.UL.25.04.D	(4G2.5)C	100	-
CF270.UL.10.06.D	(6G1.0)C	150	100
CF27.07.04.D	(4G0.75)C	200	100
CF27.15.04.D	(4G1.5)C	150	-
CF27.25.04.D	(4G2.5)C	100	-
CF34.UL.15.04.D	4G1.5	200	150

chainflex® CASE

Cables available in the chainflex® CASE

Motor/spindle and torsion cables & pneumatic hoses

Part No.	Number of cores and conductor nominal cross section [mm²]	Max. cable length [m] CASE M	CASE S
CF34.UL.25.04.D	4G2.5	150	100
CF34.UL.40.04.D	4G4.0	100	-
CF35.UL.05.04	(4G0.5)C	200	150
CF35.UL.07.04	(4G0.75)C	200	150
CF35.UL.15.04	(4G1.5)C	150	100
CF35.UL.25.04	(4G2.5)C	100	-
CF37.15.04.D	4G1.5	200	150
CF37.25.04.D	4G2.5	150	100
CF37.40.04.D	4G4.0	100	-
CF38.15.04	(4G1.5)C	150	100
CF38.25.04	(4G2.5)C	100	-
Spindle cables/Single cores			
CF885.40.01	1x4.0	200	150
CF885.60.01	1x6.0	200	150
CF885.100.01	1x10	150	100
CF885.160.01	1x16	100	-
CF885.PE.25.01	1G2.5	200	200
CF885.PE.40.01	1G4.0	200	150
CF885.PE.60.01	1G6.0	200	150
CF885.PE.100.01	1G10	150	100
CF885.PE.160.01	1G16	100	-
CF886.160.01	(1x16)C	100	-
CF270.UL.60.01.D	(1x6.0)C	200	150
CF270.UL.160.01.D	(1x16)C	100	100
CF300.UL.40.01.D	1x4.0	200	200
CF300.UL.60.01.D	1x6.0	200	150
CF300.UL.100.01.D	1x10	200	150
CF300.UL.160.01.D	1x16	100	100
CFPE.15.01	1G1.5	200	200
CFPE.25.01	1G2.5	200	200
CFPE.40.01	1G4.0	200	200
CFPE.60.01	1G6.0	200	150
CFPE.100.01	1G10	200	150
CFPE.160.01	1G16	100	100
CF310.UL.25.01	(1x2.5)C	200	200
CF310.UL.40.01	(1x4.0)C	200	200
CF310.UL.60.01	(1x6.0)C	200	150
CF310.UL.100.01	(1x10)C	150	100
CF310.UL.160.01	(1x16)C	100	100
CF330.60.01.D	1x6.0	200	150
CF330.100.01.D	1x10	200	150
CF330.160.01.D	1x16	150	100
CF340.40.01	(1x4.0)C	200	200
CF340.160.01	(1x16)C	100	100
Twistable cables			
CFROBOT2.07.04.C	(4G0.75)C	200	150
CFROBOT2.07.05.C	(5G0.75)C	200	100
CFROBOT2.07.07.C	(7G0.75)C	150	100
CFROBOT3.02.03.02	(3x(2x0.25))C	150	100
CFROBOT3.02.04.02	(4x(2x0.25))C	150	-
CFROBOT3.02.06.02	(6x(2x0.25))C	100	-
CFROBOT3.05.05.02	(5x(2x0.5))C	100	-
CFROBOT4.001	(3x(2x0.14)C +(4x0.14)+(2x0.5))C	150	-
CFROBOT4.006	(3x(2x0.14)C+(4x0.14) +(4x0.22)+(2x0.5))C	100	-
CFROBOT4.009	(4x(2x0.25)+(2x0.5))C	150	100
CFROBOT4.015	(4x(2x0.14)+4x0.5)C	200	100
CFROBOT4.028	(2x(2x0.20)+(2x0.38))C	200	150
CFROBOT5.500	2x62.5/125	200	100
CFROBOT5.501	2x50/125	200	100
CFROBOT7.07.03.02.02.C	(4G0.75+2x(2x0.34)C)C	100	-
CFROBOT7.15.03.C	(3G1.5)C	200	100
CFROBOT7.15.04.C	(4G1.5)C	200	100
CFROBOT7.25.03.C	(3G2.5)C	150	100
CFROBOT7.25.04.C	(4G2.5)C	150	-
CFROBOT.035	(1x10)C	100	-
CFROBOT8.001	(2x0.35)C	200	150
CFROBOT8.022	(4x0.5)C	200	150
CFROBOT8.030	(2xAWG24)C +(2xAWG22)C	150	100
CFROBOT8.045	4x(2x0.15)C	150	100
CFROBOT8.049	4x(2x0.15)C	150	100
CFROBOT8.050	4x(2x0.15)C	150	-
CFROBOT8.052	4x(2x0.15)C	150	-
CFROBOT8.060	(2x(2x0.34))C	200	100
CFROBOT8.PLUS.001	(2x0.25)C	200	100
CFROBOT8.PLUS.022	(4x0.5)C	200	150
CFROBOT8.PLUS.045	(4x(2x0.15))C	200	150
CFROBOT8.PLUS.049	(4x(2x0.15))C	200	150
CFROBOT8.PLUS.050	(4x(2x0.15)C)C	200	150
CFROBOT8.PLUS.060	(4x0.34)C	200	150
CFROBOT9.010	(4x(2x0.25)C)C	150	-
Pneumatic hoses			
CAPE.A.06.0	4.0x1.0x6.0	200	-
CAPE.A.08.0	5.7x1.15x8.0	200	-
CAPU.A.06.0	4x1.0x6.0	200	-
CAPU.A.08.0	5.7x1.15x8.0	200	-

