

# Bus system cable - SAC-5P-MS/ 0,3-920/FS SCO



1518258

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Bus system cable, CANopen<sup>®</sup>, DeviceNet<sup>™</sup>, 5-position, PUR halogen-free, red lilac RAL 4001, shielded, Plug straight M12 SPEEDCON, coding: A, on Socket straight M12 SPEEDCON, coding: A, cable length: 0.3 m

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## Commercial Data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 1518258             |
| Packing unit                         | 1 pc                |
| Minimum order quantity               | 1 pc                |
| Product Key                          | BF1CKD              |
| Catalog Page                         | Page 433 (C-2-2017) |
| GTIN                                 | 4017918968373       |
| Weight per Piece (including packing) | 54.7 g              |
| Weight per Piece (excluding packing) | 53.9 g              |
| Customs tariff number                | 85444290            |
| Country of origin                    | PL                  |

## Technical Data

### Product properties

|                      |                         |
|----------------------|-------------------------|
| Product type         | Data cable preassembled |
| Number of positions  | 5                       |
| Application          | Standard                |
| No. of cable outlets | 1                       |
| Shielded             | yes                     |
| Coding               | A - standard            |

### 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>                       |
|                      | CANopen <sup>®</sup>                         |
|                      | DeviceNet <sup>™</sup>                       |

### LED signaling

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

### Electrical properties

|                                |          |
|--------------------------------|----------|
| Contact resistance             | ≤ 5 mΩ   |
| Insulation resistance          | ≥ 100 MΩ |
| Nominal voltage U <sub>N</sub> | 48 V AC  |
|                                | 60 V DC  |
| Nominal current I <sub>N</sub> | 4 A      |
| Transmission medium            | Copper   |

### Material specifications

|  |   |
|--|---|
| Flammability rating according to UL 94 | HB  |
| Sealing material                       | NBR   |
| Material of grip body                  | TPU, hardly inflammable, self-extinguishing |
| Contact material                       | CuSn  |
| Contact surface material               | Ni/Au                                       |
| Contact carrier material               | TPU GF                                      |
| Cable gland material                   | Zinc die-cast, nickel-plated                |

### Connection data

#### Pin assignment

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|   |                                     |
|---|-------------------------------------|
| Contact   Color (signal designation)   Contact (optional) | 1 (Plug) = SR (shield) = 1 (Socket) |
|   | 2 (Plug) = RD (V+) = 2 (Socket)     |
|   | 3 (Plug) = BK (V-) = 3 (Socket)     |
|   | 4 (Plug) = WH (CAN_H) = 4 (Socket)  |
|   | 5 (Plug) = BU (CAN_L) = 5 (Socket)  |

## Connector

### Header 1

|                   |          |
|-------------------|----------|
| Head design       | Plug     |
| Head cable outlet | straight |
| Head thread type  | M12      |
| Head locking type | SPEEDCON |
| Coding            | A        |

### Header 2

|                   |          |
|-------------------|----------|
| Head design       | Socket   |
| Head cable outlet | straight |
| Head thread type  | M12      |
| Head locking type | SPEEDCON |
| Coding            | A        |

## Cable / line

|                                 |  |
|---------------------------------|--|
| Cable length                    | 0.3 m  |
| 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 signal line | 19x 0.13 mm  |
| AWG signal line                 | 24   |
| Conductor cross section         | 2x 0.25 mm <sup>2</sup> (Data cable)                             |
|                                 | 2x 0.34 mm <sup>2</sup> (Power supply)                           |
|                                 | 1x 0.34 mm <sup>2</sup> (Drain wire)                             |
| Wire diameter incl. insulation  | 1.95 mm ±0.05 mm (Data cable)                                    |
|                                 | 1.4 mm ±0.05 mm (Power supply)                                   |
| External cable diameter         | 6.7 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)   |
|                                 | 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 V (50 Hz, 1 min.)                                |
| Minimum bending radius, fixed installation    | 5 x D   |
| Minimum bending radius, flexible installation | 10 x D  |
| 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)     |

