

# SAC-5P-MR/10,0-923/FS CAN SCO - Bus system cable



1419062

<https://www.phoenixcontact.com/us/products/1419062>

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Bus system cable, CANopen®, DeviceNet™, 5-position, PUR halogen-free, silver-grey RAL 7001, shielded, Plug angled M12 SPEEDCON, coding: A, on Socket straight M12 SPEEDCON, coding: A, cable length: 10 m, Connector unshielded

## Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 1419062             |
| Packing unit                         | 1 pc                |
| Minimum order quantity               | 1 pc                |
| Sales key                            | BF04                |
| Product key                          | BF1CDD              |
| Catalog page                         | Page 431 (C-2-2019) |
| GTIN                                 | 4046356543231       |
| Weight per piece (including packing) | 624.9 g             |
| Weight per piece (excluding packing) | 594.2 g             |
| Customs tariff number                | 85444290            |
| Country of origin                    | PL                  |

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## Technical data

### Product properties

|                      |                         |
|----------------------|-------------------------|
| Product type         | Data cable preassembled |
| Application          | Standard                |
| Sensor type          | CANopen®                |
| Number of positions  | 5                       |
| No. of cable outlets | 1                       |
| Coding               | A                       |

### Insulation characteristics

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

### Interfaces

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

### Signaling

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

### Electrical properties

|                       |         |
|-----------------------|---------|
| Nominal voltage $U_N$ | 48 V AC |
|                       | 60 V DC |
| Nominal current $I_N$ | 4 A     |
| Transmission medium   | Copper  |

### 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                |

### Connection data

#### Pin assignment

|                                                           |                                     |
|-----------------------------------------------------------|-------------------------------------|
| 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)  |

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5 (Plug) | BU (CAN\_L) | 5 (Socket)

## Connector

### Connection 1

|                                 |                          |
|---------------------------------|--------------------------|
| Type                            | Plug angled M12 SPEEDCON |
| Number of positions             | 5                        |
| Locking type                    | SPEEDCON                 |
| Coding type                     | A (Standard)             |
| Ambient temperature (operation) | -25 °C ... 90 °C         |

### Connection 2

|                                 |                              |
|---------------------------------|------------------------------|
| Type                            | Socket straight M12 SPEEDCON |
| Number of positions             | 5                            |
| Locking type                    | SPEEDCON                     |
| Coding type                     | A (Standard)                 |
| Ambient temperature (operation) | -25 °C ... 90 °C             |

## Cable/line

|              |      |
|--------------|------|
| Cable length | 10 m |
|--------------|------|

### CANopen®/DeviceNet™, PUR, gray [923]

|                                 |                                                                                      |
|---------------------------------|--------------------------------------------------------------------------------------|
| Dimensional drawing             |  |
| Cable weight                    | 90 kg/km                                                                             |
| UL AWM Style                    | 21198 (80°C/300 V)                                                                   |
| Number of positions             | 4                                                                                    |
| Shielded                        | yes                                                                                  |
| Cable type                      | CANopen®/DeviceNet™, PUR, gray [923]                                                 |
| Conductor structure             | 2xAWG24/19+2xAWG22/19                                                                |
| Conductor structure signal line | 19x 0.13 mm                                                                          |
| AWG signal line                 | 24                                                                                   |
| Conductor cross section         | 2x 0.25 mm² (Data cable)<br>2x 0.34 mm² (Power supply)<br>1x 0.34 mm² (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                                                                                  |

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|                                                 |                                                                    |
|-------------------------------------------------|--------------------------------------------------------------------|
| External sheath, color                          | silver-grey RAL 7001                                               |
| 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                |
| Overall twist                                   | 2 pairs around a drain wire in the center to the core              |
| Optical shield covering                         | 80 %                                                               |
| Insulation resistance                           | $\geq 5 \text{ G}\Omega\cdot\text{km}$ (Data cable)                |
|                                                 | $\geq 5 \text{ G}\Omega\cdot\text{km}$ (Power supply)              |
| Loop resistance                                 | $\leq 181.80 \text{ }\Omega/\text{km}$ (Data cable)                |
|                                                 | $\leq 114.80 \text{ }\Omega/\text{km}$ (Power supply)              |
| Wave impedance                                  | $120 \text{ }\Omega \pm 10 \text{ %}$ (with 1 MHz)                 |
| Cable capacity                                  | nom. 40 nF/km (Data cable)                                         |
| Nominal voltage, cable                          | $\leq 300 \text{ V}$ (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                                                            |
| Minimum bending radius, drag chain applications | 10 x D                                                             |
| Bending radius                                  | 70 mm                                                              |
| Traversing path                                 | 4.5 m                                                              |
| Traversing rate                                 | 3 m/s                                                              |
| Acceleration                                    | 3 m/s <sup>2</sup>                                                 |
| Shield attenuation                              | $\leq 22.9 \text{ dB/km}$ (with 1 MHz)                             |
|                                                 | $\leq 16.4 \text{ dB/km}$ (At 500 kHz)                             |
|                                                 | $\leq 9.5 \text{ dB/km}$ (At 125 kHz)                              |
| Halogen-free                                    | in accordance with DIN VDE 0472 part 815                           |
|                                                 | according to IEC 60754-1                                           |
| Flame resistance                                | UL 1581, Sec. 1060 (FT-1)                                          |
|                                                 | IEC 60332-1                                                        |
| Other resistance                                | Low adhesion                                                       |
| Ambient temperature (operation)                 | -40 °C ... 80 °C (cable, fixed installation)                       |
|                                                 | -20 °C ... 80 °C (Cable, flexible installation)                    |
|                                                 | $\leq 70 \text{ °C}$ (cable, drag chain applications)              |

