















# Measuring system cable | PVC | chainflex® CF211

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



### Dynamic information

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

### Cable structure

	<b>Conductor</b>	Very finely stranded special conductors of particularly bending-resistant design made of tinned copper wires.
	<b>Core insulation</b>	Mechanically high-quality TPE mixture.
	<b>Core structure</b>	According to measuring system specification.
	<b>Core identification</b>	According to measuring system specification. ▶ Product range table
	<b>Element shield</b>	Extremely bending-resistant, tinned copper shield. Coverage approx. 90 % optical
	<b>Element jacket</b>	TPE mixture over pair shielding, adapted to suit the requirements in e-chains®.
	<b>Intermediate layer</b>	Foil taping over the outer layer.
	<b>Overall shield</b>	Extremely bending-resistant braiding made of tinned copper wires. Coverage approx. 55 % inear, approx. 80 % optical
	<b>Outer jacket</b>	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Yellow-green (similar to RAL 6018), Silver-grey (similar to RAL 7001)

### Electrical information

	<b>Nominal voltage</b>	50 V
	<b>Testing voltage</b>	500 V












Example image

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Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6	7	≥ 400 m
Oil resistance	none	1	2	3	4	highest			
Torsion	none	1	2	3	±180°				

## Class 4.2.2.1

### Properties and approvals

	<b>Oil resistance</b>	Oil-resistant (following DIN EN 50363-4-1), Class 2.
	<b>Flame retardant</b>	According to IEC 60332-1-2, CEI 20-35, FT1, VW-1
	<b>Silicone-free</b>	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992).
	<b>UL/CSA</b>	Style 1589 and 2502, 30 V, 80 °C
	<b>NFPA</b>	Following NFPA 79-2012 chapter 12.9.
	<b>EAC</b>	Certificate no. RU C-DE.ME77.B.01559 (TR ZU)
	<b>CTP</b>	Certificate no. C-DE.PB49.B.00416 (Fire safety)
	<b>CEI</b>	Following CEI 20-35.
	<b>Lead-free</b>	Following 2011/65/EU (RoHS-II).
	<b>Cleanroom</b>	According to ISO Class 2. Outer jacket material complies with CF5.10.07, tested by IPA according to standard 14644-1.
	<b>CE</b>	Following 2014/35/EU.

### Guaranteed lifetime according to guarantee conditions (Page 22-23)

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

\* Higher number of double strokes? Online lifetime calculation: [www.igus.eu/chainflexlife](http://www.igus.eu/chainflexlife)

### Typical mechanical application areas

- For medium duty applications
- Light oil influence
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Unsupported travel distances and up to 10 m for gliding applications
- Storage and retrieval units for high-bay warehouses, machining units/packaging machines, Handling, indoor cranes, Wood/stone processing