## Cable structure

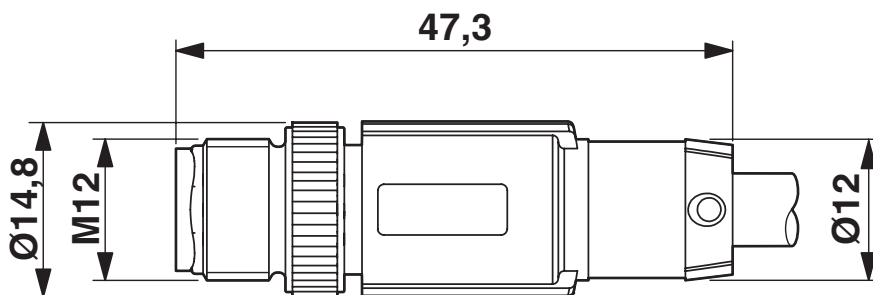
|                        |  |
|------------------------|--|
| Cable type             | CANopen <sup>®</sup> /DeviceNet <sup>™</sup> , PUR, violet |
| Signal type/category   | CANopen <sup>®</sup>                                       |
|                        | DeviceNet <sup>™</sup>                                     |
| Outer sheath, material | PUR  |
| External sheath, color | red lilac RAL 4001   |

## Ambient conditions

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

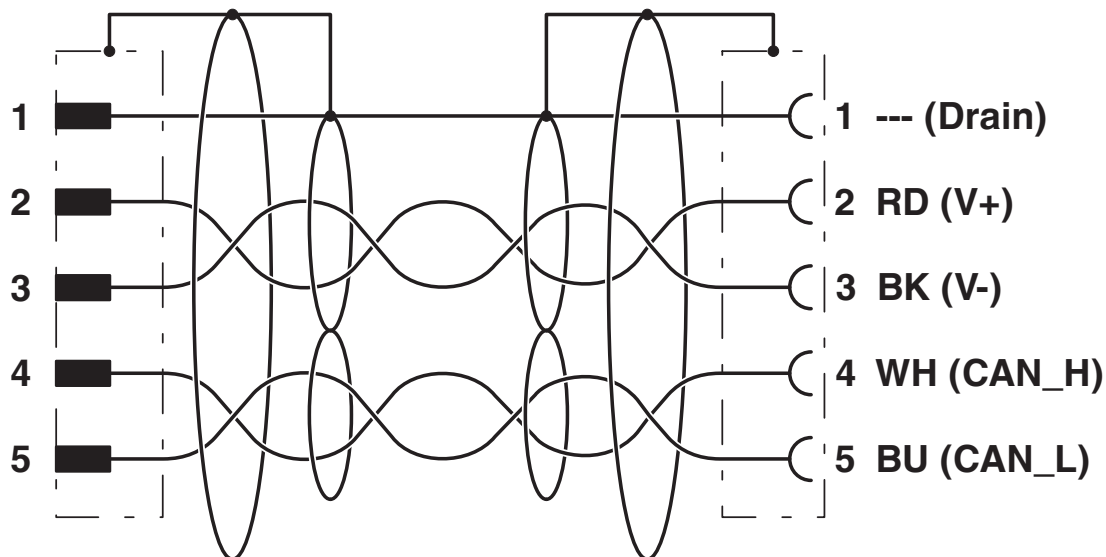
## Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

