

Data sheet

chainflex® CF888

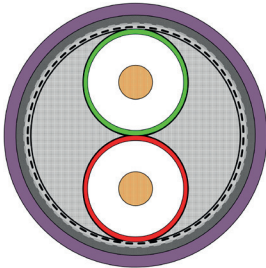


Bus cable (Class 3.1.1.1) ● For flexing applications ● PVC outer jacket ● Shielded
● Flame-retardant



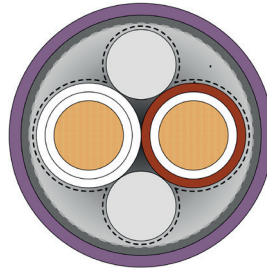
Profibus

CF888.001



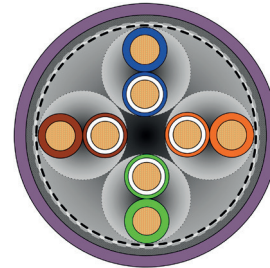
CAN-Bus

CF888.021



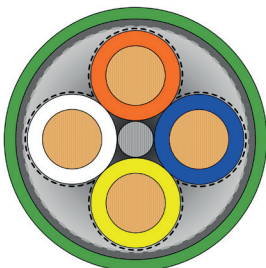
Ethernet (CAT5/CAT5e/GigE/PoE)

CF888.045



Profinet (Type C)

CF888.060



Example image

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chainflex® CF888



Bus cable (Class 3.1.1.1) ● For flexing applications ● PVC outer jacket ● Shielded
● Flame-retardant

Cable structure



Conductor

Conductor consisting of bare copper wires (according to DIN EN 60228).



Core insulation

According to bus specification.



Core structure

According to bus specification.



Core identification

According to bus specification.
► Design table



Overall shield

Braiding made of tinned copper wires.
Coverage approx. 60 % optical



Outer jacket

Low-adhesion PVC mixture, adapted to suit the requirements in e-chains®.
Colour: Red lilac (similar to RAL 4001), Variants ► Table Mechanical information
Printing: black

„00000 m“* igus chainflex CF888,---① -----② E310776 cRUus AWM

Style ③ VW-1 AWM I/II A/B 60°C ④ V FT1 CE ---⑤

RoHS-II conform www.igus.de +++ chainflex cable works +++

* **Length printing:** Not calibrated. Only intended as an orientation aid.

① / ② Cable identification according to Part No. (see technical table).

③ Printing UL style (see related chapter).

④ Printing UL Voltage Rating (see related chapter).

⑤ Printing according to bus specification (inclusive wave resistance).

Example: ... chainflex **CF888.001 (2x0.25)C** ...

Guaranteed service life according to guarantee conditions

Double strokes	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	17.5	18.5	19.5
+15/+60	15	16	17
+60/+70	17.5	18.5	19.5

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

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



Example image

igus® chainflex® CF888.045

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Bus cable (Class 3.1.1.1) • For flexing applications • PVC outer jacket • Shielded
• Flame-retardant



Properties and approvals

	Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
	Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
	PTFE-free	The design of these products does not contain PTFE
	UL-verified	Certificate No. V293650: „igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year“
	UL/CSA AWM	Details see table UL/CSA AWM
	NFPA	Following NFPA 79-2018, chapter 12.9
	REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
	Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
	CE	Following 2014/35/EU

Properties and approvals

UL/CSA AWM Details

Part No.	UL style core insulation	UL style outer jacket	UL Voltage Rating V	UL Temperature Rating °C
CF888.001	1589	2560	30	60
CF888.021	10578	20601	300	80
CF888.045	11602	20601	300	80
CF888.060	11602	20601	300	80

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



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Bus cable (Class 3.1.1.1) ● For flexing applications ● PVC outer jacket ● Shielded
● Flame-retardant

