

Data cables

Bus cables

Encoder cables

Koax cables



Chainflex® types



Chainflex® cable	Jacket	Shield	Minimum bending radius, moved [factor x d]	Temperature moved from/to [°C]	Approvals and standards	Oil-resistant	Torsion resistant	v max. [m/s] unsupported	v max. [m/s] gliding	a max. [m/s²]	Page
Data cables											
CF240	PVC	✓	10-12	-5/ +70	CE	✓		3	2	20	100
CF211	PVC	✓	10	-5/ +70	CE	✓		5	3	50	102
CF112	PUR	✓	10	-35/ +80	CE	✓		5	3	50	104
CF113	PUR	✓	10	-35/ +80	CE	✓		5	3	50	106
CF111**	TPE	✓	10	-35/ +100	CE	✓		2		30	108
CF11	TPE	✓	10	-35/ +100	CE	✓		10	6	100	112
CF12	TPE	✓	10	-35/ +100	CE	✓		10	6	100	114
Bus cables (with selection chart for Chainflex® bus cables) 116											
CF BUS*	TPE	✓	10-12,5	-35/ +70	CE	✓		10	6	100	118
CF11.LC*	TPE	✓	10	-35/ +70	CE	✓		10	6	100	122
CF11.LC.D*	TPE	✓	10	-35/ +70	CE	✓		10	6	100	124
CF14 CAT5*	TPE	✓	12,5	-35/ +70	CE	✓		10	6	100	126
Measuring system cables											
CF211	PVC	✓	10	-5/ +70	CE	✓		5	3	50	128
CF113.D	PUR	✓	10	-20/ +80	CE	✓		5	3	50	132
CF111.D	TPE	✓	12	-35/ +100	CE	✓		2		30	136
CF11.D	TPE	✓	10	-35/ +100	CE	✓		10	6	100	140
Koax cables											
CF KOAX 1	TPE		10	-35/ +100	CE	✓		10	5	100	144

* Selection chart for bus cables ► Page 116

** phase-out model, is replaced by CF113


CF240
PVC
10-12 x d

PVC Data cable Chainflex® CF240


- for high load requirements
- PVC outer jacket
- shielded
- oil-resistant
- flame-retardant



Fine-wire special conductor




















Braiding in layers with extremely short pitch






Highly flexible braided copper shield



Pressure extruded

	Temperature range moved	-5 °C to +70 °C, minimum bending radius 10 x d with < 10 m travel; minimum bending radius 12 x d with ≥ 10 m travel
	Temperature range fixed	-20 °C to +70 °C, minimum bending radius 5 x d
	v max. unsupported/gliding	3 m/s, 2 m/s
	a max.	20 m/s ²
	Travel distance	Freely suspended and gliding travel distances up to 50 m, Class 2
	Nominal voltage	300/300 V (following DIN VDE 0245).
	Testing voltage	1500 V
	Oil	Oil-resistant (following DIN EN 60811-2-1, DIN EN 50363-4-1), Class 2
	Flame-retardant	According to IEC 332-1, CEI 20-35, FT1.
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
	Conductor	Very finely stranded special cores of particularly high-flex design made of bare copper wires.
	Core insulation	Mechanically high-quality PVC mixture (following DIN VDE 0207 Part 4).
	Core stranding	The individual cores are stranded in layers with short pitch lengths.
	Core identification	Colour code in accordance with DIN 47100.
	Intermediate sheath	Foil taping over the external layer.
	Overall shield	Extremely bending-resistant, tinned braided copper shield. Coverage approx. 70% linear, approx. 90% optical.
	Outer jacket	Low-adhesion, oil-resistant mixture on the basis of PVC, adapted to suit the requirements in Energy Chains® (following DIN VDE 0282 Part 10). Colour: gray (similar to RAL 7001)

	UL/CSA	Style 10467 and 2464, 300 V, 80 °C
	CEI	Following CEI 20-35
	CE	Following 2006/95/EG

... no minimum order quantity
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Class 4.2.2





Lead free

Following EU guideline (RoHS) 2002/95/EC



Clean room

According to ISO Class 2. Outer jacket material complies with CF5.10.07, tested by IPA according to standard 14644-1

Typical application area

- for high load requirements
- light oil influence
- preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- especially for freely suspended and gliding travel distances up to 50 m
- storage and retrieval units for high-bay warehouses, machining units/packaging machines, handling, indoor cranes

Delivery program Part No.	Number of cores and conductor nominal cross section [mm ²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CF240.01.03	(3 x 0.14)C	4.5	16	35
CF240.01.04	(4 x 0.14)C	5.0	18	38
CF240.01.05	(5 x 0.14)C	5.5	20	42
CF240.01.07	(7 x 0.14)C	6.0	25	51
CF240.01.14	(14 x 0.14)C	7.0	42	76
CF240.01.18	(18 x 0.14)C	8.0	48	90
CF240.01.24	(24 x 0.14)C	9.5	60	113
CF240.02.03	(3 x 0.25)C	5.5	21	40
CF240.02.04	(4 x 0.25)C	5.5	24	48
CF240.02.05	(5 x 0.25)C	6.0	27	52
CF240.02.07	(7 x 0.25)C	7.0	35	66
CF240.02.08	(8 x 0.25)C	7.5	40	74
CF240.02.14	(14 x 0.25)C	8.0	57	100
CF240.02.18	(18 x 0.25)C	9.0	71	122
CF240.02.24	(24 x 0.25)C	11.0	92	174
CF240.03.03	(3 x 0.34)C	5.5	24	45
CF240.03.04	(4 x 0.34)C	6.0	28	51
CF240.03.05	(5 x 0.34)C	6.5	32	58
CF240.03.07	(7 x 0.34)C	7.0	43	75
CF240.03.10	(10 x 0.34)C	8.5	55	110
CF240.03.14	(14 x 0.34)C	8.5	71	116
CF240.03.18	(18 x 0.34)C	10.0	87	140
CF240.03.24	(24 x 0.34)C	12.0	115	203

Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
G = with earthed conductor green-yellow x = without earthed conductor



Order example: **CF240.02.03** – in your desired length (0.5 m steps)
CF240 Chainflex® series .02 Code nominal cross section .03 Number of cores



Please use www.chainflex.eu/en/CF240 for your online order.

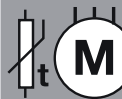
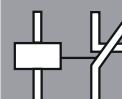


Delivery time 24h or today*

* Delivery time means time until shipping of goods

Data cable

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850 types from stock no cutting costs ...

... and order online ► www.igus.eu/en/CF240

(for up to 10 cuts of the same type)

CF211
PVC
10 x d

PVC Data cable Chainflex® CF211

- for high load requirements
- PVC outer jacket
- shielded
- oil-resistant
- flame-retardant




Center element
for high tensile
stresses



Fine-wire special
conductor

























2 cores each
stranded with
short pitch



Highly flexible
braided copper
shield



Pressure extruded

	Temperature range moved	-5 °C to +70 °C, minimum bending radius 10 x d
	Temperature range fixed	-20 °C to +70 °C, minimum bending radius 5 x d
	v max. unsupported/gliding	5 m/s, 3 m/s
	a max.	50 m/s ²
	Travel distance	Freely suspended and gliding travel distances up to 100 m, Class 3
	Nominal voltage	300/300 V (following DIN VDE 0245).
	Testing voltage	1500 V
	Oil	Oil-resistant (following DIN EN 60811-2-1, DIN EN 50363-4-1), Class 2
	Flame-retardant	According to IEC 332-1, CEI 20-35, FT1.
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
	Conductor	Very finely stranded special cores of particularly high-flex design made of bare copper wires.
	Core insulation	Mechanically high-quality PVC mixture (following DIN VDE 0207 Part 4).
	Core stranding	2 cores each stranded in pairs with short pitch lengths, core pairs also stranded with short pitch lengths.
	Core identification	Colour code in accordance with DIN 47100.
	Intermediate sheath	Foil taping over the external layer.
	Overall shield	Extremely bending-resistant, tinned braided copper shield. Coverage approx. 70% linear, approx. 90% optical.
	Outer jacket	Low-adhesion, oil-resistant mixture on the basis of PVC, adapted to suit the requirements in Energy Chains® (following DIN VDE 0282 Part 10). Colour: gray (similar to RAL 7001)
	UL/CSA	< 0.5 mm ² : Style 10467 and 2464, 300 V, 80°C ≥ 0.5 mm ² : Style 1729 and 2464, 300 V, 80 °C
	CEI	Following CEI 20-35
	CE	Following 2006/95/EG
	Lead free	Following EU guideline (RoHS) 2002/95/EC
	Clean room	According to ISO Class 2. Outer jacket material complies with CF5.10.07, tested by IPA according to standard 14644-1

Class 5.3.2



... no minimum order quantity
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Typical application area

- for high load requirements
- light oil influence
- preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- especially for freely suspended and gliding travel distances up to 100 m
- storage and retrieval units for high-bay warehouses, machining units/packaging machines, handling, indoor cranes

Delivery program Part No.	Number of cores and conductor nominal cross section [mm ²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CF211.02.01.02	(1 x (2 x 0.25))C	5.0	16	35
CF211.02.02.02 ⁽²⁾	(2 x (2 x 0.25))C	5.5	28	60
CF211.02.03.02	(3 x (2 x 0.25))C	7.0	37	73
CF211.02.04.02	(4 x (2 x 0.25))C	8.0	44	85
CF211.02.05.02	(5 x (2 x 0.25))C	8.5	51	97
CF211.02.06.02	(6 x (2 x 0.25))C	9.5	58	110
CF211.02.08.02	(8 x (2 x 0.25))C	11.5	75	160
CF211.02.10.02	(10 x (2 x 0.25))C	13.0	93	195
CF211.02.14.02	(14 x (2 x 0.25))C	13.5	109	205
CF211.03.03.02	(3 x (2 x 0.34))C	8.0	37	79
CF211.03.08.02	(8 x (2 x 0.34))C	12.0	98	202
CF211.03.10.02 ⁽¹⁾	(10 x (2 x 0.34))C	12.0	118	254
CF211.05.01.02	(1 x (2 x 0.5))C	5.5	23	50
CF211.05.02.02 ⁽²⁾	(2 x (2 x 0.5))C	8.5	44	80
CF211.05.03.02	(3 x (2 x 0.5))C	9.0	57	100
CF211.05.04.02	(4 x (2 x 0.5))C	9.5	68	120
CF211.05.05.02	(5 x (2 x 0.5))C	11.0	80	145
CF211.05.06.02	(6 x (2 x 0.5))C	12.5	99	185
CF211.05.08.02	(8 x (2 x 0.5))C	14.0	124	230
CF211.05.10.02	(10 x (2 x 0.5))C	16.0	175	320
CF211.05.14.02	(14 x (2 x 0.5))C	17.0	187	335

⁽¹⁾ Delivery time upon inquiry

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

Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.

G = with earthed conductor green-yellow x = without earthed conductor



Order example: CF211.02.04.02 – in your desired length (0.5 m steps)

CF211 Chainflex® series **.02** Code nominal cross section **.04** Number of pairs **.02** Identification pairs



Please use www.chainflex.eu/en/CF211 for your online order.



Delivery time 24h or today*

* Delivery time means time until shipping of goods

Delivery program Measuring system cable

- ▶ Page 128, CF211 (PVC)
- ▶ Page 136, CF111.D (TPE)
- ▶ Page 140, CF11.D (TPE)

850 types from stock no cutting costs ...

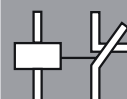
... and order online ▶ www.igus.eu/en/CF211

(for up to 10 cuts of the same type)

Data cable

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CF112
PUR
10 x d

New! PUR Data cable Chainflex® CF112

- for high load requirements
- PUR outer jacket
- double-shielded, twisted-pair
- oil-resistant and coolant-resistant
- notch-resistant
- PVC-free/halogen-free
- flame-retardant
- hydrolysis-resistant and microbe-resistant



Especially bending-resistant fine-wire stranded conductor



Highly flexible braided copper shield



Center element for high tensile stresses



2 cores each stranded with short pitch





















Gusset-filled extruded



Highly flexible braided copper shield



Pressure extruded, halogen-free PUR blend

	Temperature range moved	-35 °C to +80 °C, minimum bending radius 10 x d
	Temperature range fixed	-40 °C to +80 °C, minimum bending radius 5 x d
	v max. unsupported/gliding	10 m/s, 5 m/s
	a max.	80 m/s ²
	Travel distance	Freely suspended and gliding travel distances up to 100 m, Class 3
	Nominal voltage	300/300 V (following DIN VDE 0245).
	Testing voltage	1500 V
	Oil	Oil-resistant (following DIN EN 60811-2-1, DIN EN 50363-10-2), Class 3.
	Flame-retardant	According to IEC 332-1, CEI 20-35, FT1.
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 192).
	Conductor	Very finely stranded special cores of particularly high-flex design made of bare copper wires.
	Core insulation	Mechanically high-quality TPE mixture.
	Core stranding	2 cores each stranded in pairs with short pitch lengths, core pairs also stranded with short pitch lengths.
	Core identification	Colour code in accordance with DIN 47100
	Element shield	Extremely bending-resistant, tinned braided copper shield. Coverage approx. 70% linear, approx. 90% optical.
	Intermediate jacket	PUR mixture adapted to suit the requirements in Energy Chains®.
	Overall shield	Extremely bending-resistant, tinned braided copper shield. Coverage approx. 70% linear, approx. 90% optical.
	Outer jacket	Low-adhesion, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in Energy Chains® (following DIN VDE 0282 Part 10). Colour: gray (similar to RAL 7016)

Class 6.3.3



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	UL/CSA	Style 10493 and 20233, 300 V, 80°C
	CEI	Following CEI 20-35
	CE	Following 2006/95/EG
	Lead free	Following EU guideline (RoHS) 2002/95/EG.

