

# Data sheet

## chainflex® CFBUS.PVC



Bus cable (Class 4.3.2.1) ● For medium duty applications ● PVC outer jacket ● Shielded  
 ● Oil-resistant ● Flame retardant



Example image

Profibus	CAN-Bus/Feldbus	CC-Link
CFBUS.PVC.001	CFBUS.PVC.020-CFBUS.PVC.022	CFBUS.PVC.035
Ethernet (CAT5/CAT5e/GigE/PoE)	Ethernet (CAT6/GigE/PoE)	Ethernet (CAT6 <sub>A</sub> /PoE)
CFBUS.PVC.040-CFBUS.PVC.045	CFBUS.PVC.049	CFBUS.PVC.050
Ethernet (CAT7/PoE)	FireWire 800 (IEEE1394b)	Profinet (Type C)
CFBUS.PVC.052	CFBUS.PVC.056	CFBUS.PVC.060
USB 3.0		
CFBUS.PVC.068		

Guarantee  
 igus chainflex  
**36**  
 month guarantee

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



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### 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, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1).  
Colour: Red lilac (similar to RAL 4001), Variants ▶ Product range table  
Printing: black

„00000 m\*\* igus chainflex CFBUS.PVC.---① -----② E310776 ③ cRUus ④

AWM Style ⑤ VW-1 AWM I/II A/B 80°C ⑥ V FT1 EAC/CTP CE ---⑦

conform RoHS-II conform [www.igus.de](http://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 only).  
 ④ Printing: CMX 75°C (for UL-Listed cables only).  
 ⑤ Printing UL style (see related chapter).  
 ⑥ Printing UL Voltage Rating (see related chapter).  
 ⑦ Printing according to bus specification (inclusive wave resistance).  
 Example: ... chainflex CFBUS.PVC.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]
+5/+15	15	16	17
+15/+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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### Properties and approvals



	<b>UV resistance</b>	Medium
	<b>Oil resistance</b>	Oil-resistant (following DIN EN 50363-4-1), Class 2
	<b>Flame retardant</b>	According to IEC 60332-1-2, FT1, VW-1
	<b>Silicone-free</b>	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
	<b>UL verified</b>	Certificate No. B129699: „igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year“
	<b>UL-Listed</b>	CMX, 75°C (except CFBUS.PVC.068)
	<b>UL/CSA AWM</b>	See table UL/CSA AWM for details
	<b>NFPA</b>	Following NFPA 79-2018, chapter 12.9
	<b>CLPA</b>	CFBUS.PVC.045: <b>CC-Link IE Field</b> , Reference no. 153 CFBUS.PVC.049: <b>CC-Link IE Field</b> , Reference no. 154
	<b>EAC</b>	Certificate No. RU C-DE.ME77.B.00295/19 (TR ZU)
	<b>REACH</b>	In accordance with regulation (EC) No. 1907/2006 (REACH)
	<b>Lead-free</b>	Following 2011/65/EC (RoHS-II/RoHS-III)
	<b>Cleanroom</b>	According to ISO Class 1. The outer jacket material of this series complies with CF240.02.24 - tested by IPA according to standard DIN EN ISO 14644-1
	<b>CE</b>	Following 2014/35/EU



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



Example image

igus® chainflex® CFBUS.PVC.049

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## chainflex® CFBUS.PVC



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### 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.PVC.001	10578	20601	300	80
CFBUS.PVC.020	10493	2571	30	80
CFBUS.PVC.021	10578	20601	300	80
CFBUS.PVC.022	10578	20601	300	80
CFBUS.PVC.035	10578	20601	300	80
CFBUS.PVC.040	11602	20601	300	80
CFBUS.PVC.045	11635	20601	300	80
CFBUS.PVC.049	11635	20601	300	80
CFBUS.PVC.050	11635	20601	300	80
CFBUS.PVC.052	10493	20601	300	80
CFBUS.PVC.056	10578	20601	300	80
CFBUS.PVC.060	11602	20601	300	80
CFBUS.PVC.068	11602 (AWG28) 11635 (AWG28)	20601	300	80



