

1539512

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Bus system cable, CANopen<sup>®</sup>, DeviceNet<sup>™</sup>, 5-position, PUR halogen-free, red lilac RAL 4001, shielded (Tinned copper braided shield), Plug straight M12, coding: A, on Socket straight M12, coding: A, cable length: 1.5 m

Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1539512       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | BF04          |
| Product key                          | BF1CKD        |
| GTIN                                 | 4046356080835 |
| Weight per piece (including packing) | 122.4 g       |
| Weight per piece (excluding packing) | 120.066 g     |
| Customs tariff number                | 85444290      |
| Country of origin                    | PL            |

# SAC-5P-M12MS/ 1,5-920/M12FS - Bus system cable



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## Technical data

### Product properties

|                      |                         |
|----------------------|-------------------------|
| Product type         | Data cable preassembled |
| Sensor type          | CANopen <sup>®</sup>    |
| Number of positions  | 5                       |
| No. of cable outlets | 1                       |
| Shielded             | yes                     |
| Coding               | A                       |

### Insulation characteristics

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

### Interfaces

|                      |                                              |
|----------------------|----------------------------------------------|
| Bus system           | CANopen <sup>®</sup> /DeviceNet <sup>™</sup> |
| Signal type/category | CANopen <sup>®</sup>                         |
|                      | DeviceNet <sup>™</sup>                       |

### Signaling

|                        |    |
|------------------------|----|
| Status display         | No |
| Status display present | No |

### Electrical properties

|                                |          |
|--------------------------------|----------|
| Insulation resistance          | ≥ 100 MΩ |
| Nominal voltage U <sub>N</sub> | 48 V AC  |
|                                | 60 V DC  |
| Nominal current I <sub>N</sub> | 4 A      |

### Mechanical properties

#### Mechanical data

|                             |       |
|-----------------------------|-------|
| Insertion/withdrawal cycles | ≥ 100 |
|-----------------------------|-------|

### Material specifications

|                                        |                                             |
|----------------------------------------|---------------------------------------------|
| Flammability rating according to UL 94 | HB                                          |
| 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                |

### Connector

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## Connection 1

|                     |                   |
|---------------------|-------------------|
| Type                | Plug straight M12 |
| Number of positions | 5                 |
| Coding type         | A (Standard)      |

## Connection 2

|                     |                     |
|---------------------|---------------------|
| Type                | Socket straight M12 |
| Number of positions | 5                   |
| Coding type         | A (Standard)        |

## Cable/line

|              |       |
|--------------|-------|
| Cable length | 1.5 m |
|--------------|-------|

## CANopen<sup>®</sup>/DeviceNet<sup>™</sup>, PUR, violet [920]

|                                 |                                                                                                                        |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Dimensional drawing             |                                     |
| Cable weight                    | 90 kg/km                                                                                                               |
| UL AWM Style                    | 21198 (80°C/300 V)                                                                                                     |
| Number of positions             | 4                                                                                                                      |
| Shielded                        | yes                                                                                                                    |
| Cable type                      | CANopen <sup>®</sup> /DeviceNet <sup>™</sup> , PUR, violet [920]                                                       |
| Conductor structure             | 2xAWG24/19+2xAWG22/19                                                                                                  |
| Conductor structure signal line | 19x 0.13 mm                                                                                                            |
| AWG signal line                 | 24                                                                                                                     |
| Conductor cross section         | 2x 0.25 mm <sup>2</sup> (Data cable)<br>2x 0.34 mm <sup>2</sup> (Power supply)<br>1x 0.34 mm <sup>2</sup> (Drain wire) |
| Wire diameter incl. insulation  | 1.95 mm ±0.05 mm (Data cable)<br>1.4 mm ±0.05 mm (Power supply)                                                        |
| External cable diameter         | 6.70 mm ±0.3 mm                                                                                                        |
| Outer sheath, material          | PUR                                                                                                                    |
| External sheath, color          | red lilac RAL 4001                                                                                                     |
| Conductor material              | Tin-plated Cu litz wires                                                                                               |
| Material wire insulation        | Foamed PE (Data cable)<br>PE (Power supply)                                                                            |
| Single wire, color              | red-black, blue-white                                                                                                  |
| Twisted pairs                   | 2 cores to the pair                                                                                                    |
| Type of pair shielding          | Plastic-coated aluminum foil, aluminum side outside                                                                    |