Find & compare cables

Quickcable



The chainflex® product finder simply shows which of our cables is best suited for your e-chain® application:
Select the cable type ❶, the connection and other desired product properties as well as the number of cores and the cross-section ❷, the nominal voltage and type of the e-chain® for your application. Select the bend radius, the maximum and minimum operating temperature ❸, torsion, maximum speed and acceleration, as well as the travel ❹.
The results are displayed at the bottom edge of the screen ❺.

▶ www.igus.eu/quickcable

Calculate service life of cables

QuickLife



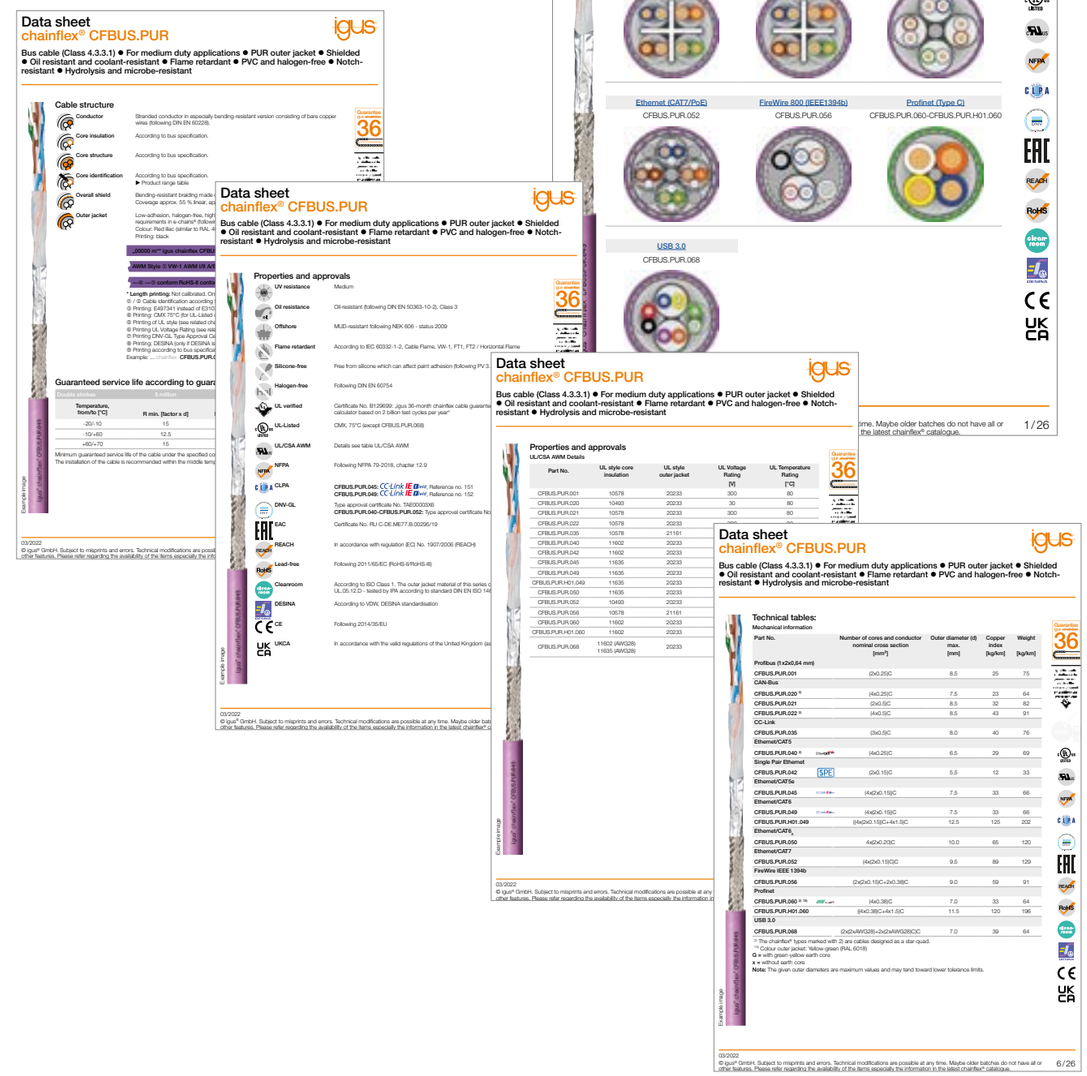
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▶ www.igus.eu/chainflexlife