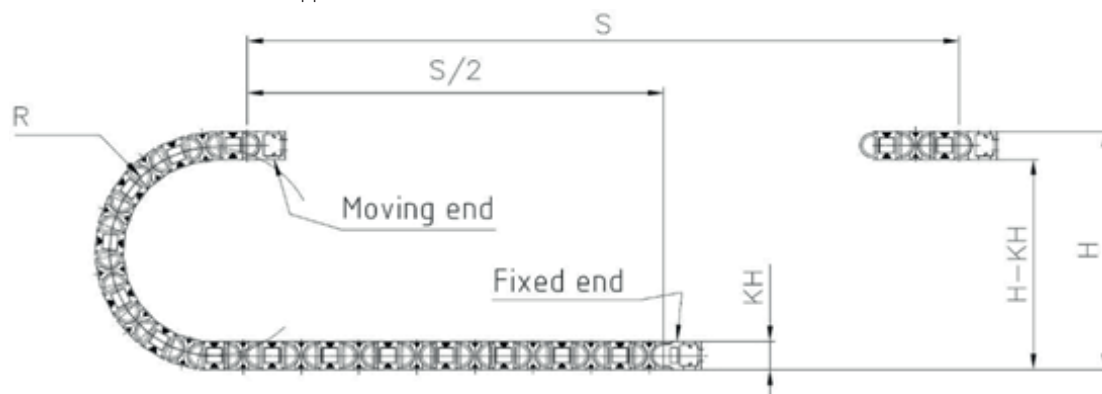
Dynamic information

	Bend radius	e-chain® linear flexible fixed	minimum 15 x d minimum 12 x d minimum 8 x d
	Temperature	e-chain® linear flexible fixed	+5°C up to +70°C -5°C up to +70°C (following DIN EN 60811-504) -15°C up to +70°C (following DIN EN 50305)
	v max.	unsupported	3m/s
	a max.		20m/s ²
	Travel distance		Unsupported travels up to 10m, Class 1

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

Typical lab test setup for this cable series

Test bend radius R	approx. 75 - 100 mm
Test travel S/S₂	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 / s ²



Typical application areas

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



Example image

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Bus cable (Class 3.1.1.1) ● For flexing applications ● PVC outer jacket ● Shielded
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Technical tables:

Mechanical information

Part No.		Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
Profibus (1x2x0.64 mm)					
CF888.001		(2x0.25)C	8.0	18	59
CAN-Bus					
CF888.021		(2x0.5)C	8.5	24	73
Ethernet/CAT5e					
CF888.045		(4x(2x0.14))C	7.0	25	62
Profinet					
CF888.060 ^{2) 13)}		(4x0.34)C	7.0	25	59

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

¹³⁾ Colour outer jacket: Yellow-green (RAL 6018)

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.

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



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



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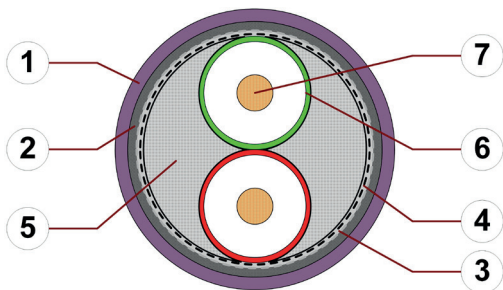


Bus cable (Class 3.1.1.1) ● For flexing applications ● PVC outer jacket ● Shielded
● Flame-retardant

Profibus
CF888.001

Cable structure

(Electrical information please see next page)



1. Outer jacket: Pressure extruded PVC mixture
2. Overall shield: Braiding made of tinned copper wires
3. Shield foil: Aluminium clad plastic foil
4. Banding: Plastic foil
5. Filler: Plastic yarns
6. Core insulation: Mechanically high quality TPE mixture (according to bus specification)
7. Conductor: Stranded conductor consisting of bare copper wires

Example image
For detailed overview please see design table

Design table

Part No.	Core group	Colour code	Drawing
CF888.001	2x0.25	red, green	



Example image

igus® chainflex® CF888.045

Data sheet

chainflex® CF888



Bus cable (Class 3.1.1.1) ● For flexing applications ● PVC outer jacket ● Shielded
● Flame-retardant