Typical application area

- for high load requirements
- almost unlimited resistance to oil
- indoor and outdoor applications with average sun radiation
- especially for freely suspended and gliding travel distances up to 100 m
- Machining units/machine tools, storage and retrieval units for high-bay warehouses, packaging industry, quick handling, refrigerating sector

Delivery program Part No.	Number of cores and conductor nominal cross section [mm ²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]	
CF112.02.02.02 ⁽¹⁾	(2 x (2 x 0.25)C)C	9.5	54	125	New
CF112.02.03.02 ⁽¹⁾	(3 x (2 x 0.25)C)C	10.0	68	144	New
CF112.02.04.02	(4 x (2 x 0.25)C)C	11.0	78	159	New
CF112.02.05.02 ⁽¹⁾	(5 x (2 x 0.25)C)C	11.5	95	184	New
CF112.02.06.02 ⁽¹⁾	(6 x (2 x 0.25)C)C	12.0	107	210	New
CF112.05.02.02 ⁽¹⁾	(2 x (2 x 0.5)C)C	11.5	72	168	New
CF112.05.03.02 ⁽¹⁾	(3 x (2 x 0.5)C)C	12.0	95	192	New
CF112.05.04.02 ⁽¹⁾	(4 x (2 x 0.5)C)C	12.5	113	221	New
CF112.05.05.02 ⁽¹⁾	(5 x (2 x 0.5)C)C	13.5	137	263	New
CF112.05.06.02 ⁽¹⁾	(6 x (2 x 0.5)C)C	14.5	155	307	New

⁽¹⁾ Delivery time upon inquiry

Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.

G = with green-yellow earth core x = without earth core



Order example: CF112.02.04.02 – in your desired length (0.5 m steps)

CF112 Chainflex® series .02 Code nominal cross section .04 Number of pairs .02 Identification pairs



Please use www.chainflex.eu/en/CF112 for your online order.

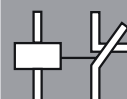


Delivery time 24h or today*

* Delivery time means time until shipping of goods

Data cable

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Fax +49-2203-96 49-222



850 types from stock no cutting costs ...


... and order online ► www.igus.eu/en/CF112

(for up to 10 cuts of the same type)

CF113
PUR
10 x d

New! PUR Data cable Chainflex® CF113


- for high load requirements
- PUR outer jacket
- twisted-pair
- oil-resistant and coolant-resistant
- notch-resistant
- PVC-free/halogen-free
- flame-retardant
- hydrolysis-resistant and microbe-resistant



Especially bending-resistant fine-wire stranded conductor




Center element for high tensile stresses



2 cores each stranded with short pitch





















Gusset-filled extruded



Highly flexible braided copper shield



Pressure extruded, halogen-free PUR blend

	Temperature range moved	-35 °C to +80 °C, minimum bending radius 10 x d
	Temperature range fixed	-40 °C to +80 °C, minimum bending radius 5 x d
	v max. unsupported/gliding	10 m/s, 5 m/s/
	a max.	80 m/s ²
	Travel distance	Freely suspended and gliding travel distances up to 100 m, Class 3
	Nominal voltage	300/300 V (following DIN VDE 0245).
	Testing voltage	1500 V
	Oil	Oil-resistant (following DIN EN 60811-2-1, DIN EN 50363-10-2), Class 3.
	Flame-retardant	According to IEC 332-1, CEI 20-35, FT1.
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 192).
	Halogen-free	Following EN 50267-2-1.
	Conductor	Very finely stranded special cores of particularly high-flex design made of bare copper wires.
	Core insulation	Mechanically high-quality TPE mixture.
	Core stranding	2 cores each stranded in pairs with short pitch lengths, core pairs also stranded with short pitch lengths.
	Core identification	Colour code in accordance with DIN 47100
	Intermediate jacket	PUR mixture adapted to suit the requirements in Energy Chains®.
	Overall shield	Extremely bending-resistant, tinned braided copper shield. Coverage approx. 70% linear, approx. 90% optical.
	Outer jacket	Low-adhesion, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in Energy Chains® (following DIN VDE 0282 Part 10). Colour: gray (similar to RAL 7016)

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Class 6.3.3





	UL/CSA	Style 10493 and 20233, 300 V, 80°C
	CEI	Following CEI 20-35
	CE	Following 2006/95/EG
	Lead free	Following EU guideline (RoHS) 2002/95/EG.

Typical application area

- for high load requirements
- almost unlimited resistance to oil
- indoor and outdoor applications with average sun radiation
- especially for freely suspended and gliding travel distances up to 100 m
- Machining units/machine tools, storage and retrieval units for high-bay warehouses, packaging industry, quick handling, refrigerating sector

Delivery program Part No.	Number of cores and conductor nominal cross section [mm ²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]	
CF113.02.02.02 ^(1/2)	(2 x (2 x 0.25))C	8.0	31	86	New
CF113.02.03.02 ⁽¹⁾	(3 x (2 x 0.25))C	8.5	40	96	New
CF113.02.04.02	(4 x (2 x 0.25))C	9.0	45	107	New
CF113.02.05.02 ⁽¹⁾	(5 x (2 x 0.25))C	9.5	56	125	New
CF113.02.06.02 ⁽¹⁾	(6 x (2 x 0.25))C	10.0	62	137	New
CF113.05.02.02 ^(1/2)	(2 x (2 x 0.5))C	10.0	50	127	New
CF113.05.03.02 ⁽¹⁾	(3 x (2 x 0.5))C	10.5	62	142	New
CF113.05.04.02 ⁽¹⁾	(4 x (2 x 0.5))C	11.0	70	162	New
CF113.05.05.02 ⁽¹⁾	(5 x (2 x 0.5))C	11.5	84	185	New
CF113.05.06.02 ⁽¹⁾	(6 x (2 x 0.5))C	12.5	95	207	New

⁽¹⁾ Delivery time upon inquiry

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

Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.

G = with green-yellow earth core x = without earth core



Order example: CF113.02.06.02 – in your desired length (0.5 m steps)

CF113 Chainflex® series **.02** Code nominal cross section **.06** Number of pairs **.02** Identification pairs



Please use www.chainflex.eu/en/CF113 for your online order.

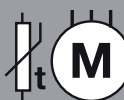
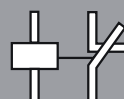


Delivery time 24h or today*

* Delivery time means time until shipping of goods

Data cable

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850 types from stock no cutting costs ...

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(for up to 10 cuts of the same type)

CF111
TPE
10 x d

TPE Data cable Chainflex® CF111


- for high load requirements
- TPE outer jacket
- shielded
- oil- and bio-oil-resistant
- flame-retardant
- PVC-free
- hydrolysis-resistant and microbe-resistant



Center element for high tensile stresses



Fine-wire special conductor





















Cores each stranded with short pitch



Bending-resistant braided copper shield



Pressure extruded, flame-retard TPE blend

	Temperature range moved	-35 °C to +100 °C, minimum bending radius 10 x d
	Temperature range fixed	-40 °C to +100 °C, minimum bending radius 6 x d
	v max. unsupported	2 m/s
	a max.	30 m/s ²
	Travel distance	Freely suspended travel distances, Class 1
	UV-resistant	Medium
	Nominal voltage	300 V
	Testing voltage	1500 V
	Oil	Oil-resistant (following DIN EN 60811-2-1), bio-oil-resistant (following VDMA 24568), Class 4
	Flame-retardant	According to IEC 332-1, CEI 20-35, FT1
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
	Conductor	Very finely stranded special cores of particularly high-flex design made of bare copper wires.
	Core insulation	Mechanically high-quality PP mixture.
	Core stranding	2 cores each stranded in pairs with short pitch lengths, core pairs also stranded with short pitch lengths.
	Core identification	Colour code in accordance with DIN 47100.
	Intermediate jacket	Foil taping over the external layer.
	Overall shield	Bending-resistant, tinned braided copper shield. Coverage approx. 55% linear, approx. 80% optical.
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in Energy Chains®. Colour: gray (similar to RAL 7001)

Class 4.1.4



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Class 4.1.4

Price index



igus®

CF111

TPE

10 x d



UL/CSA

Style 10467 and 21259, 300 V, 90 °C



CEI

Following CEI 20-35



CE

Following 2006/95/EG



Lead free

Following EU guideline (RoHS) 2002/95/EC



Clean room

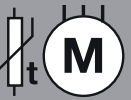
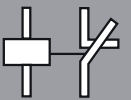
According to ISO Class 1. Outer jacket material complies with CF34.25.04, tested by IPA according to standard 14644-1

Data cable

Typical application area

- for high load requirements
- almost unlimited resistance to oil, also with bio-oils
- indoor and outdoor applications without direct sun radiation
- especially for freely suspended travel distances
- Machining units/machine tools, low temperature applications

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(for up to 10 cuts of the same type)

TPE Data cable Chainflex® CF111

- for high load requirements
- TPE outer jacket
- shielded
- oil- and bio-oil-resistant
- flame-retardant
- PVC-free
- hydrolysis-resistant and microbe-resistant

phase-out model

Delivery program Part No.	Number of cores and conductor nominal cross section [mm ²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CF111.02.01.02 ⁽¹⁾	(1 x (2 x 0.25))C	5.5	13	38
CF111.02.02.02 ^(1/2)	(2 x (2 x 0.25))C	6.0	21	50
CF111.02.03.02*	(3 x (2 x 0.25))C	7.5	28	68
CF111.02.04.02	(4 x (2 x 0.25))C	8.0	34	80
CF111.02.05.02 ⁽¹⁾	(5 x (2 x 0.25))C	8.5	41	93
CF111.02.06.02 ⁽¹⁾	(6 x (2 x 0.25))C	9.5	55	116
CF111.02.08.02 ⁽¹⁾	(8 x (2 x 0.25))C	10.5	64	143
CF111.02.10.02 ⁽¹⁾	(10 x (2 x 0.25))C	12.0	88	183
CF111.02.14.02 ⁽¹⁾	(14 x (2 x 0.25))C	12.5	107	207
CF111.03.03.02 ⁽¹⁾	(3 x (2 x 0.34))C	8.0	34	78
CF111.03.10.02 ⁽¹⁾	(10 x (2 x 0.34))C	12.5	66	177
CF111.05.01.02 ⁽¹⁾	(1 x (2 x 0.5))C	6.0	19	48
CF111.05.02.02 ^(1/2)	(2 x (2 x 0.5))C	7.0	31	67
CF111.05.03.02 ⁽¹⁾	(3 x (2 x 0.5))C	8.5	45	97
CF111.05.04.02	(4 x (2 x 0.5))C	8.5	55	110
CF111.05.05.02 ⁽¹⁾	(5 x (2 x 0.5))C	10.0	77	147
CF111.05.06.02 ⁽¹⁾	(6 x (2 x 0.5))C	11.0	91	171
CF111.05.08.02 ⁽¹⁾	(8 x (2 x 0.5))C	12.5	116	218
CF111.05.10.02 ⁽¹⁾	(10 x (2 x 0.5))C	13.5	144	276
CF111.05.14.02 ⁽¹⁾	(14 x (2 x 0.5))C	14.5	182	315

* phase-out model, is replaced by CF113

⁽¹⁾ Delivery time upon inquiry

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

Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.

G = with earthed conductor green-yellow x = without earthed conductor



Order example: **CF111.05.06.02** – in your desired length (0.5 m steps)

CF111 Chainflex® series **.05** Code nominal cross section **.06** Number of pairs **.02** Identification pairs



Please use www.chainflex.eu/en/CF111 for your online order.



