

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



1507560

<https://www.phoenixcontact.com/pc/products/1507560>

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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: 5 m

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



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Commercial Data

| | |
|--------------------------------------|---------------------|
| Item number | 1507560 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Product Key | BF1CKD |
| Catalog Page | Page 433 (C-2-2019) |
| GTIN | 4017918900359 |
| Weight per Piece (including packing) | 320.8 g |
| Weight per Piece (excluding packing) | 318 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 |
| 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 [®] /DeviceNet [™] |
| Signal type/category | CANopen [®] |
| | DeviceNet [™] |
| | CANopen [®] |
| | DeviceNet [™] |

LED signaling

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

Electrical properties

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

Material specifications

| | |
|--|---|
| Color Handle area | black |
| 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 |

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| | |
|----------------------|------------------------------|
| Cable gland material | 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

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

Header 1

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

Header 2

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

Cable / line

| | |
|---------------------------------|--|
| Cable length | 5 m |
| Cable weight | 90 kg/km |
| UL AWM Style | 21198 (80°C/300 V) |
| Number of positions | 4 |
| Shielded | yes |
| Cable type | CANopen [®] /DeviceNet [™] , PUR, violet [920] |
| Conductor structure signal line | 19x 0.13 mm |
| AWG signal line | 24 |
| Conductor cross section | 2x 0.25 mm ² (Data cable) 2x 0.34 mm ² (Power supply) 1x 0.34 mm ² (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) |

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| | |
|---|---|
| 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 | ≥ 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 [®] /DeviceNet [™] , PUR, violet |
| Signal type/category | CANopen [®] |
| | DeviceNet [™] |
| Outer sheath, material | PUR |
| External sheath, color | red lilac RAL 4001 |

Ambient conditions

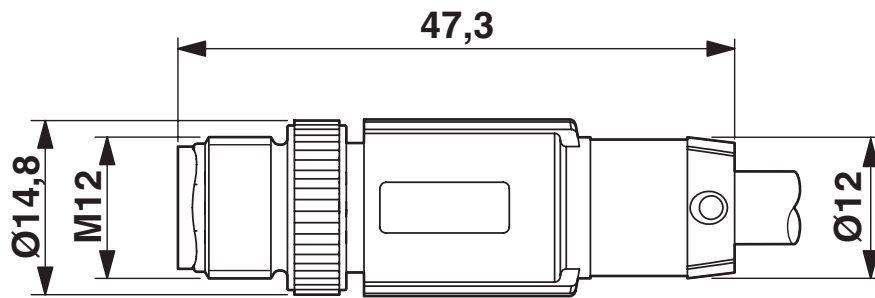
| | |
|---------------------------------|----------------------------------|
| Degree of protection | IP65 |
| | IP67 |
| Ambient temperature (operation) | -25 °C ... 90 °C (Plug / socket) |

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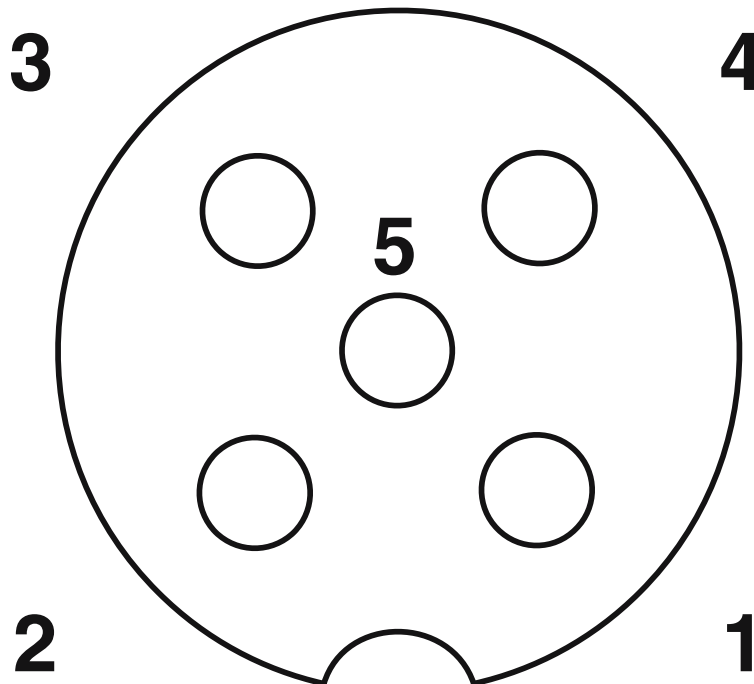
Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