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



Example image

# Data sheet






## chainflex® CFBUS.PVC



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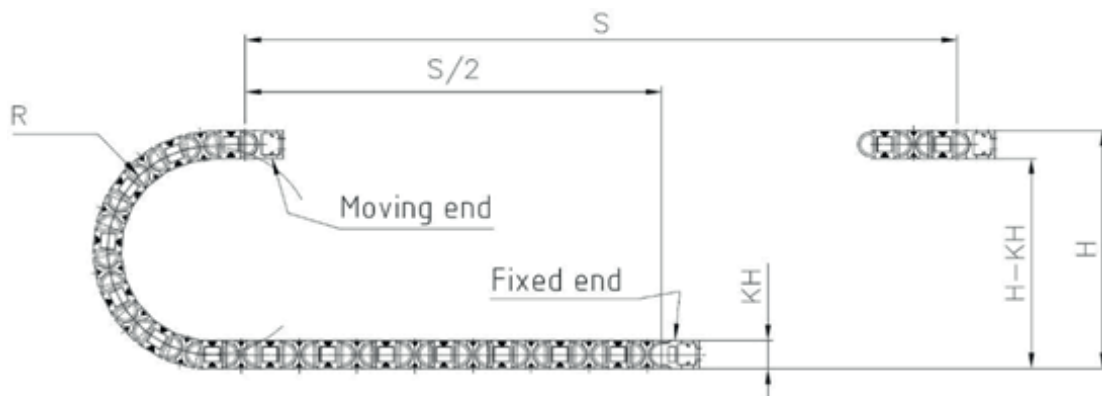
### Dynamic information

	<b>Bend radius</b>	<b>e-chain® linear</b> flexible fixed	min. 12.5 x d min. 10 x d min. 7 x d
	<b>Temperature</b>	<b>e-chain® linear</b> 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)
	<b>v max.</b>	<b>unsupported</b> gliding	3 m/s 2 m/s
	<b>a max.</b>		30 m/s <sup>2</sup>
	<b>Travel distance</b>		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

<b>Test bend radius R</b>	approx. 75 - 100 mm
<b>Test travel S</b>	approx. 1 - 15 m
<b>Test duration</b>	minimum 2 - 4 million double strokes
<b>Test speed</b>	approx. 0,5 - 2 m / s
<b>Test acceleration</b>	approx. 0.5 - 1.5 m / s <sup>2</sup>



### Typical application areas

- For medium duty applications, Class 4
- Unsupported travel distances and up to 20 m for gliding applications, Class 3
- Light oil influence, Class 2
- No torsion, Class 1
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- machining units/packages machines, Handling, indoor cranes



Example image

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### Technical tables:

#### Mechanical information

Part No.	Number of cores and conductor nominal cross section [mm <sup>2</sup> ]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
Profibus (1x2x0,64 mm)				
CFBUS.PVC.001	(2x0.25)C	8.5	25	77
CAN-Bus				
CFBUS.PVC.020 <sup>2)</sup>	(4x0.25)C	7.0	23	57
CFBUS.PVC.021	(2x0.5)C	8.5	32	86
CFBUS.PVC.022 <sup>2)</sup>	(4x0.5)C	8.5	43	94
CC-Link				
CFBUS.PVC.035	(3x0.5)C	8.0	40	82
Ethernet/CAT5				
CFBUS.PVC.040 <sup>2)</sup>	 (4x0.25)C	6.5	29	70
Ethernet/CAT5e				
CFBUS.PVC.045	 (4x(2x0.15))C	7.5	33	67
Ethernet/CAT6				
CFBUS.PVC.049	 (4x(2x0.15))C	7.5	33	67
Ethernet/CAT6 <sub>A</sub>				
CFBUS.PVC.050	4x(2x0.20)C	10.0	65	123
Ethernet/CAT7				
CFBUS.PVC.052	(4x(2x0.15)C)C	9.5	89	136
FireWire IEEE 1394b				
CFBUS.PVC.056	(2x(2x0.15)C+2x0.38)C	9.0	59	96
Profinet				
CFBUS.PVC.060 <sup>2) 13)</sup>	 (4x0.38)C	7.0	33	67
USB 3.0				
CFBUS.PVC.068	(2x(2xAWG28)+2x(2xAWG28)C)C	7.0	39	68

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

<sup>13)</sup> 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® chainflex® CFBUS.PVC.049



