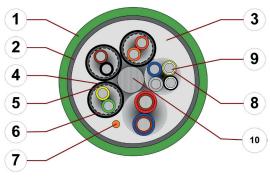
chainflex® CF11.D



Measuring system cable (Class 6.6.4.1) ● For extremely heavy duty applications ● TPE outer jacket ● Shielded ● Oil and bio-oil resistant ● PVC and halogen-free ● Hydrolysis and microbe-resistant



- 1. Outer jacket: Pressure extruded, halogen-free TPE
- 2. Overall shield: Extremely bending-resistant braiding made of tinned copper wires
- 3. Inner jacket: Pressure extruded, gusset-filling TPE
- 4. Element jacket: Mechanically high-quality TPE mixture
- 5. Element shield: Extremely bending-resistant braiding made of tinned copper wires
- 6. Banding: Plastic foil
- 7. CFRIP: Tear strip for faster cable stripping
- 8. Core insulation: Mechanically high-quality TPE mixture
- 9. Conductor: Fine-wire strand in especially bending-stable version consisting of tinned copper wires
- 10. Strain relief: Tensile stress-resistant centre element











































Example image

For detailed overview please see design table

Leitungsaufbau



Conductor

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

Core insulation

Mechanically high-quality TPE mixture.

Core structure

According to measuring system specification. According to measuring system specification.

Core identification

Element shield

► Product range table

Element jacket

TPE mixture on pair shielding adapted to suit the requirements in e-chains®.

Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to

Extremely bending-resistant braiding made of tinned copper wires.

Inner jacket

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

Coverage approx. 70 % linear, approx. 90 % optical



Overall shield

Outer jacket

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



suit the requirements in e-chains®. Colour: Yellow-green (similar to RAL 6018)

Printing: black

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



CFRIP®

"00000 m"** igus chainflex CF11.---.D① ------②

RU AWM Style 22355 80°C 300V CE DESINA RoHS-II conform

www.igus.eu

+++ chainflex cable works +++

* Length printing: Not calibrated. Only intended as an orientation aid. ① / ② Cable identification according to Part No. (see technical table).

Example: ... chainflex CF11.007.D (4x0.34)C 50V ...

Example image

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Dynamic information



e-chain® linear Bend radius flexible fixed

minimum 7.5 x d minimum 6 x d minimum 4 x d



e-chain® linear Temperature flexible

-35 °C up to +90 °C -50 °C up to +90 °C (following DIN EN 60811-504) -55 °C up to +90 °C (following DIN EN 50305)



unsupported gliding

fixed

10 m/s 6 m/s



a max.

100 m/s²



Guarantee

guarantee and

Travel distance

Unsupported travel distances and up to 400 m for gliding applications, Class 6

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

Guaranteed service life according to guarantee conditions

5 · · · · · · · · · · · · · · · · · · ·							
Double strokes		illion		nillion	12.5 r	million	
- .	< 10 m	≥ 10 m	< 10 m	≥ 10 m	< 10 m	≥ 10 m	
Temperature. from/to [°C]		min. d]	R n [x		R r [x	nin. d]	
-35/-25	8.5	10	9.5	11	10.5	12	
-25/+80	6.8	7.5	7.5	8.5	8.5	9.5	
+80/+90	8.5	10	9.5	11	10.5	12	

The installation of the cable is recommended within the middle temperature range.



















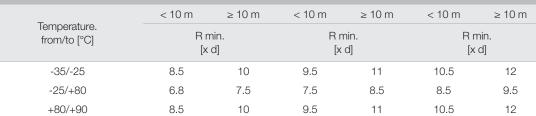








10



Minimum guaranteed service life of the cable under the specified conditions.

Electrical information



Nominal voltage

300 V (following UL)



Testing voltage

500 V

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UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 245 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 - status 1
Halogen-free	Following DIN EN 60754
PTFE-free	The design of these products does not contain PTFE
UL verified	Certificate No. V293560: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
MWA JU	Details see table UL AWM
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
RoHS Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
clean- room Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE CE	Following 2014/35/EU
A	

































Example image

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Properties and approvals

UL AWM details

Part No.	UL style core insulation	UL style outer jacket	UL Voltage Rating [V]	UL Temperature Rating [°C]
CF11.001.D	10467	22355	300	80
CF11.002.D	10467	22355	300	80
CF11.003.D	10467	22355	300	80
CF11.004.D	10467	22355	300	80
CF11.005.D	10467	22355	300	80
CF11.006.D	10467	22355	300	80
CF11.007.D	10467	22355	300	80
CF11.008.D	10467	22355	300	80
CF11.009.D	10467	22355	300	80
CF11.010.D	10467	22355	300	80
CF11.011.D	10467	22355	300	80
CF11.012.D	10467	22355	300	80
CF11.013.D	10467	22355	300	80
CF11.014.D	10467	22355	300	80
CF11.015.D	10467	22355	300	80
CF11.016.D	10467	22355	300	80
CF11.017.D	10467	22355	300	80
CF11.018.D	10467	22355	300	80
CF11.019.D	10467	22355	300	80
CF11.021.D	10467	22355	300	80
CF11.022.D	10467	22355	300	80
CF11.025.D	10467	22355	300	80
CF11.027.D	10467	22355	300	80
CF11.028.D	10467	22355	300	80
CF11.031.D	10467	22355	300	80
CF11.032.D	10467	22355	300	80
CF11.033.D	10467	22355	300	80
CF11.038.D	10467	22355	300	80
CF11.040.D	10467	22355	300	80

