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Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]	Part No.	Core group	Colour code
CF211.001	(3x(2x0.14)C)+(4x0.14)+(2x0.5)C	9.0	63	102	CF211.001	3x(2x0.14)C (4x0.14) (2x0.5)	green/yellow, black/brown, red/orange grey/blue/white-yellow/white-black brown-red, brown-blue
CF211.002	(3x(2x0.14)C)+2x(0.5)C	9.5	65	108	CF211.002	3x(2x0.14)C 2x(0.5)C	green/yellow, black/brown, red/orange black, red
CF211.004	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	10.0	74	122	CF211.004	2x(2x(2x0.14)) (4x0.14)C (4x0.5)	(brown/green)/(yellow/violet), (greypink)/(red/black) yellow-black/red-black/green-black/blue-black brown-green/white-green/blue/white
CF211.006	(3x(2x0.14)C)+(4x0.14)+(4x0.25)+(2x0.5)C	10.0	80	126	CF211.006	3x(2x0.14)C (4x0.14) (4x0.25) (2x0.5)	green/yellow, black/brown, red/orange grey/blue/white-yellow/white-black brown-yellow/brown-grey/green-black/green-red brown-red, brown-blue
CF211.009	(4x(2x0.25))+2x0.5)C	8.0	51	81	CF211.009	4x(2x0.25) 2x0.5	brown/green, blue/violet, grey/pink, red/black white, brown
CF211.010	(4x(2x0.25))+2x1.0)C	8.5	63	95	CF211.010	4x(2x0.25) 2x1.0	brown/green, blue/violet, grey/pink, red/black white, brown
CF211.011	(4x(2x0.34))+4x0.5)C	9.0	72	107	CF211.011	4x(2x0.34) 4x0.5	black/brown, red/orange, green/yellow, blue/violet black-white, red-white, yellow-white, blue-white
CF211.014	(4x(2x0.25)C)+(2x0.5)C	10.0	78	125	CF211.014	4x(2x0.25)C (2x0.5)	white/brown, green/yellow, grey/pink, blue/red black no.1/black no.2
CF211.015	(4x(2x0.14))+4x0.5)C	8.0	54	88	CF211.015	4x(2x0.14) 4x0.5	brown/green, blue/violet, grey/pink, red/black blue, white, brown-green, white-green
CF211.016	(3x(2x0.25)C)C	9.0	52	89	CF211.016	3x(2x0.25)C	white/brown, green/yellow, grey/pink
CF211.017 <sup>11)</sup>	(4x(2x0.14)+(4x0.14)C)+4x1.0)C	10.0	94	141	CF211.017 <sup>11)</sup>	4x(2x0.14) (4x0.14)C 4x1.0	red/black, brown/green, yellow/violet, grey/pink blue-black/yellow-black/red-black/green-black white-green, brown-green, blue, white
CF211.018	(2x(2x0.25))+2x0.5)C	6.5	35	58	CF211.018	2x(2x0.25) 2x0.5	red/black, grey/pink white, brown
CF211.019	(3x(2x0.25)C)+(3x0.25)+2x1.0)C	10.0	85	129	CF211.019	3x(2x0.25)C (3x0.25) 2x1.0	brown/green, grey/pink, red/black blue/violet/yellow white, brown
CF211.022	((2x0.25)+5x0.5)C	7.0	47	74	CF211.022	(2x0.25) 5x0.5	white/brown green, yellow, grey, pink, blue
CF211.024	((4x0.14)+2x(2x0.34))C	7.0	37	63	CF211.024	(4x0.14) 2x(2x0.34)	yellow/grey/violet/pink white-green/white, brown-green/blue
CF211.027	(5x(2x0.14))+2x0.5)C	8.0	46	78	CF211.027	5x(2x0.14) 2x0.5	brown/green, yellow/grey, white/violet, red/black, pink/blue white-green, white-red

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

Other types ► page 220



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Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]	Part No.	Core group	Colour code
CF211.028	(2x(2x0.15)+(2x0.38))C	7.5	37	79	CF211.028	2x(2x0.15) (2x0.38)	green/yellow, pink/blue red/black
CF211.032	3x(2x0.14)C+(3x0.14)C	8.0	33	71	CF211.032	3x(2x0.14)C (3x0.14)C	green/black, yellow/black, red/black grey/pink/black
CF211.033	4x(2x0.14)C+2x(1.0)C	9.5	61	113	CF211.033	4x(2x0.14)C 2x(1.0)C	yellow/black, red/black, blue/black, green/black white, brown
CF211.036	(5x(2x0.25))C	8.0	44	74	CF211.036	5x(2x0.25)	white/brown, green/yellow, grey/pink, blue/red, black/violet
CF211.037	(6x(2x0.25))C	8.5	52	86	CF211.037	6x(2x0.25)	white/brown, green/yellow, grey/pink, blue/red, black/violet, grey-pink/red-blue
CF211.038	(3x(2x0.14)+(2x0.34))C	7.5	34	66	CF211.038	3x(2x0.14) (2x0.34)	white/brown, green/yellow, grey/pink blue/red
CF211.039	(4x(2x0.14)C+2x(0.5)C)C	10.0	75	125	CF211.039	(4x(2x0.14)C 2x(0.5)C)C	green/yellow, grey/pink, blue/red, black/violet white, brown

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Other types ► page 218