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|                                               |                                                       |
|-----------------------------------------------|-------------------------------------------------------|
| Overall twist                                 | 2 pairs around a drain wire in the center to the core |
| Optical shield covering                       | 80 %                                                  |
| Insulation resistance                         | ≥ 5 GΩ*km (Data cable)                                |
|                                               | ≥ 5 GΩ*km (Power supply)                              |
| Loop resistance                               | ≤ 181.80 Ω/km (Data cable)                            |
|                                               | ≤ 114.80 Ω/km (Power supply)                          |
| Wave impedance                                | 120 Ω ±10 % (with 1 MHz)                              |
| Cable capacity                                | nom. 40 nF/km (Data cable)                            |
| Nominal voltage, cable                        | ≤ 300 V (Peak value, not for high-power applications) |
| Test voltage Core/Core                        | 2000 V (50 Hz, 1 min.)                                |
| Test voltage Core/Shield                      | 2000.00 V (50 Hz, 1 min.)                             |
| Minimum bending radius, fixed installation    | 5 x D                                                 |
| Minimum bending radius, flexible installation | 10 x D                                                |
| Smallest bending radius, fixed installation   | 34 mm                                                 |
| Smallest bending radius, movable installation | 67 mm                                                 |
| Max. bending cycles                           | 5000000                                               |
| Shield attenuation                            | ≤ 22.9 dB/km (with 1 MHz)                             |
|                                               | ≤ 16.4 dB/km (At 500 kHz)                             |
|                                               | ≤ 9.5 dB/km (At 125 kHz)                              |
| Halogen-free                                  | in accordance with DIN VDE 0472 part 815              |
|                                               | according to IEC 60754-1                              |
| Flame resistance                              | IEC 60332-1-2                                         |
|                                               | in accordance with ISO 6722-1 5.22 (UN ECE-R 118.01)  |
| Other resistance                              | Low adhesion                                          |
| Ambient temperature (operation)               | -40 °C ... 80 °C (cable, fixed installation)          |
|                                               | -30 °C ... 70 °C (Cable, flexible installation)       |
|                                               | -20 °C ... 60 °C (for installation)                   |
|                                               | -20 °C ... 60 °C (cable, drag chain applications)     |

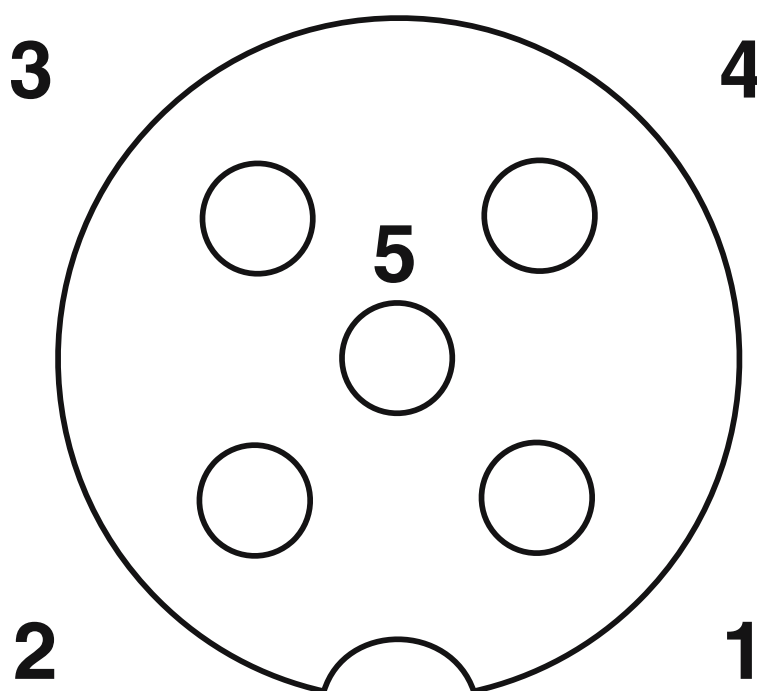
## Environmental and real-life conditions

### Ambient conditions

|                                 |                                                 |
|---------------------------------|-------------------------------------------------|
| Degree of protection            | IP65                                            |
|                                 | IP67                                            |
| Ambient temperature (operation) | -25 °C ... 90 °C (Plug / socket)                |
|                                 | -40 °C ... 80 °C (cable, fixed installation)    |
|                                 | -20 °C ... 75 °C (Cable, flexible installation) |

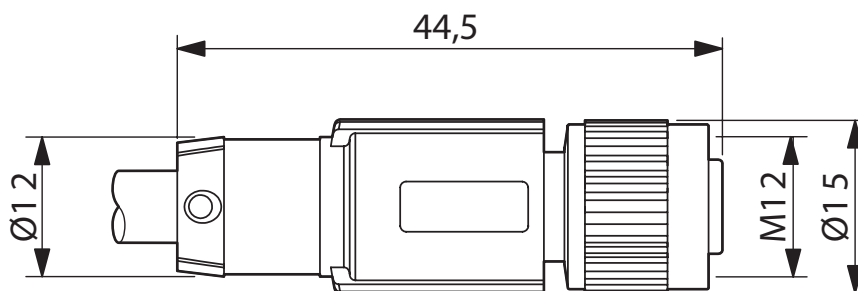
## Drawings

Schematic diagram



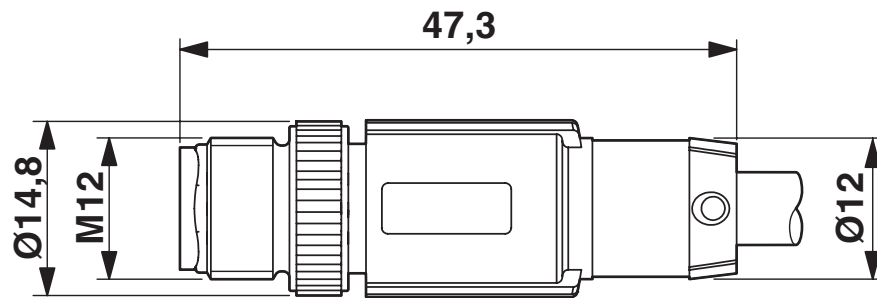
Pin assignment M12 socket, 5-pos., A-coded, socket side view