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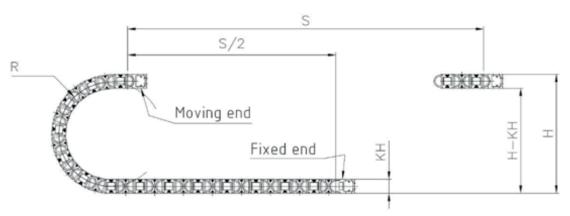
Measuring system cable (Class 6.6.4.1) ● For extremely heavy duty applications ● TPE outer jacket ● Shielded ● Oil and bio-oil resistant ● PVC and halogen-free ● Hydrolysis and microbe-resistant

Typical lab test setup for this cable series

Test bend radius R approx. 55 - 100 mm Test travel S approx. 1 - 15 m

Test duration minimum 2 - 4 million double strokes

Test speed approx. 0.5 - 2 m/s Test acceleration approx. 0.5 - 1.5 m / s²



































Typical application areas

- For extremely heavy duty applications, Class 6
- Unsupported travel distances and up to 400 m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications without direct solar radiation
- 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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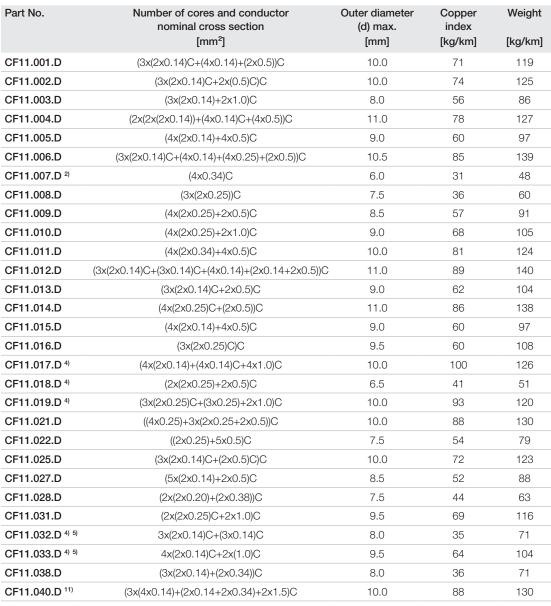
chainflex® CF11.D

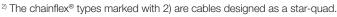


Measuring system cable (Class 6.6.4.1) ● For extremely heavy duty applications ● TPE outer jacket ● Shielded ● Oil and bio-oil resistant ● PVC and halogen-free ● Hydrolysis and microbe-resistant

Technical tables:

Mechanical information





⁴⁾ Manufactured without inner jacket

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

































⁵⁾ manufactured without overall shield

¹¹⁾ Phase-out model

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Measuring system cable (Class 6.6.4.1) ● For extremely heavy duty applications ● TPE outer jacket ● Shielded ● Oil and bio-oil resistant ● PVC and halogen-free ● Hydrolysis and microbe-resistant

Technical tables:

the number of loaded cores.

Electrical information

Conductor nominal cross section	Maximum conductor resistance at 20 °C (following DIN EN 50289-1-2)	Maximum current rating at 30 °C
[mm²]	[Ω/km]	[A]
0.14	145.0	2.5
0.25	85.0	5
0.34	62.0	7
0.5	42.0	10
1.0	21.0	17
1.5	14.0	21

The final maximum current rating depends among other things on the ambient conditions, the type of the installation and



guarantee and































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Design table			
Part No.	Core group	Colour code	Core design
	3x(2x0.14)C	green/yellow, black/brown, red/orange	
CF11.001.D	(4x0.14)	grey/blue/white-yellow/white-black	
	(2x0.5)	brown-red/brown-blue	
	3x(2x0.14)C	green/yellow, black/brown, red/orange	8
CF11.002.D	2x(0.5)C	black, red	
CF11.003.D	3x(2x0.14)	white/brown, green/yellow, grey/pink	000
	2x1.0	blue, red	
	2x(2x(2x0.14))	(brown/green)/(yellow/violet), (grey/pink)/(red/black)	
CF11.004.D	(4x0.14)C	yellow-black/red-black/green-black/blue-black	
	(4x0.5)	brown-green/white-green/blue/white	
CF11.005.D —	4x(2x0.14)	white/brown, green/yellow, grey/pink, blue/red	000
	4x0.5	black, violet, grey-pink, red-blue	
	3x(2x0.14)C	green/yellow, black/brown, red/orange	
0544 000 5	(4x0.14)	grey/blue/white-yellow/white-black	
CF11.006.D	(4x0.25)	brown-yellow/brown-grey/green-black/green-red	
	(2x0.5)	brown-red/brown-blue	
CF11.007.D	4x0.34	white, green, brown, yellow(Star-quad)	