Delivery time 24h or today*

* Delivery time means time until shipping of goods

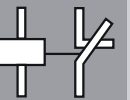


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(for up to 10 cuts of the same type)

CF11
TPE
10 x d

TPE Data cable Chainflex® CF11

- for maximum load requirements
- TPE outer jacket
- shielded
- oil-resistant
- bio-oil-resistant
- PVC-free/halogen-free
- hydrolysis-resistant and microbe-resistant




Especially bending-resistant fine-wire stranded conductor



2 cores each stranded in especially short pitch























Gusset-filled extruded



Highly flexible braided copper shield



Pressure extruded, halogen-free TPE blend

	Temperature range moved	-35 °C to +100 °C, minimum bending radius 10 x d
	Temperature range fixed	-40 °C to +100 °C, minimum bending radius 5 x d
	v max.	10 m/s, 6 m/s
	unsupported/gliding a max.	100 m/s ²
	Travel distance	Freely suspended and gliding travel distances up to 400 m and more, Class 4
	UV-resistant	High
	Nominal voltage	300/300 V (following DIN VDE 0245).
	Testing voltage	1500 V
	Oil	Oil-resistant (following DIN EN 60811-2-1), bio-oil-resistant (following VDMA 24568), Class 4
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
	Halogen-free	Following EN 50267-2-1.
	Conductor	Fine-wire stranded conductor in especially bending-resistant version consisting of bare copper wires (following EN 60228).
	Core insulation	Mechanically high-quality TPE mixture.
	Core stranding	2 cores each stranded in pairs with short pitch lengths, core pairs also stranded with short pitch lengths.
	Core identification	Cores < 1.0 mm² : colour code in accordance with DIN 47100 Cores ≥ 1.0 mm² : cores black with white numerals
	Inner jacket	TPE mixture adapted to suit the requirements in Energy Chains®.
	Overall shield	Extremely bending-resistant, tinned braided copper shield. Coverage approx. 70% linear, approx. 90% optical.
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in Energy Chains®. Colour: dark-blue (similar to RAL 5011)
	CE	Following 2006/95/EG
	Lead free	Following EU guideline (RoHS) 2002/95/EC.

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Class 6.4.4

Clean-Room

RoHS

CE



Clean room

According to Class 1. Outer jacket material complies with CF9.15.07, tested by PA according to standard 14644-1

Typical application area

- for maximum load requirements
- almost unlimited resistance to oil, also with bio-oils
- indoor and outdoor applications, UV-resistant
- especially for freely suspended and gliding travel distances up to 400 m and more
- storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, clean room, semiconductor insertion, ship to shore, outdoor cranes, low-temperature applications

Delivery program Bus cable Part No.	Number of cores and conductor nominal cross section [mm ²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CF11.01.04.02	(4 x (2 x 0,14))C	7,0	28	64
CF11.01.18.02	(18 x (2 x 0,14))C	14,0	86	164
CF11.02.02.02 ⁽²⁾	(2 x (2 x 0,25))C	6,5	25	52
CF11.02.03.02	(3 x (2 x 0,25))C	8,0	34	60
CF11.02.04.02	(4 x (2 x 0,25))C	9,0	44	80
CF11.02.05.02	(5 x (2 x 0,25))C	9,0	55	100
CF11.02.06.02	(6 x (2 x 0,25))C	10,0	66	127
CF11.02.09.02	(9 x (2 x 0,25))C	12,5	92	198
CF11.02.10.02	(10 x (2 x 0,25))C	13,0	99	200
CF11.02.14.02	(14 x (2 x 0,25))C	13,5	120	238
CF11.03.08.02	(8 x (2 x 0,34))C	12,5	90	154
CF11.05.04.02	(4 x (2 x 0,5))C	10,0	91	108
CF11.05.06.02	(6 x (2 x 0,5))C	11,5	95	190
CF11.05.08.02	(8 x (2 x 0,5))C	14,0	131	250
CF11.07.03.02	(3 x (2 x 0,75))C	11,0	77	131
CF11.10.04.02	(4 x (2 x 1,0))C	12,0	121	180
CF11.15.06.02	(6 x (2 x 1,5))C	17,0	242	419
CF11.25.03.02	(3 x (2 x 2,5))C	16,5	210	410

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

Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.

G = with earthed conductor green-yellow x = without earthed conductor



Order example: **CF11.02.03.02** – in your desired length (0.5 m steps)

CF11 Chainflex® series **.02** Code nominal cross section **.03** Number of pairs **.02** Identification pairs



Please use www.chainflex.eu/en/CF111 for your online order.



Delivery time 24h or today*

* Delivery time means time until shipping of goods

Delivery program Measuring system cable

- ▶ Page 128, CF211 (PVC)
- ▶ Page 136, CF111.D (TPE)
- ▶ Page 140, CF11.D (TPE)

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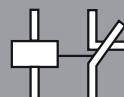
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


















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CF12
TPE
10 x d

TPE Data cable Chainflex® CF12

- for maximum load requirements
- TPE outer jacket
- double-shielded
- oil-resistant
- bio-oil-resistant
- PVC-free/halogen-free
- hydrolysis-resistant and microbe-resistant

	Temperature range moved	-35 °C to +100 °C, minimum bending radius 10 x d
	Temperature range fixed	-40 °C to +100 °C, minimum bending radius 5 x d
	v max. unsupported/gliding	10 m/s, 6 m/s
	a max.	100 m/s ²
	Travel distance	Freely suspended and gliding travel distances up to 400 m, Class 4
	UV-resistant	High
	Nominal voltage	300/300 V (following DIN VDE 0245).
	Testing voltage	1500 V
	Oil	Oil-resistant (following DIN EN 60811-2-1), bio-oil-resistant (following VDMA 24568), Class 4
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
	Halogen-free	Following EN 50267-2-1.
	Conductor	Fine-wire stranded conductor in especially bending-resistant version consisting of bare copper wires (following EN 60228).
	Core insulation	Mechanically high-quality TPE mixture.
	Core stranding	2 cores each stranded in pairs with short pitch lengths, core pairs also stranded with short pitch lengths.
	Core identification	Cores < 0.5 mm²: colour code in accordance with DIN 47100 Cores ≥ 0.5 mm²: cores black with white numerals
	Element shield	Extremely bending-resistant, tinned braided copper shield. Coverage approx. 70% linear, approx. 90% optical.
	Element jacket	TPE mixture adapted to suit the requirements in Energy Chains® over pair shield.
	Inner jacket	TPE mixture adapted to suit the requirements in Energy Chains®.
	Overall shield	Highly flexible shield consisting of galvanized steel wire braid. Coverage approx. 70% linear, approx. 90% optical.

Especially bending-resistant fine-wire stranded conductor

Pressure extruded element jacket

Highly flexible braided copper shield

Center element for high tensile stresses

2 cores each stranded in especially short pitch

Gusset-filled, pressure extruded

Highly flexible steel wire braid

Pressure extruded, halogen-free TPE blend

Class 6.4.4



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Outer jacket

bw-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in Energy Chains®.
Colour:dark-blue (similar to B5011)



CE

Following 2006/95/EG



Lead free

Following EU guideline (609/2002/95/EC).



Clean room

According to Class 1. Outer jacket material complies with CF9.15.07, tested by PA according to standard 14644-1

Data cable

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Typical application area

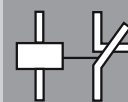
- for maximum load requirements
- almost unlimited resistance to oil, also with bio-oils
- indoor and outdoor applications, UV-resistant
- especially for freely suspended and gliding travel distances up to 400 m
- storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, clean room, semiconductor insertion, outdoor cranes, low-temperature applications, for especially high EMV safety

Delivery program Part No.	Number of cores and conductor nominal cross section [mm²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CF12.02.02.02	(2 x (2 x 0,25)C)C	11,0	27	152
CF12.02.03.02 ⁽¹⁾	(3 x (2 x 0,25)C)C	11,5	40	172
CF12.02.04.02	(4 x (2 x 0,25)C)C	11,5	61	179
CF12.02.05.02	(5 x (2 x 0,25)C)C	13,0	93	220
CF12.05.03.02	(3 x (2 x 0,5)C)C	13,0	66	210
CF12.05.04.02	(4 x (2 x 0,5)C)C	14,0	88	255
CF12.05.05.02	(5 x (2 x 0,5)C)C	15,5	110	297
CF12.05.06.02	(6 x (2 x 0,5)C)C	17,0	132	360
CF12.05.08.02	(8 x (2 x 0,5)C)C	20,0	177	477
CF12.05.10.02	(10 x (2 x 0,5)C)C	23,0	221	548
CF12.05.14.02	(14 x (2 x 0,5)C)C	23,0	309	723
CF12.10.06.02	(6 x (2 x 1,0)C)C	20,0	198	542

⁽¹⁾ Delivery time upon inquiry

Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.

G =with earthed conductor green-yellow **x** =without earthed conductor



Order example: CF12.02.03.02 – in your desired length (0.5 m steps)
CF12 Chainflex® series .02 Code nominal cross section .03 Number of pairs .02 Identification pairs



Please use www.chainflex.eu/en/CF12 for your online order.



Delivery time 24h or today*
* Delivery time means time until shipping of goods

Test data ▶ Page 37

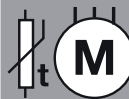
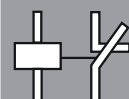
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Selection chart for Chainflex® bus cables

Chainflex® cable	Profibus	Interbus	CAN Bus	DeviceNet	CC-Link	Ethernet/ CAT5	Profinet
CFBUS							
CFBUS.001	✓						
CFBUS.002	✓						
CFBUS.003	✓						
CFBUS.010		✓					
CFBUS.011		✓					
CFBUS.020			✓				
CFBUS.021			✓				
CFBUS.022			✓				
CFBUS.030				✓			
CFBUS.031				✓			
CFBUS.035 CC-Link					✓		
CFBUS.040						✓	
CFBUS.041						✓	
CFBUS.042						✓	
CFBUS.044 GigE						✓	
CFBUS.045						✓	
CFBUS.050 CAT6						CAT6	
CFBUS.055 FireWire							
CFBUS.060 Profinet							✓
CFBUS.065 USB							
CFBUS.066 USB							
CF11.LC							
CF11.02.02.02.PBA.LC	✓						
CF11.05.01.02.LC			✓				
CF11.05.02.02.LC			✓				
CF11.02.03.02.IB-S		✓					
CF11.02.03.02.10.03.IB-S		✓					
CF11.LC.D							
CF11.02.02.02.LC.D			✓				
CF11.05.01.02.LC.D			✓				
CF11.02.01.02.PBA.LC.D	✓						
CF11.02.02.07.03.PBA.LC.D	✓						
CF11.02.02.15.04.PBA.LC.D	✓						
CF14 CAT5							
CF14.02.02.02.CAT5						✓	
CF14.02.04.02.CAT5						✓	
CF14.02.05.02.CAT5						✓	

FireWire	USB	Characteristic wave impedance [Ω]	Flame- retardant	CE	RoHS	UL	UL	UL	UL	UL	UL	Halogen-free	Page
		150	✓	✓	✓	✓	✓	✓	✓	✓	✓		118
		150	✓	✓	✓	✓	✓	✓	✓	✓	✓		118
		150	✓	✓	✓	✓	✓	✓	✓	✓	✓		118
		100	✓	✓	✓	✓	✓	✓	✓	✓	✓		118
		100	✓	✓	✓	✓	✓	✓	✓	✓	✓		118
		120	✓	✓	✓	✓	✓	✓	✓	✓	✓		118
		120	✓	✓	✓	✓	✓	✓	✓	✓	✓		118
		120	✓	✓	✓	✓	✓	✓	✓	✓	✓		118
		120	✓	✓	✓	✓	✓	✓	✓	✓	✓		118
		120	✓	✓	✓	✓	✓	✓	✓	✓	✓		118
		110	✓	✓	✓	✓	✓	✓	✓	✓	✓		118
		100	✓	✓	✓	✓	✓	✓	✓	✓	✓		118
		100	✓	✓	✓	✓	✓	✓	✓	✓	✓		118
		100	✓	✓	✓	✓	✓	✓	✓	✓	✓		118
		100	✓	✓	✓	✓	✓	✓	✓	✓	✓		118
		100	✓	✓	✓	✓	✓	✓	✓	✓	✓		118
		100	✓	✓	✓	✓	✓	✓	✓	✓	✓		118
✓		100	✓	✓	✓	✓	✓	✓	✓	✓	✓		118
		100	✓	✓	✓	✓	✓	✓	✓	✓	✓		118
	✓	100	✓	✓	✓	✓	✓	✓	✓	✓	✓		118
	✓	100	✓	✓	✓	✓	✓	✓	✓	✓	✓		118
		150		✓	✓							✓	122
		120		✓	✓							✓	122
		120		✓	✓							✓	122
		100		✓	✓							✓	122
		100		✓	✓							✓	122
		120		✓	✓					✓		✓	124
		120		✓	✓					✓		✓	124
		150		✓	✓					✓		✓	124
		150		✓	✓					✓		✓	124
		150		✓	✓					✓		✓	124
		100		✓	✓					✓		✓	126
		100		✓	✓					✓		✓	126
		100		✓	✓					✓		✓	126

Bus cable

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CFBUS
TPE
10-12.5 x d

TPE Bus cable Chainflex® CFBUS

- for maximum load requirements
- TPE outer jacket
- shielded
- oil-resistant
- bio-oil-resistant
- flame-retardant
- hydrolysis-resistant and microbe-resistant