Profibus

CF888.001

Electrical information

(Cable structure please see previous page)

Part No.	CF888.001
Nominal voltage	50 V 30 V (following UL)
Testing voltage (following DIN EN 50289-1-3)	500 V
Characteristic wave impedance (following DIN EN 50289-1-11)	150 ± 15 Ω (at 3-16 MHz)

Line attenuation approx. [dB/100m]

Part No.	9.6 kHz	38.4 kHz	4 MHz	16 MHz
CF888.001	0.3	0.4	2.5	5.2

Conductor nominal cross section	Maximum conductor resistance at 20 °C (following DIN EN 50289-1-2)	Maximum current rating at 30 °C (following DIN VDE 0298-4)
[mm²]	[Ω/km]	[A]
0.25	88	5

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



Example image

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chainflex® CF888

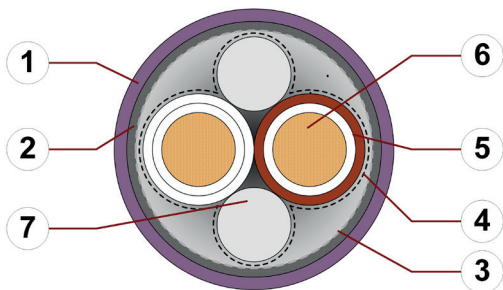


Bus cable (Class 3.1.1.1) ● For flexing applications ● PVC outer jacket ● Shielded
● Flame-retardant

CAN-Bus
CF888.021

Cable structure

(Electrical information please see next page)



1. Outer jacket: Pressure extruded PVC mixture
2. Overall shield: Braiding made of tinned copper wires
3. Shield foil: Aluminium clad plastic foil
4. Banding: Plastic foil
5. Core insulation: Mechanically high quality TPE mixture (according to bus specification)
6. Conductor: Stranded conductor consisting of bare copper wires
7. Filler: Plastic dummy

Example image

For detailed overview please see design table

Design table

Part No.	Core group	Colour code	Drawing
CF888.021	2x0.5	white, brown	



Example image

igus® chainflex® CF888.045

Data sheet

chainflex® CF888



Bus cable (Class 3.1.1.1) ● For flexing applications ● PVC outer jacket ● Shielded
● Flame-retardant



CAN-Bus
CF888.021

Electrical information

(Cable structure please see previous page)

Part No.	CF888.021
Nominal voltage	50 V 300 V (following UL)
Testing voltage (following DIN EN 50289-1-3)	500 V
Characteristic wave impedance (following DIN EN 50289-1-11)	120 ± 12 Ω (at 1 MHz)

Conductor nominal cross section	Maximum conductor resistance at 20 °C (following DIN EN 50289-1-2)	Maximum current rating at 30 °C (following DIN VDE 0298-4)
[mm²]	[Ω/km]	[A]
0.5	39	10

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



Data sheet

chainflex® CF888

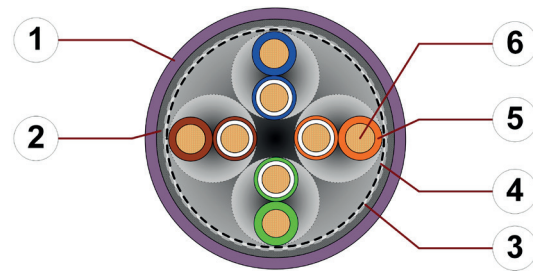


Bus cable (Class 3.1.1.1) ● For flexing applications ● PVC outer jacket ● Shielded
● Flame-retardant

Ethernet (CAT5/CAT5e/GigE/PoE) CF888.045

Cable structure

(Electrical information please see next page)



1. Outer jacket: Pressure extruded PVC mixture
2. Overall shield: Braiding made of tinned copper wires
3. Shield foil: Aluminium clad plastic foil
4. Banding: Plastic foil
5. Core insulation: Mechanically high quality TPE mixture (according to bus specification)
6. Conductor: Stranded conductor consisting of bare copper wires