## Environmental and real-life conditions

### Ambient conditions

|                      |      |
|----------------------|------|
| Degree of protection | IP65 |
|----------------------|------|

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

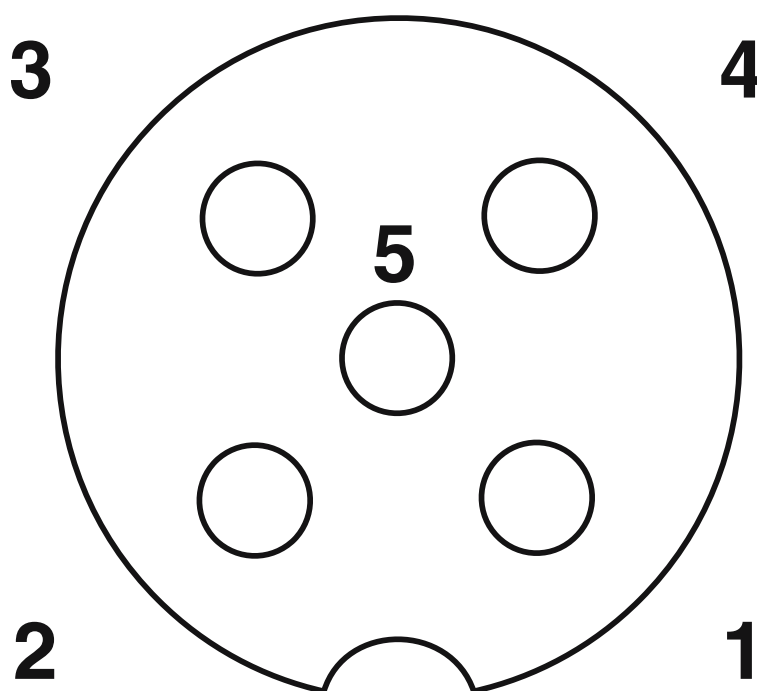
# SAC-5P-MR/10,0-923/FS CAN SCO - Bus system cable

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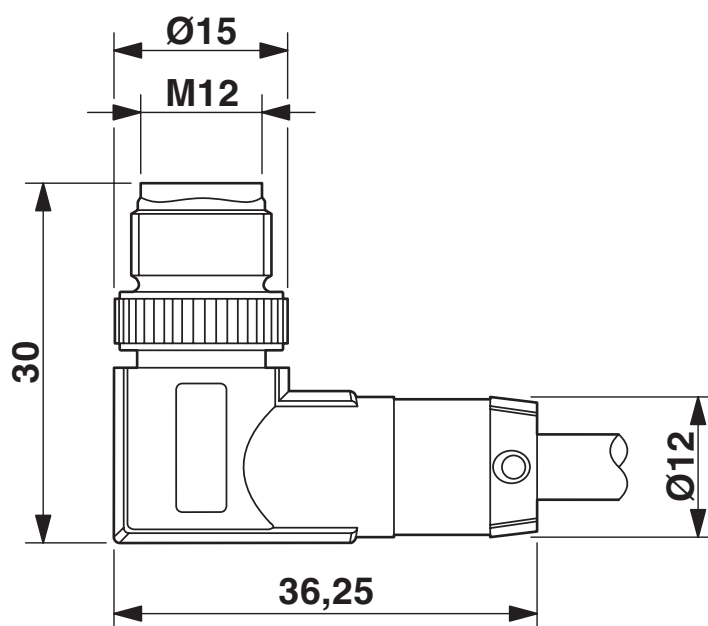
## Drawings