Especially bending-resistant fine-wire stranded conductor



Cores each stranded in especially short pitch





















Gusset-filled extruded



Highly flexible braided copper shield



Pressure extruded, flame-retardant TPE blend

	Temperature range moved	-35 °C to +70 °C, minimum bending radius 10-12.5 x d
	Temperature range fixed	-40 °C to +70 °C, minimum bending radius 5 x d
	v max. unsupported/gliding	10 m/s, 6 m/s
	a max.	100 m/s ²
	Travel distance	Freely suspended and gliding travel distances up to 400 m, Class 4
	UV-resistant	Medium
	Nominal voltage	30 V
	Testing voltage	500 V
	Oil	Oil-resistant (following DIN EN 60811-2-1), bio-oil-resistant (following VDMA 24568), Class 4
	Flame-retardant	According to IEC 332-1, CEI 20-35, FT1.
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
	Conductor	Fine-wire stranded conductor in especially bending-resistant version consisting of bare copper wires (following EN 60228).
	Core insulation	According to bus specification.
	Core stranding	According to bus specification.
	Core identification	According to bus specification ► Schedule delivery program
	Inner jacket	TPE mixture adapted to suit the requirements in Energy Chains®.
	Overall shield	Extremely bending-resistant, tinned braided copper shield. Coverage approx. 70% linear, approx. 90% optical.
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in Energy Chains®. Colour: violet (similar to RAL 4001)

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Class 6.4.4



IGUS CHAINFLEX® CFBUS.001



	UL/CSA	Style 1589 and 21371, 30 V, 80 °C
	CE	Following 2006/95/EG
	DESINA	According to VDW, DESINA standardisation
	Lead free	Following EU guideline (RoHS) 2002/95/EC.
	Clean room	According to ISO Class 1. Outer jacket material complies with CF34.25.04, tested by IPA according to standard 14644-1

Bus cable

Typical application area

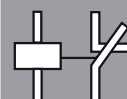
- for maximum load requirements
- almost unlimited resistance to oil, also with bio-oils
- indoor and outdoor applications without direct sun radiation
- especially for freely suspended and gliding travel distances up to 400 m
- bus connection cable for storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, clean room, semiconductor insertion, indoor cranes, low-temperature applications

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Test data ► Page 30



FireWire cable for moving energy supplies in digital camera technology.



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TPE Bus cable Chainflex® CFBUS

- for maximum load requirements
- TPE outer jacket
- shielded
- oil-resistant
- bio-oil-resistant
- flame-retardant
- hydrolysis-resistant and microbe-resistant

Delivery program Part No.	Number of cores and conductor nominal cross section [mm ²]	External diameter in mm approx.	Copper index [kg/km]	Weight [kg/km]
Profibus (minimum bending radius 10 x d)				
CFBUS.001	(2x0,25)C	8,5	23	70
CFBUS.002	4x1,5(2x0,25)C	12,5	96	175
CFBUS.003	3x0,75(2x0,25)C	11,0	58	121
Interbus (minimum bending radius 10 x d)				
CFBUS.010	(3x(2x0,25))C	8,5	42	83
CFBUS.011	(3x(2x0,25)3x1,0)C	10,0	74	135
CAN-BUS/Fieldbus (minimum bending radius 10 x d)				
CFBUS.020 ⁽²⁾	(2x(2x0,25))C	7,5	33	66
CFBUS.021	(2x0,5)C	8,5	36	77
CFBUS.022 ⁽²⁾	(2x(2x0,5))C	8,5	45	83
DeviceNet (minimum bending radius 10 x d)				
CFBUS.030 Drop	(1x2x1,0(2x0,25)1x2x1,0(2)C	7,5	33	65
CFBUS.031 Trunk	(1x2x1,0(3)1x2x1,0(5)C	11,5	96	110
CC-Link (minimum bending radius 10 x d)				
CFBUS.035	(3x1,0)C	8,5	44	90
Ethernet/CAT5 (minimum bending radius 12.5 x d)				
CFBUS.040 ⁽²⁾	(2x(2x0,25))C	7,0	33	43
CFBUS.041	(4x(2x0,25))C	10,0	46	101
CFBUS.042 ⁽¹⁾	(5x(2x0,25))C	10,5	53	106
CFBUS.044	(4x(2x0,15))C	8,0	35	79
CFBUS.045	(4x(2x0,15))C	8,0	35	79
Ethernet/CAT6 (minimum bending radius 12.5 x d)				
CFBUS.050	(4x(2x0,14))C	10,0	77	131
FireWire (minimum bending radius 12.5 x d)				
CFBUS.055	(2x(2x0,15)C2x(0,34)C	7,5	42	118
Profinet (minimum bending radius 12.5 x d)				
CFBUS.060	(4x0,38)C	7,5	37	71
USB (minimum bending radius 12.5 x d)				
CFBUS.065	(2x0,51x(2x0,08))C	5,0	26	45
CFBUS.066	(2x0,51x(2x0,24))C	6,0	32	56

⁽¹⁾ Delivery time upon inquiry

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

Other types available on request.

Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.

G = with earthed conductor green-yellow x = without earthed conductor



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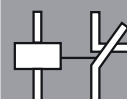
Delivery program Part No.	Characteris- tic wave impedance in Ω approx.	Number of cores and conductor nominal cross section [mm ²]	Colour code
Profibus			
CFBUS.001	150	(2x0.25)C	red, green
CFBUS.002	150	4x1.5+ (2x0.25)C	black with white numbers red/green
CFBUS.003	150	3x0.75+ (2x0.25)C	black, blue, green-yellow red/green
Interbus			
CFBUS.010	100	(3x(2x0.25))C	white/brown, green/yellow, gray/pink
CFBUS.011	100	(3x1.0+ 3x(2x0.25))C	red, blue, green-yellow white/brown, green/yellow, gray/pink
CAN-BUS/Fieldbus			
CFBUS.020	120	(2x(2x0.25))C	white, green, brown, yellow (star-quad stranding)
CFBUS.021	120	(2x0.5)C	white, brown
CFBUS.022	120	(2x(2x0.5))C	white, green, brown, yellow (star-quad stranding)
DeviceNet			
CFBUS.030 Drop	120	(1x2xAWG24)+ (1x2xAWG22)C	white/blue red/black
CFBUS.031 Trunk	120	(1x2xAWG18)+ (1x2xAWG15)C	white/blue red/black
CC-Link			
CFBUS.035	110	(3xAWG20)C	white, yellow, blue
Ethernet/CAT5			
CFBUS.040	100	(2x(2x0.25))C	white, green, brown, yellow (star-quad stranding)
CFBUS.041	100	(4x(2x0.25))C	white/brown, green/yellow, gray/pink, blue/red
CFBUS.042	100	(5x(2x0.25))C	white/brown, green/yellow, gray/pink, blue/red, black/violet
CFBUS.044	100	(4x(2x0.15))C	white/brown, green/yellow, gray/pink, blue/red
CFBUS.045	100	(4x(2x0.15))C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT6			
CFBUS.050	100	(4x(2x0.14)C)C	white/blue, white/orange, white/green, white/brown
FireWire			
CFBUS.055	100	2x(2x0.15)C+ 2x(0.34)C	orange/blue, green/red black, white
Profinet			
CFBUS.060	100	(4x0,38)C	white/yellow/blue/orange
USB			
CFBUS.065	90	2x0.5 2x0.08	red, black white, green
CFBUS.066	90	2x0.5 2x0.24	red, black white, green

Technical information

The USB, FireWire and GigE-cables shown on these pages were developed for the ambitious industrial usage in E-Chains®. High proofness to oil and lubricants is as secured as protection against electromagnetic interferences. 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 prove for a perfect running system. Of course we support you with the details of these electrical tests. Just give us a call!

Bus cable

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CF11.LC




















TPE

10 x d

TPE Bus cable

Chainflex® CF11.LC (low capacitance)

- for maximum load requirements
- TPE outer jacket
- shielded
- oil-resistant
- bio-oil-resistant
- PVC-free/halogen-free
- UV-resistant
- hydrolysis-resistant and microbe-resistant

	Temperature range moved	-35 °C to +70 °C, minimum bending radius 10 x d
	Temperature range fixed	-40 °C to +70 °C, minimum bending radius 5 x d
	v max. unsupported/gliding	10 m/s, 6 m/s
	a max.	100 m/s ²
	Travel distance	Freely suspended and gliding travel distances up to 400 m, Class 4
	UV-resistant	High
	Nominal voltage	30 V
	Testing voltage	500 V
	Oil	Oil-resistant (following DIN EN 60811-2-1), bio-oil-resistant (following VDMA 24568), Class 4
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
	Halogen-free	Following EN 50267-2-1.
	Conductor	Fine-wire stranded conductor in especially bending-resistant version consisting of bare copper wires (following EN 60228).
	Core insulation	According to bus specification.
	Core stranding	According to bus specification.
	Core identification	According to bus specification ► Schedule delivery program
	Inner jacket	TPE mixture adapted to suit the requirements in Energy Chains®.
	Overall shield	Extremely bending-resistant, tinned braided copper shield. Coverage approx. 70% linear, approx. 90% optical.
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in Energy Chains®. Colour: dark-blue (similar to RAL 5011)
	CE	Following 2006/95/EG

Especially bending-resistant fine-wire stranded conductor

Cores each stranded in especially short pitch

Gusset-filled extruded

Highly flexible braided copper shield

Pressure extruded, halogen-free TPE blend

Class 6.4.4

Clean-Room

RoHS

CE

... no minimum order quantity

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Lead free

Following EU guideline (RoHS) 2002/95/EC.



Clean room

According to ISO Class 1. Outer jacket material complies with CF9.15.07, tested by IPA according to standard 14644-1

Typical application area

- for maximum load requirements
- almost unlimited resistance to oil, also with bio-oils
- indoor and outdoor applications, UV-resistant
- especially for freely suspended and gliding travel distances up to 400 m
- bus connection cable for storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, clean room, semiconductor insertion, indoor cranes, low-temperature applications

Delivery program Part No.	Number of cores and conductor nominal cross section [mm ²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
Interbus				
CF11.02.03.02.IB-S	(3x2x0.25)C	8.5	42	83
CF11.02.03.02.10.03.IB-S	(3x2x0.25+3x1.0)C	10.0	74	135
CAN-Bus				
CF11.05.01.02.LC	(1x2x0.5)C	8.5	36	77
CF11.05.02.02.LC ⁽²⁾	(2x2x0.5)C	8.5	45	83
CF11.02.02.02.PBA.LC ⁽²⁾	(2x(2x0.25))C	8.5	33	80

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

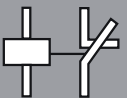
Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.

G = with earthed conductor green-yellow x = without earthed conductor

Delivery program Part No.	Characteris- tic wave impedance approx. [Ω]	Number of cores and conductor nominal cross section [mm ²]	Colour code
Interbus			
CF11.02.03.02.IB-S	100	(3x(2x0.25))C	white/brown, green/yellow, gray/pink
CF11.02.03.02.10.03.IB-S	100	(3x2x0.25+ 3x1.0)C	white/brown, green/yellow, gray/pink red, blue, green-yellow
CAN-Bus			
CF11.05.01.02.LC	120	(2x0.5)C	white, brown
CF11.05.02.02.LC	120	(2x(2x0.5))C	white, green, brown, yellow (star-quad stranding)
Profibus			
CF11.02.02.02.PBA.LC	150	(2x(2x0.25))C	green/red, yellow/brown

Bus cable

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850 types from stock no cutting costs ...

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(for up to 10 cuts of the same type)

CF11.LC.D

TPE

10 x d

TPE Bus cable

Chainflex® CF11.LC.D (low capacitance)

- for maximum load requirements
- TPE outer jacket
- shielded
- PVC-free/halogen-free
- oil-resistant
- bio-oil-resistant
- hydrolysis-resistant and microbe-resistant



Especially bending-resistant fine-wire stranded conductor



Cores each stranded in especially short pitch



Gusset-filled extruded



Highly flexible braided copper shield



Pressure extruded, halogen-free TPE blend



Temperature range moved

-35 °C to +70 °C, minimum bending radius 10 x d



Temperature range fixed

-40 °C to +70 °C, minimum bending radius 5 x d



v max.

unsupported/gliding 10 m/s, 6 m/s



a max.

100 m/s²



Travel distance

Freely suspended and gliding travel distances up to 400 m, Class 4



UV-resistant

Medium



Nominal voltage

30 V



Testing voltage

500 V



Oil

Oil-resistant (following DIN EN 60811-2-1), bio-oil-resistant (following VDMA 24568), Class 4



Silicon-free

Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).



Halogen-free

Following EN 50267-2-1.



Conductor

Fine-wire stranded conductor in especially bending-resistant version consisting of bare copper wires (following EN 60228).



Core insulation

According to bus specification.



Core stranding

According to bus specification.



Core identification

According to bus specification ► Schedule delivery program



Inner jacket

TPE mixture adapted to suit the requirements in Energy Chains®.



Overall shield

Extremely bending-resistant, tinned braided copper shield. Coverage approx. 70% linear, approx. 90% optical.



Outer jacket

Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in Energy Chains®. Colour: violet (similar to RAL 4001)



CE

Following 2006/95/EG



DESINA

According to VDW, DESINA standardisation

Class 6.4.4



IGUS CHAINFLEX® CF11.PBA.LC.D.

