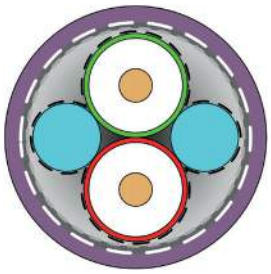
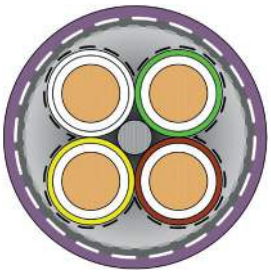
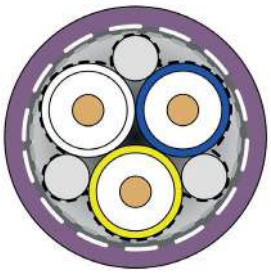
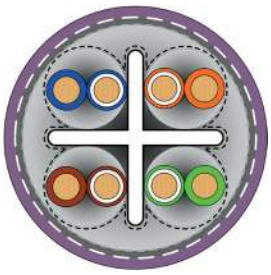
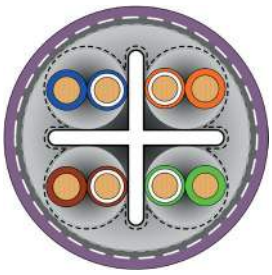
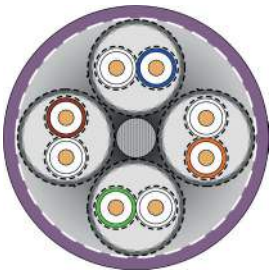
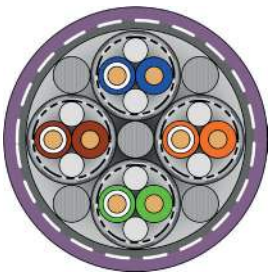
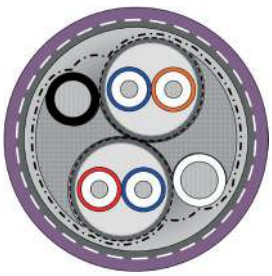
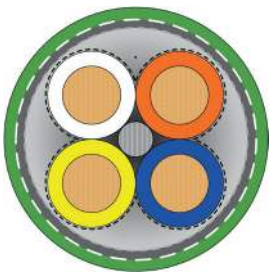
Data sheet
chainflex® CFBUS.PUR

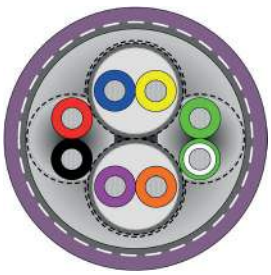
Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded ● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free ● Notch-resistant ● Hydrolysis and microbe-resistant

Example image

Profibus	CAN-Bus/Feldbus	CC-Link
CFBUS.PUR.001	CFBUS.PUR.020-CFBUS.PUR.022	CFBUS.PUR.035
		

Ethernet (CAT5/CAT5e/SPE/GigE/PoE)	Ethernet (CAT6/GigE/PoE)	Ethernet (CAT6A/PoE)
CFBUS.PUR.040-CFBUS.PUR.045	CFBUS.PUR.049-CFBUS.PUR.H01.049	CFBUS.PUR.050
		

Ethernet (CAT7/PoE)	FireWire 800 (IEEE1394b)	Profinet (Type C)
CFBUS.PUR.052	CFBUS.PUR.056	CFBUS.PUR.060-CFBUS.PUR.H01.060
		

USB 3.0
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

Example image

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 EAC CE UKCA

---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. [factor x d]	R min. [factor x d]	R min. [factor 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.

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Example image

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
UL verified	Certificate No. B129699: „igus 36-month 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
EAC	Certificate No. RU C-DE.ME77.B.00295/19
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
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

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Example image

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

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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