Data sheets online

Technical details for all chainflex® cables series ... to be found online as PDF file:

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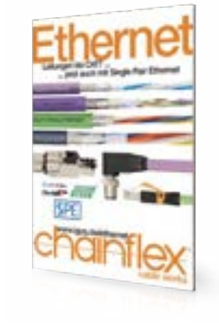
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chainflex® cables and harnessed readycable® cables for Ethernet applications: CAT5, CAT5e, CAT6, CAT6A und CAT7, Profinet, Connectors.

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White paper
Find our latest whitepaper for these approvals online:
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igus® worldwide

igus® Offices

igus® Distributors

1 Germany

igus® GmbH
Spicher Str. 1a
51147 Köln
PO Box 90 61 23
51127 Köln
Phone 02203 9649-0
Fax 02203 9649-222
info@igus.de

2 Argentina

Borintech SRL
Av. Elcano 4971
C1427CIH Buenos Aires
Phone +5411 4556 1000
igus@borintech.com

3 Australia

Treotham Automation Pty. Ltd.
14 Sydenham Road
Brookvale NSW 2100
Phone +61 2 9907-1788
Fax +61 2 9907-1778
info@treotham.com.au

4 Austria

igus® polymer Innovationen GmbH
Photo-Play-Straße 1
4860 Lenzing
Phone +43 7662 57763
Fax +43 7662 57751
igus-austria@igus.de

5 Belgium/Luxemburg

igus® B.V.B.A.
Jagersdreef 4A
2900 Schoten
Phone +32 3 330 13 60
Fax +32 3 313 79 91
info@igus.be

6 Bosnia + Herzegowina

HENNLICH industrijska tehnika d.o.o.
Zujevinska br. 10
71210 Ilidža - Sarajevo
Phone +387 33 451 439
Fax +387 33 451 439
info@hennlich.ba

7 Brazil

igus® do Brasil Ltda.
Rua Antônio Christi, nº 611
Parque Industrial III – FAZGRAN
Jundiaí – CEP 13213-183 – SP
Phone +55 11 3531-4487
Fax +55 11 3531-4488
vendas@igus.com.br

8 Bulgaria

Hennlich OOD, BG
4003 Plovdiv, Bulgaria
147A, Brezovsko shose Str.,
Rota center, fl. 3
Phone +359 32 511 326
Fax +359 32 621 929
office@hennlich.bg

9 Canada

igus® Office Canada
Suite 100-180
Bass Pro Mills Dr
Vaughan, ON L4K 5W4
Phone +1 905 7608448
Fax +1 905 7608688
webmaster@igus.com

