

# 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                           | 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                      |                                 |                                 |
|                                    |                                 |                                 |



igus 4-year  
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.  
 ► Design table



**Overall shield**

Bending-resistant braiding made of tinned copper wires.  
 Coverage linear approx. 55%, optical approx. 80%



**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 ► Table Mechanical information  
 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

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### 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 2016                                                                                                             |
|  | 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                                                                                                                                    |
|  | PTFE-free       | The design of these products does not contain PTFE                                                                                                        |
|  | UL-verified     | Certificate No. V293650: „igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year“                      |
|  | UL-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: <b>CC-Link IE Field</b> , Reference no. 151<br>CFBUS.PUR.049: <b>CC-Link IE Field</b> , Reference no. 152                                  |
|  | DNV             | Type approval certificate No. TAE00003X6 (Issue: 04/2025)<br>CFBUS.PUR.040-CFBUS.PUR.052: Type approval certificate No. TAE00003X8 (Issue: 04/2025)       |
|  | 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

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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.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)<br>11635 (AWG28) | 20233                 | 300                   | 80                         |



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



Example image

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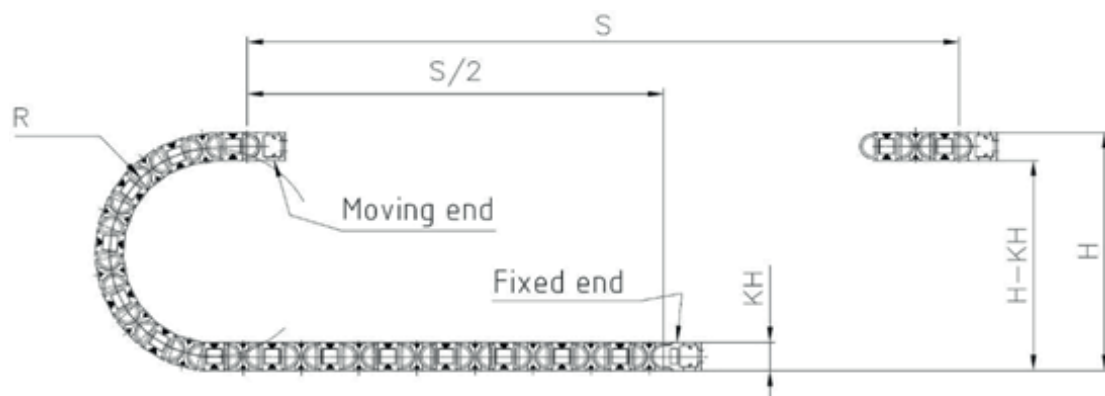
### Dynamic information

|                                                                                   |                        |                                                                      |                                                                                                                   |
|-----------------------------------------------------------------------------------|------------------------|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
|  | <b>Bend radius</b>     | e-chain® linear<br>flexible<br>fixed                                 | minimum 12.5 x d<br>minimum 10 x d<br>minimum 7 x d                                                               |
|  | <b>Temperature</b>     | e-chain® linear<br>flexible<br>fixed                                 | -20°C up to +70°C<br>-40°C up to +70°C (following DIN EN 60811-504)<br>-50°C up to +70°C (following DIN EN 50305) |
|  | <b>v max.</b>          | unsupported<br>gliding                                               | 3m/s<br>2m/s                                                                                                      |
|  | <b>a max.</b>          |                                                                      | 30m/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 travels and up to 20m for gliding applications, Class 3
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications



Example image

igus® chainflex® CFBUS.PUR.049

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### Technical tables:

