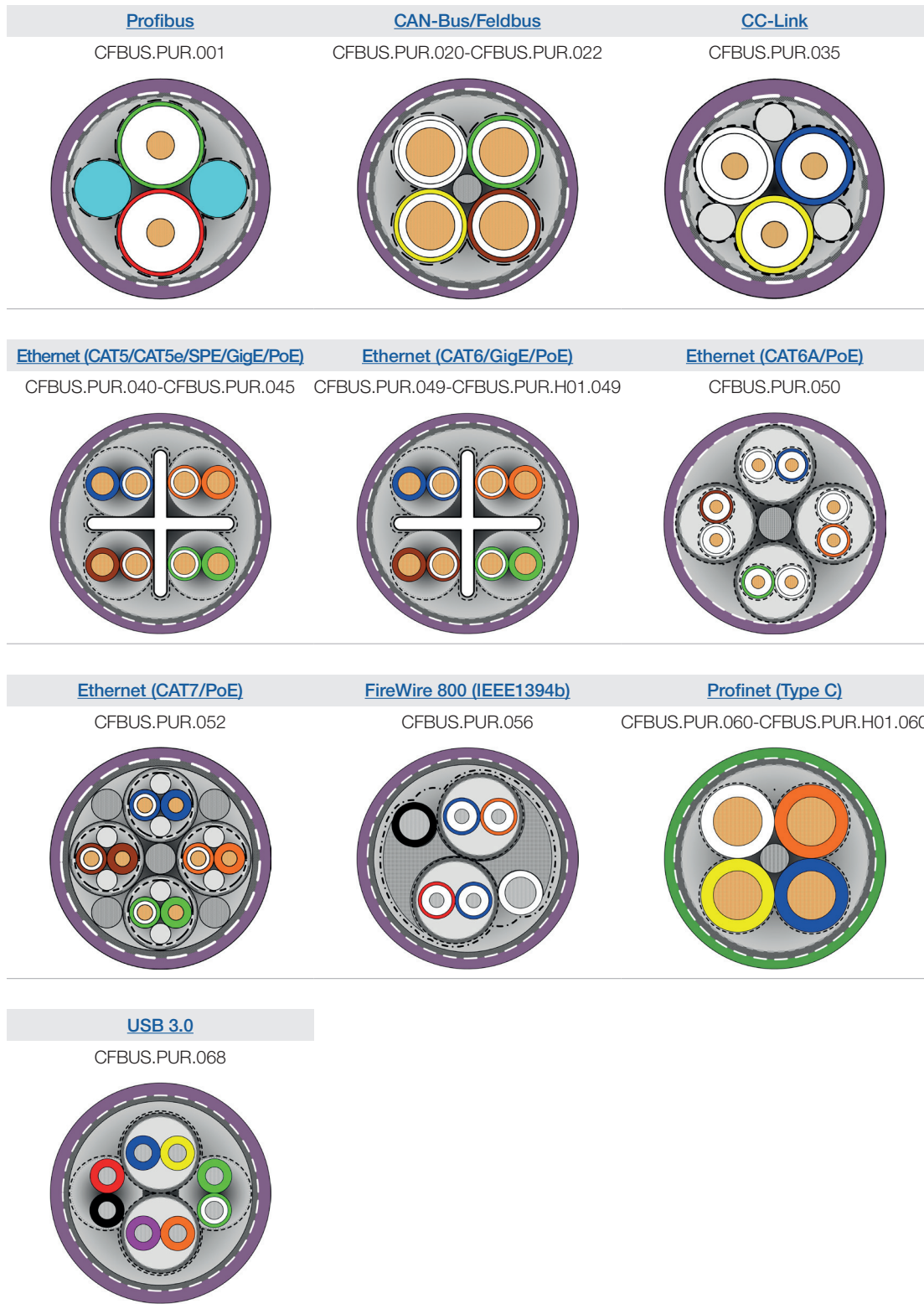


Data sheet

chainflex® CFBUS.PUR



Bus cable (Class 4.3.3.1) • For medium duty applications • PUR outer jacket • Shielded
• Oil resistant and coolant-resistant • Flame retardant • PVC and halogen-free • Notch-resistant • Hydrolysis and microbe-resistant



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



Data sheet

chainflex® CFBUS.PUR



Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded
● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free ● Notch-resistant ● Hydrolysis and microbe-resistant

Cable structure

	Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following 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	Bending-resistant braiding made of tinned copper wires. Coverage approx. 55 % linear, approx. 80 % optical
	Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2). Colour: Red lilac (similar to RAL 4001), Variants ► Product range table Printing: black

„00000 m“* igus chainflex CFBUS.PUR.---① -----② E310776 ③ cЯUus ④

AWM Style ⑤ VW-1 AWM I/II A/B 80°C ⑥ V FT-1 DNV-GL ⑦ CE

---⑧ ---⑨ conform 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: E497341 instead of E310776 (for UL-Listed cables).