IGUS CHAINFLEX® CF11.LC.D.

... no minimum order quantity

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Lead free

Following EU guideline (RoHS) 2002/95/EC.



Clean room

According to ISO Class 1. Outer jacket material complies with CF9.15.07, tested by IPA according to standard 14644-1

Typical application area

- for maximum load requirements
- almost unlimited resistance to oil, also with bio-oils
- indoor and outdoor applications without direct sun radiation
- especially for freely suspended and gliding travel distances up to 400 m
- bus connection cable for storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, clean room, semiconductor insertion, indoor cranes, low-temperature applications

Delivery program Part No. Profibus	Number of cores and conductor nominal cross section [mm ²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CF11.02.01.02.PBA.LC.D	(1x(2x0.25)C	8.5	23	70
CF11.02.02.15.04.PBA.LC.D	(4x1.5+(2x0.25)C)	12.5	96	175
CF11.02.02.07.03.PBA.LC.D	(3x0.75+(2x0.25)C)	11.0	58	121

Fieldbus (CAN-Bus)

CF11.02.02.02.LC.D ⁽²⁾	(2x(2x0.25)C	7.5	33	66
CF11.05.01.02.LC.D	(1x(2x0.5)C	8.5	36	77

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

Other types available on request.

Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.

G = with earthed conductor green-yellow x = without earthed conductor

Delivery program Part No. Profibus	Characteris- tic wave impedance approx. [Ω]	Number of cores and conductor nominal cross section [mm ²]	Colour code
CF11.02.01.02.PBA.LC.D	150	(1x(2x0.25))C	red/green
CF11.02.02.15.04.PBA.LC.D	150	(4x1.5+ (2x0.25)C)	black with white numbers red/green
CF11.02.02.07.03.PBA.LC.D	150	(3x0.75+ (2x0.25)C)	black, blue, green-yellow red/green

Fieldbus (CAN-Bus)

CF11.02.02.02.LC.D	120	(2x(2x0.25))C	white, green, brown, yellow (star-quad stranding)
CF11.05.01.02.LC.D	120	(1x(2x0.5))C	white/brown



Order example: CF11.02.03.02.IB-S – in your desired length (0.5 m steps)

CF11.LC Chainflex[®] series **.02** Code nominal cross section **.03** Number of pairs
.02 Identification pairs **.IB-S** Special identification



Please use www.chainflex.eu/en/CF11LCD for your online order.



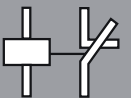
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Bus cable

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Test data ▶ Page 30

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(for up to 10 cuts of the same type)

CF14
TPE
12.5 x d

TPE Bus cable

Chainflex® CF14 CAT5

- Ethernet special cable for maximum load requirements
- TPE outer jacket
- oil-resistant
- bio-oil-resistant
- PVC-free/halogen-free
- UV-resistant
- hydrolysis-resistant and microbe-resistant




Especially bending-resistant fine-wire stranded conductor



2 cores each stranded in especially short pitch, PP special insulation






















Gusset-filled extruded



Highly flexible braided copper shield



Pressure extruded, halogen-free TPE blend

	Temperature range moved	-35 °C to +70 °C, minimum bending radius 12.5 x d
	Temperature range fixed	-40 °C to +70 °C, minimum bending radius 7.5 x d
	v max. unsupported/gliding	10 m/s, 6 m/s
	a max.	100 m/s ²
	Travel distance	Freely suspended and gliding travel distances up to 100 m, Class 3
	UV-resistant	Medium
	Nominal voltage	30 V
	Testing voltage	500 V
	Oil	Oil-resistant (following DIN EN 60811-2-1), bio-oil-resistant (following VDMA 24568), Class 4
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
	Halogen-free	Following EN 50267-2-1.
	Conductor	19-wire conductor consisting of bare copper wires in especially bending-resistant braiding quality.
	Core insulation	Special PP-isolating mixture.
	Core stranding	2 cores each stranded in pairs with short pitch lengths, core pairs also stranded with short pitch lengths.
	Core identification	Colour code in accordance with DIN 47100
	Inner jacket	TPE mixture adapted to suit the requirements in Energy Chains®.
	Overall shield	Extremely bending-resistant, tinned braided copper shield. Coverage approx. 70% linear, approx. 90% optical.
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in Energy Chains®. Colour: violet (similar to RAL 4001)
	CE	Following 2006/95/EG

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Class 6.3.4





DESINA

According to VDW, DESINA standardisation



Lead free

Following EU guideline (RoHS) 2002/95/EC.



Clean room

According to ISO Class 1. Outer jacket material complies with CF9.15.07, tested by IPA according to standard 14644-1

Bus cable

Typical application area

- for maximum load requirements
- almost unlimited resistance to oil, also with bio-oils
- indoor and outdoor applications without direct sun radiation
- especially for freely suspended and gliding travel distances up to 100 m
- ethernet cable for Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, clean room, semiconductor insertion, indoor cranes, low-temperature applications

Delivery program Part No.	Number of cores and conductor nominal cross section [mm ²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
Ethernet CAT5 CF14.02.02.02.CAT5 ⁽²⁾	(2x2x0.25)C	7.0	33	43
CF14.02.04.02.CAT5	(4x2x0.25)C	10.0	46	101
CF14.02.05.02.CAT5	(5x2x0.25)C	10.5	53	106

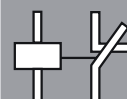
The Chainflex[®] types marked with ⁽²⁾ are cables designed as a star-quad.

Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.

G = with earthed conductor green-yellow x = without earthed conductor

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Delivery program Part No.	Characteris- tic wave impedance approx. [Ω]	Number of cores and conductor nominal cross section [mm ²]	Colour code
Ethernet CAT5 CF14.02.02.02.CAT5	100	(2x(2x0.25))C	white, green, brown, yellow (star-quad stranding)
CF14.02.04.02.CAT5	100	(4x(2x0.25))C	white/brown, green/yellow, gray/pink, blue/red
CF14.02.05.02.CAT5	100	(5x(2x0.25))C	white/brown, green/yellow, gray/pink, blue/red, black/violet



Order example: CF14.02.02.02.CAT5 – in your desired length (0.5 m steps)

CF14 CAT5 Chainflex[®] series **.02** Code nominal cross section **.02** Number of pairs
.02 Identification pairs **.CAT5** CAT5 identification



Please use www.chainflex.eu/en/CF14 for your online order.



Delivery time 24h or today*

* Delivery time means time until shipping of goods

Test data ▶ Page 28

More CAT5/CAT6 cables ▶ Page 118, CFBUS

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(for up to 10 cuts of the same type)

CF211
PVC
10 x d

PVC Measuring system cable Chainflex® CF211

- for high load requirements
- PVC outer jacket
- shielded
- oil-resistant
- flame-retardant




Center element
for high tensile
stresses



Fine-wire special
conductor





Cores each stranded
with short pitch



Highly flexible
braided copper
shield



Pressure extruded

	Temperature range moved	-5 °C to +70 °C, minimum bending radius 10 x d
	Temperature range fixed	-20 °C to +70 °C, minimum bending radius 5 x d
	v max. unsupported/gliding	5 m/s, 3 m/s
	a max.	50 m/s ²
	Travel distance	Freely suspended and gliding travel distances up to 100 m, Class 3
	Nominal voltage	30 V
	Testing voltage	500 V
	Oil	Oil-resistant (following DIN EN 60811-2-1, DIN EN 50363-4-1), Class 2
	Flame-retardant	According to IEC 332-1, CEI 20-35, FT1.
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
	Conductor	Very finely stranded special cores of particularly high-flex design made of bare copper wires.
	Core insulation	Mechanically high-quality PP mixture.
	Core stranding	According to measuring system specification.
	Core identification	According to measuring system specification ▶ Schedule delivery program
	Element shield	Extremely bending-resistant, tinned braided copper shield. Coverage approx. 70% linear, approx. 90% optical.
	Intermediate sheath	Foil taping over the external layer.
	Element jacket	TPE mixture adapted to suit the requirements in Energy Chains® over pair shield.
	Overall shield	Extremely bending-resistant, tinned braided copper shield. Coverage approx. 70% linear, approx. 90% optical.
	Outer jacket	Low-adhesion, oil-resistant mixture on the basis of PVC, adapted to suit the requirements in Energy Chains® (following DIN VDE 0282 Part 10). Colour: gray (similar to RAL 7001)

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Class 5.3.2



Class 5.3.2



CF211
PVC
10 x d

	UL/CSA	Style 1589 and 2502, 30 V, 80 °C
	CEI	Following CEI 20-35
	CE	Following 2006/95/EG
	Lead free	Following EU guideline (RoHS) 2002/95/EC
	Clean room	According to ISO Class 2. Outer jacket material complies with CF5.10.07, tested by IPA according to standard 14644-1

Typical application area

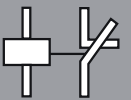
- for high load requirements
- light oil influence
- preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- especially for freely suspended and gliding travel distances up to 100 m
- storage and retrieval units for high-bay warehouses, machining units/packages machines, handling, indoor cranes



Three Energy Chain Systems® in several axes fitted with specially cables from igus®. E-Chain®: System E4/00 and System E4/0

Measuring system cable

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PVC Measuring system cable Chainflex® CF211

- for high load requirements
- PVC outer jacket
- shielded
- oil-resistant
- flame-retardant

Delivery program* Part No.	Number of cores and conductor nominal cross section [mm²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CF211.001	(3x(2x0.14)C+ (4x0.14)+(2x0.5))C	9.0	61	100
CF211.002	(3x(2x0.14)C+(2x0.5C))C	9.0	63	110
CF211.006	(3x(2x0.14)C+ 2x0.5+4x0.14+4x0.23)C	9.5	72	120
CF211.009	(4x(2x0.25)+2x0.5)c	9.0	51	111
CF211.010	(4x(2x0.25)+2x1.0)C	9.5	74	141
CF211.011	(4x(2x0.34)+4x0.5)C	9.0	75	135
CF211.014	(4x(2x0.25)C+1x2x0.5)C	13.0	84	211
CF211.016	(3x(2x0.25)C)C	11.0	85	170
CF211.017	(4x(2x0.14)+ 4x1.0+(4x0.14)C)C	9.0	85	124
CF211.018	(2x(2x0.25)+2x0.5)C	7.0	41	62
CF211.019	(3x0.25+3x(2x0.25)C+ 2x1.0)C	9.0	82	115
CF211.027	(5x(2x0.14)+2x0.5)C	9.0	45	102

* Previous product numbers – see reference list on page 482

Other types available on request.

Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.

G = with earthed conductor green-yellow x = without earthed conductor



Order example: **CF211.001** – in your desired length (0.5 m steps)

CF211 Chainflex® series **.001** Code Measuring system



Please use www.chainflex.eu/en/CF211M for your online order.



Delivery time 24h or today*

* Delivery time means time until shipping of goods



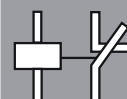
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Delivery program Part No.	Number of cores and conductor nominal cross section [mm ²]	Core group	Colour code
CF211.001	(3x(2x0.14)C+	3x(2x0.14)C	yellow/green, black/brown, red/orange
	(4x0.14)+(2x0.5)C	4x0.14	gray, blue, white-yellow, white-black
		2x0.5	brown-red, brown-blue
CF211.002	(3x(2x0.14)C+	3x(2x0.14)C	green/yellow, black/brown, red/orange
	(2x0.5C)C	2x0.5C	black, red
CF211.006	(3x(2x0.14)C+	3x(2x0.14)C	green/yellow, black/brown, red/orange
	2x0.5+4x0.14+	4x0.14	gray, blue, white-yellow, white-black
	4x0.23)C	4x0.23	brown-yellow, brown-gray, green-black, green-red
		2x0.5	brown-red, brown-blue
CF211.009	(4x(2x0.25)+(2x0.5)C	4x(2x0.25)	brown/green, blue/violet, gray/pink, red/black
		2x0.5	white, brown
CF211.010	(4x(2x0.25)+(2x1.0)C	4x(2x0.25)	brown/green, blue/violet, gray/pink, red/black
		2x1.0	white, brown
CF211.011	(4x(2x0.34)+(4x0.5)C	4x(2x0.34)	black/brown, red/orange, yellow/green, blue/violet
		4x0.5	blue-white, black-white, red-white, yellow-white
CF211.014	(4x(2x0.25)C+	4x(2x0.25)C	white/brown, green/yellow, gray/pink, blue/red
		(2x0.5)C	black (numeral printing 1-2)
CF211.016	(3x(2x0.25)C)C	3x(2x0.25)C	white/brown, green/yellow, gray/pink
			blue-black, red-black, yellow-black, green-black
			red/black, green/brown, yellow/violet, pink/gray
CF211.017	(4x(2x0.14)+ (4x1.0)+(4x0.14)C)C	(4x0.14)C	white-green, brown-green, blue, white
		4x(2x0.14)	
		4x1.0	
CF211.018	(2x(2x0.25)+(2x0.5)C	2x(2x0.25)	red/black, gray/pink
		2x0.5	white, brown
CF211.019	((3x0.25)+ 3x(2x0.25)C+(2x1.0)C	3x(2x0.25)	brown/green, pink/gray, red/black
		(3x0.25)	blue, yellow, violet
		(2x1.0)	white, brown
CF211.027	(5x(2x0.14) +(2x0.5)C	5x(2x0.14)	green/brown, gray/yellow, white/violet, black/red, blue/pink
		2x0.5	white-green, white-red