#### Mechanical information

| Part No.                        | Number of cores and conductor nominal cross section [mm²]                                         | Outer diameter (d) max. [mm] | Copper index [kg/km] | Weight [kg/km] |
|---------------------------------|---------------------------------------------------------------------------------------------------|------------------------------|----------------------|----------------|
| Profibus (1x2x0.64 mm)          |                                                                                                   |                              |                      |                |
| CFBUS.PUR.001                   | (2x0.25)C                                                                                         | 8.5                          | 25                   | 75             |
| CAN-Bus                         |                                                                                                   |                              |                      |                |
| CFBUS.PUR.020 <sup>2)</sup>     | (4x0.25)C                                                                                         | 7.5                          | 23                   | 64             |
| CFBUS.PUR.021                   | (2x0.5)C                                                                                          | 8.5                          | 32                   | 82             |
| CFBUS.PUR.022 <sup>2)</sup>     | (4x0.5)C                                                                                          | 8.5                          | 43                   | 91             |
| CC-Link                         |                                                                                                   |                              |                      |                |
| CFBUS.PUR.035                   | (3x0.5)C                                                                                          | 8.0                          | 40                   | 76             |
| Ethernet/CAT5                   |                                                                                                   |                              |                      |                |
| CFBUS.PUR.040 <sup>2)</sup>     |  (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 <sub>A</sub>      |                                                                                                   |                              |                      |                |
| 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 <sup>2) 13)</sup> |  (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             |

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

<sup>13)</sup> Colour outer jacket: Yellow-green (RAL 6018)

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

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



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



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## chainflex® CFBUS.PUR

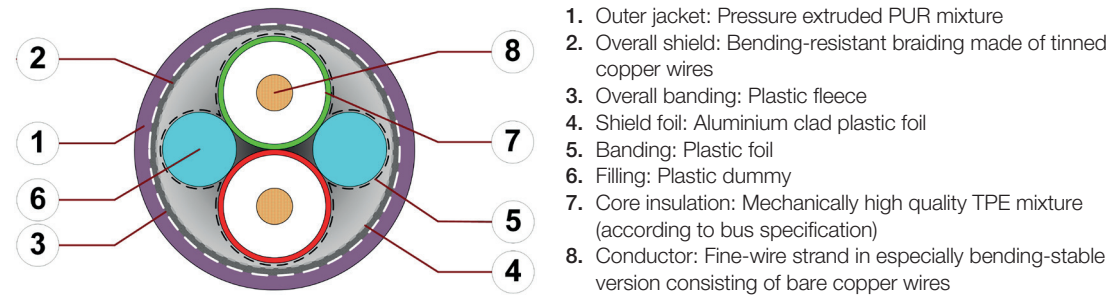


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**Profibus**  
 CFBUS.PUR.001

### 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.001 | (2x0.25)C  | red, green  |             |



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



Example image

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### Profibus

CFBUS.PUR.001

### Electrical information

(Cable structure please see previous page)

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

### Line attenuation approx. [dB/100m]

| Part No.      | 9.6<br>kHz | 38.4<br>kHz | 4<br>MHz | 16<br>MHz |
|---------------|------------|-------------|----------|-----------|
| CFBUS.PUR.001 | 0.3        | 0.5         | 2.5      | 4.9       |

| Conductor nominal<br>cross section | Maximum conductor resistance at 20 °C<br>(following DIN EN 50289-1-2) | Maximum current rating at 30 °C<br>(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



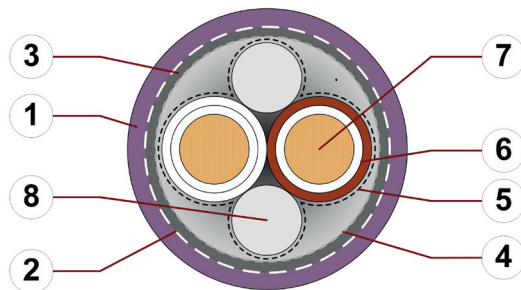
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### CAN-Bus/Feldbus

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<br>(Star-quadr) |             |
| CFBUS.PUR.021 | (2x0.5)C   | white, brown                                |             |
| CFBUS.PUR.022 | (4x0.5)C   | white, green, brown, yellow<br>(Star-quadr) |             |

Example image



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### 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<br>30 V following UL) | 50 V<br>300 V following UL) |               |
| Testing voltage<br>(following DIN EN 50289-1-3)                | 500 V                      |                             |               |
| Operating capacity                                             | 42 pF/m                    | 41 pF/m                     | 42 pF/m       |
| Characteristic wave impedance<br>(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<br>(following DIN EN 50289-1-2) | Maximum current rating at 30 °C<br>(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.