④ Printing: CMX 75°C (for UL-Listed cables).

⑤ Printing of UL style (see related chapter).

⑥ Printing UL Voltage Rating (see related chapter).

⑦ Printing DNV-GL Type Approval Certificate.

⑧ Printing: DESINA (only if DESINA is fulfilled).

⑨ Printing according to bus specification (inclusive wave resistance).

Example: ... chainflex CFBUS.PUR.001 (2x0.25)C E310776 ...

Guaranteed service life according to guarantee conditions

Double strokes	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-20/-10	15	16	17
-10/+60	12.5	13.5	14.5
+60/+70	15	16	17

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® CFBUS.PUR.049

Data sheet

chainflex® CFBUS.PUR



Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded
● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free ● Notch-resistant ● Hydrolysis and microbe-resistant



Properties and approvals

	UV resistance	Medium
	Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
	Offshore	MUD-resistant following NEK 606 - status 2009
	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)
	Halogen-free	Following DIN EN 60754
	PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
	UL verified	Certificate No. V293560: „igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year“
	UL listed	CMX, 75°C (except CFBUS.PUR.068)
	UL/CSA AWM	Details see table UL/CSA AWM
	NFPA	Following NFPA 79-2018, chapter 12.9
	CLPA	CFBUS.PUR.045: CC-Link IE Field , Reference no. 151 CFBUS.PUR.049: CC-Link IE Field , Reference no. 152
	DNV-GL	Type approval certificate No. TAE00003X6 CFBUS.PUR.040-CFBUS.PUR.052: Type approval certificate No. TAE00003X8
	REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
	Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
	Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77. UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
	DESINA	According to VDW, DESINA standardisation
	CE	Following 2014/35/EU



Example image

Data sheet

chainflex® CFBUS.PUR



Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded
● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free ● Notch-resistant ● Hydrolysis and microbe-resistant



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]
CFBUS.PUR.001	10578	20233	300	80
CFBUS.PUR.020	10493	20233	30	80
CFBUS.PUR.021	10578	20233	300	80
CFBUS.PUR.022	10578	20233	300	80
CFBUS.PUR.035	10578	21161	300	80
CFBUS.PUR.040	11602	20233	300	80
CFBUS.PUR.042	11602	20233	300	80
CFBUS.PUR.045	11635	20233	300	80
CFBUS.PUR.049	11635	20233	300	80
CFBUS.PUR.H01.049	11635	20233	300	80
CFBUS.PUR.050	11635	20233	300	80
CFBUS.PUR.052	10493	20233	300	80
CFBUS.PUR.056	10578	21161	300	80
CFBUS.PUR.060	11602	20233	300	80
CFBUS.PUR.H01.060	11602	20233	300	80
CFBUS.PUR.068	11602 (AWG28) 11635 (AWG28)	20233	300	80



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



Data sheet

chainflex® CFBUS.PUR



Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded
● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free ● Notch-resistant ● Hydrolysis and microbe-resistant

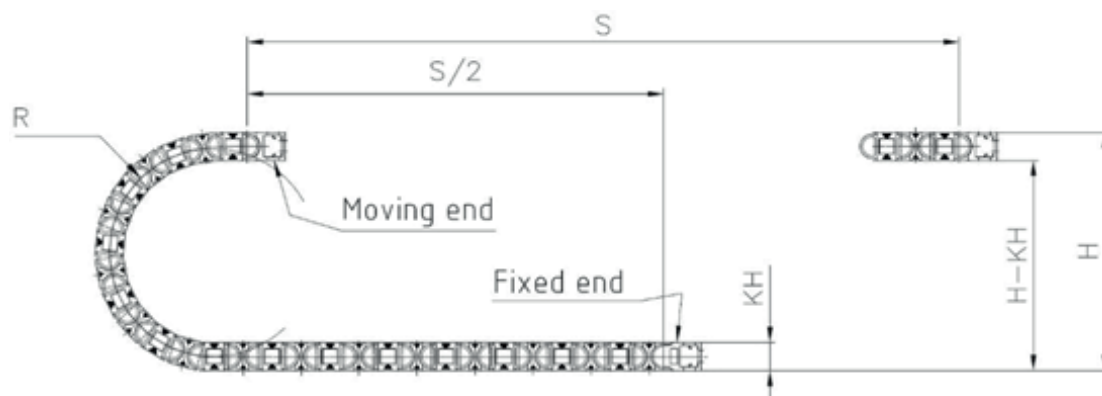
Dynamic information

	Bend radius	e-chain® linear flexible fixed	minimum 12.5 x d minimum 10 x d minimum 7 x d
	Temperature	e-chain® linear flexible fixed	-20 °C up to +70 °C -40 °C up to +70 °C (following DIN EN 60811-504) -50 °C up to +70 °C (following DIN EN 50305)
	v max.	unsupported gliding	3 m/s 2 m/s
	a max.		30 m/s ²
	Travel distance		Unsupported travels and up to 20 m for gliding applications, Class 3

