

Data sheet

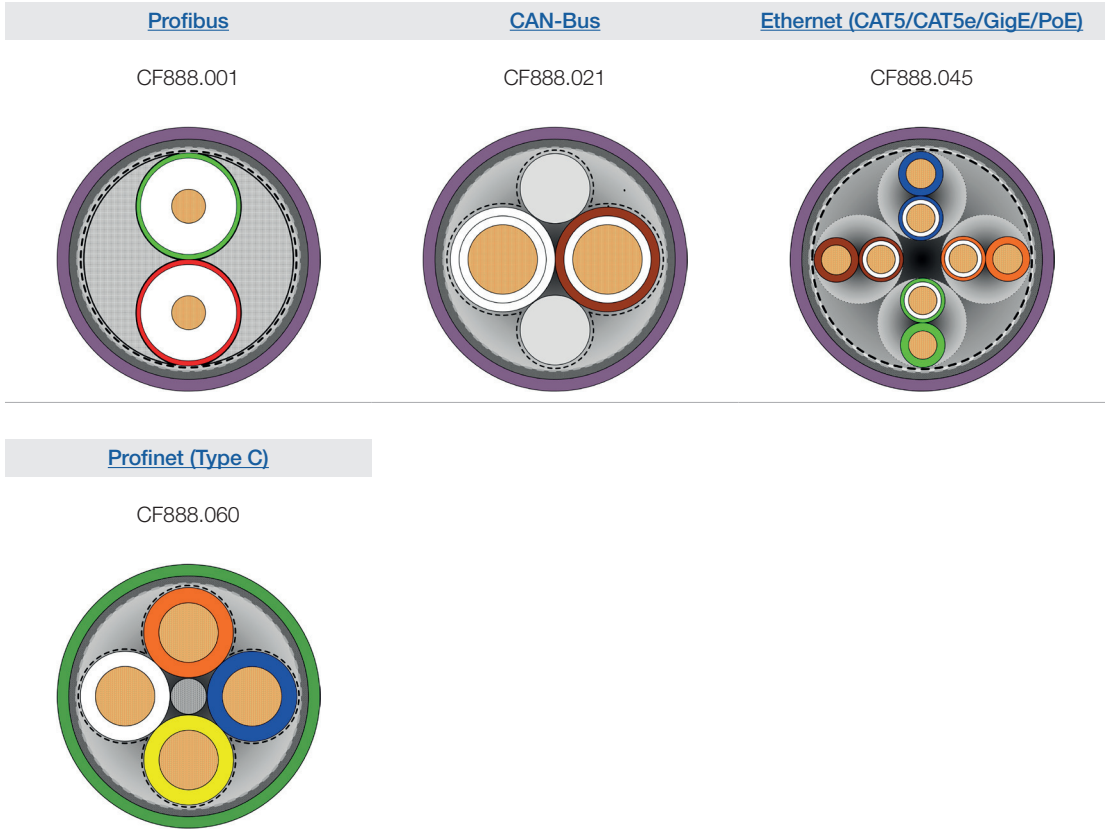
chainflex® CF888



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



Example image



Guarantee
igus chainflex
36
month guarantee

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year



Data sheet







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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.
 ► Product range table
- 
Overall shield Braiding made of tinned copper wires.
 Coverage approx. 60 % optical
- 
Outer jacket Low-adhesion PVC mixture, adapted to suit the requirements in e-chains®.
Colour: Red lilac (similar to RAL 4001), Variants ► Product range table
Printing: black

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

Style ③ VW-1 AWM I/II A/B 60°C ④V FT1 EAC/CTP 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. [factor x d]	R min. [factor x d]	R min. [factor 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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Properties and approvals