10 Chile

Vendortec
Avda. Los Pajaritos 3195,
Oficina 1410
Edificio Centro Maipú
Maipú – Santiago
Phone +56 22 710 58 25
+56 23 245 02 00
ventas@vendortec.cl

11 China

igus® Shanghai Co., Ltd.
No.50, North Huancheng Road
Fengxian district
Shanghai 201401
P. R. China
Phone +86 21 8036 6999
Fax +86 21 8036 6116
cnmaster@igus.net

12 Colombia

PRODUCTOS I SAS
Carrera 28a, 15-18 Local 1,
Paloquemao, Bogotá
Phone +57 1 561 2959
ext. 113
igus@igus.com.co

13 Costa Rica

Enesa Equipos Neumaticos S.A.
Del Colegio Marista
100 este, 200 sur, 25 este
Urbanizacion Ciruelas
Alajuela, Costa Rica
Phone +506 2440-2393
Fax +506 2440-2393
equiposneumaticos@enesa.net

14 Croatia

Hennlich, Industrijska d. o. o.
Stupničkoobreška 17
Stupnički Obrež
10255 Gornji Stupnik
Phone +385 1 3874334
Fax +385 1 3874336
hennlich@hennlich.hr

15 Cyprus

G.C.V. Spare Parts & Services Ltd (HQ)
Industrial Area Anatoliko
8068 Pafos
Phone +357 26 812444
Fax +357 26 812447
igus@gcv-parts.com

16 Czech Republic

HENNLICH s.r.o.
Českolipská 9
412 01 Litoměřice
Phone e-chains®
+420 416 711332
Phone Plain bearings
+420 416 711339
Fax +420 416 711999
lin-tech@hennlich.cz

17 Denmark

igus® ApS
Lysholt Alle 8
DK-7100 Vejle
Phone +45 86 603373
Fax +45 86 603273
info@igus.dk

18 Ecuador

Ecuainsetec
Yugoeslavia N34-110 y Azuay
Quito
Phone +593 2 2253757
Fax +593 2 2461833
infouio@ecuainsetec.com.ec

19 Egypt

IEE International Company for Electrical Engineering
2nd floor, 25 Orabi St
Down Town, Cairo
Phone +202 25767370
Fax +202 25767375
sales@iee-egypt.com

20 Estonia

igus® OÜ
Vana-Tartu mnt 79a
75312 Peetri
Phone +372 667 5600
info@igus.ee

21 Finland

OEM Finland OY
Fiskarsinkatu 3
20750 Turku
PL 9, 20101 Turku
Phone +358 20 7499499
Fax +358 20 7499456
info@oem.fi

22 France

igus® SARL
49, avenue des Pépinières
Parc Médicis
94260 Fresnes
Phone +33 1 49840404
Fax +33 1 49840394
info@igus.fr

23 Greece

J. & E. Papadopoulos S.A.
12 Polidefkous str
Piraeus, 185 40
Phone +30 210 4113133
Fax +30 210 4116781
sales@papadopoulos-sa.com

24 Hong Kong

Sky Top Enterprises Ltd.
Room 1806 ; Block C; Wah Tat Industrial Center; Wah Sing Street; Kwai Chung Hong Kong
Phone +852 23318928
Fax +852 24269738
info@skytop.com.cn

25 Hungary

igus® Hungária Kft.
Ipari Park u.10.
1044 Budapest
Phone +36 1 3066486
Fax +36 1 4310374
info@igus.hu

25 Hungary

Tech-Con Kft.
Vésõ utca 9-11
1133 Budapest
Phone +36 1 4124161
Fax +36 1 4124171
tech-con@tech-con.hu

26 India

igus® (India) Pvt. Ltd.
36/1, Sy No. 17/3
Euro School Road,
Dodda Nekkundi Industrial Area, - 2nd Stage
Mahadevapura Post
Bangalore 560048
Phone +91 80 68127800
Fax +91 80 68127802
info-in@igus.net

27 Indonesia

PT igus® Indonesia
Headquarter Indonesia
Taman Tekno BSD
Sektor XI, Blok L1 No. 15
Tangerang Selatan 15314
Phone +62 21 7588 1933
Fax +62 21 7588 1932
id-info@igus.net

28 Ireland

igus® Ireland
Caswell Rd
Northampton NN4 7PW
Phone +44-1604 677240
Fax +44-1604 677242
sales@igus.ie

