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# SAC-5P-M12MS/10,0-920/M12FS - Bus system cable

1507573

https://www.phoenixcontact.com/pc/products/1507573

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Bus system cable, CANopen®, DeviceNet™, 5-position, PUR halogen-free, red lilac RAL 4001, shielded, Plug straight M12, coding: A, on Socket straight M12, coding: A, cable length: 10 m

## Commercial data

| | |
|---|---|
| Item number | 1507573 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Product key | AF1CKD |
| Catalog page | Page 433 (C-2-2019) |
| GTIN | 4017918900366 |
| Weight per piece (including packing) | 603.3 g |
| Weight per piece (excluding packing) | 611 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 $U_N$ | 48 V AC |
| | 60 V DC |
| Nominal current $I_N$ | 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

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) |
| | 5 (Plug) \| BU (CAN_L) \| 5 (Socket) |

## Connector

Connection 1

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

Connection 2

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

## Cable/line

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

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| | |
|---|---|
| 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 |
| 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 |
| 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) |
| Wave impedance | 120 Ω ±10 % (with 1 MHz) |
| 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 | 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/s², Ambient temperature: -20 °C ... 60 °C |
| 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 | UL 1581, Section 1060 and UL 2556, Section 9.3 (FT1) |
| | UL 1581, Section 1100 and UL 2556, Section 9.1 (HFT/FT2) |
| | IEC 60332-1-2 |
| | in accordance with ISO 6722-1 5.22 (UN ECE-R 118.01) |
| 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 |

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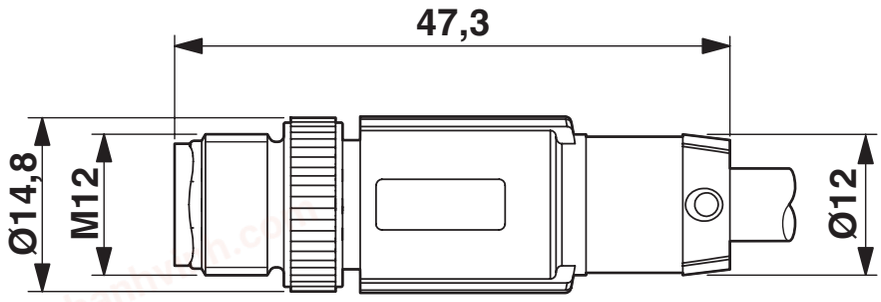
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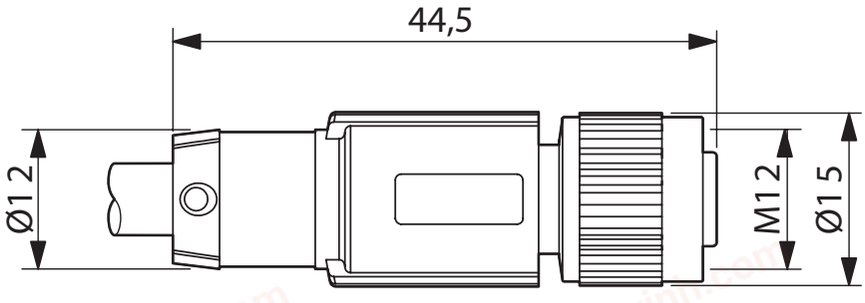
## Drawings

