

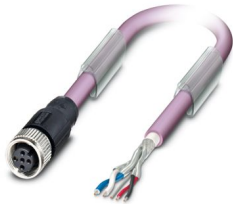
# SAC-5P- 5,0-920/M12FS - Bus system cable



1507489

<https://www.phoenixcontact.com/ae/products/1507489>

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Bus system cable, CANopen®, DeviceNet™, 5-position, PUR halogen-free, red lilac RAL 4001, shielded, free cable end, on Socket straight M12, coding: A, cable length: 5 m

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1507489       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | AF1           |
| Product key                          | AF1CKD        |
| GTIN                                 | 4017918900281 |
| Weight per piece (including packing) | 310.7 g       |
| Weight per piece (excluding packing) | 310.7 g       |
| Customs tariff number                | 85444290      |
| Country of origin                    | PL            |

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## Technical data

### Notes

|         |                                                                                      |
|---------|--------------------------------------------------------------------------------------|
| General | Further products with variable cable lengths can be found in the accessories section |
|---------|--------------------------------------------------------------------------------------|

### Product properties

|                      |                         |
|----------------------|-------------------------|
| Product type         | Data cable preassembled |
| Application          | Standard                |
| Sensor type          | CANopen®                |
| 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®/DeviceNet™ |
| Signal type/category | CANopen®            |
|                      | DeviceNet™          |

### 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      |
| Transmission medium            | Copper   |

### 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                                        |

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|                               |                              |
|-------------------------------|------------------------------|
| 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) | 1 (Socket)   SR (shield) |
|                                                           | 2 (Socket)   RD (V+)     |
|                                                           | 3 (Socket)   BK (V-)     |
|                                                           | 4 (Socket)   WH (CAN_H)  |
|                                                           | 5 (Socket)   BU (CAN_L)  |

## Connector

### Connection 1

|      |                |
|------|----------------|
| Type | free cable end |
|------|----------------|

### Connection 2

|      |                |
|------|----------------|
| Type | free cable end |
|------|----------------|

## Cable/line

|              |     |
|--------------|-----|
| Cable length | 5 m |
|--------------|-----|

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

|                                |                                        |                                                                                      |
|--------------------------------|----------------------------------------|--------------------------------------------------------------------------------------|
| Dimensional drawing            |                                        |  |
| UL AWM Style                   | 21198 (80°C/300 V)                     |                                                                                      |
| Number of positions            | 4                                      |                                                                                      |
| Shielded                       | yes                                    |                                                                                      |
| Cable type                     | CANopen®/DeviceNet™, PUR, violet [920] |                                                                                      |
| Conductor structure            | 2xAWG24/19+2xAWG22/19                  |                                                                                      |
| AWG signal line                | 24                                     |                                                                                      |
| AWG power supply               | 22                                     |                                                                                      |
| Conductor cross section        | 2x 0.25 mm² (Data cable)               |                                                                                      |
|                                | 2x 0.34 mm² (Power supply)             |                                                                                      |
|                                | 1x 0.34 mm² (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        | 6.70 mm ±0.3 mm                        |                                                                                      |

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|                                               |                                                                                                                                                                                                       |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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                                                                                                                                                                                   |
| 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)<br>$\geq 5 \text{ G}\Omega \cdot \text{km}$ (Power supply)                                                                                      |
| Wave impedance                                | $120 \Omega \pm 10 \%$ (with 1 MHz)                                                                                                                                                                   |
| 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    | 4 x D                                                                                                                                                                                                 |
| Minimum bending radius, flexible installation | 8 x D                                                                                                                                                                                                 |
| Dynamic load capacity (bending)               | Max. bending cycles: 5000000, Bending radius: 70 mm, Bending radius: 15 x D, Traversing path: 4.5 m, Traversing rate: 3 m/s, Acceleration: 3 m/s <sup>2</sup> , Ambient temperature: -20 °C ... 60 °C |
| Shield attenuation                            | $\leq 22.9 \text{ dB/km}$ (with 1 MHz)<br>$\leq 16.4 \text{ dB/km}$ (At 500 kHz)<br>$\leq 9.5 \text{ dB/km}$ (At 125 kHz)                                                                             |
| Halogen-free                                  | in accordance with DIN VDE 0472 part 815<br>according to IEC 60754-1                                                                                                                                  |
| Flame resistance                              | UL 1581, Section 1060 and UL 2556, Section 9.3 (FT1)<br>UL 1581, Section 1100 and UL 2556, Section 9.1 (HFT/FT2)<br>IEC 60332-1-2<br>in accordance with ISO 6722-1 5.22 (UN ECE-R 118.01)             |
| Ambient temperature (operation)               | -40 °C ... 80 °C (cable, fixed installation)<br>-30 °C ... 70 °C (Cable, flexible installation)<br>-20 °C ... 60 °C (for installation)<br>-20 °C ... 60 °C (cable, drag chain applications)           |