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	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 medium duty applications, Class 4
- Unsupported travel distances and up to 20 m for gliding applications, Class 3
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct solar radiation
- Machining units/machine tools, low temperature applications



igus 4-year
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Example image

igus® chainflex® CFBUS.PUR.049

Data sheet

chainflex® CFBUS.PUR



Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded
● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free ● Notch-resistant ● Hydrolysis and microbe-resistant

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)				
CFBUS.PUR.001	(2x0.25)C	8.5	25	75
CAN-Bus				
CFBUS.PUR.020 ²⁾	(4x0.25)C	7.5	23	64
CFBUS.PUR.021	(2x0.5)C	8.5	32	82
CFBUS.PUR.022 ²⁾	(4x0.5)C	8.5	43	91
CC-Link				
CFBUS.PUR.035	(3x0.5)C	8.0	40	76
Ethernet/CAT5				
CFBUS.PUR.040 ²⁾	 (4x0.25)C	6.5	29	69
Single Pair Ethernet				
CFBUS.PUR.042	 (2x0.15)C	5.5	12	33
Ethernet/CAT5e				
CFBUS.PUR.045	 (4x(2x0.15))C	7.5	33	66
Ethernet/CAT6				
CFBUS.PUR.049	 (4x(2x0.15))C	7.5	33	66
CFBUS.PUR.H01.049	((4x(2x0.15))C+4x1.5)C	12.5	125	202
Ethernet/CAT6 _A				
CFBUS.PUR.050	4x(2x0.20)C	10.0	65	120
Ethernet/CAT7				
CFBUS.PUR.052	(4x(2x0.15)C)C	9.5	89	129
FireWire IEEE 1394b				
CFBUS.PUR.056	(2x(2x0.15)C+2x0.38)C	9.0	59	91
Profinet				
CFBUS.PUR.060 ^{2) 13)}	 (4x0.38)C	7.0	33	64
CFBUS.PUR.H01.060	((4x0.38)C+4x1.5)C	11.5	120	196
USB 3.0				
CFBUS.PUR.068	(2x(2xAWG28)+2x(2xAWG28)C)C	7.0	39	64

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.



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



Data sheet

chainflex® CFBUS.PUR



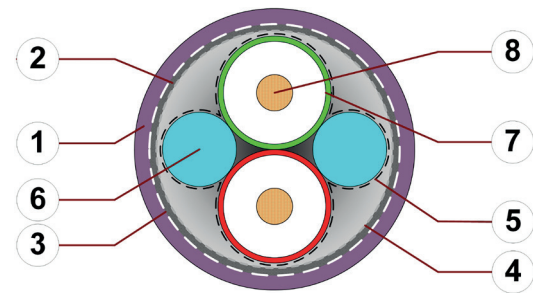
Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded
● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free ● Notch-resistant ● Hydrolysis and microbe-resistant

Profibus

CFBUS.PUR.001

Cable structure

(Electrical information please see next page)



1. Outer jacket: Pressure extruded PUR mixture
2. Overall shield: Bending-resistant braiding made of tinned copper wires
3. Overall banding: Plastic fleece
4. Shield foil: Aluminium clad plastic foil
5. Banding: Plastic foil
6. Filling: Plastic dummy
7. Core insulation: Mechanically high quality TPE mixture (according to bus specification)
8. Conductor: Fine-wire strand in especially bending-stable version consisting of bare copper wires

Example image

For detailed overview please see design table

Design table

Part No.	Core group	Colour code	Core design
CFBUS.PUR.001	(2x0.25)C	red, green	



Example image

igus® chainflex® CFBUS.PUR.001

Data sheet

chainflex® CFBUS.PUR



Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded
● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free ● Notch-resistant ● Hydrolysis and microbe-resistant



Profibus

CFBUS.PUR.001

Electrical information

(Cable structure please see previous page)

Part No.	CFBUS.PUR.001
Nominal voltage	50 V 300 V (following UL)
Testing voltage (following DIN EN 50289-1-3)	500 V
Operating capacity	30 pF/m
Characteristic wave impedance (following DIN EN 50289-1-11)	150 ± 15 Ω (≥ 1 MHz)

Line attenuation approx. [dB/100m]

Part No.	9.6 kHz	38.4 kHz	4 MHz	16 MHz
CFBUS.PUR.001	0.3	0.5	2.5	4.9

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	78	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® CFBUS.PUR