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



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## chainflex® CFBUS.PVC

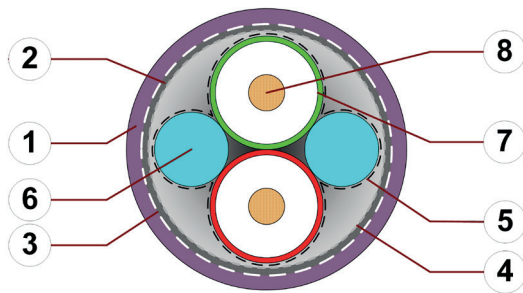


Bus cable (Class 4.3.2.1) ● For medium duty applications ● PVC outer jacket ● Shielded  
● Oil-resistant ● Flame retardant

**Profibus**  
CFBUS.PVC.001

### Cable structure

(Electrical information please see next page)



1. Outer jacket: Pressure extruded, oil-resistant PVC 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. Filler: 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.PVC.001	(2x0.25)C	red, green	



Example image



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Bus cable (Class 4.3.2.1) ● For medium duty applications ● PVC outer jacket ● Shielded  
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Example image

### Profibus

CFBUS.PVC.001

### Electrical information

(Cable structure please see previous page)

Part No.	CFBUS.PVC.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.PVC.001	0.3	0.5	2.5	2.9

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)
[mm <sup>2</sup> ]	[Ω/km]	[A]
0.25	78.0	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

## chainflex® CFBUS.PVC



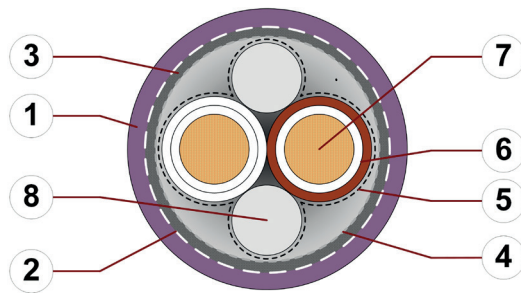
Bus cable (Class 4.3.2.1) ● For medium duty applications ● PVC outer jacket ● Shielded  
● Oil-resistant ● Flame retardant

### CAN-Bus/Feldbus

CFBUS.PVC.020-CFBUS.PVC.022

### Cable structure

(Electrical information please see next page)



1. Outer jacket: Pressure extruded, oil-resistant PVC 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. Filler: Plastic dummy

#### Example image

For detailed overview please see design table

### Design table

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



Example image



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Example image

### CAN-Bus/Feldbus

CFBUS.PVC.020-CFBUS.PVC.022

### Electrical information

(Cable structure please see previous page)

Part No.	CFBUS.PVC.020	CFBUS.PVC.021	CFBUS.PVC.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.PVC.020	1.3	1.9	4.8	6.9	9.5
CFBUS.PVC.021	0.6	1.3	3.3	4.7	6.8
CFBUS.PVC.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)
[mm <sup>2</sup> ]	[Ω/km]	[A]
0.25	84.0	5
0.5	39.0	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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## chainflex® CFBUS.PVC



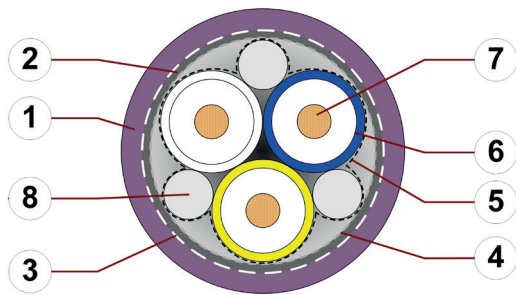
Bus cable (Class 4.3.2.1) ● For medium duty applications ● PVC outer jacket ● Shielded  
● Oil-resistant ● Flame retardant



**CC-Link**  
CFBUS.PVC.035

### Cable structure

(Electrical information please see next page)



1. Outer jacket: Pressure extruded, oil-resistant PVC 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. Filler: Plastic dummy

#### Example image

For detailed overview please see design table

### Design table

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



Example image

igus® chainflex® CFBUS.PVC.035

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## chainflex® CFBUS.PVC



Bus cable (Class 4.3.2.1) ● For medium duty applications ● PVC outer jacket ● Shielded  
● Oil-resistant ● Flame retardant