Schematic diagram

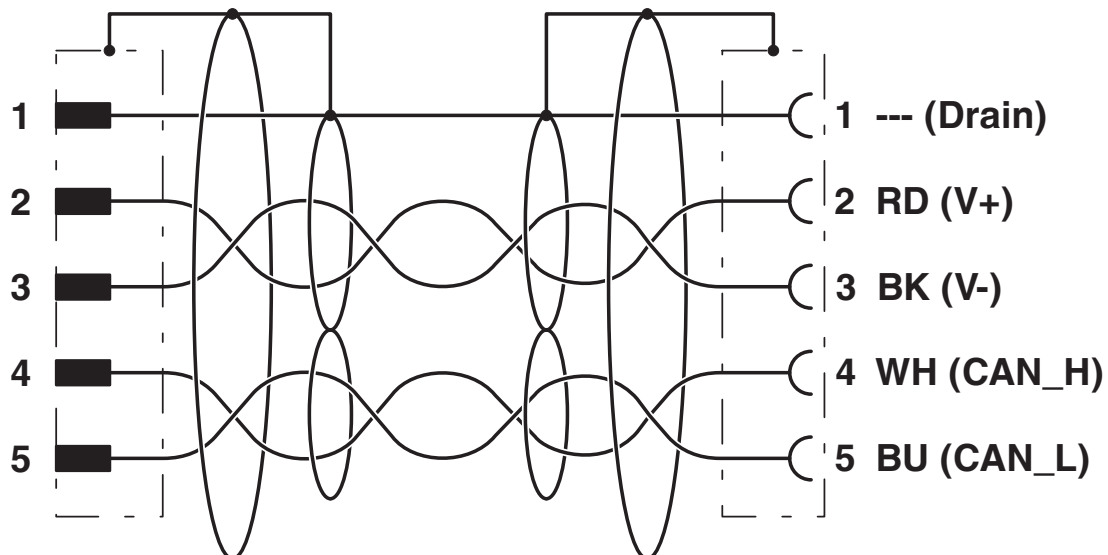


Pin assignment M12 socket, 5-pos., A-coded, socket side view

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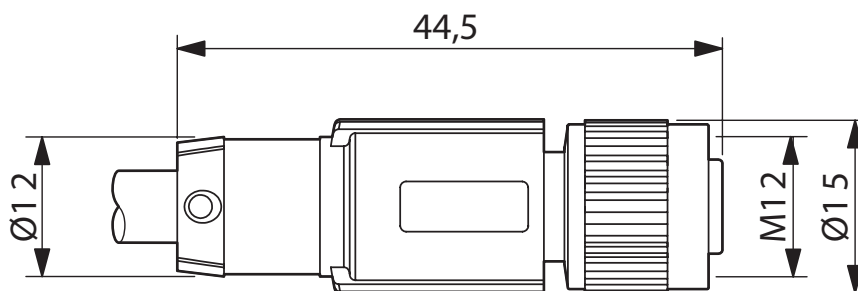
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Circuit diagram



Contact assignment of the M12 connector and the M12 socket

Dimensional drawing



M12 x 1 socket, straight, shielded

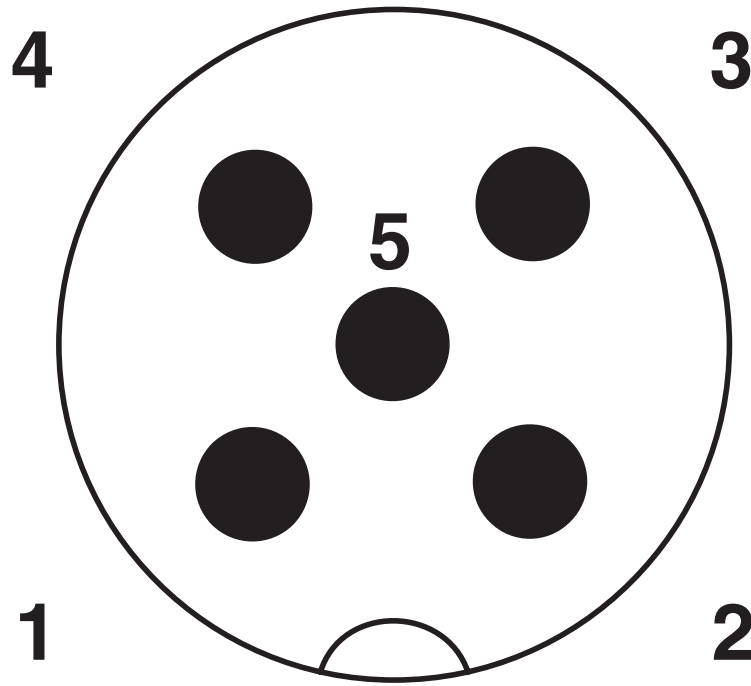
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Schematic diagram