Example image

For detailed overview please see design table

Design table

Part No.	Core group	Colour code	Drawing
CF888.045	4x(2x0.14)	white-blue/blue, white-orange/ orange, white-green/green, white-brown/brown	



Example image

igus® chainflex® CF888.045

Data sheet

chainflex® CF888



Bus cable (Class 3.1.1.1) ● For flexing applications ● PVC outer jacket ● Shielded
● Flame-retardant



Ethernet (CAT5/CAT5e/GigE/PoE)

CF888.045

Electrical information

(Cable structure please see previous page)

Part No.	CF888.045
Nominal voltage	50 V 300 V (following UL)
Testing voltage (following DIN EN 50289-1-3)	500 V
Characteristic wave impedance (following DIN EN 50289-1-11)	100 ± 25 Ω
Operating capacity	47 pF/m
Nominal Velocity of Propagation (NVP)	67 %

Line attenuation approx. [dB/100m]

Part No.	1 MHz	4 MHz	10 MHz	16 MHz	20 MHz	31.25 MHz	62.5 MHz	100 MHz
CF888.045	3.2	6.0	9.5	12.1	13.6	17.1	14.8	32.0

Conductor nominal cross section	Maximum conductor resistance at 20 °C (following DIN EN 50289-1-2)	Maximum current rating at 30 °C (following DIN VDE 0298-4)
[mm²]	[Ω/km]	[A]
0.14	145	2.5

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



Example image

Data sheet

chainflex® CF888



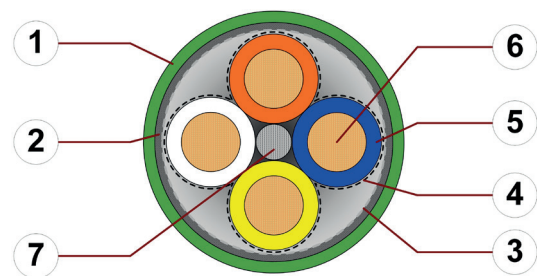
Bus cable (Class 3.1.1.1) ● For flexing applications ● PVC outer jacket ● Shielded
● Flame-retardant

Profinet (Type C)

CF888.060

Cable structure

(Electrical information please see next page)



1. Outer jacket: Pressure extruded PVC mixture
2. Overall shield: Braiding made of tinned copper wires
3. Shield foil: Aluminium clad plastic foil
4. Banding: Plastic foil
5. Core insulation: Mechanically high quality TPE mixture (according to bus specification)
6. Conductor: Stranded conductor consisting of bare copper wires
7. Filler: Plastic yarns

Example image

For detailed overview please see design table

Design table

Part No.	Core group	Colour code	Drawing
CF888.060	4x0.34	white, orange, blue, yellow (Star-quad)	



Example image

igus® chainflex® CF888.060

Data sheet

chainflex® CF888



Bus cable (Class 3.1.1.1) ● For flexing applications ● PVC outer jacket ● Shielded
● Flame-retardant



Profinet (Type C)

CF888.060

Electrical information

(Cable structure please see previous page)

Part No.	CF888.060
Nominal voltage	50 V 300 V (following UL)
Testing voltage (following DIN EN 50289-1-3)	500 V
Characteristic wave impedance (following DIN EN 50289-1-11)	100 ± 15 Ω
Operating capacity	53 pF/m
Nominal Velocity of Propagation (NVP)	67 %

Line attenuation approx. [dB/100m]

Part No.	1 MHz	4 MHz	10 MHz	16 MHz	20 MHz	31.25 MHz	62.5 MHz	100 MHz
CF888.060	3.2	6.0	9.5	12.1	13.6	17.1	14.8	32.0

Conductor nominal cross section	Maximum conductor resistance at 20 °C (following DIN EN 50289-1-2)	Maximum current rating at 30 °C (following DIN VDE 0298-4)
[mm²]	[Ω/km]	[A]
0.34	59	7

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



Example image