

## Bus system cable - SAC-5P-M12MS/ 0,5-920/M12FS - 1507531


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Bus system cable, CANopen®, DeviceNet™, 5-position, PUR halogen-free, violet RAL 4001, shielded, Plug straight M12, A-coded, on Socket straight M12, A-coded, cable length: 0.5 m



### Key Commercial Data

|              |   |
|--------------|---|
| Packing unit | 1 STK   |
| GTIN         | <br>4 017918 900328 |
| GTIN         | 4017918900328   |

### Technical data

#### Dimensions

|                 |       |
|-----------------|-------|
| Length of cable | 0.5 m |
|-----------------|-------|

#### Ambient conditions

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

#### General

|                       |  |
|-----------------------|--|
| Note                  | Further products with variable cable lengths can be found in the accessories section |
| Rated current at 40°C | 4 A  |
| Rated voltage         | 48 V AC  |
|                       | 60 V DC  |
| Number of positions   | 5  |
| Insulation resistance | ≥ 100 MΩ   |
| Coding                | A - standard   |
| Signal type/category  | CANopen®   |
|                       | DeviceNet™   |
| Status display        | No   |

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## Technical data

### General

|                             |                        |
|-----------------------------|------------------------|
| Overvoltage category        | II                     |
| Degree of pollution         | 3                      |
| Insertion/withdrawal cycles | ≥ 100                  |
| Torque                      | 0.4 Nm (M12 connector) |

### Material

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

### Pin assignment

|  |                                     |
|--|-------------------------------------|
| Position = wire color (signal) = position (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)  |

### Standards and Regulations

|  |    |
|--|----|
| Flammability rating according to UL 94 | HB |
|--|----|

### Cable

|                                     |   |
|-------------------------------------|---|
| Cable type                          | CAN Bus/DeviceNet                                     |
| Cable type (abbreviation)           | 920   |
| UL AWM style                        | 21198 (80°C/300 V)                                    |
| Cable structure                     | 2xAWG24/19+2xAWG22/19                                 |
| 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)                  |
| AWG signal line                     | 24  |
| AWG power supply                    | 22  |
| Conductor structure signal line     | 19x 0.13 mm   |
| Conductor structure, voltage supply | 19x 0.15 mm   |
| Core diameter including insulation  | 1.95 mm ±0.05 mm (Data cable)                         |
|                                     | 1.4 mm ±0.05 mm (Power supply)                        |
| Wire colors                         | 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 |
| Shielding                           | Tinned copper braided shield                          |

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## Technical data

### Cable

|   |   |
|---|---|
| Optical shield covering                         | 80 %  |
| External sheath, color                          | violet RAL 4001                                       |
| External cable diameter D                       | 6.7 mm ±0,3 mm  |
| Minimum bending radius, fixed installation      | 5 x D   |
| Minimum bending radius, flexible installation   | 10 x D  |
| Number of bending cycles                        | 5000000   |
| Bending radius                                  | 70 mm   |
| Minimum bending radius, drag chain applications | 10 x D  |
| Traversing path                                 | 4.5 m   |
| Traversing rate                                 | 3 m/s   |
| Acceleration                                    | 3 m/s <sup>2</sup>                                    |
| Cable weight                                    | 90 kg/km  |
| Outer sheath, material                          | PUR   |
| Material conductor insulation                   | Foamed PE (Data cable)                                |
|   | PE (Power supply)                                     |
| Conductor material                              | Tin-plated Cu litz wires                              |
| 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)                          |
| Cable capacity                                  | nom. 40 nF/km (Data cable)                            |
| Wave impedance                                  | 120 Ω ±10 % (with 1 MHz)                              |
| Attenuation                                     | ≤ 22.9 dB/km (with 1 MHz)                             |
|   | ≤ 16.4 dB/km (At 500 kHz)                             |
|   | ≤ 9.5 dB/km (At 125 kHz)                              |
| 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.)                                |
| Flame resistance                                | UL 1581, Sec. 1060 (FT-1)                             |
|   | IEC 60332-1   |
|   | in accordance with ISO 6722-1 5.22 (UN ECE-R 118.01)  |
| Halogen-free                                    | in accordance with DIN VDE 0472 part 815              |
|   | according to IEC 60754-1                              |
| Other resistance                                | Low adhesion  |
| Ambient temperature (operation)                 | -40 °C ... 80 °C (cable, fixed installation)          |
|   | -20 °C ... 80 °C (cable, flexible installation)       |

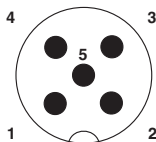
### Environmental Product Compliance

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

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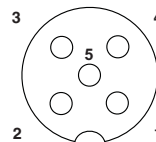
## Drawings

Schematic diagram



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

Schematic diagram



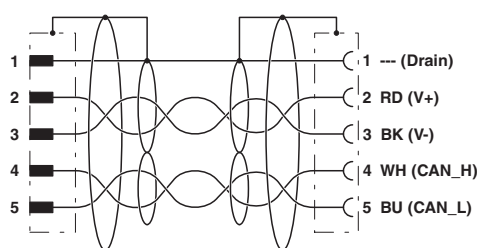
Pin assignment M12 socket, 5-pos., A-coded, socket side view

Cable cross section



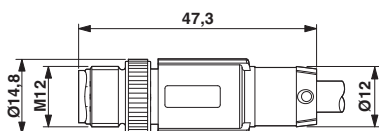
CAN Bus/DeviceNet [920]

Circuit diagram



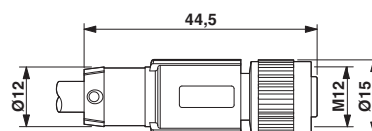
Contact assignment of the M12 connector and the M12 socket

Dimensional drawing



Plug, M12 x 1, straight, shielded

Dimensional drawing



M12 x 1 socket, straight, shielded

## Approvals

Approvals

Approvals

EAC

Ex Approvals

Approval details

## Bus system cable - SAC-5P-M12MS/ 0,5-920/M12FS - 1507531

### Approvals

EAC



EAC-Zulassung

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