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

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Approvals



EAC

Approval ID: RU C-DE.BL08.B.00286



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

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

cULus Listed

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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 |
| | No hazardous substances above threshold values |

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Accessories

Screw plug

Screw plug - PROT-M12 MS-PA-CHAIN - 1430899

<https://www.phoenixcontact.com/pc/products/1430899>

M12 sealing cap with fixing band, for sensor cables, for free M12 sockets



Termination resistor

Termination resistor - SAC-5P-M12MS CAN TR - 1507816

<https://www.phoenixcontact.com/pc/products/1507816>

Terminating resistor CANopen[®]/DeviceNet[™] M12



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T distributor

T distributor - SAC-5P-M12T/2XM12 VP - 1541186

<https://www.phoenixcontact.com/pc/products/1541186>



T distributor, 5-position, unshielded, Plug straight M12, coding: A, on Socket straight M12, coding: A and Socket straight M12, coding: A, Parallel distributor

T distributor

T distributor - SAC-5PT-F/F-M VP - 1424712

<https://www.phoenixcontact.com/pc/products/1424712>



T distributor, CANopen[®], DeviceNet[™], 5-position, unshielded, Socket straight M12, coding: A, on Socket straight M12, coding: A and Plug straight M12, coding: A, Parallel distributor

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H distributor

H distributor - SAC-5PH-M-F/2XF SH1 SCO - 1417414

<https://www.phoenixcontact.com/pc/products/1417414>



H distributor, 5-position, shielded, Plug straight M12, coding: A, on Socket straight M12, coding: A and Socket straight M12, coding: A, Thread M12 not rotatable, Parallel distributor

Bus system cable

Bus system cable - SAC-5P-M12MS-M12FS/920/... - 1538144

<https://www.phoenixcontact.com/pc/products/1538144>



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: Free input (0.2 ... 40.0 m)

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



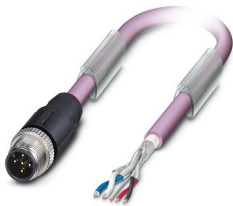
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Bus system cable

Bus system cable - SAC-5P-M12MS/920/... - 1538102

<https://www.phoenixcontact.com/pc/products/1538102>

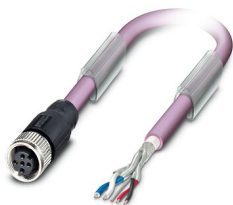


Bus system cable, CANopen[®], DeviceNet[™], 5-position, PUR halogen-free, red lilac RAL 4001, shielded, Plug straight M12, coding: A, on free cable end, cable length: Free input (0.2 ... 40.0 m)

Bus system cable

Bus system cable - SAC-5P-M12FS/920/... - 1538128

<https://www.phoenixcontact.com/pc/products/1538128>



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: Free input (0.2 ... 40.0 m)

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Torque screwdriver

Torque screwdriver - TSD 04 SAC - 1208429

<https://www.phoenixcontact.com/pc/products/1208429>



Torque screwdriver, with preset torque of 0.4 Nm and 4 mm hexagonal drive for M12 connectors

Torque screwdriver

Torque screwdriver - TSD-M 1,2NM - 1212224

<https://www.phoenixcontact.com/pc/products/1212224>



Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 0.3 - 1.2 Nm

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Adapter insert

Adapter insert - TSD-M SAC-BIT ADAPTER - 1212600

<https://www.phoenixcontact.com/pc/products/1212600>



Adapter bit for TSD-M...torque tools, E6.3-1/4" drive with 4 mm hexagon to accommodate SAC bits

Locking clip

Locking clip - SAC-M12-EXCLIP-M - 1558988

<https://www.phoenixcontact.com/pc/products/1558988>



Locking clip for the pin side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools

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



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Locking clip

Locking clip - SAC-M12-EXCLIP-F - 1558991

<https://www.phoenixcontact.com/pc/products/1558991>



Locking clip for the socket side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools

Sealing cap

Sealing cap - PROT-M12 FS-PA-CHAIN - 1430873

<https://www.phoenixcontact.com/pc/products/1430873>



M12 sealing cap made of plastic with fixing band, for sensor cables, for free M12 plugs

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



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Tool

Tool - SAC BIT M12-D15 - 1208432

<https://www.phoenixcontact.com/pc/products/1208432>



Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 15 mm, for 4 mm hexagonal drive

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