## Environmental and real-life conditions

### Ambient conditions

|                      |      |
|----------------------|------|
| Degree of protection | IP65 |
|                      | IP67 |

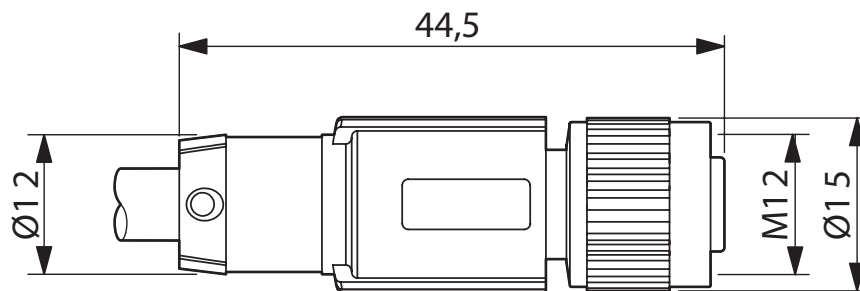
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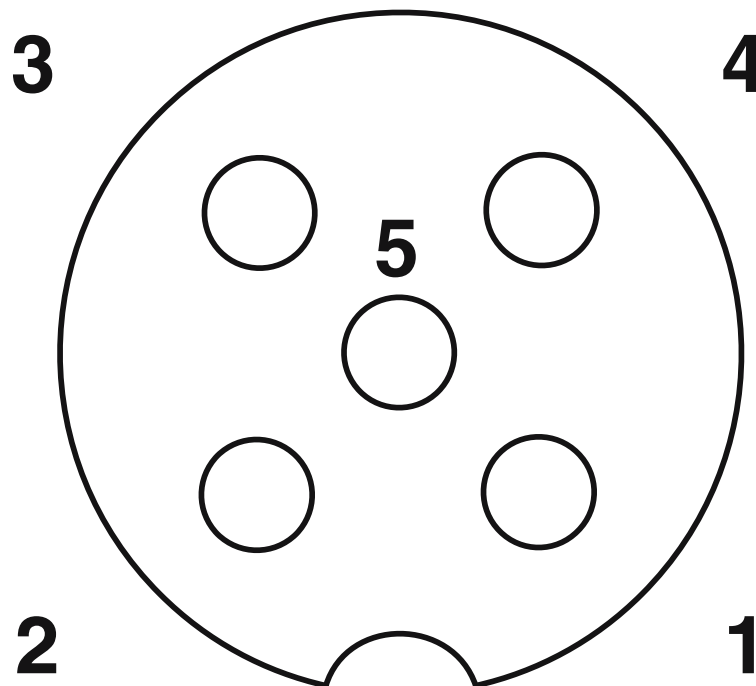
## Drawings

Dimensional drawing



M12 x 1 socket, straight, shielded

Schematic diagram



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

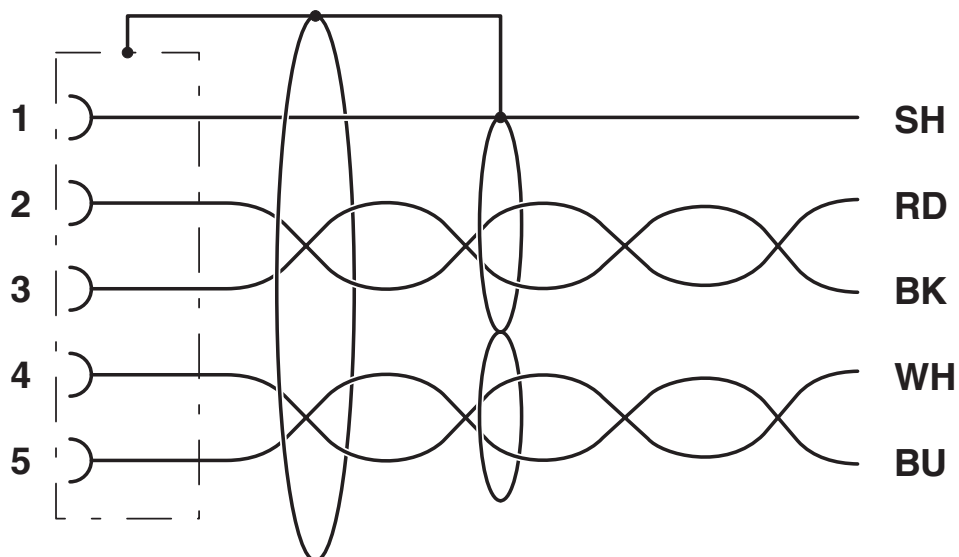
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Circuit diagram



Contact assignment of the M12 socket

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/ae/products/1507489>

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

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

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

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## Classifications

### ECLASS

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

### EF3.0 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 1.236 kg CO2e |
|---------|---------------|

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