

1518106

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Bus system cable, PROFIBUS (12 Mbps), 2-position, PUR halogen-free, red lilac RAL 4001, shielded, Plug straight M12 SPEEDCON, coding: B, on Socket straight M12 SPEEDCON, coding: B, cable length: 0.3 m

Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1518106       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | BF04          |
| Product key                          | AF1CKC        |
| GTIN                                 | 4017918968229 |
| Weight per piece (including packing) | 58.2 g        |
| Weight per piece (excluding packing) | 55.9 g        |
| Customs tariff number                | 85444290      |
| Country of origin                    | PL            |

# SAC-2P-MSB/ 0,3-910/FSB SCO - Bus system cable



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## Technical data

### Product properties

|                      |                         |
|----------------------|-------------------------|
| Product type         | Data cable preassembled |
| Application          | Standard                |
| Sensor type          | PROFIBUS                |
| Number of positions  | 2                       |
| No. of cable outlets | 1                       |
| Shielded             | yes                     |
| Coding               | B                       |

### Insulation characteristics

|                      |    |
|----------------------|----|
| Overvoltage category | II |
| Degree of pollution  | 3  |

### Interfaces

|                      |                                |
|----------------------|--------------------------------|
| Bus system           | PROFIBUS                       |
| Signal type/category | PROFIBUS, 12 Mbps (max. 100 m) |

### Signaling

|                        |    |
|------------------------|----|
| Status display         | no |
| Status display present | no |

### Electrical properties

|                       |                            |
|-----------------------|----------------------------|
| Insulation resistance | $\geq 100 \text{ M}\Omega$ |
| Nominal voltage $U_N$ | 48 V AC                    |
|                       | 60 V DC                    |
| Nominal current $I_N$ | 4 A                        |
| Transmission medium   | Copper                     |
| Transmission speed    | 12 Mbps (max. 100 m)       |

### Material specifications

|                               |                                             |
|-------------------------------|---------------------------------------------|
| Seal material                 | NBR                                         |
| Material of grip body         | TPU, hardly inflammable, self-extinguishing |
| Contact material              | CuSn                                        |
| Contact surface material      | Ni/Au                                       |
| Contact carrier material      | TPU GF                                      |
| Material for screw connection | Zinc die-cast, nickel-plated                |

### Connection data

#### Connection assignment

|                                                           |                                      |
|-----------------------------------------------------------|--------------------------------------|
| Contact   Color (signal designation)   Contact (optional) | 2 (Plug)   GN (A cable)   2 (Socket) |
|                                                           | 4 (Plug)   RD (B cable)   4 (Socket) |

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## Connector

### Connection 1

|                     |                            |
|---------------------|----------------------------|
| Type                | Plug straight M12 SPEEDCON |
| Number of positions | 2                          |
| Locking type        | SPEEDCON                   |
| Coding type         | B (inverse)                |

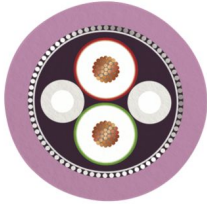
### Connection 2

|                     |                              |
|---------------------|------------------------------|
| Type                | Socket straight M12 SPEEDCON |
| Number of positions | 2                            |
| Locking type        | SPEEDCON                     |
| Coding type         | B                            |

## Cable/line

|              |       |
|--------------|-------|
| Cable length | 0.3 m |
|--------------|-------|