Example image

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## chainflex® CFBUS.PUR

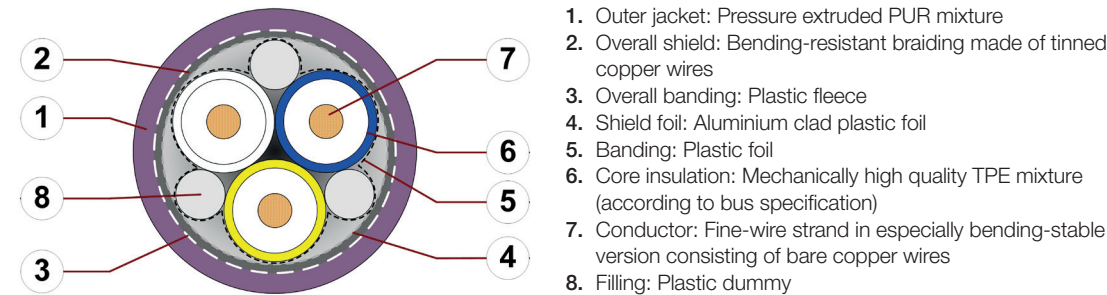


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**CC-Link**  
 CFBUS.PUR.035

**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.035 | (3x0.5)C   | white, blue, yellow |             |



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### CC-Link

CFBUS.PUR.035

### Electrical information

(Cable structure please see previous page)

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

| Conductor nominal<br>cross section | Maximum conductor resistance at 20 °C<br>(following DIN EN 50289-1-2) | Maximum current rating at 30 °C<br>(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.



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Example image

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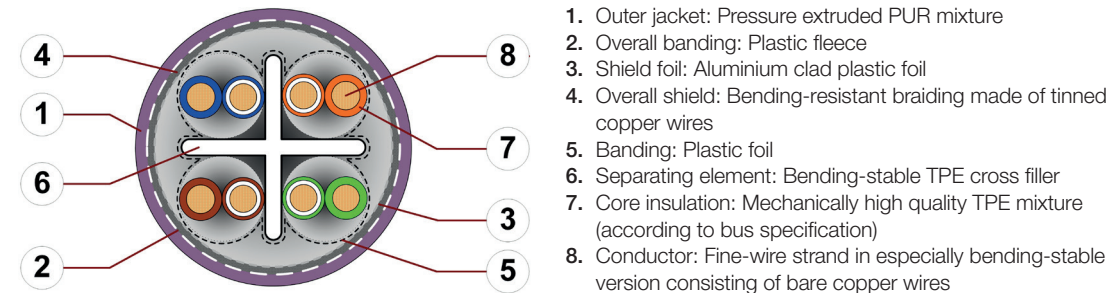
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### Ethernet (CAT5/CAT5e/SPE/GigE/PoE)

CFBUS.PUR.040-CFBUS.PUR.045

### 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.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 |             |



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



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**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<br>300 V (following UL) |               |               |
| Testing voltage<br>(following DIN EN 50289-1-3)                | 500 V                        |               |               |
| Characteristic wave impedance<br>(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<br>(following DIN EN 50289-1-2) | Maximum current rating at 30 °C<br>(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 -<br>(Data applications up to 100 MHz) | 82m                         | 70m       |
| CFBUS.PUR.045 | Ethernet/CAT5e | Class D -<br>(Data applications up to 100 MHz) | 82m                         | 70m       |