Measuring system cable

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(for up to 10 cuts of the same type)


CF113.D

PUR


10 x d

PUR Measuring system cable Chainflex® CF113.D

- for maximum load requirements
- PUR outer jacket
- shielded
- oil-resistant and coolant-resistant
- notch-resistant
- flame-retardant
- hydrolysis-resistant and microbe-resistant
- PVC-free/halogen-free



Especially bending-resistant fine-wire stranded conductor



Highly flexible braided copper shield




Center element for high tensile stresses



Cores each stranded in especially short pitch





















Gusset-filled extruded



Highly flexible braided copper shield



Pressure extruded PUR blend










	Temperature range moved	-20 °C to +80 °C, minimum bending radius 10 x d
	Temperature range fixed	-40 °C to +80 °C, minimum bending radius 5 x d
	v max. unsupported/gleitend	5 m/s, 3 m/s
	a max.	50 m/s ²
	Travel distance	Freely suspended and gliding travel distances up to 100 m, Class 3
	UV-resistant	Medium
	Nominal voltage	30 V
	Testing voltage	500 V
	Oil	Oil-resistant (following DIN EN 60811-2-1, DIN EN 50363-10-2), Class 3
	Offshore	MUD-resistant following NEK 606
	Flame-retardant	According to IEC 332-1, CEI 20-35, FT1
	Halogen-free	Following EN 50267-2-1
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
	Conductor	Fine-wire stranded conductor in especially bending-resistant version consisting of bare copper wires (following EN 60228).
	Core insulation	Mechanically high-quality PP mixture.
	Core stranding	According to measuring system specification
	Core identification	According to measuring system specification ▶ Schedule Delivery Program
	Element shield	Extremely bending-resistant, tinned braided copper shield. Coverage approx. 70% linear, approx. 90% optical.

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Class 6.3.3





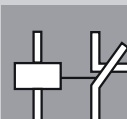
	Inner jacket	TPE mixture adapted to suit the requirements in Energy Chains®.
	Overall shield	Extremely bending-resistant, tinned braided copper shield. Coverage approx. 70% linear, approx. 90% optical.
	Outer jacket	Low-adhesion, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in Energy Chains® (following DIN VDE 0282 Part 10). Colour: green (similar to RAL 6018)
	UL/CSA	Style 1589 and 20236, 30 V, 80 °C
	CEI	Following CEI 20-35
	CE	Following 2006/95/EG
	DESINA	According to VDW, DESINA standardisation
	Lead free	Following EU guideline (RoHS) 2002/95/EC
	Clean room	According to ISO Class 1. Outer jacket material complies with CF27.07.05.02.01.D, tested by IPA according to standard 14644-1

Typical application area

- for maximum load requirements
- almost unlimited resistance to oil
- indoor and outdoor applications without direct sun radiation
- especially for freely suspended and gliding travel distances up to 100 m
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, clean room, semiconductor insertion, indoor cranes, low-temperature applications

Measuring system cable

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(for up to 10 cuts of the same type)

PUR Measuring system cable

Chainflex® CF113.D

- for maximum load requirements
- PUR outer jacket
- shielded
- oil-resistant and coolant-resistant
- notch-resistant
- flame-retardant
- hydrolysis-resistant and microbe-resistant
- PVC-free/halogen-free

Delivery program Part No.	Number of cores and conductor nominal cross section [mm ²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CF113.001.D	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	12.0	90	203
CF113.002.D ⁽¹⁾	(3x(2x0.14)C+(2x0.5C))C	12.0	96	212
CF113.003.D ⁽¹⁾	(3x(2x0.14)+2x1.0)C	9.5	59	132
CF113.004.D	(4x(2x0.14)+(4x0.14)C+4x0.5)C	12.0	90	214
CF113.005.D ⁽¹⁾	(4x(2x0.14)+4x0.5)C	10.0	64	107
CF113.006.D ⁽¹⁾	(3x(2x0.14)C+2x0.5+4x0.14+4x0.23)C	11.5	92	180
CF113.007.D ⁽¹⁾	(2x(2x0.34))C	6.5	24	47
CF113.008.D ⁽¹⁾	(3x(2x0.25))C	8.5	33	97
CF113.009.D ⁽¹⁾	(4x(2x0.25)+2x0.5)C	10.0	63	142
CF113.010.D ⁽¹⁾	(4x(2x0.25)+2x1.0)C	10.5	75	158
CF113.011.D ⁽¹⁾	(4x(2x0.34)+4x0.5)C	11.0	84	176
CF113.012.D ⁽¹⁾	(3x(2x0.14)C+(2x0.5+6x0.14)+(1x(3x0.14)C)C	12.0	94	184
CF113.013.D ⁽¹⁾	(3x(2x0.14)C+2x0.5)C	9.0	54	122
CF113.015.D	(4x(2x0.14)+4x0.5)C	10.0	64	107
CF113.017.D ^(1/4)	(4x(2x0.14)+4x1.0+(4x0.14)C)C	13.0	114	236
CF113.018.D ^(1/4)	(2x(2x0.25)+2x0.5)C	9.0	48	114
CF113.019.D ^(1/4)	(3x0.25+3x(2x0.25)C+2x1.0)C	11.5	108	208
CF113.021.D ⁽¹⁾	(6x0.5+5x2x0.25)C	13.0	102	227
CF113.022.D ⁽¹⁾	(5x0.5+1x2x0.25)C	9.0	49	115
CF113.025.D ⁽¹⁾	(3x(2x0.14)C+(2x0.5)C)C	12.0	96	226
CF113.027.D ⁽¹⁾	(5x(2x0.14)+2x0.5)C	10.0	57	138
CF113.028.D	(2x(2x0.15)+(2x0.38)C)C	7.5	47	72

⁽¹⁾ Delivery time upon inquiry

⁽⁴⁾ manufactured without inner jacket

Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.

G = with earthed conductor green-yellow x = without earthed conductor



Class 6.3.3

Price index



igus®

CF113.D

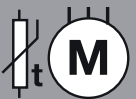
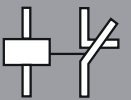
PUR

10 x d

Delivery program Part No.	Number of cores and conductor nominal cross section [mm²]	Core group	Colour code
CF113.001.D	(3x(2x0.14)C+ (4x0.14)+(2x0.5))C	3x(2x0.14)C	yellow/green, black/brown, red/orange
		4x0.14	gray, blue, white-yellow, white-black
		2x0.5	brown-red, brown-blue
CF113.002.D	(3x(2x0.14)C+ (2x0.5C))C	3x(2x0.14)C	green/yellow, black/brown, red/orange
		2x0.5C	black, red
CF113.003.D	(3x(2x0.14)+(2x1.0))C	3x(2x0.14) 2x1.0	white/brown, green/yellow, gray/pink blue, red
CF113.004.D	(4x(2x0.14)+ (4x0.14)C+(4x0.5))C	4x(2x0.14)	brown/green, violet/yellow, gray/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)+(4x0.5))C	4x(2x0.14)	white/brown, green/yellow, gray/pink, blue/red
		4x0.5	black, violet, gray-pink, red-blue
CF113.006.D	(3x(2x0.14)C+ 2x0.5+4x0.14+ 4x0.23)C	3x(2x0.14)C	green/yellow, black/brown, red/orange
		4x0.14	gray, blue, white-yellow, white-black
		4x0.23	brown-yellow, brown-gray, green-black, green-red
		2x0.5	brown-red, brown-blue
CF113.007.D	(2x(2x0.34))C	4x0.34	white, brown, green, yellow
CF113.008.D	(3x(2x0.25))C	3x(2x0.25)	white/brown, green/yellow, gray/pink
CF113.009.D	(4x(2x0.25)+(2x0.5))C	4x(2x0.25)	brown/green, blue/violet, gray/pink, red/black
		2x0.5	white, brown
CF113.010.D	(4x(2x0.25)+(2x1.0))C	4x(2x0.25)	brown/green, blue/violet, gray/pink, red/black
		2x1.0	white, brown
CF113.011.D	(4x(2x0.34)+(4x0.5))C	4x(2x0.34)	black/brown, red/orange, yellow/green, blue/violet
		4x0.5	blue-white, black-white, red-white, yellow-white
CF113.012.D	(3x(2x0.14)C+ (2x0.5+6x0.14)+ (3x0.14)C)C	3x(2x0.14)C	green/yellow, white/gray, blue/red
		(3x0.14)C	red, green, brown
		6x0.14	blue, gray, gray, yellow, pink, violet
CF113.013.D	(3x(2x0.14)C+(2x0.5))C	2x0.5	brown-red, brown-blue
		3x(2x0.14)C	white/brown, green/yellow, gray/pink
CF113.015.D	(4x(2x0.14)+(4x0.5))C	4x(2x0.14)	red, blue
		4x0.5	brown/green, violet/yellow, gray/pink, red/black blau, white, brown-green, white-green
CF113.017.D	(4x(2x0.14)+ (4x1.0)+(4x0.14)C)C	(4x0.14)C	blue-black, red-black, yellow-black, green-black
		4x(2x0.14)	red/black, green/brown, yellow/violet, pink/gray
		4x1.0	white-green, brown-green, blue, white
CF113.018.D	(2x(2x0.25)+(2x0.5))C	2x(2x0.25)	red/black, gray/pink
		2x0.5	white, brown
CF113.019.D	((3x0.25)+ 3x(2x0.25)C+(2x1.0))C	3x(2x0.25)C	brown/green, pink/gray, red/black
		3x0.25	blue, yellow, violet
		2x1.0	white, brown
CF113.021.D	((6x0.5)+5x(2x0.25))C	(3x0.5)	black (numeral printing 1-3)
		(3x0.5)	red (numeral printing 1-3)
		5x(2x0.25)	yellow/white, gray/white, black/orange, white/brown, black/gray
CF113.022.D	((5x0.5)+(2x0.25))C	(5x0.5)	blue, green, yellow, gray, pink
		(2x0.25)	white, brown
CF113.025.D	(3x(2x0.14)C+ (2x0.5)C)C	3x(2x0.14)	green/yellow, blue/red, gray/pink
		(2x0.5)	white, brown
CF113.027.D	(5x(2x0.14)+ (2x0.5))C	5x(2x0.14)	green/brown, gray/yellow, white/violet, black/red, blue/pink
		(2x0.5)	white-green, white-red
CF113.028.D	(2x(2x0.15)+ (2x0.38))C	(2x(2x0.15))	green/yellow; pink/blue
		(2x0.38)	red, black

Measuring system cable

Tel. +49-2203-96 49-0
Fax +49-2203-96 49-222



CF111.D

TPE

12 x d

TPE Measuring system cable Chainflex® CF111.D

- for medium load requirements
- TPE outer jacket
- shielded
- oil-resistant
- bio-oil-resistant
- flame-retardant
- hydrolysis-resistant and microbe-resistant



Center element for high tensile stresses



Fine-wire special conductor






















Cores each stranded with short pitch



Bending-resistant braided copper shield



Pressure extruded, flame-retardant TPE blend

	Temperature range moved	-35 °C to +100 °C, minimum bending radius 12 x d
	Temperature range fixed	-40 °C to +100 °C, minimum bending radius 6 x d
	v max. unsupported	2 m/s
	a max.	30 m/s ²
	Travel distance	Freely suspended travel distances, Class 1
	UV-resistant	Medium
	Nominal voltage	30 V
	Testing voltage	500 V
	Oil	Oil-resistant (following DIN EN 60811-2-1), bio-oil-resistant (following VDMA 24568), Class 4
	Flame-retardant	According to IEC 332-1, CEI 20-35, FT1.
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
	Conductor	Very finely stranded special cores of particularly high-flex design made of bare copper wires.
	Core insulation	Mechanically high-quality PP mixture.
	Core stranding	According to measuring system specification.
	Core identification	According to measuring system specification ▶ Schedule delivery program
	Element shield	Bending-resistant, tinned braided copper shield. Coverage approx. 55% linear, approx. 80% optical.
	Intermediate sheath	Foil taping over the external layer.
	Overall shield	Bending-resistant, tinned braided copper shield. Coverage approx. 55% linear, approx. 80% optical.
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in Energy Chains®. Colour: green (similar to RAL 6018)

Class 4.1.4



... no minimum order quantity
eplan download, configurator, PDF catalogues, lifetime ...