### PROFIBUS [910]

|                                 |                                                                                      |
|---------------------------------|--------------------------------------------------------------------------------------|
| Dimensional drawing             |  |
| Cable weight                    | 90 kg/km                                                                             |
| UL AWM Style                    | 21198 (80°C/300 V)                                                                   |
| Number of positions             | 2                                                                                    |
| Shielded                        | yes                                                                                  |
| Cable type                      | PROFIBUS [910]                                                                       |
| Conductor structure             | 1x2xAWG24/19                                                                         |
| Conductor structure signal line | 19x 0.13 mm                                                                          |
| AWG signal line                 | 24                                                                                   |
| Conductor cross section         | 2x 0.25 mm <sup>2</sup> (Signal line)                                                |
| Wire diameter incl. insulation  | 2.55 mm ±0.07 mm                                                                     |
| External cable diameter         | 7.80 mm ±0.2 mm                                                                      |
| Outer sheath, material          | PUR                                                                                  |
| External sheath, color          | red lilac RAL 4001                                                                   |
| Conductor material              | Tin-plated Cu litz wires                                                             |
| Material, filler                | PP                                                                                   |
| Material wire insulation        | Foam-Skin PP                                                                         |
| Single wire, color              | red, green                                                                           |
| Overall twist                   | 2 cores with 2 fillers to the core                                                   |

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|                                               |                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Optical shield covering                       | 85 %                                                                                                                                                                                                                                                                                                                                                                  |
| Max. conductor resistance                     | $\leq 78.6 \Omega/\text{km}$                                                                                                                                                                                                                                                                                                                                          |
| Insulation resistance                         | $\geq 5 \text{ G}\Omega \cdot \text{km}$                                                                                                                                                                                                                                                                                                                              |
| Wave impedance                                | $150 \Omega \pm 10 \%$ (3 MHz ... 20 MHz)                                                                                                                                                                                                                                                                                                                             |
| Cable capacity                                | nom. 30 pF/m                                                                                                                                                                                                                                                                                                                                                          |
| Nominal voltage, cable                        | 300 V                                                                                                                                                                                                                                                                                                                                                                 |
| Test voltage Core/Core                        | 1500 V (50 Hz, 1 min.)                                                                                                                                                                                                                                                                                                                                                |
| Test voltage Core/Shield                      | 1500.00 V (50 Hz, 1 min.)                                                                                                                                                                                                                                                                                                                                             |
| Smallest bending radius, fixed installation   | 40 mm                                                                                                                                                                                                                                                                                                                                                                 |
| Smallest bending radius, movable installation | 65 mm                                                                                                                                                                                                                                                                                                                                                                 |
| Dynamic load capacity (bending)               | <p>Max. bending cycles: 4000000, Bending radius: 65 mm, Traversing path: 4.5 m, Traversing rate: 3 m/s, Acceleration: 3 m/s<sup>2</sup>, Ambient temperature: -20 °C ... 60 °C</p> <p>Max. bending cycles: 5000000, Bending radius: 80 mm, Traversing path: 4.5 m, Traversing rate: 3 m/s, Acceleration: 3 m/s<sup>2</sup>, Ambient temperature: -20 °C ... 60 °C</p> |
| Shield attenuation                            | $\leq 0.049 \text{ dB/m}$ (at 16 MHz)                                                                                                                                                                                                                                                                                                                                 |
| Halogen-free                                  | <p>in accordance with DIN VDE 0472 part 815</p> <p>according to IEC 60754-1</p>                                                                                                                                                                                                                                                                                       |
| Flame resistance                              | <p>UL 1581, Section 1060 and UL 2556, Section 9.3 (FT1)</p> <p>UL 1581, Section 1100 and UL 2556, Section 9.1 (HFT/FT2)</p> <p>IEC 60332-1-2</p>                                                                                                                                                                                                                      |
| Other resistance                              | Low adhesion                                                                                                                                                                                                                                                                                                                                                          |
| Ambient temperature (operation)               | <p>-40 °C ... 80 °C (cable, fixed installation)</p> <p>-30 °C ... 70 °C (Cable, flexible installation)</p> <p>-20 °C ... 60 °C (for installation)</p> <p>-20 °C ... 60 °C (cable, drag chain applications)</p>                                                                                                                                                        |

## Environmental and real-life conditions

### Ambient conditions

|                                                                   |                                  |
|-------------------------------------------------------------------|----------------------------------|
| Degree of protection                                              | IP65                             |
|                                                                   | IP67                             |
| Ambient temperature (operation) (male connector/female connector) | -25 °C ... 90 °C (Plug / socket) |

## Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

Dimensional drawing



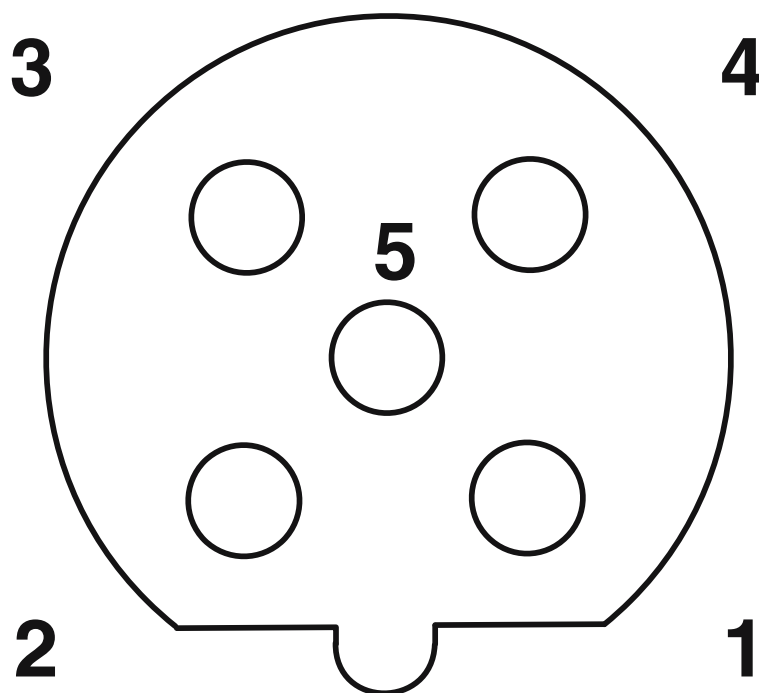
M12 x 1 socket, straight, shielded

Schematic diagram



Pin assignment M12 male connector, 5-pos., B-coded, male side

Schematic diagram



Pin assignment M12 socket, 5-pos., B-coded, female side

Circuit diagram



Contact assignment of the M12 plug and the M12 socket

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## Approvals

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|  <b>UL Listed</b><br>Approval ID: FILE E 221474 |                                |                                |                   |                               |
|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------|-------------------|-------------------------------|
|                                                                                                                                  | Nominal voltage U <sub>N</sub> | Nominal current I <sub>N</sub> | Cross section AWG | Cross section mm <sup>2</sup> |
| keine                                                                                                                            |                                |                                |                   |                               |
|                                                                                                                                  | 300 V                          | 4 A                            | -                 | -                             |

|  <b>cUL Listed</b><br>Approval ID: FILE E 221474 |                                |                                |                   |                               |
|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------|-------------------|-------------------------------|
|                                                                                                                                   | Nominal voltage U <sub>N</sub> | Nominal current I <sub>N</sub> | Cross section AWG | Cross section mm <sup>2</sup> |
| keine                                                                                                                             |                                |                                |                   |                               |
|                                                                                                                                   | 300 V                          | 4 A                            | -                 | -                             |

|  <b>EAC-RoHS</b><br>Approval ID: RU D-DE.HB35.B.00387 |  |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
|------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27060307 |
| ECLASS-15.0 | 27060307 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC001855 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 26121600 |
|-------------|----------|

## Environmental product compliance

### EU RoHS

|                                         |                    |
|-----------------------------------------|--------------------|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |
|-----------------------------------------|--------------------|

### China RoHS

|                                        |                                          |
|----------------------------------------|------------------------------------------|
| Environment friendly use period (EFUP) | EFUP-E                                   |
|                                        | No hazardous substances above the limits |

### EU REACH SVHC

|                                     |                            |
|-------------------------------------|----------------------------|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

### EF3.0 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 0.447 kg CO2e |
|---------|---------------|