Example image

# Data sheet

## chainflex® CFBUS.PUR



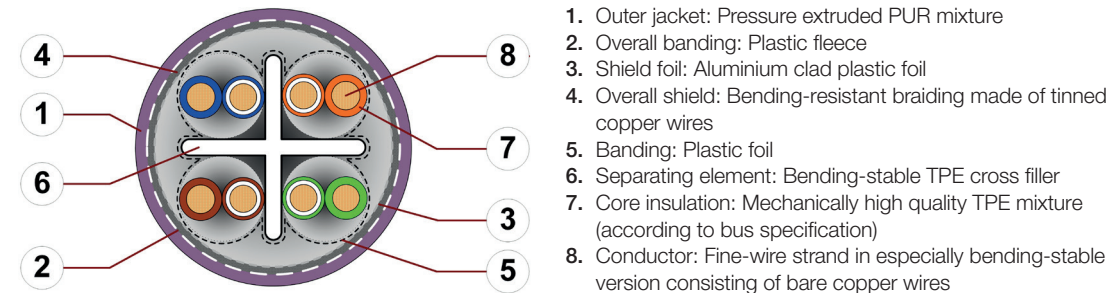
Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded  
● Oil resistant and coolant-resistant ● Flame-retardant ● PVC and halogen-free  
● Notch-resistant ● Hydrolysis and microbe-resistant

### 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                                                   |             |



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



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

### Electrical information

(Cable structure please see previous page)

| Part No.                                                       | CFBUS.PUR.049                | CFBUS.PUR.H01.049 |
|----------------------------------------------------------------|------------------------------|-------------------|
| Nominal voltage                                                | 50 V<br>300 V (following UL) |                   |
| Testing voltage<br>(following DIN EN 50289-1-3)                | 500 V                        |                   |
| Operating capacity                                             | 47 pF/m                      |                   |
| Nominal Velocity of Propagation (NVP)                          | 72 %                         |                   |
| Characteristic wave impedance<br>(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<br>(following DIN EN 50289-1-2) | Maximum current rating at 30 °C<br>(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 -<br>(Data applications up to 250 MHz) | 74m                         | 63m       |
| CFBUS.PUR.H01.049 | Ethernet/CAT6 | Class E -<br>(Data applications up to 250 MHz) | 74m                         | 63m       |



Example image

# Data sheet

## chainflex® CFBUS.PUR



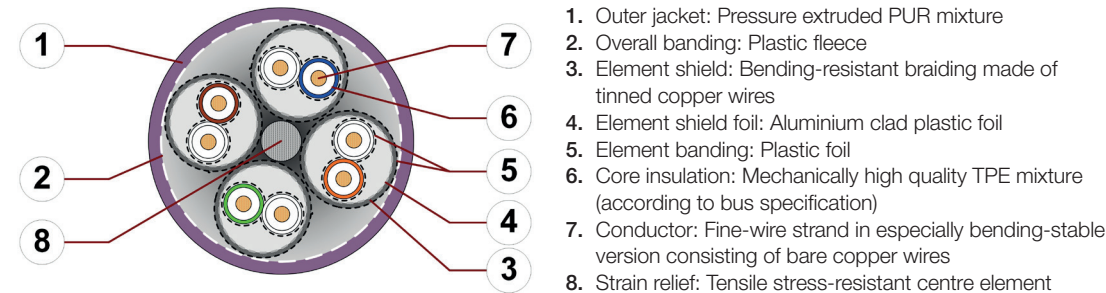
Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded  
● Oil resistant and coolant-resistant ● Flame-retardant ● PVC and halogen-free  
● Notch-resistant ● Hydrolysis and microbe-resistant

### 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/<br>orange, white-green/green,<br>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<br>300 V (following UL) |
| Testing voltage<br>(following DIN EN 50289-1-3)                | 500 V                        |
| Operating capacity                                             | 45 pF/m                      |
| Nominal Velocity of Propagation (NVP)                          | 76 %                         |
| Characteristic wave impedance<br>(following DIN EN 50289-1-11) | 100 ± 15 Ω                   |