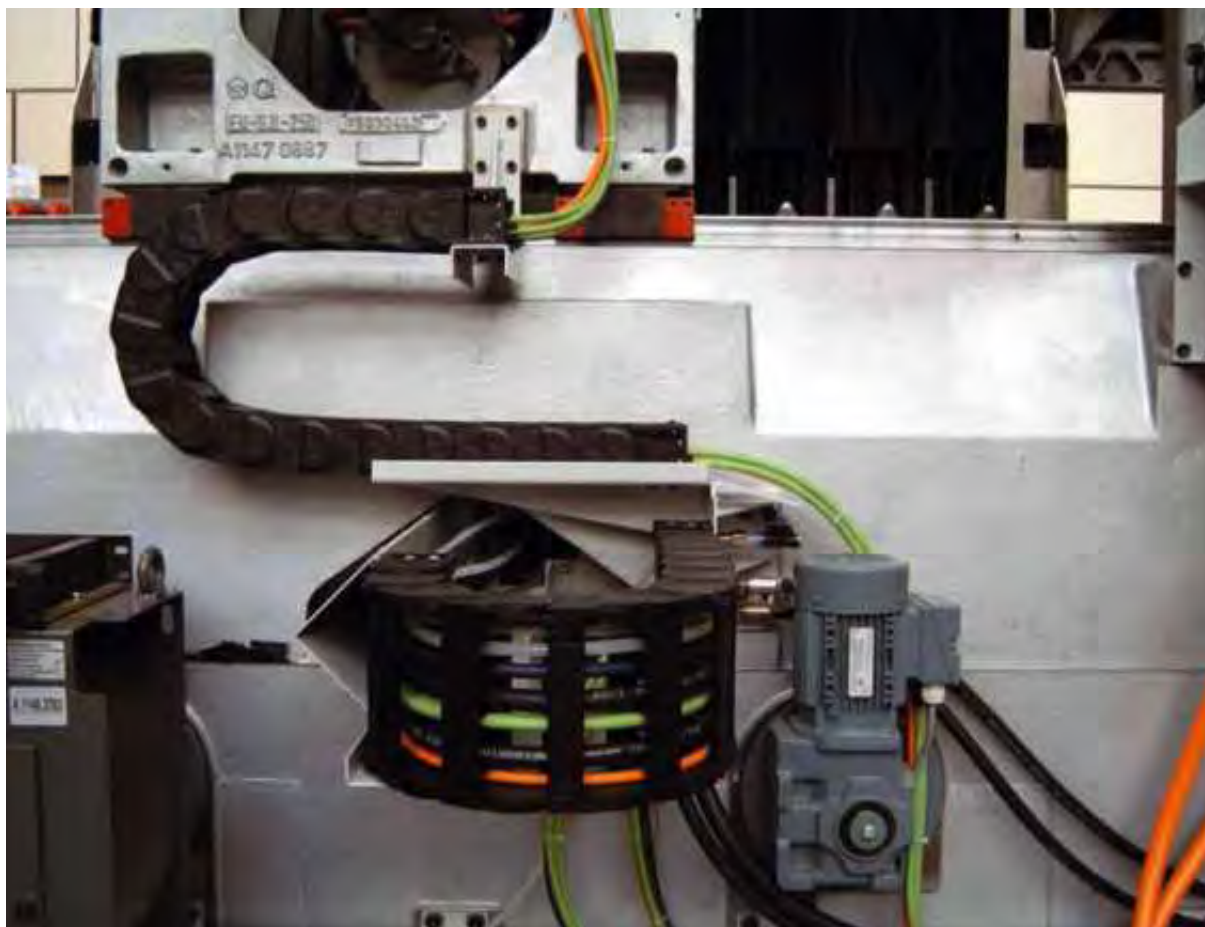
	UL/CSA	Style 1589 and 21371, 30 V, 80 °C
	CEI	Following CEI 20-35
	CE	Following 2006/95/EG
	DESINA	According to VDW, DESINA standardisation
	Lead free	Following EU guideline (RoHS) 2002/95/EC.
	Clean room	According to ISO Class 1. Outer jacket material complies with CF34.25.04, tested by IPA according to standard 14644-1

Measuring system cable

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Typical application area

- for medium load requirements
- almost unlimited resistance to oil, also with bio-oils
- indoor and outdoor applications without direct sun radiation
- especially for freely suspended travel distances
- machining units/machine tools, low temperature applications

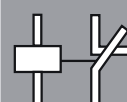


The ReadyChain® systems from igus® are completely pre-assembled with Chainflex® cables, hoses, screw attachments, metal parts etc.

850 types from stock no cutting costs ...

... and order online ► www.igus.eu/en/CF111D

(for up to 10 cuts of the same type)



TPE Measuring system cable

Chainflex® CF111.D

- for high load requirements
- TPE outer jacket
- shielded
- oil-resistant
- bio-oil-resistant
- flame-retardant
- hydrolysis-resistant and microbe-resistant

Delivery program Part No.	Number of cores and conductor nominal cross section [mm ²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CF111.001.D	(3x(2x0.14)C+ (4x0.14)+(2x0.5))C	8.5	56	87
CF111.004.D	(4x(2x0.14)+ (4x0.14)C+4x0.5)C	10.5	72	113
CF111.006.D	(3x(2x0.14)C+ 2x0.5+4x0.14+4x0.23)C	10.0	69	112
CF111.011.D	(4x(2x0.34)+4x0.5)C	9.5	69	106
CF111.015.D	(4x(2x0.14)+4x0.5)C	8.0	49	76
CF111.021.D	(6x0.5+5x2x0.25)C	10.0	79	125
CF111.022.D	(5x0.5+1x2x0.25)C	8.0	49	78
CF111.027.D ⁽¹⁾	(5x(2x0.14)+2x0.5)C	9.0	54	109
CF111.028.D	(2x(2x0.15)+2x0.38)C	7.5	41	64
CF111.035.D	(4x(2x0.25)C+2x(2x0.5))C	12.5	118	202

⁽¹⁾ Delivery time upon inquiry

Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.

G = with earthed conductor green-yellow **x** = without earthed conductor



Order example: CF111.021.D – in your desired length (0.5 m steps)

CF111.D Chainflex® series .001 Code Measuring system



Please use www.chainflex.eu/en/CF111D for your online order.



Delivery time 24h or today*

* Delivery time means time until shipping of goods



... no minimum order quantity

... online plan download, configurator, PDF catalogues, lifetime ...

Class 4.1.4

Price index



igus®

CF111.D

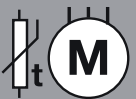
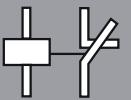
TPE

12 x d

Part No.	Number of cores and conductor nominal cross section [mm ²]	Core group	Colour code
CF111.001.D	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	3x(2x0.14)C	yellow/green, black/brown, red/orange
		4x0.14	gray, blue, white-yellow, white-black
		2x0.5	brown-red, brown-blue
CF111.004.D	(4x(2x0.14)+(4x0.14)C+(4x0.5))C	4x(2x0.14)	brown/green, violet/yellow, gray/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+2x0.5+4x0.14+4x0.23)C	3x(2x0.14)C	green/yellow, black/brown, red/orange
		4x0.14	gray, blue, white-yellow, white-black
		4x0.23	brown-yellow, brown-gray, green-black, green-red
		2x0.5	brown-red, brown-blue
CF111.011.D	(4x(2x0.34)+(4x0.5))C	4x(2x0.34)	black/brown, red/orange, yellow/green, blue/violet
		4x0.5	blue-white, black-white, red-white, yellow-white
CF111.015.D	(4x(2x0.14)+(4x0.5))C	4x(2x0.14)	brown/green, violet/yellow, gray/pink, red/black
		4x0.5	blue, white, brown-green, white-green
CF111.021.D	((6x0.5)+5x(2x0.25))C	(3x0.5)	black with numerals 1-3
		(3x0.5)	red with numerals 1-3
		(5x2x0.25)	yellow/white, gray/white, black/orange, white/brown, black/gray
CF111.022.D	((5x0.5)+(2x0.25))C	(5x0.5)	blue, green, yellow, gray, pink
		(2x0.25)	white, brown
CF111.027.D	(5x(2x0.14)+2x0.5)C	5x(2x0.14)	green/brown, gray/yellow, white/violet, black/red, blue/pink
		2x0.5	white-green, white-red
CF111.028.D	(2x(2x0.15)+(2x0.38))C	2x(2x0.15)	green/yellow, pink/blue
		2x0.38	red, black
CF111.035.D	(4x(2x0.25)C+2x(2x0.5))C	4x(2x0.15)C	white, brown, green, yellow, gray, pink, blue, red
		2x(2x0.5)	black (numeral printing 1-4)

Measuring system cable

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


















... and order online ► www.igus.eu/en/CF111D

(for up to 10 cuts of the same type)

TPE Measuring system cable

Chainflex® CF11.D

- for maximum load requirements
- TPE outer jacket
- shielded
- twisted-pair
- oil- and bio-oil-resistant
- PVC-free/halogen-free
- hydrolysis-resistant and microbe-resistant

	Temperature range moved	-35 °C to +100 °C, minimum bending radius 10 x d
	Temperature range fixed	-40 °C to +100 °C, minimum bending radius 5 x d
	v max. unsupported/gliding	10 m/s, 6 m/s
	a max.	100 m/s ²
	Travel distance	Freely suspended and gliding travel distances up to 400 m, Class 4
	UV-resistant	Medium
	Nominal voltage	30 V
	Testing voltage	500 V
	Oil	Oil-resistant (following DIN EN 60811-2-1), bio-oil-resistant (following VDMA 24568), Class 4
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
	Halogen-free	Following EN 50267-2-1.
	Conductor	Fine-wire stranded conductor in especially bending-resistant version consisting of bare copper wires (following EN 60228).
	Core insulation	Mechanically high-quality PP mixture.
	Core stranding	According to measuring system specification.
	Core identification	According to measuring system specification ► Schedule delivery program
	Element shield	Extremely bending-resistant, tinned braided copper shield. Coverage approx. 70% linear, approx. 90% optical.
	Inner jacket	TPE mixture adapted to suit the requirements in Energy Chains®.
	Overall shield	Extremely bending-resistant, tinned braided copper shield. Coverage approx. 70% linear, approx. 90% optical.
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in Energy Chains®. Colour: green (similar to RAL 6018)

Especially bending-resistant fine-wire stranded conductor

Extrem Highly flexible braided copper shield

Center element for high tensile stresses

Cores each stranded in especially short pitch

Gusset-filled extruded

Highly flexible braided copper shield

Pressure extruded, halogen-free TPE blend



CE

Following 2006/95/EG



DESINA

According to VDW, DESINA standardisation



Lead free

Following EU guideline (RoHS) 2002/95/EC.

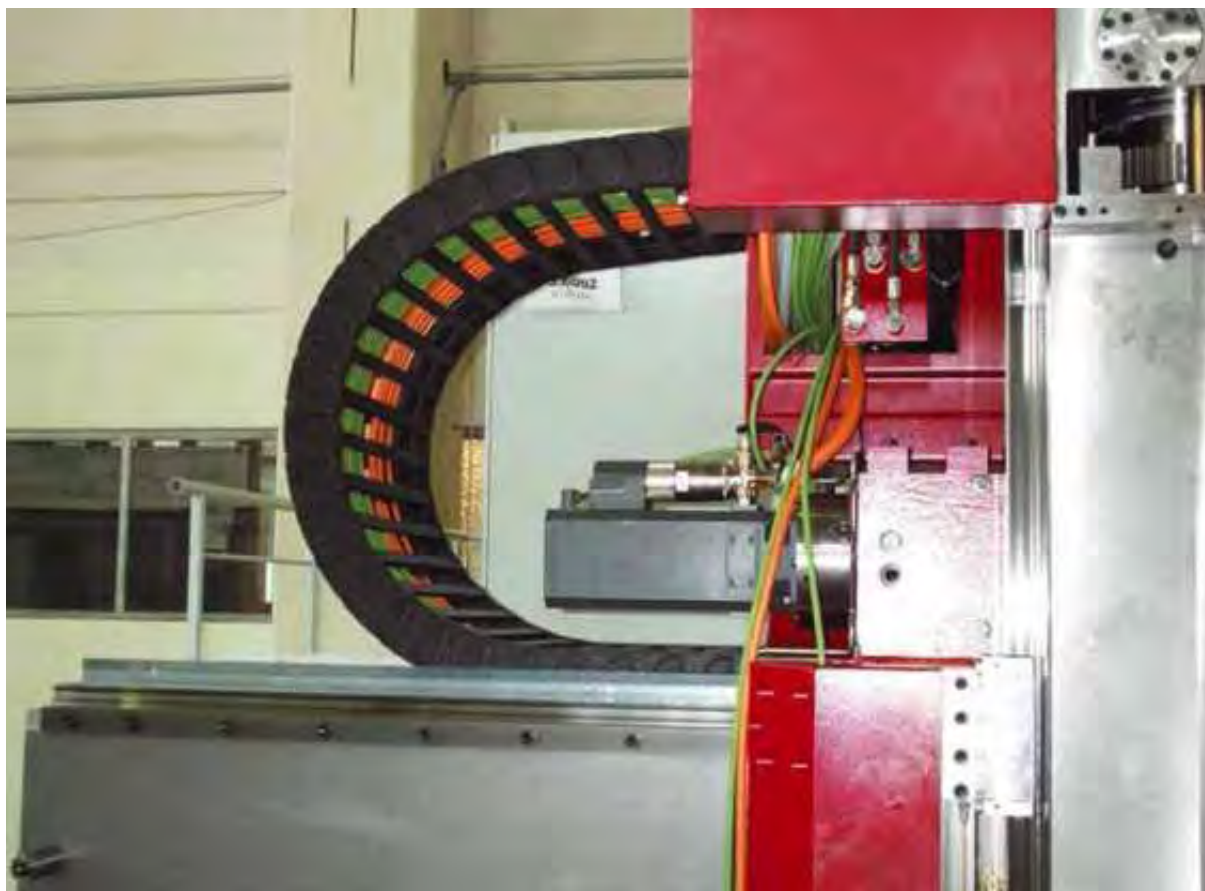


Clean room

According to ISO Class 1. Outer jacket material complies with CF34.25.04, tested by IPA according to standard 14644-1

Typical application area

- for maximum load requirements
- almost unlimited resistance to oil, also with bio-oils
- indoor and outdoor applications without direct sun radiation
- especially for freely suspended and gliding travel distances up to 400 m
- storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, clean room, semiconductor insertion, outdoor cranes, low-temperature applications

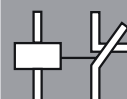


Pre-assembled igus® energy supply systems for machine tool manufacture. E-Chain®: System E4/4

Measuring system cable

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850 types from stock no cutting costs ...