Schematic diagram



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

Dimensional drawing



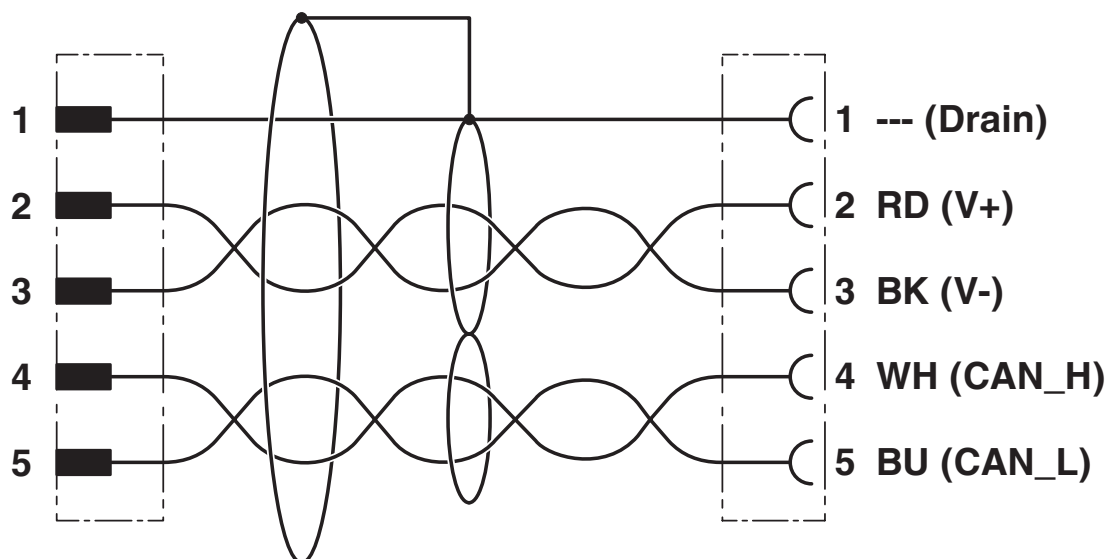
M12 x 1 male plug, angled

# SAC-5P-MR/10,0-923/FS CAN SCO - Bus system cable

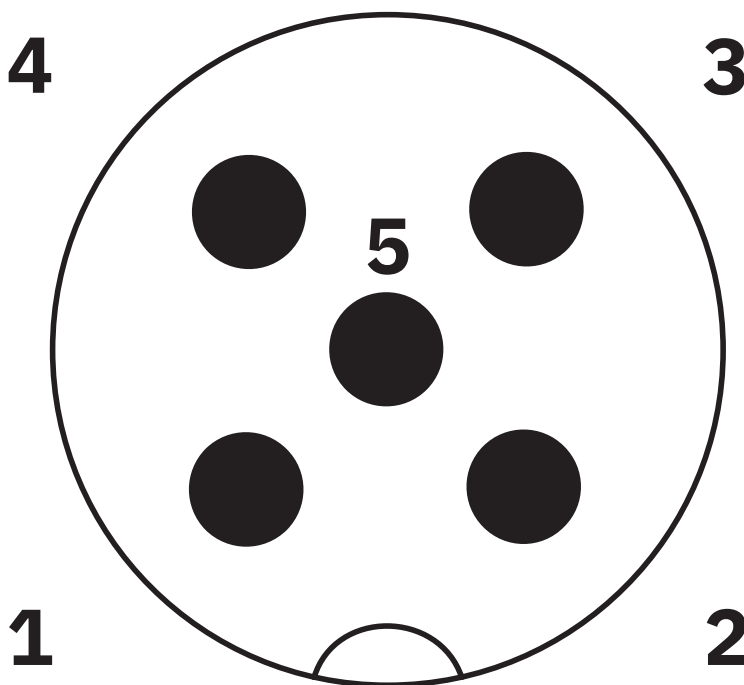
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Circuit diagram



Schematic diagram



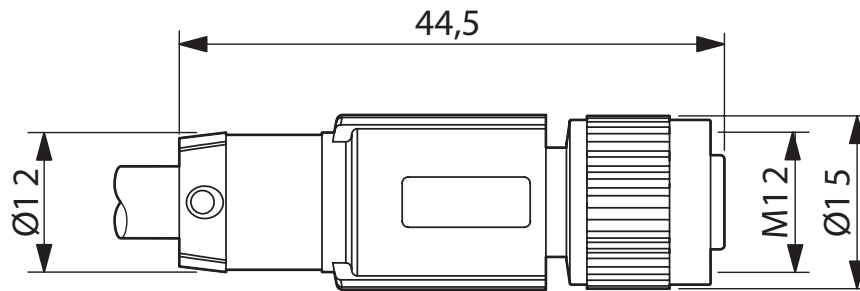
Pin assignment M12 male connector, 5-pos., A-coded, male side

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Dimensional drawing



M12 x 1 socket, straight

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1419062>



### UL Listed

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                   | -                 | -                           |



### cUL Listed

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                   | -                 | -                           |



### EAC-RoHS

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

### cULus Listed

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## Classifications

### ECLASS

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

### ETIM

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