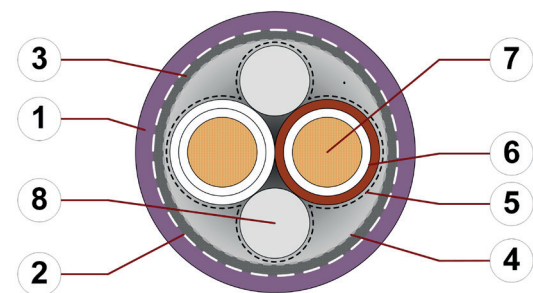
Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded
● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free ● Notch-resistant ● Hydrolysis and microbe-resistant

CAN-Bus/Feldbus

CFBUS.PUR.020-CFBUS.PUR.022

Cable structure

(Electrical information please see next page)



1. Outer jacket: Pressure extruded PUR mixture
2. Overall banding: Plastic fleece
3. Overall shield: Bending-resistant braiding made of tinned copper wires
4. Shield foil: Aluminium clad plastic foil
5. Banding: Plastic foil
6. Core insulation: Mechanically high quality TPE mixture (according to bus specification)
7. Conductor: Fine-wire strand in especially bending-stable version consisting of bare copper wires
8. Filling: Plastic dummy

Example image

For detailed overview please see design table

Design table

Part No.	Core group	Colour code	Core design
CFBUS.PUR.020	(4x0.25)C	white, green, brown, yellow (Star-quad)	
CFBUS.PUR.021	(2x0.5)C	white, brown	
CFBUS.PUR.022	(4x0.5)C	white, green, brown, yellow (Star-quad)	



igus 4-year
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Example image

igus® chainflex® CFBUS.PUR.049

Data sheet

chainflex® CFBUS.PUR



Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded
● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free ● Notch-resistant ● Hydrolysis and microbe-resistant



CAN-Bus/Feldbus

CFBUS.PUR.020-CFBUS.PUR.022

Electrical information

(Cable structure please see previous page)

Part No.	CFBUS.PUR.020	CFBUS.PUR.021	CFBUS.PUR.022
Nominal voltage	50 V 30 V following UL)	50 V 300 V following UL)	
Testing voltage (following DIN EN 50289-1-3)	500 V		
Operating capacity	42 pF/m	41 pF/m	42 pF/m
Characteristic wave impedance (following DIN EN 50289-1-11)	120 ± 12 Ω (≥ 1 MHz)		

Line attenuation approx. [dB/100m]

Part No.	0.1 MHz	1 MHz	5 MHz	10 MHz	20 MHz
CFBUS.PUR.020	1.3	1.9	4.8	6.9	9.5
CFBUS.PUR.021	0.6	1.3	3.3	4.7	6.8
CFBUS.PUR.022	0.8	1.8	4.0	5.8	8.5

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	84	5
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® CFBUS.PUR



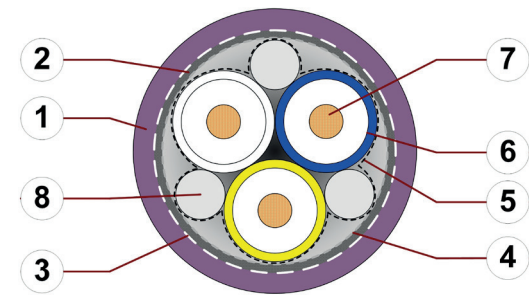
Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded
● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free ● Notch-resistant ● Hydrolysis and microbe-resistant

CC-Link

CFBUS.PUR.035

Cable structure

(Electrical information please see next page)



1. Outer jacket: Pressure extruded PUR mixture
2. Overall shield: Bending-resistant braiding made of tinned copper wires
3. Overall banding: Plastic fleece
4. Shield foil: Aluminium clad plastic foil
5. Banding: Plastic foil
6. Core insulation: Mechanically high quality TPE mixture (according to bus specification)
7. Conductor: Fine-wire strand in especially bending-stable version consisting of bare copper wires
8. Filling: Plastic dummy

Example image

For detailed overview please see design table

Design table

Part No.	Core group	Colour code	Core design
CFBUS.PUR.035	(3x0.5)C	white, blue, yellow	



Example image

Data sheet

chainflex® CFBUS.PUR



Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded
● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free ● Notch-resistant ● Hydrolysis and microbe-resistant



CC-Link

CFBUS.PUR.035

Electrical information

(Cable structure please see previous page)

Part No.	CFBUS.PUR.035
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)	110 ± 16.5 Ω (≥ 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.