29 Israel

Conlog LTD
PO Box 3265
17 Hamefalssim Str.
Industrial Zone Kiryat Arie
Petach-Tikva 49130
Phone +972 3 9269595
Fax +972 3 9233367
conlog@conlog.co.il

30 Italy

igus® S.r.l.
Via delle Rovedine, 4
23899 Robbiate (LC)
Phone +39 039 5906.1
Fax +39 039 5906.222
igusitalia@igus.it

31 Japan

igus® k.k.
Arcacentral 15F, 1-2-1 Kinshi,
Sumida-ku Tokyo JAPAN
Zip 130-0013
Phone +81 358 192030
Fax +81 358 192055
info@igus.co.jp

32 Kazakhstan

HENNLICH TOO
Kamali Dyusembekova Street 1/5
100022 Kazybek Bi R-N,
Karaganda City
Phone +7 701 419 0756
+7 7212 78 06 70
igus@hennlich.kz

33 Kenya

Mantrad Ltd.
Sterling House, 1St. Floor
Moi Avenue, Mombasa
Phone + 254 722 706 830
Fax + 254 720 765 566
info@mantrad.co.ke

34 Latvia

Techvitas SIA
Daugavas iela 38-3
Mārupe, LV-2167
Phone +371 22 325 004
i_igusLettland_G@igus.de

35 Lebanon

Mecanix Shops SAL
Horsh Tablet - Ste Rita blvd
P.O.Box: 55384 Beirut
Phone +961 1 486701
Fax +961 1 490929
sales@mecanixshops.com

36 Lithuania

Hitech UAB
Terminalo g. 3
54469 Biruliskiu k. (Kauno LEZ)
Kauno raj.
Phone +370 37 323271
Fax +370 37 203273
info@hitech.lt

37 Mazedonien, Albania, Kosovo

Hennlich doo Beograd
Radomira Markovića 1/3
11222 Beograd
Phone +381 11 63 098 17
Fax +381 11 63 098 20
office@hennlich.rs

38 Malaysia

igus® Malaysia Sdn Bhd
Suite 1601-1, Level 16,
Tower 2, Wisma AmFirst,
Jalan SS 7/15 (Jalan Stadium),
47301 Kelana Jaya, Selangor
Phone +603 7803 0618
Fax +603 7886 1328
my-info@igus.net

39 Morocco

AFIT
5, Rue Amir Abdelkader
20300 Casablanca
Phone +212 522 633769
Fax +212 522 618351
souria.vu@premium.net.ma

40 Mexiko

igus® México S. de R.L. de C.V.
Boulevad Aeropuerto Miguel Alemán 160 Int. 135
Col. Corredor Industrial Toluca Lerma
Lerma, Estado de México C.P. 52004
Phone +52 728284 3185
Fax +52 728284 3187
fmarquez@igus.com

41 Middle East

JISigus Middle East FZE
FF07, Jebel Ali Free Zone
PO Box- 17483
Dubai, United Arab Emirates
Phone +971 4222 1185
Fax +971 4222 1186
info@jisigus.com

42 Myanmar

Sea Lion Co. Ltd.
181 Bo Myat Tun St
Botataung Yangon
11161 Myanmar
Phone +95 1 29 97 97
Fax +95 1 20 27 51
zaw.m.thant@sealionmyanmar.com

43 Netherlands

igus® B.V.
Sterrenbergweg 9
3769 BS Soesterberg
Phone +31 346 353932
Fax +31 346 353849
info@igus.nl

43 Netherlands – dry-tech®

Elcee B.V.
Kamerlingh Onnesweg 28
NL-3316 GL Dordrecht
Phone +31 (0)78-654 47 77
Fax +31 (0)78-654 47 33
info@elcee.nl

44 Nigeria

Deepee Industrials Ltd.
11 Ishaga Road Surulere
Lagos
Phone +234 803 3899107
ovoachinike@deepeeindustrials.com

45 New Zealand

Treotham Automation Pty Ltd.
Level 4, 21 Putney Way
Manukau, Auckland 2104
Phone +64 9 278 6577
Fax +64 9 278 6578
info@treotham.co.nz