Line attenuation approx. [dB/100m]

| Part No.      | 1<br>MHz | 4<br>MHz | 10<br>MHz | 16<br>MHz | 20<br>MHz | 31.25<br>MHz | 62.5<br>MHz | 100<br>MHz | 155.52<br>MHz | 200<br>MHz | 250<br>MHz | 350<br>MHz | 500<br>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<br>cross section | Maximum conductor resistance at 20 °C<br>(following DIN EN 50289-1-2) | Maximum current rating at 30 °C<br>(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 -<br>(Data applications up to 500 MHz) | 73m                         | 62m       |



Example image

# Data sheet

## chainflex® CFBUS.PUR

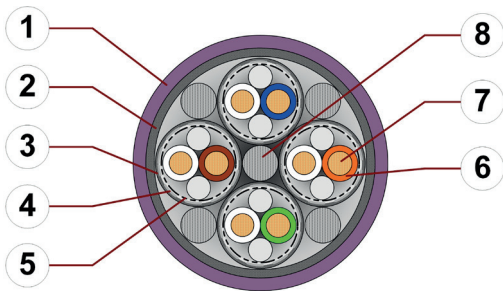


Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded  
 ● Oil resistant and coolant-resistant ● Flame-retardant ● PVC and halogen-free  
 ● Notch-resistant ● Hydrolysis and microbe-resistant

**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/<br>orange, white-green/green,<br>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<br>300 V (following UL) |
| Testing voltage<br>(following DIN EN 50289-1-3)                | 500 V                        |
| Operating capacity                                             | 48 pF/m                      |
| Nominal Velocity of Propagation (NVP)                          | 68 %                         |
| Characteristic wave impedance<br>(following DIN EN 50289-1-11) | 100 ± 15 Ω                   |

Line attenuation approx. [dB/100m]

| Part No.      | 1<br>MHz | 4<br>MHz | 10<br>MHz | 16<br>MHz | 20<br>MHz | 31.25<br>MHz | 62.5<br>MHz | 100<br>MHz | 155.52<br>MHz | 250<br>MHz | 500<br>MHz | 600<br>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<br>cross section | Maximum conductor resistance at 20 °C<br>(following DIN EN 50289-1-2) | Maximum current rating at 30 °C<br>(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 -<br>(Data applications up to 600 MHz) | 71m                         | 60m       |



Example image

# Data sheet

## chainflex® CFBUS.PUR

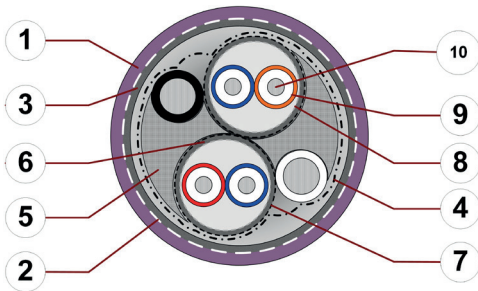


Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded  
 ● Oil resistant and coolant-resistant ● Flame-retardant ● PVC and halogen-free  
 ● Notch-resistant ● Hydrolysis and microbe-resistant

**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          |             |



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



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<br>300 V (following UL)                 |
| Testing voltage<br>(following DIN EN 50289-1-3)                | 500 V                                        |
| Operating capacity                                             | Data pair: 45 pF/m                           |
| Characteristic wave impedance<br>(following DIN EN 50289-1-11) | Data pair: $110 \pm 16.5 \Omega$ (1-250 MHz) |