Example image

Data sheet

chainflex® CFBUS.PUR



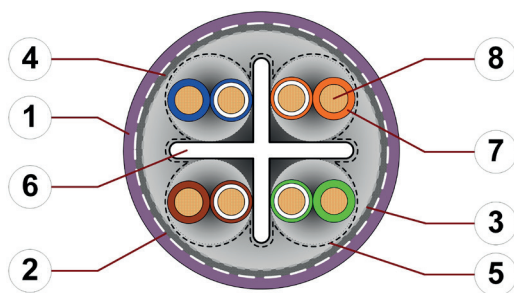
Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded
● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free ● Notch-resistant ● Hydrolysis and microbe-resistant

Ethernet (CAT5/CAT5e/SPE/GigE/PoE)

CFBUS.PUR.040-CFBUS.PUR.045

Cable structure

(Electrical information please see next page)



1. Outer jacket: Pressure extruded PUR mixture
2. Overall banding: Plastic fleece
3. Shield foil: Aluminium clad plastic foil
4. Overall shield: Bending-resistant braiding made of tinned copper wires
5. Banding: Plastic foil
6. Separating element: Bending-stable TPE cross filler (according to bus specification)
7. Core insulation: Mechanically high quality TPE mixture (according to bus specification)
8. Conductor: Fine-wire strand in especially bending-stable version consisting of bare copper wires

Example image

For detailed overview please see design table

Design table

Part No.	Core group	Colour code	Core design
CFBUS.PUR.040	(4x0.25)C	white, green, brown, yellow (Star-quad)	
CFBUS.PUR.042	(2x0.15)C	white/blue	
CFBUS.PUR.045	(4x(2x0.15))C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown	



Example image

igus® chainflex® CFBUS.PUR.049

Data sheet

chainflex® CFBUS.PUR



Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded
● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free ● Notch-resistant ● Hydrolysis and microbe-resistant



Ethernet (CAT5/CAT5e/GigE/PoE)
CFBUS.PUR.040-CFBUS.PUR.045

Electrical information

(Cable structure please see previous page)

Part No.	CFBUS.PUR.040	CFBUS.PUR.042	CFBUS.PUR.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 ± 15 Ω		
Operating capacity	50 pF/m	48 pF/m	47 pF/m
Nominal Velocity of Propagation (NVP)	67 %		72 %

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
CFBUS.PUR.040	1.7	4.2	7.0	9.2	10.4	13.2	19.4	25.3
CFBUS.PUR.042	3.1	5.6	8.7	11.0	12.3	15.4	21.9	27.8
CFBUS.PUR.045	2.5	5.0	8.3	10.6	11.7	15.0	21.9	28.6

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]
0.15	145	2.5
0.25	94	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.

Part No.	Bus type	Link class	Maximum transmission length	
			Channel	Permanent
CFBUS.PUR.040	Ethernet/CAT5	Class D - (Data applications up to 100 MHz)	82 m	70 m
CFBUS.PUR.045	Ethernet/CAT5e	Class D - (Data applications up to 100 MHz)	82 m	70 m



Example image

Data sheet

chainflex® CFBUS.PUR



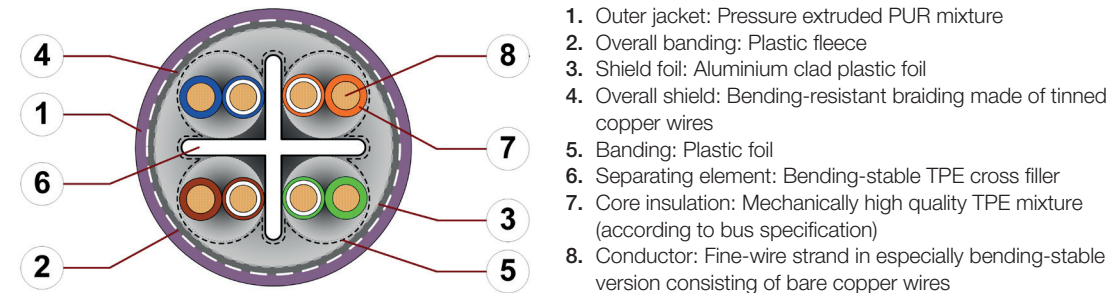
Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded
● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free ● Notch-resistant ● Hydrolysis and microbe-resistant

Ethernet (CAT6/GigE/PoE)

CFBUS.PUR.049-CFBUS.PUR.H01.049

Cable structure

(Electrical information please see next page)



Example image

For detailed overview please see design table

Design table

Part No.	Core group	Colour code	Core design
CFBUS.PUR.049	(4x(2x0.15))C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown	
CFBUS.PUR.H01.049	(4x(2x0.15))C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown	
	4x1.5	black, brown, grey, blue	



Example image

igus® chainflex® CFBUS.PUR.049

Data sheet

chainflex® CFBUS.PUR



Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded
● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free ● Notch-resistant ● Hydrolysis and microbe-resistant