46 Norway

ASI Automatikk AS
Sankt Hallvards vei 3, port 8
3414 Lierstranda
Phone +47 9006 1100
info@asiflex.no

47 Peru

PROIGUS S.A.C.
Calle Bolivar 388/of. 203
Miraflores
Lima 18 – Perú
Phone +51 1 2414370
Fax +51 1 2428608
profaceventas@profaco.com

48 Pakistan

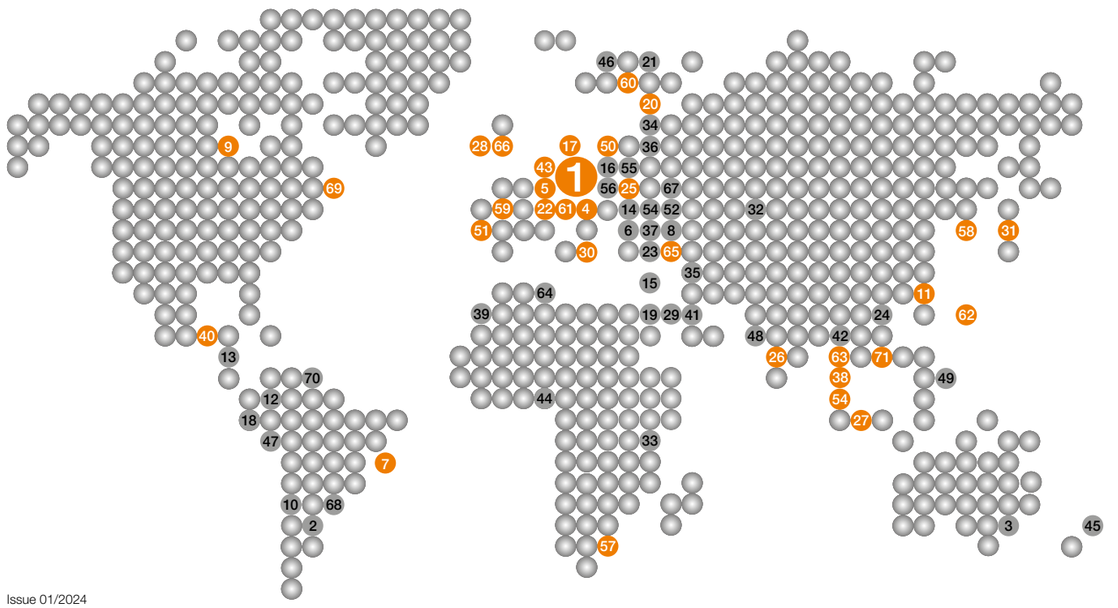
GEMS International Trading
501, Windsong Place, Block 7&8,
K.C.H.S, Off Shaheed-e-Millat Rd.
Karachi - 75350
Phone +92 21 34531505
marketing@gemsinter.com

49 Philippines

Silicon Exponents Corp.
Unit 1-B, 8414 LMN Bldg.
Dr. A. Santos Avenue Brgy.BF
Homes Sucat Parañaque City
1700 Philippines
Phone +63 2 8250 126/135
Fax +63 2 8250 141
ryemrigor@sieplus.ph

50 Poland

igus® Sp. z o.o.
ul. Działkowa 121C
02-234 Warszawa
Phone +48 22 8635770
Fax +48-22 8636169
info-pl@igus.net



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51 Portugal

igus® Lda.
R Engº Ezequiel Campos, 239
4100-232 Porto
Phone +351 226109000
info@igus.pt

52 Romania

Hennlich SRL
Str. Timotei Cipariu, Nr. 5-7
310213 Arad
Phone +40 257 211119
Fax +40 257 211021
igus@hennlich.ro

53 Serbia + Montenegro

Hennlich doo Beograd
Radomira Markovica 1/3
11222 Beograd / Srbija
Phone +381 11 63 098 17
Fax +381 11 63 098 20
office@hennlich.rs

54 Singapore – ASEAN HQ

igus® Singapore Pte Ltd
84 Genting Lane
#06-03 Axxel Innovation Centre
Singapore 349584
Phone +65 6487 1411
sg-info@igus.net

55 Slovakia

HENNLICH s.r.o.
Košťany nad Turcom 543
SK-038 41 Košťany nad Turcom
Phone +421 43 421 2352
lintech@hennlich.sk