Dimensional drawing




Plug, M12 x 1, straight, shielded

Dimensional drawing




M12 x 1 socket, straight, shielded

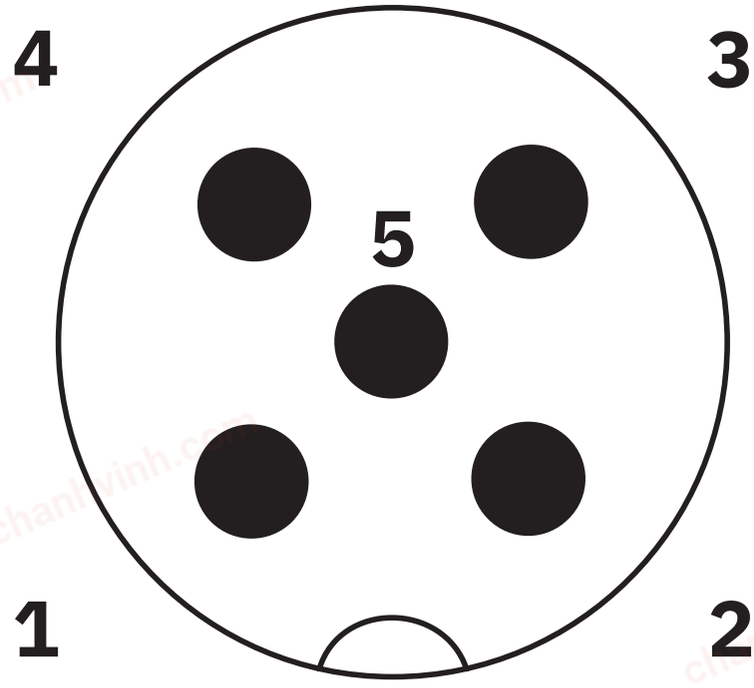
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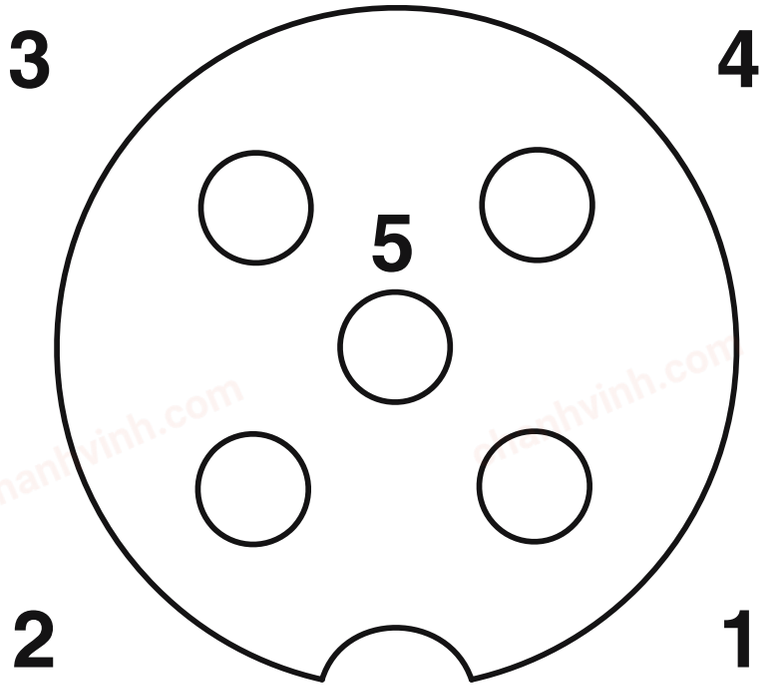
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Schematic diagram




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

Schematic diagram




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

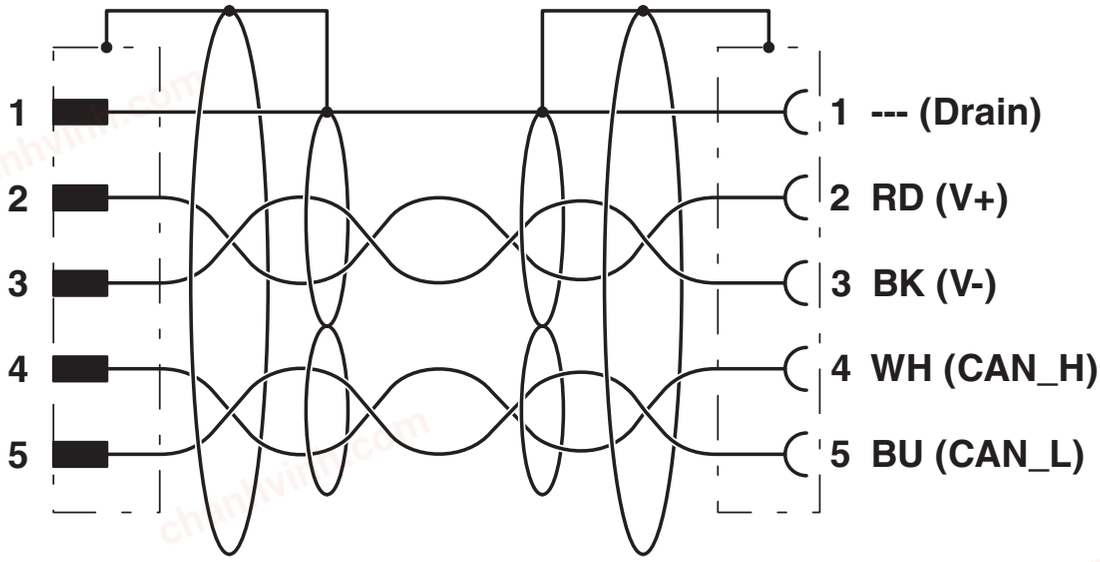
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# SAC-5P-M12MS/10,0-920/M12FS - Bus system cable

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Circuit diagram




Contact assignment of the M12 connector and the M12 socket

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## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/pc/products/1507573

**UL Listed**
Approval ID: FILE E 221474

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| | 125 V | 4 A | - | - |

**cUL Listed**
Approval ID: FILE E 221474

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| | 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% |

EF3.0 Climate Change

| | |
|---|---|
| CO2e kg | 2.555 kg CO2e |

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