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Konstruktions Part No.	stabelle Core group	Colour code	Core design
CF11.008.D	3x(2x0.25)	white/brown, green/yellow, grey/pink	
0544 000 5	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black	88
CF11.009.D	2x0.5	white, brown	8
	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black	88
CF11.010.D	2x1.0	white, brown	88
0F44 044 D	4x(2x0.34)	black/brown, red/orange, green/yellow, blue/violet	080
CF11.011.D	4x0.5	black-white, red-white, yellow-white, blue-white	
	3x(2x0.14)C	green/yellow, white/grey, blue/red	
0511 010 D	(3x0.14)C	red/green/brown	
CF11.012.D	(4x0.14)	grey/yellow/pink/violet	
	(2x0.14+2x0.5)	blue/brown-blue/grey/brown-red	
CF11.013.D	3x(2x0.14)C	white/brown, green/yellow, grey/pink	
G. 11.010.D	2x0.5	blue, red	
CF11.014.D	4x(2x0.25)C	white/brown, green/yellow, grey/pink, blue/red	
GF11.014.D	(2x0.5)	black no. 1/black no. 2	





































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Part No.	Core group	Colour code	Core design
CF11.015.D	4x(2x0.14)	brown/green, yellow/violet, grey/pink, red/black	080
GF11.015.D —	4x0.5	blue, white, brown-green, white-green	O
CF11.016.D	3x(2x0.25)C	white/brown, green/yellow, grey/pink	
	4x(2x0.14)	red/black, brown/green, yellow/violet, grey/pink	
CF11.017.D	(4x0.14)C	blue-black/yellow-black/red-black/green-black	
	4x1.0	white-green, brown-green, blue, white	
CF11.018.D ——	2x(2x0.25)	red/black, grey/pink	8
	2x0.5	white, brown	
	3x(2x0.25)C	brown/green, grey/pink, red/black	
CF11.019.D	(3x0.25)	blue/violet/yellow	
	2x1.0	white, brown	
	(4x0.25)	white/brown/grey/black	8
CF11.021.D	3x2x0.25	white/yellow, white/grey, black/orange	8
	3x2x0.5	black no. 1/black no. 2, black no. 3/black no. 4, black no. 5/black no. 6	***
CF11.022.D	(2x0.25)	white/brown	
O1 11.022.D	5x0.5	green, yellow, grey, pink, blue	

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Konstruktionsta	abelle		
Part No.	Core group	Colour code	Core design
CF11.025.D	3x(2x0.14)C	green/yellow, blue/red, grey/pink	00
GF11.025.D -	(2×0.5)	white/brown	
0544 007 0	5x(2x0.14)	brown/green, yellow/grey, white/violet, red/black, pink/blue	886
CF11.027.D -	2x0.5	white-green, white-red	
0544 000 5	2x(2x0.20)	green/yellow, pink/blue	
CF11.028.D -	(2×0.38)	red/black	8
0511 001 5	2x(2x0.25)C white/brown, green/yellow	white/brown, green/yellow	
CF11.031.D -	2x1.0	black no. 1, black no. 2	20
OF11 020 D	3x(2x0.14)C	green/black, yellow/black, red/black	
CF11.032.D -	(3x0.14)C	grey/pink/black	
CF11.033.D	4x(2x0.14)C	yellow/black, red/black, blue/black, green/black	00
GI 11.000.D	2x(1.0)C	white, brown	00
	3x(2x0.14)C	green/black, violet/black, blue/black	00
CF11.034.D	(4x0.14)C	red/yellow/black-red/black-yellow	
	2x(2x0.5)C	black/white, black/brown	6



































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Part No.	Core group	Colour code	Core design
0511 005 B	4x(2x0.25)C	white/brown, green/yellow, grey/pink, blue/red	00
CF11.035.D -	2x(2x0.5)	black no. 1/black no. 2, black no. 3/black no. 4	80
	3x(2x0.14)	white/brown, green/yellow, grey/pink	
CF11.038.D	(2x0.34)	blue/red	
	3x(4x0.14)	black/red/white-black/white-red, green/blue/white-green/ white-blue, yellow/brown/white-yellow/white-brown	
CF11.040.D	(2x0.14+ 2x0.34)	violet/orange/white-violet/white-orange	8
	2x1.5	white-grey, grey	

dry





Example image