Example image

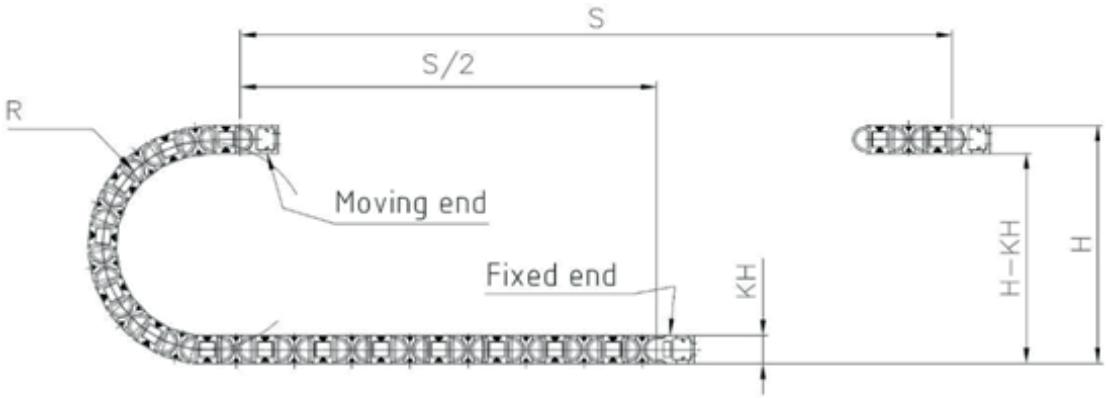
Dynamic information

Bend radius	e-chain® linear	minimum 12.5 x d
	flexible	minimum 10 x d
	fixed	minimum 7 x d
Temperature	e-chain® linear	-20 °C up to +70 °C
	flexible	-40 °C up to +70 °C (following DIN EN 60811-504)
	fixed	-50 °C up to +70 °C (following DIN EN 50305)
v max.	unsupported	3 m/s
	gliding	2 m/s
a max.		30 m/s²
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 / s²



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

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Example image

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]	EtherCAT	(4x0.25)C	6.5	29	69
Single Pair Ethernet					
CFBUS.PUR.042	SPE	(2x0.15)C	5.5	12	33
Ethernet/CAT5e					
CFBUS.PUR.045	CC-Link IE Field	(4x(2x0.15))C	7.5	33	66
Ethernet/CAT6					
CFBUS.PUR.049	CC-Link IE Field	(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]	PROFINET EtherCAT	(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.

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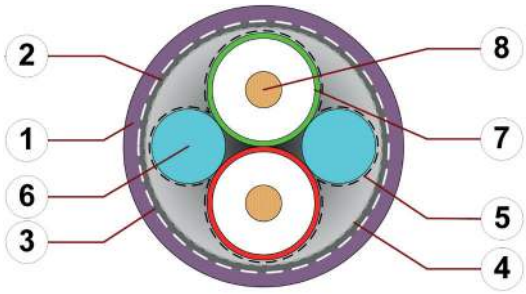
Example image

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	

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

Example image

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.

Data sheet
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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

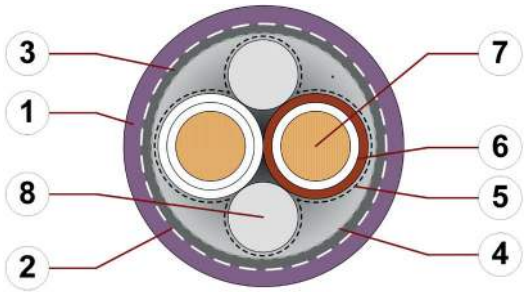
Example image

CAN-Bus/Feldbus

CFBUS.PUR.020-CFBUS.PUR.022

Cable structure

(Electrical information please see next page)



Example image
For detailed overview please see design table

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

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)	

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

Example image

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.

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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

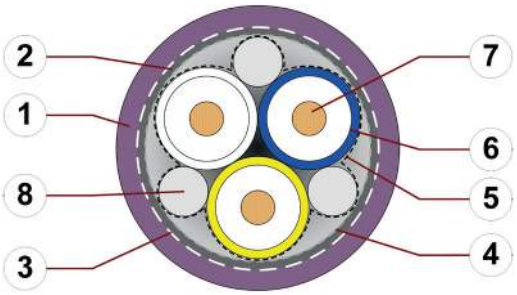
Example image

CC-Link

CFBUS.PUR.035

Cable structure

(Electrical information please see next page)



Example image
For detailed overview please see design table

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

Design table

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

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

Example image

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.