Circuit diagram

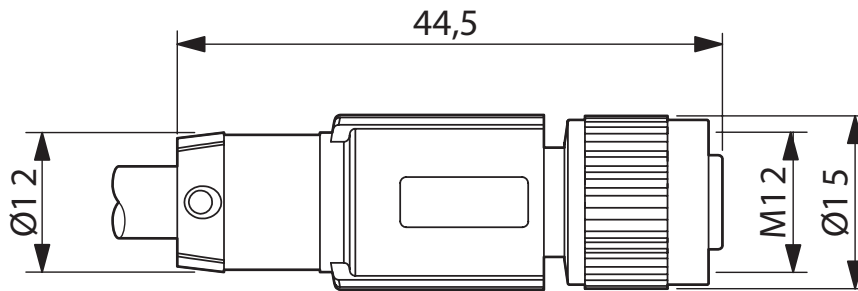


Contact assignment of the M12 connector and the M12 socket

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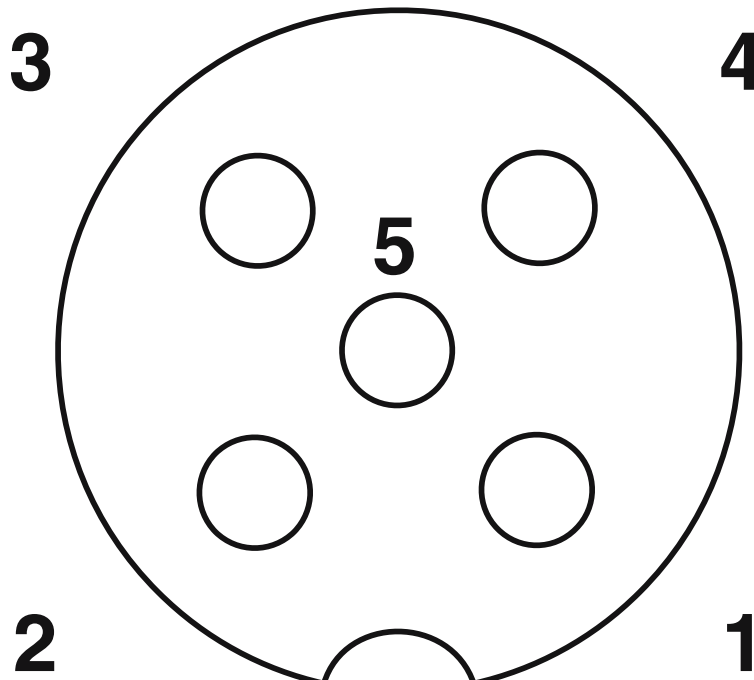
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Dimensional drawing



M12 x 1 socket, straight, shielded

Schematic diagram



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

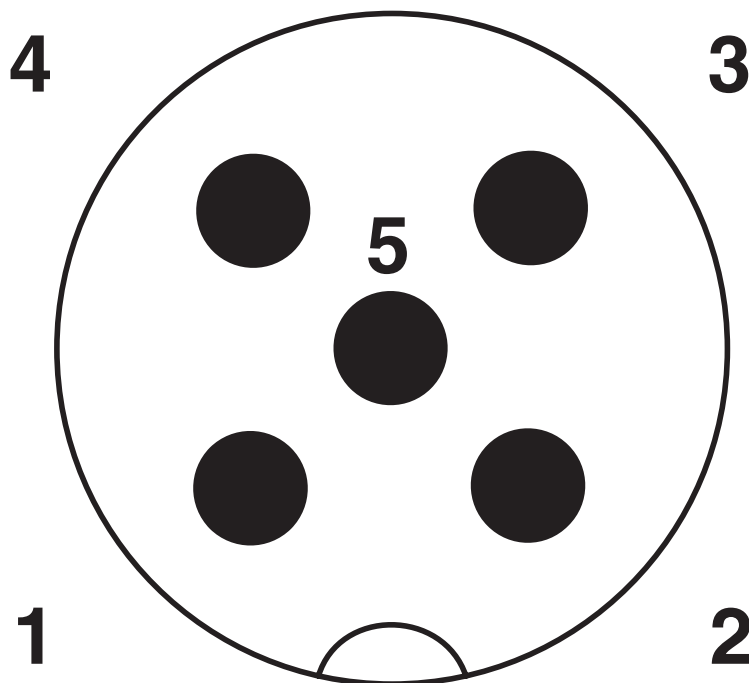
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Schematic diagram



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




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## Approvals

|  |                       |                       |                   |                             |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  <b>UL Listed</b><br>Approval ID: FILE E 221474 | Nominal Voltage $U_N$ | Nominal Current $I_N$ | Cross Section AWG | Cross Section $\text{mm}^2$ |
|  | 125 V                 | 4 A                   | -                 | -                           |

|   |                       |                       |                   |                             |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
|  <b>cUL Listed</b><br>Approval ID: FILE E 221474 | Nominal Voltage $U_N$ | Nominal Current $I_N$ | Cross Section AWG | Cross Section $\text{mm}^2$ |
|   | 125 V                 | 4 A                   | -                 | -                           |

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

|                     |
|---------------------|
| <b>cULus Listed</b> |
|---------------------|

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## Classifications

### ECLASS

|               |          |
|---------------|----------|
| ECLASS-9.0    | 27060308 |
| ECLASS-10.0.1 | 27060308 |
| ECLASS-11.0   | 27060307 |

### ETIM

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

### UNSPSC

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

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## Environmental Product Compliance

|            |   |
|------------|---|
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e<br>No hazardous substances above threshold values |
|------------|---|

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