Example image

**CC-Link**  
CFBUS.PVC.035

### Electrical information

(Cable structure please see previous page)

<b>Part No.</b>	CFBUS.PVC.035
<b>Nominal voltage</b>	50 V 300 V (following UL)
<b>Testing voltage</b> (following DIN EN 50289-1-3)	500 V
<b>Characteristic wave impedance</b> (following DIN EN 50289-1-11)	110 ± 16.5 Ω (≥ 1 MHz)

Conductor nominal cross section [mm <sup>2</sup> ]	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]
0.5	39.0	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.PVC



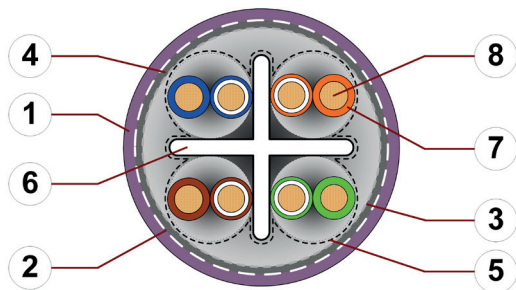
Bus cable (Class 4.3.2.1) ● For medium duty applications ● PVC outer jacket ● Shielded  
● Oil-resistant ● Flame retardant



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

### Cable structure

(Electrical information please see next page)



1. Outer jacket: Pressure extruded, oil-resistant PVC 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.PVC.040	(4x0.25)C	white, green, brown, yellow (Star-quad)	
CFBUS.PVC.045	(4x(2x0.15))C	white-blue/blue, white-orange/ orange, white-green/green, white-brown/brown	



Example image

igus® chainflex® CFBUS.PVC.049

# Data sheet

## chainflex® CFBUS.PVC



Bus cable (Class 4.3.2.1) ● For medium duty applications ● PVC outer jacket ● Shielded  
● Oil-resistant ● Flame retardant



Example image

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

#### Electrical information

(Cable structure please see previous page)

Part No.	CFBUS.PVC.040	CFBUS.PVC.045
Nominal voltage	50 V 300 V (following UL)	
Testing voltage (following DIN EN 50289-1-3)	500 V	
Operating capacity	50 pF/m	47 pF/m
Nominal Velocity of Propagation (NVP)	67 %	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
CFBUS.PVC.040	1.7	4.2	7.0	9.2	10.4	13.2	19.4	25.3
CFBUS.PVC.045	2.5	5.0	8.3	10.6	11.7	15.0	21.9	28.6

Conductor nominal cross section [mm <sup>2</sup> ]	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]
0.15	145.0	2.5
0.25	94.0	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.PVC.040	Ethernet/CAT5	Class D - (Data applications up to 100 MHz)	82 m	70 m
CFBUS.PVC.045	Ethernet/CAT5e	Class D - (Data applications up to 100 MHz)	82 m	70 m



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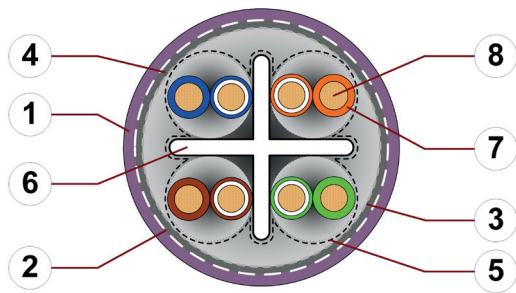


### Ethernet (CAT6/GigE/PoE)

CFBUS.PVC.049

### Cable structure

(Electrical information please see next page)



1. Outer jacket: Pressure extruded, oil-resistant PVC 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
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.PVC.049	(4x(2x0.15))C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown	



Example image

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● Oil-resistant ● Flame retardant



Example image

### Ethernet (CAT6/GigE/PoE)

CFBUS.PVC.049

### Electrical information

(Cable structure please see previous page)

Part No.	CFBUS.PVC.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.PVC.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 [mm <sup>2</sup> ]	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]
0.15	145.0	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.PVC.049	Ethernet/CAT6	Class E - (Data applications up to 250 MHz)	74 m	63 m