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

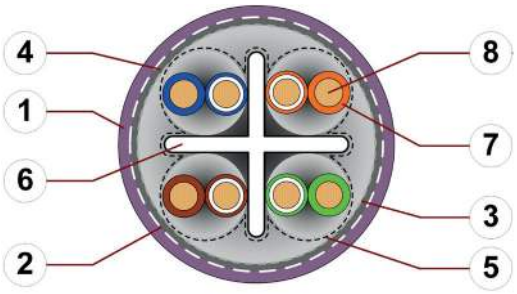
Example image

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
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	

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

Example image

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

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

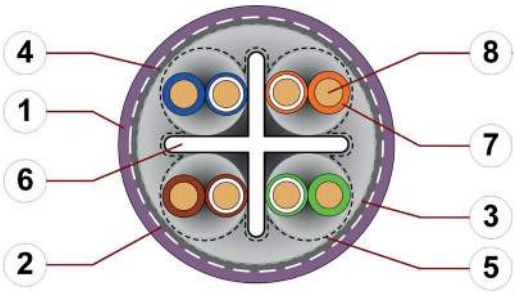
Example image

Ethernet (CAT6/GigE/PoE)

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

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
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.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	

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

Example image

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

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

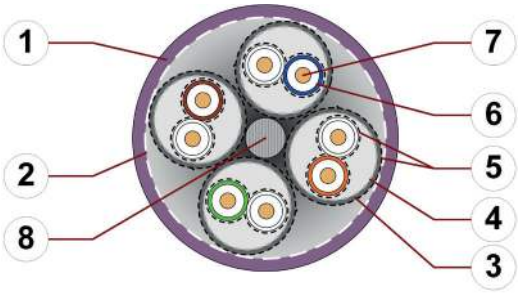
Example image

Ethernet (CAT6A/PoE)

CFBUS.PUR.050

Cable structure

(Electrical information please see next page)



1. Outer jacket: Pressure extruded PUR mixture
2. Overall banding: Plastic fleece
3. Element shield: Bending-resistant braiding made of tinned copper wires
4. Element shield foil: Aluminium clad plastic foil
5. Element 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.050	4x(2x0.20)C	white-blue/blue, white-orange/ orange, white-green/green, white-brown/brown	

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

Example image

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

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

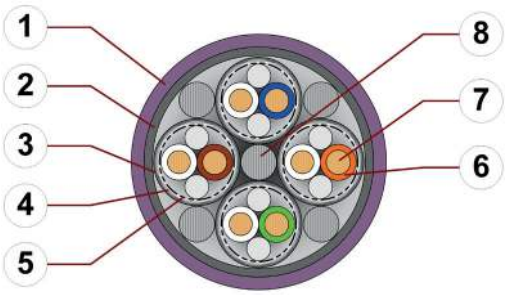
Example image

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	

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

Example image

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

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

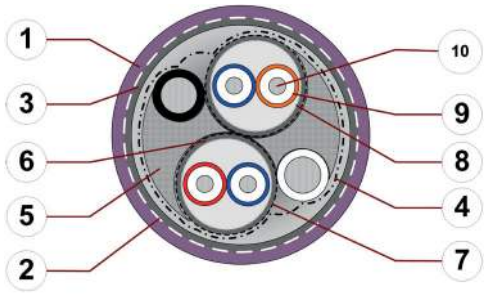
Example image

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: Kunststofffolie 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	

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

Example image

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 ± 16.5 Ω (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.

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

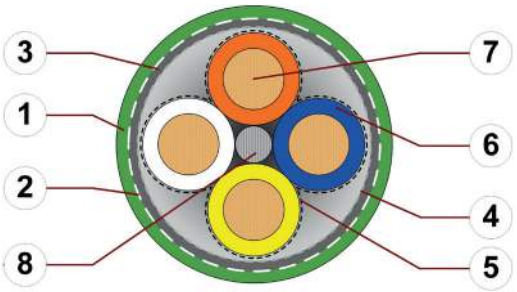
Example image

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

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. Strain relief: Tensile stress-resistant centre element

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	

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

Example image

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 **[mm²]**	**Maximum conductor resistance at 20 °C** (following DIN EN 50289-1-2) **[Ω/km]**	**Maximum current rating at 30 °C** (following DIN VDE 0298-4) **[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.

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

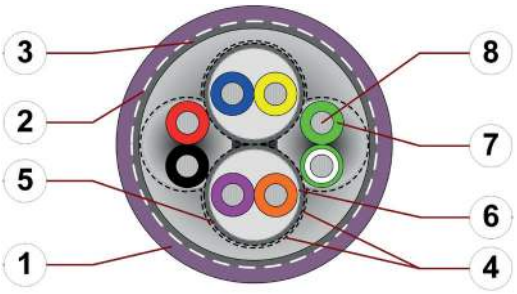
Example image

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	

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

Example image

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 ± 18 Ω (1-1200 MHz)	UTP: 105 ± 16 Ω (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 [mm²]	Maximum conductor resistance at 20 °C (following DIN EN 50289-1-2) [Ω/km]	Maximum current rating at 30 °C (following DIN VDE 0298-4) [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.