Ethernet (CAT6/GigE/PoE)

CFBUS.PUR.049-CFBUS.PUR.H01.049

Electrical information

(Cable structure please see previous page)

Part No.	CFBUS.PUR.049	CFBUS.PUR.H01.049
Nominal voltage	50 V 300 V (following UL)	
Testing voltage (following DIN EN 50289-1-3)	500 V	
Operating capacity	47 pF/m	
Nominal Velocity of Propagation (NVP)	72 %	
Characteristic wave impedance (following DIN EN 50289-1-11)	100 ± 15 Ω	

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	155.5 MHz	200 MHz	250 MHz
CFBUS.PUR.049	2.5	5.0	8.3	10.6	11.7	15.0	21.9	28.6	38.6	42.9	47.7
CFBUS.PUR.H01.049	2.5	5.0	8.3	10.6	11.7	15.0	21.9	28.6	38.6	42.9	47.7

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]
0.15	145	2.5
1.5	14,3	21

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

Part No.	Bus type	Link class	Maximum transmission length	
			Channel	Permanent
CFBUS.PUR.049	Ethernet/CAT6	Class E - (Data applications up to 250 MHz)	74 m	63 m
CFBUS.PUR.H01.049	Ethernet/CAT6	Class E - (Data applications up to 250 MHz)	74 m	63 m



Example image

Data sheet

chainflex® CFBUS.PUR

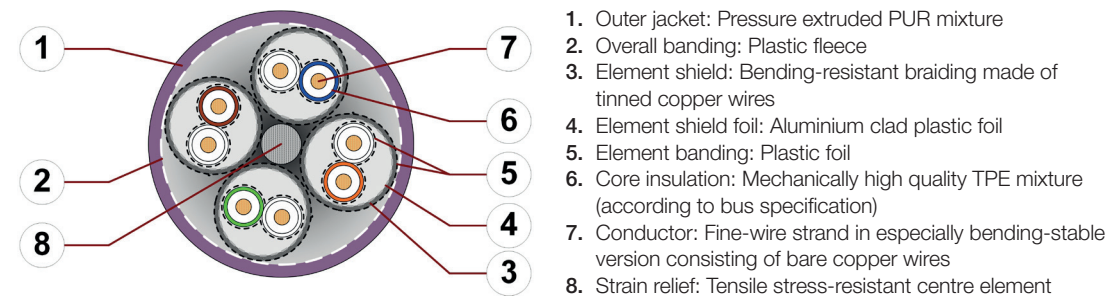


Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded
● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free ● Notch-resistant ● Hydrolysis and microbe-resistant

Ethernet (CAT6A/PoE)
CFBUS.PUR.050

Cable structure

(Electrical information please see next page)



Example image

For detailed overview please see design table

Design table

Part No.	Core group	Colour code	Core design
CFBUS.PUR.050	4x(2x0.20)C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown	



Example image

Data sheet

chainflex® CFBUS.PUR



Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded
● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free ● Notch-resistant ● Hydrolysis and microbe-resistant



Ethernet (CAT6A/PoE)

CFBUS.PUR.050

Electrical information

(Cable structure please see previous page)

Part No.	CFBUS.PUR.050
Nominal voltage	50 V 300 V (following UL)
Testing voltage (following DIN EN 50289-1-3)	500 V
Operating capacity	45 pF/m
Nominal Velocity of Propagation (NVP)	76 %
Characteristic wave impedance (following DIN EN 50289-1-11)	100 ± 15 Ω

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	155.52 MHz	200 MHz	250 MHz	350 MHz	500 MHz
CFBUS.PUR.050	2.2	4.6	7.2	9.1	10.1	12.6	18.1	23.4	30.6	35.7	40.8	49.4	60.9

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]
0.2	113	3.5

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

Part No.	Bus type	Link class	Maximum transmission length	
			Channel	Permanent
CFBUS.PUR.050	Ethernet/CAT6A	Class EA - (Data applications up to 500 MHz)	73 m	62 m



Example image

Data sheet

chainflex® CFBUS.PUR

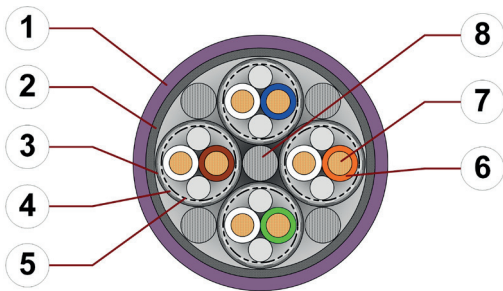


Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded
● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free ● Notch-resistant ● Hydrolysis and microbe-resistant

Ethernet (CAT7/PoE)
CFBUS.PUR.052

Cable structure

(Electrical information please see next page)