Line attenuation approx. [dB/100m]

| Part No.      | 250<br>MHz | 400<br>MHz | 500<br>MHz | 800<br>MHz | 1000<br>MHz |
|---------------|------------|------------|------------|------------|-------------|
| CFBUS.PUR.056 | 2.4        | 3.0        | 3.6        | 4.7        | 5.6         |

| Conductor nominal<br>cross section | Maximum conductor resistance at 20 °C<br>(following DIN EN 50289-1-2) | Maximum current rating at 30 °C<br>(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

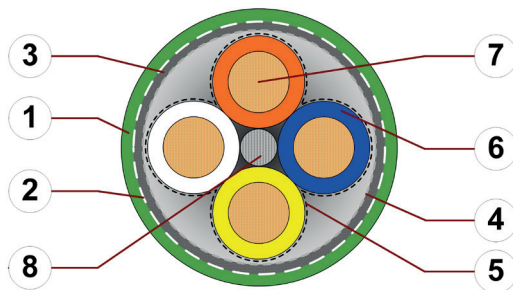


### Profinet (Type C)

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

### Cable structure

(Electrical information please see next page)



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

### 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<br>(Star-quad) |             |
| CFBUS.PUR.H01.060 | (4x0.38)C  | white, orange, blue, yellow<br>(Star-quad) |             |
|                   | 4x1.5      | black, brown, grey, blue                   |             |



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

### Electrical information

(Cable structure please see previous page)

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

Line attenuation approx. [dB/100m]

| Part No.          | 1<br>MHz | 4<br>MHz | 10<br>MHz | 16<br>MHz | 20<br>MHz | 31.25<br>MHz | 62.5<br>MHz | 100<br>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<br>cross section | Maximum conductor resistance at 20 °C<br>(following DIN EN 50289-1-2) | Maximum current rating at 30 °C<br>(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



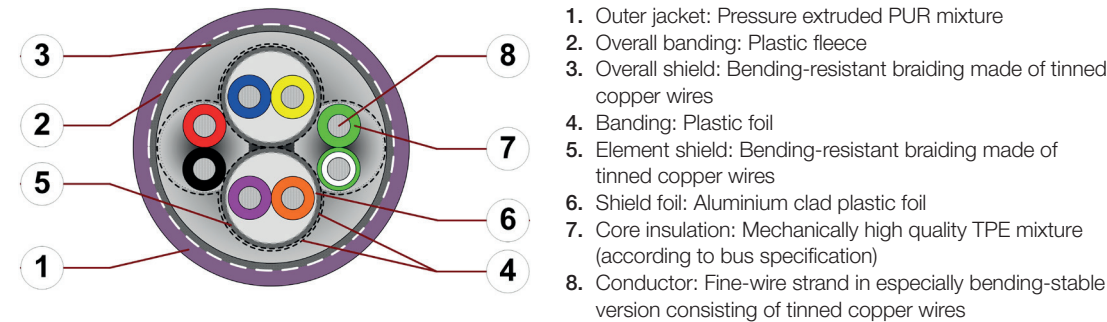
Bus cable (Class 4.3.3.1) ● For medium duty applications ● PUR outer jacket ● Shielded  
● Oil resistant and coolant-resistant ● Flame-retardant ● PVC and halogen-free  
● Notch-resistant ● Hydrolysis and microbe-resistant

### USB 3.0

CFBUS.PUR.068

### Cable structure

(Electrical information please see next page)



### 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

# 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<br>300 V (following UL)         |                                       |
| Testing voltage<br>(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<br>(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<br>MHz | 625<br>MHz | 1200<br>MHz |
|---------------|----------|------------|-------------|
| CFBUS.PUR.068 | 0.4      | 11.5       | 18.0        |

| Conductor nominal<br>cross section | Maximum conductor resistance at 20 °C<br>(following DIN EN 50289-1-2) | Maximum current rating at 30 °C<br>(following DIN VDE 0298-4) |
|------------------------------------|-----------------------------------------------------------------------|---------------------------------------------------------------|
| [mm <sup>2</sup> ]                 | [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.



Example image