Dimensional drawing



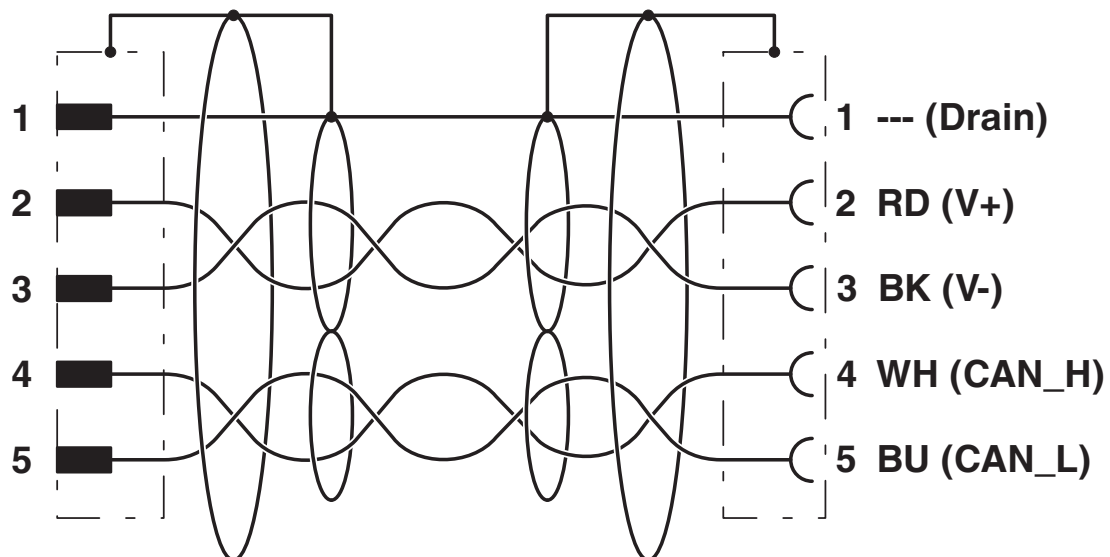
M12 x 1 socket, straight, shielded

Dimensional drawing



Plug, M12 x 1, straight, shielded

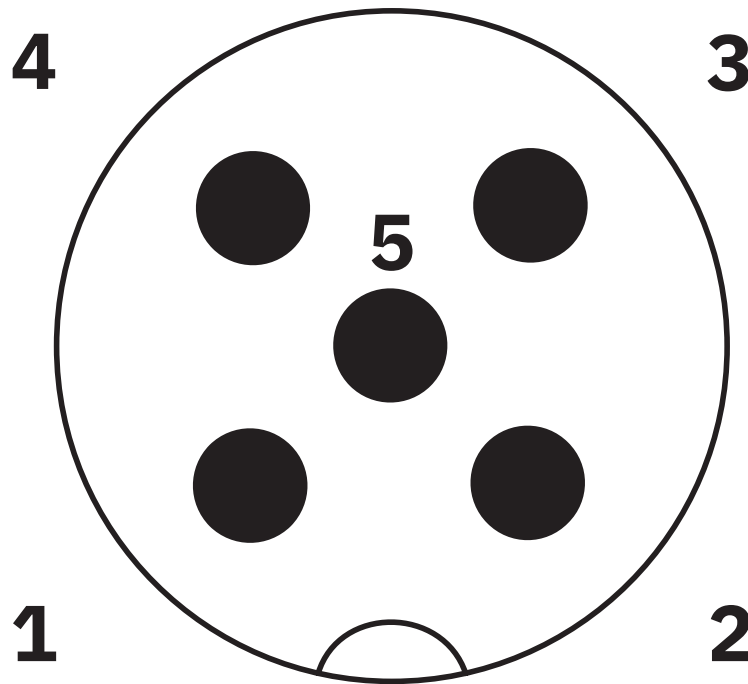
Circuit diagram



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Schematic diagram



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

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## Approvals

🔗 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1539512>



**EAC-RoHS**

Approval ID: RU D-DE.HB35.B.00387

Classifications

ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27060307 |
| ECLASS-12.0 | 27060307 |
| ECLASS-13.0 | 27060307 |

ETIM

|          |          |
|----------|----------|
| ETIM 8.0 | EC001855 |
|----------|----------|

UNSPSC

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

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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%               |

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