1. Outer jacket: Pressure extruded PUR mixture
2. Overall shield: Bending-resistant braiding made of tinned copper wires
3. Element shield: Bending-resistant braiding made of tinned copper wires
4. Element shield foil: Aluminium clad plastic foil
5. Banding: Plastic foil
6. Core insulation: Mechanically high quality TPE mixture (according to bus specification)
7. Conductor: Fine-wire strand in especially bending-stable version consisting of bare copper wires
8. Strain relief: Tensile stress-resistant centre element

Example image

For detailed overview please see design table

Design table

Part No.	Core group	Colour code	Core design
CFBUS.PUR.052	(4x(2x0.15)C)C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown	



Example image



Data sheet

chainflex® CFBUS.PUR



Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded
● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free ● Notch-resistant ● Hydrolysis and microbe-resistant



Ethernet (CAT7/PoE)

CFBUS.PUR.052

Electrical information

(Cable structure please see previous page)

Part No.	CFBUS.PUR.052
Nominal voltage	50 V 300 V (following UL)
Testing voltage (following DIN EN 50289-1-3)	500 V
Operating capacity	48 pF/m
Nominal Velocity of Propagation (NVP)	68 %
Characteristic wave impedance (following DIN EN 50289-1-11)	100 ± 15 Ω

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	155.52 MHz	250 MHz	500 MHz	600 MHz
CFBUS.PUR.052	2.5	5.2	8.3	10.4	11.6	14.7	21.5	27.7	35.5	45.6	67.2	73.0

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]
0.15	149	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.

Part No.	Bus type	Link class	Maximum transmission length	
			Channel	Permanent
CFBUS.PUR.052	Ethernet/CAT7	Class F - (Data applications up to 600 MHz)	71 m	60 m



Example image

Data sheet

chainflex® CFBUS.PUR

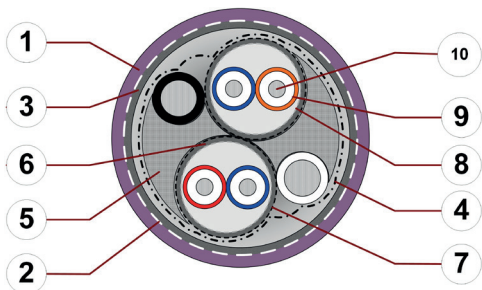


Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded
● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free ● Notch-resistant ● Hydrolysis and microbe-resistant

FireWire 800 (IEEE1394b) CFBUS.PUR.056

Cable structure

(Electrical information please see next page)



1. Outer jacket: Pressure extruded PUR mixture
2. Overall banding: Plastic fleece
3. Overall shield: Bending-resistant braiding made of tinned copper wires
4. Banding: Kunststoffolie über einem Kunststoffband
5. Filling: Plastic yarn
6. Element shield: Bending-resistant braiding made of tinned copper wires
7. Element banding: Plastic foil
8. Element shield foil: Aluminium clad plastic foil
9. Core insulation: Mechanically high quality TPE mixture (according to bus specification)
10. Conductor: Fine-wire strand in especially bending-stable version consisting of tinned copper wires

Example image

For detailed overview please see design table

Design table

Part No.	Core group	Colour code	Core design
CFBUS.PUR.056	2x(2x0.15)C	orange/blue, blue/red	
	2x0.38	black, white	



Example image

igus® chainflex® CFBUS.PUR.049

Data sheet

chainflex® CFBUS.PUR



Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded
● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free ● Notch-resistant ● Hydrolysis and microbe-resistant



FireWire 800 (IEEE1394b)
CFBUS.PUR.056

Electrical information

(Cable structure please see previous page)

Part No.	CFBUS.PUR.056
Nominal voltage	50 V 300 V (following UL)
Testing voltage (following DIN EN 50289-1-3)	500 V
Operating capacity	Data pair: 45 pF/m
Characteristic wave impedance (following DIN EN 50289-1-11)	Data pair: $110 \pm 16.5 \Omega$ (1-250 MHz)

Line attenuation approx. [dB/100m]

Part No.	250 MHz	400 MHz	500 MHz	800 MHz	1000 MHz
CFBUS.PUR.056	2.4	3.0	3.6	4.7	5.6

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]
0.15	150	2.5
0.38	59.4	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