# Data sheet

## chainflex® CFBUS.PVC



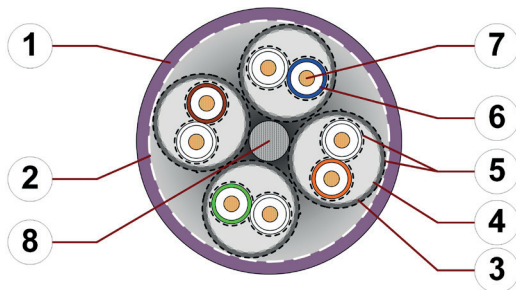
Bus cable (Class 4.3.2.1) ● For medium duty applications ● PVC outer jacket ● Shielded  
● Oil-resistant ● Flame retardant



**Ethernet (CAT6<sub>A</sub>/PoE)**  
CFBUS.PVC.050

### Cable structure

(Electrical information please see next page)



1. Outer jacket: Pressure extruded, oil-resistant PVC 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.PVC.050	4x(2x0.20)C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown	



Example image

# Data sheet

## chainflex® CFBUS.PVC



Bus cable (Class 4.3.2.1) ● For medium duty applications ● PVC outer jacket ● Shielded  
● Oil-resistant ● Flame retardant



Example image

### Ethernet (CAT6<sub>A</sub>/PoE) CFBUS.PVC.050

#### Electrical information

(Cable structure please see previous page)

Part No.	CFBUS.PVC.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.PVC.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 [mm <sup>2</sup> ]	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]
0.2	113.0	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.PVC.050	Ethernet/CAT6 <sub>A</sub>	Class EA - (Data applications up to 500 MHz)	73 m	62 m



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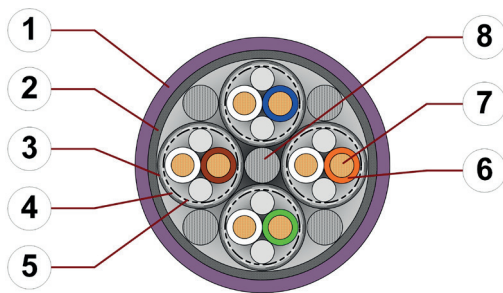


### Ethernet (CAT7/PoE)

CFBUS.PVC.052

### Cable structure

(Electrical information please see next page)



1. Outer jacket: Pressure extruded, oil-resistant PVC mixture
2. Overall banding: Plastic fleece
3. Overall shield: Bending-resistant braiding made of tinned copper wires
4. Element shield: Bending-resistant braiding made of tinned copper wires
5. Element shield foil: Aluminium clad plastic foil
6. Banding: 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 bare copper wires
9. 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.PVC.052	(4x(2x0.15)C)C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown	



Example image

igus® chainflex® CFBUS.PVC.052

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## chainflex® CFBUS.PVC



Bus cable (Class 4.3.2.1) ● For medium duty applications ● PVC outer jacket ● Shielded  
● Oil-resistant ● Flame retardant



Example image

### Ethernet (CAT7/PoE) CFBUS.PVC.052

#### Electrical information

(Cable structure please see previous page)

Part No.	CFBUS.PVC.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.PVC.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 [mm <sup>2</sup> ]	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]
0.15	149.0	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.PVC.052	Ethernet/CAT7	Class F - (Data applications up to 600 MHz)	71 m	60 m



# Data sheet

## chainflex® CFBUS.PVC

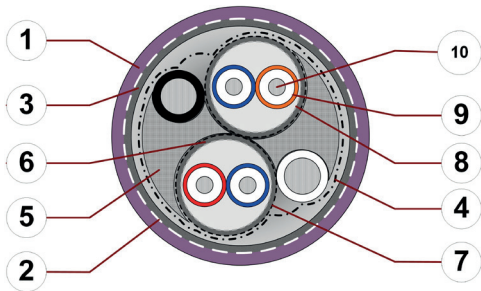


Bus cable (Class 4.3.2.1) ● For medium duty applications ● PVC outer jacket ● Shielded  
● Oil-resistant ● Flame retardant

### FireWire 800 (IEEE1394b) CFBUS.PVC.056

#### Cable structure

(Electrical information please see next page)