56 Slovenia

Hennlich d. o. o.
Ulica Mirka Vadnova 13
SI-4000 Kranj
Slovenija
Phone +386 4 53206-10
info@hennlich.si

57 South Africa

igus® Pty. Ltd.
Unit 29
Midline Business Park
Cnr Le Roux & Richards Drive
Midrand 1682
Phone +27 11312-1848
Fax +27 11312-1594
sales.sa@igus.de

58 South Korea

igus® Korea Co. Ltd.
Venture-ro 12-42,
Yeonsu-gu
Incheon city, 22011
Phone +82 32 82129-11
Fax +82 32 82129-13
kr-info@igus.net

59 Spain

igus® S.L.
Ctra. Llobatona, 6
Polígono Noi del Sucre
08840 Viladecans – BCN
Phone +34 93 647 39 50
Fax +34 93 647 39 51
igus.es@igus.es

60 Sweden

igus® AB
Berga Allé 1
254 52 Helsingborg
Phone +46 42 329270
Fax +46 42 211585
info@igusab.se

60 Sweden – the-chain

OEM Automatic AB
Box 1011 Dalagatan 4
573 28 Tranås
Phone +46 75 2424100
Fax +46 75 2424159
info@oemautomatic.se

60 Sweden – dry-tech®

Colly Components AB
Raseborgsgatan 9
PO Box 76
164 94 Kista
Phone +46 8 7030100
Fax +46 8 7039841
info@me.colly.se

61 Switzerland

igus® Schweiz GmbH
Winkelstr. 5
4622 Egerkingen
Phone +41 62 388 97 97
Fax +41 62 388 97 99
info@igus.ch

62 Taiwan

igus® Taiwan Company Ltd.
5F, No. 35, 24th Road
Taichung Industrial Park
Taichung 40850
Phone +886 4 2358-1000
Fax +886 4 2358-1100
info@igus.com.tw

63 Thailand

IGUS MOTION PLASTICS (THAILAND) CO LTD.
1340 Soi Bangkok-Nonthaburi 30,
Bangkok-Nonthaburi Rd.,
Bangsue, Bangsue
Bangkok 10800
Phone +66 (0)2 587 4899
Fax +66 (0)2 587 4898
th-info@igus.net

64 Tunisia

BOUDRANT
53, Avenue de Carthage
1000 Tunis – Tunisia
Phone +216 71340244
Fax +216 71348910
info@boudrant.com.tn

65 Turkey

igus® Turkey
Güzeller Org. San. Bölg.
Galvano Teknik San. Sit.
Cumhuriyet Cad. 2/32
P.K. 41400 Gebze / Kocaeli
Phone +90 262 502 14 08
Fax +90 262 502 14 19
info@igus.com.tr

66 United Kingdom

igus®
Caswell Rd
Northampton NN4 7PW
Phone +44 1604 677240
sales@igus.co.uk

67 Ukraine

Hennlich Ukraine LLC (HQ)
Kramatorska Street 15
84100 Slovyansk City,
Donetsky Region
Phone +38 06262 33540
hennlich@hennlich.com.ua

67 Ukraine

Cominpro GmbH
Romena Rollana 12,
Office 100
61058 Kharkov
Phone/Fax +38 057-7174914
Mobile +38 050-4012625
cominpro@gmail.com

68 Uruguay

Larrique Rulemanes SA
Galicia 1204
Montevideo-Uruguay
Phone +598 29021773
Fax +598-29084824
larrique@larrique.com.uy

69 USA

igus® inc.
257 Ferris Avenue
PO Box 14349
East Providence
RI 02914
Phone +1 401 4382200
Fax +1 401 4387270
webmaster@igus.com

70 Venezuela

Neumatica Rotonda C.A.
Prolong Av. Michelena
C.C. Atlas Locales B-10 y B-11
Valencia, Edo. Carabobo
Phone +58 241 832.64.64
+58 241 832.32.50
+58 241 838.88.19
Fax +58 241 832.62.83
ventas@neumaticar.com

71 Vietnam

igus® Vietnam Company Ltd
Unit 4, 7th Floor, Standard
Factory B, Tan Thuan Export
Processing Zone
Tan Thuan Street
District 7, HCM City, Vietnam
Phone +84 28 3636 4189
vn-info@igus.net

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