... and order online ► www.igus.eu/en/CF11D

(for up to 10 cuts of the same type)

TPE Measuring system cable Chainflex® CF11.D

- for maximum load requirements
- TPE outer jacket
- shielded
- twisted-pair
- oil- and bio-oil-resistant
- PVC-free/halogen-free
- hydrolysis-resistant and microbe-resistant

Delivery program* Part No.	Number of cores and conductor nominal cross section [mm²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CF11.001.D	(3x(2x0.14)C+ (4x0.14)+(2x0.5))C	10.5	78	130
CF11.002.D	(3x(2x0.14)C+(2x0.5C))C	10.5	66	120
CF11.003.D	(3x(2x0.14)+2x1.0)C	8.0	50	90
CF11.004.D	(4x(2x0.14)+ (4x0.14)C+4x0.5)C	12.0	93	184
CF11.005.D	(4x(2x0.14)+4x0.5)C	9.0	64	105
CF11.006.D	(3x(2x0.14)C+ 2x0.5+4x0.14+4x0.23)C		1	125
CF11.007.D	(2x(2x0.34))C	7.5	31	70
CF11.008.D	(3x(2x0.25))C	8.5	35	85
CF11.009.D	(4x(2x0.25)+2x0.5)C	9.5	63	115
CF11.010.D	(4x(2x0.25)+2x1.0)C	9.5	75	130
CF11.011.D	(4x(2x0.34)+4x0.5)C	10.5	77	130
CF11.012.D	(3x(2x0.14)C+ (2x0.5+6x0.14)+ (1x(3x0.14)C)C	12.0	94	163
CF11.013.D	(3x(2x0.14)C+2x0.5)C	9.5	78	115
CF11.015.D	(4x(2x0.14)+4x0.5)C	9.0	64	105
CF11.017.D ⁽⁴⁾	(4x(2x0.14)+4x1.0+ (4x0.14)C)C	9.0	85	160
CF11.018.D ⁽⁴⁾	(2x(2x0.25)+2x0.5)C	7.0	41	57
CF11.019.D ⁽⁴⁾	(3x0.25+3x(2x0.25)C+ 2x1.0)C	9.0	82	112
CF11.021.D	(6x0.5+5x2x0.25)C	12.5	105	171
CF11.022.D	(5x0.5+1x2x0.25)C	8.5	60	90
CF11.025.D	(3x(2x0.14)C+(2x0.5)C)C	12.5	120	170
CF11.027.D	(5x(2x0.14)+2x0.5)C	9.5	59	113

* Previous product numbers – see reference list on page 483

⁽⁴⁾ manufactured without inner jacket

Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.

G = with earthed conductor green-yellow **x** = without earthed conductor

Class 6.4.4

Price index



igus®

CF11.D

TPE

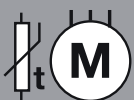
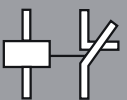
10 x d

Measuring system cable

Part No.	Number of cores and conductor nominal cross section [mm ²]	Core group	Colour code
CF11.001.D	(3x(2x0.14)C+ (4x0.14)+(2x0.5)C	3x(2x0.14)C	yellow/green, black/brown, red/orange
		4x0.14	gray, blue, white-yellow, white-black
		2x0.5	brown-red, brown-blue
CF11.002.D	(3x(2x0.14)C+ (2x0.5C))C	3x(2x0.14)C	green/yellow, black/brown, red/orange
		2x0.5C	black, red
CF11.003.D	(3x(2x0.14)+(2x1.0))C	3x(2x0.14) 2x1.0	white/brown, green/yellow, gray/pink blue, red
CF11.004.D	(4x(2x0.14)+ (4x0.14)C+(4x0.5)C	4x(2x0.14)	brown/green, violet/yellow, gray/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)+(4x0.5)C	4x(2x0.14)	white/brown, green/yellow, gray/pink, blue/red
		4x0.5	black, violet, gray-pink, red-blue
CF11.006.D	(3x(2x0.14)C+ (2x0.5+2x0.14)+ (4x0.23+2x0.14))C	3x(2x0.14)C	green/yellow, black/brown, red/orange
		4x0.14	gray, blue, white-yellow, white-black
		4x0.23	brown-yellow, brown-gray, green-black, green-red
		2x0.5	brown-red, brown-blue
CF11.007.D	(2x(2x0.34))C	4x0.34	white, brown, green, yellow
CF11.008.D	(3x(2x0.25))C	3x(2x0.25)	white/brown, green/yellow, gray/pink
CF11.009.D	(4x(2x0.25)+(2x0.5)C	4x(2x0.25)	brown/green, blue/violet, gray/pink, red/black
		2x0.5	white, brown
CF11.010.D	(4x(2x0.25)+(2x1.0))C	4x(2x0.25)	brown/green, blue/violet, gray/pink, red/black
		2x1.0	white, brown
CF11.011.D	(4x(2x0.34)+(4x0.5)C	4x(2x0.34)	black/brown, red/orange, yellow/green, blue/violet
		4x0.5	blue-white, black-white, red-white, yellow-white
CF11.012.D	(3x(2x0.14)C+ (2x0.5+6x0.14)+ (3x0.14)C)C	3x(2x0.14)C	green/yellow, white/gray, blue/red
		(3x0.14)C	red, green, brown
		6x0.14	blue, gray, gray, yellow, pink, violet
CF11.013.D	(3x(2x0.14)C+(2x0.5)C	3x(2x0.14)C	white/brown, green/yellow, gray/pink
		2x0.5	red, blue
CF11.015.D	(4x(2x0.14)+(4x0.5)C	4x(2x0.14)	brown/green, violet/yellow, gray/pink, red/black
		4x0.5	blue, white, brown-green, white-green
CF11.017.D	(4x(2x0.14)+ (4x1.0)+ (4x0.14)C)C	(4x0.14)C	blue-black, red-black, yellow-black, green-black
		4x(2x0.14)	red/black, green/brown, yellow/violet, pink/gray
		4x1.0	white-green, brown-green, blue, white
CF11.018.D	(2x(2x0.25)+(2x0.5)C	2x(2x0.25)	red/black, gray/pink
		2x0.5	white, brown
CF11.019.D	((3x0.25)+ 3x(2x0.25)C+2x1.0))C	3x(2x0.25)C	brown/green, pink/gray, red/black
		3x0.25	blue, yellow, violet
		2x1.0	white, brown
CF11.021.D	((6x0.5)+5x(2x0.25)C	(3x0.5)	black with numerals 1-3
		(3x0.5)	red with numerals 1-3
		(5x2x0.25)	yellow/white, gray/white, black/orange, white/brown, black/gray
CF11.022.D	((5x0.5)+ (2x0.25))C	(5x0.5)	blue, green, yellow, gray, pink
		(2x0.25)	white, brown
CF11.025.D	(3x(2x0.14)C+ (2x0.5)C)C	3x(2x0.14)	green/yellow, blue/red, gray/pink
		(2x0.5)	white, brown
CF11.027.D	(5x(2x0.14)+ 2x0.5)C	5x(2x0.14)	green/brown, gray/yellow, white/violet, black/red, blue/pink
		2x0.5	white-green, white-red

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(for up to 10 cuts of the same type)

TPE Koax cable

Chainflex® CF Koax 1

- 75 Ω koax cable for maximum load requirements
- TPE outer jacket
- oil-resistant
- bio-oil-resistant
- UV-resistant
- hydrolysis-resistant and microbe-resistant



Especially bending-resistant special conductor























Highly flexible braided copper shield



Elements stranded with short pitch, FEP special insulation



Gusset-filled extruded, halogen-free TPE mixture

	Temperature range moved	-35 °C to +100 °C, minimum bending radius 10 x d
	Temperature range fixed	-40 °C to +100 °C, minimum bending radius 7.5 x d
	v max.	10 m/s, 5 m/s
	unsupported/gliding a max.	100 m/s ²
	Travel distance	Freely suspended and gliding travel distances up to 400 m, Class 4
	UV-resistant	High
	Nominal voltage	300/300 V (following DIN VDE 0245).
	Testing voltage	1500 V
	Oil	Oil-resistant (following DIN EN 60811-2-1), bio-oil-resistant (following VDMA 24568), Class 4
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
	Conductor	Multi-wire; adapted in single-wire diameter and pitch length to suit the requirements in Energy Chains®.
	Core insulation	Special FEP-isolating mixture.
	Core stranding	Cores stranded in one layer with especially short pitch length.
	Core identification	► Schedule delivery program
	Element shield	Extremely bending-resistant, tinned braided copper shield. Coverage approx. 70% linear, approx. 90% optical.
	Element jacket	TPE mixture adapted to suit the requirements in Energy Chains®.
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in Energy Chains®. Colour: dark-blue (similar to RAL 5011)
	CE	Following 2006/95/EG
	Lead free	Following EU guideline (RoHS) 2002/95/EC.
	Clean room	According to ISO Class 1. Outer jacket material complies with CF9.15.07, tested by IPA according to standard 14644-1

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i Info

The coax elements used in cables of the CF Koax1 series are comparable with a HF75-0.3/1.6 according to MIL-C-17/94-RG179 and thus fit in an RG179 plug!

Typical application area

- for maximum load requirements
- almost unlimited resistance to oil, also with bio-oils
- indoor and outdoor applications, UV-resistant
- especially for freely suspended and gliding travel distances up to 400 m
- storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, clean room, semiconductor insertion, outdoor cranes, low-temperature applications

Delivery program Part No.	Number of cores	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CFKoax 1.01	1 coaxial element	4.5	9	25
CFKoax 1.05	5 coaxial elements	10.0	47	135

Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.

Delivery program Part No.	Characteristic wave impedance approx. [Ω]	Number of cores	Colour code
CF Koax 1.01	75	1 coaxial element	black
CF Koax 1.05	75	5 coaxial elements	red, green, blue, white, black



Order example: **CFKoax1.01** – in your desired length (0.5 m steps)
CF Koax1 Chainflex® series .01 Number of coaxial elements

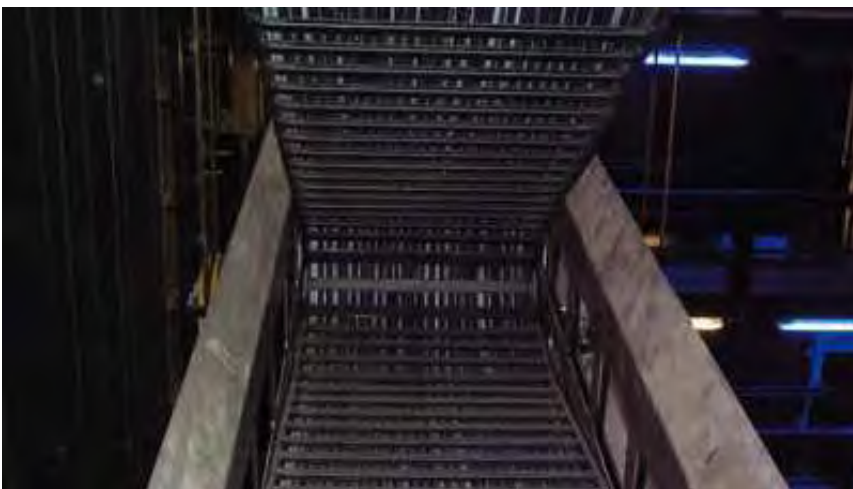


Please use www.chainflex.eu/en/CFKOAX1 for your online order.



Delivery time 24h or today*

* Delivery time means time until shipping of goods



Koax cables and other Chainflex® cables in platform technology. E-Chain®: System E4/4

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