-  **Flame retardant** According to IEC 60332-1-2, FT1, VW-1
-  **Silicone-free** Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
-  **UL verified** Certificate No. B129699: „igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year“
-  **UL/CSA AWM** See table UL/CSA AWM for details
-  **NFPA** Following NFPA 79-2018, chapter 12.9
-  **EAC** Certificate No. RU C-DE.ME77.B.00295/19 (TR ZU)
-  **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	UL Temperature Rating
			V	°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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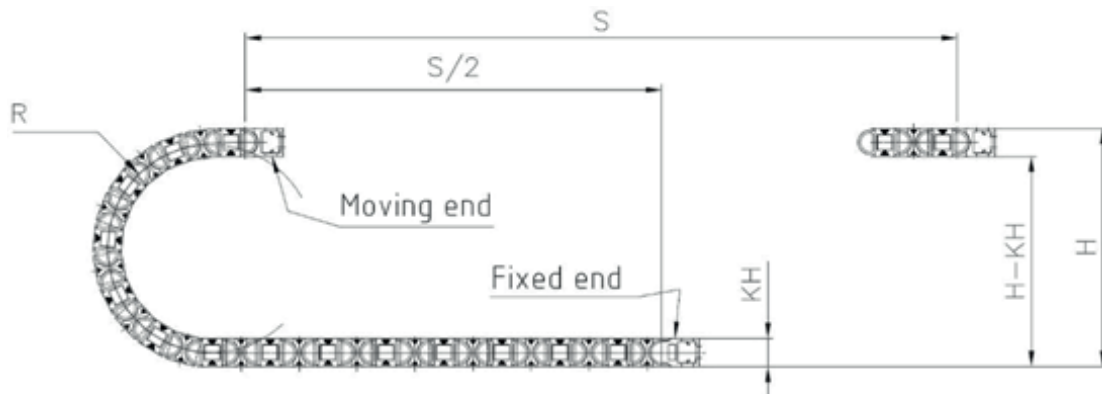
Dynamic information

	Bend radius	e-chain® linear flexible fixed	min. 15 x d min. 12 x d min. 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	3 m/s
	a max.		20 m/s ²
	Travel distance		Unsupported travel distances up to 10 m, 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, supply systems, Handling, adjusting equipment



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Technical tables:

Mechanical information

Part No.	Number of cores and conductor nominal cross section [mm ²]	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

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

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

G = with green-yellow earth core

x = without earth core

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



Example image



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year



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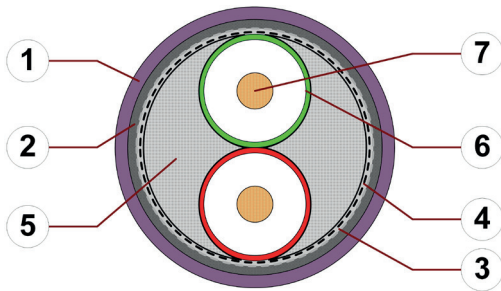


Bus cable (Class 3.1.1.1) ● For flexing applications ● PVC outer jacket ● Shielded ● Flame retardant

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



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



Example image

igus® chainflex® CF888.045

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.



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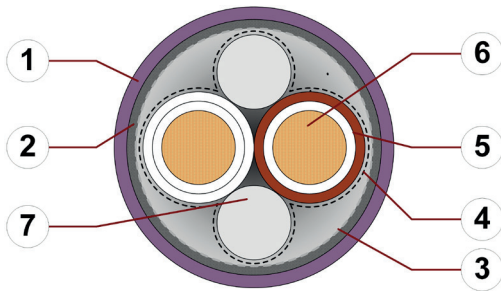
Bus cable (Class 3.1.1.1) ● For flexing applications ● PVC outer jacket ● Shielded ● Flame retardant



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

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



Example image

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)
[mm ²]	[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.



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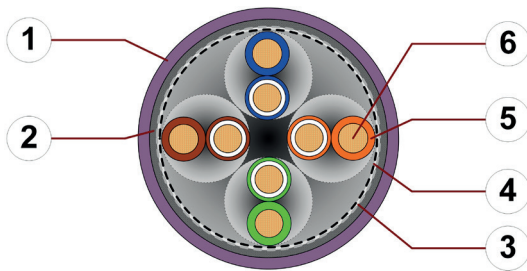


Bus cable (Class 3.1.1.1) ● For flexing applications ● PVC outer jacket ● Shielded ● Flame retardant

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

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Example image

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)
[mm ²]	[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.



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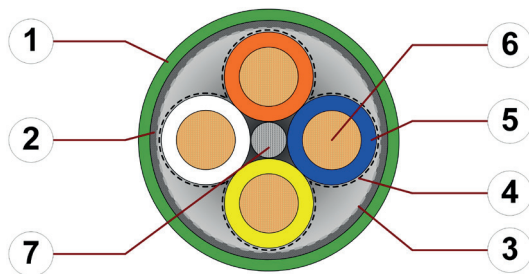


Profinet (Type C)

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

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



Example image

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)
[mm ²]	[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.