1. Outer jacket: Pressure extruded, oil-resistant PVC mixture
2. Overall banding: Plastic fleece
3. Overall shield: Bending-resistant braiding made of tinned copper wires
4. Banding: Plastic foil over a plastic tape
5. Filler: Plastic yarns
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.PVC.056	2x(2x0.15)C	orange/blue, blue/red	
	2x0.38	black, white	



Example image



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## chainflex® CFBUS.PVC



Bus cable (Class 4.3.2.1) ● For medium duty applications ● PVC outer jacket ● Shielded  
● Oil-resistant ● Flame retardant



Example image

### FireWire 800 (IEEE1394b) CFBUS.PVC.056

#### Electrical information

(Cable structure please see previous page)

Part No.	CFBUS.PVC.056
Nominal voltage	50 V 300 V (following UL)
Testing voltage (following DIN EN 50289-1-3)	500 V
Operating capacity	Data pairs: 45 pF/m
Characteristic wave impedance (following DIN EN 50289-1-11)	Data pairs: 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.PVC.056	2.4	3.0	3.6	4.7	5.6

Conductor nominal cross section [mm <sup>2</sup> ]	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]
0.15	150.0	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.PVC



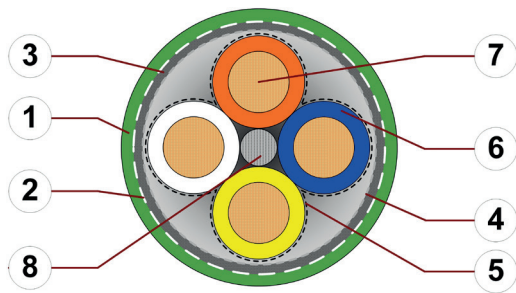
Bus cable (Class 4.3.2.1) ● For medium duty applications ● PVC outer jacket ● Shielded  
● Oil-resistant ● Flame retardant



### Profinet (Type C) CFBUS.PVC.060

#### Cable structure

(Electrical information please see next page)



1. Outer jacket: Pressure extruded, oil-resistant PVC 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

#### Example image

For detailed overview please see design table

#### Design table

Part No.	Core group	Colour code	Core design
CFBUS.PVC.060	(4x0.38)C	white, orange, blue, yellow (Star-quad)	



Example image

igus® chainflex® CFBUS.PVC.060

# Data sheet

## chainflex® CFBUS.PVC



Bus cable (Class 4.3.2.1) ● For medium duty applications ● PVC outer jacket ● Shielded  
● Oil-resistant ● Flame retardant



### Profinet (Type C) CFBUS.PVC.060

#### Electrical information

(Cable structure please see previous page)

Part No.	CFBUS.PVC.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.PVC.060	2.0	4.1	6.2	7.8	8.7	11.0	16.3	21.2

Conductor nominal cross section [mm <sup>2</sup> ]	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

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.PVC



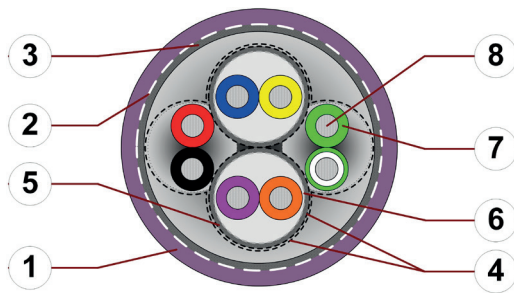
Bus cable (Class 4.3.2.1) ● For medium duty applications ● PVC outer jacket ● Shielded  
● Oil-resistant ● Flame retardant



**USB 3.0**  
CFBUS.PVC.068

### Cable structure

(Electrical information please see next page)



1. Outer jacket: Pressure extruded, oil-resistant PVC 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.PVC.068	2x(2xAWG28)	red/black, green/white-green	
	2x(2xAWG28)C	blue/yellow, orange/violet	



Example image

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Bus cable (Class 4.3.2.1) ● For medium duty applications ● PVC outer jacket ● Shielded  
 ● Oil-resistant ● Flame retardant



**USB 3.0**  
 CFBUS.PVC.068

### Electrical information

(Cable structure please see previous page)

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

Line attenuation approx. [dB/100m]

Part No.	1 MHz	625 MHz	1200 MHz
CFBUS.PVC.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)
[mm <sup>2</sup> ]	[Ω/km]	[A]
0.28	205.0	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.



Example image