Data sheet

chainflex® CFBUS.PUR



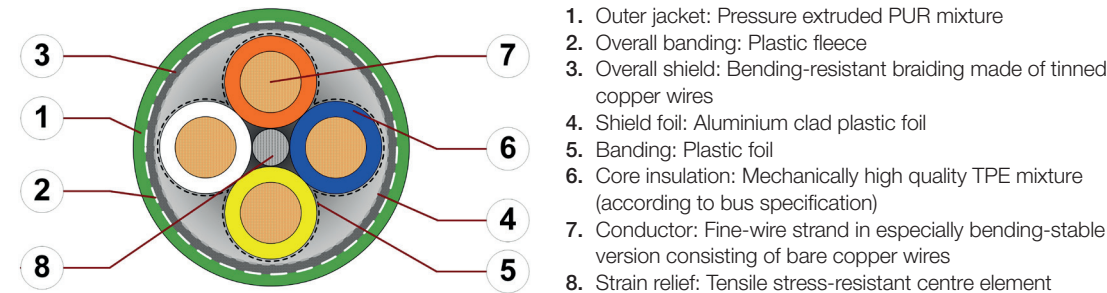
Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded
● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free ● Notch-resistant ● Hydrolysis and microbe-resistant

Profinet (Type C)

CFBUS.PUR.060-CFBUS.PUR.H01.060

Cable structure

(Electrical information please see next page)



Example image

For detailed overview please see design table

Design table

Part No.	Core group	Colour code	Core design
CFBUS.PUR.060	(4x0.38)C	white, orange, blue, yellow (Star-quad)	
CFBUS.PUR.H01.060	(4x0.38)C	white, orange, blue, yellow (Star-quad)	
	4x1.5	black, brown, grey, blue	



Example image

igus® chainflex® CFBUS.PUR.049

Data sheet

chainflex® CFBUS.PUR



Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded
● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free ● Notch-resistant ● Hydrolysis and microbe-resistant



Profinet (Type C)

CFBUS.PUR.060-CFBUS.PUR.H01.060

Electrical information

(Cable structure please see previous page)

Part No.	CFBUS.PUR.060	CFBUS.PUR.H01.060
Nominal voltage	50 V 300 V (following UL)	
Testing voltage (following DIN EN 50289-1-3)	500 V	
Operating capacity	53 pF/m	
Nominal Velocity of Propagation (NVP)	67 %	
Characteristic wave impedance (following DIN EN 50289-1-11)	100 ± 15 Ω	

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
CFBUS.PUR.060	2.0	4.1	6.2	7.8	8.7	11.0	16.3	21.2
CFBUS.PUR.H01.060	1.7	3.7	6.3	8.4	9.6	12.6	17.7	26.4

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]
0.38	59.4	7
1.5	13	21

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® CFBUS.PUR



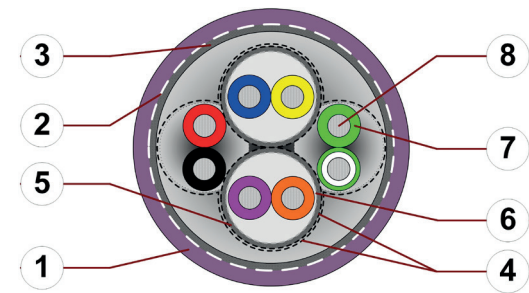
Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded
● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free ● Notch-resistant ● Hydrolysis and microbe-resistant

USB 3.0

CFBUS.PUR.068

Cable structure

(Electrical information please see next page)



1. Outer jacket: Pressure extruded PUR mixture
2. Overall banding: Plastic fleece
3. Overall shield: Bending-resistant braiding made of tinned copper wires
4. Banding: Plastic foil
5. Element shield: Bending-resistant braiding made of tinned copper wires
6. Shield foil: Aluminium clad plastic foil
7. Core insulation: Mechanically high quality TPE mixture (according to bus specification)
8. Conductor: Fine-wire strand in especially bending-stable version consisting of tinned copper wires

Example image

For detailed overview please see design table

Design table

Part No.	Core group	Colour code	Core design
CFBUS.PUR.068	2x(2xAWG28)	red/black, green/white-green	
	2x(2xAWG28)C	blue/yellow, orange/violet	



Example image

igus® chainflex® CFBUS.PUR.068

Data sheet

chainflex® CFBUS.PUR



Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded
● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free ● Notch-resistant ● Hydrolysis and microbe-resistant



USB 3.0

CFBUS.PUR.068

Electrical information

(Cable structure please see previous page)

Part No.	CFBUS.PUR.068	
Nominal voltage	50 V 300 V (following UL)	
Testing voltage (following DIN EN 50289-1-3)	500 V	
Operating capacity	STP: 60 pF/m	UTP: 52 pF/m
Nominal Velocity of Propagation (NVP)	STP: 70 %	UTP: 67 %
Characteristic wave impedance (following DIN EN 50289-1-11)	STP: $90 \pm 18 \Omega$ (1-1200 MHz)	UTP: $105 \pm 16 \Omega$ (1-1200 MHz)

Line attenuation approx. [dB/100m]

Part No.	1 MHz	625 MHz	1200 MHz
CFBUS.PUR.068	0.4	11.5	18.0

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]
AWG28	205	1

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

