

## Bus system cable - SAC-5PY-F/2X 2,0-920-MS-FS - 1436042

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Bus system cable, CANopen<sup>®</sup>, DeviceNet<sup>™</sup>, CANopen<sup>®</sup>/DeviceNet<sup>™</sup>, 5-position, PUR halogen-free, Violet, RAL 4001, shielded, Socket straight M12 SPEEDCON, A-coded, on Socket straight M12 SPEEDCON, A-coded and Plug straight M12 SPEEDCON, A-coded, Cable length: 2 m, all connectors unshielded, Shield connected to pin 1



### Key commercial data

|                      |          |
|----------------------|----------|
| Packing unit         | 1 1      |
| Custom tariff number | 85444290 |
| Country of origin    | Poland   |

### Technical data

#### Dimensions

|                 |     |
|-----------------|-----|
| Length of cable | 2 m |
|-----------------|-----|

#### Ambient conditions

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

#### General

|                        |                        |
|------------------------|------------------------|
| Rated current at 40°C  | 4 A                    |
| Rated voltage          | 60 V                   |
| Number of positions    | 5                      |
| Contact resistance     | ≤ 5 mΩ                 |
| Insulation resistance  | ≥ 100 MΩ               |
| Coding                 | A - standard           |
| Signal type/category   | CANopen <sup>®</sup>   |
|                        | DeviceNet <sup>™</sup> |
| Status display         | No                     |
| Surge voltage category | II                     |

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### Technical data

#### General

|                  |   |
|------------------|---|
| Pollution degree | 3 |
|------------------|---|

#### Material

|   |   |
|---|---|
| Inflammability class 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                        | Nickel-plated brass                         |
| Sealing material                        | NBR   |

#### Pin assignment

|  |  |
|--|--|
| Position = wire color (signal) = position (optional) | 1 (Distributor) = SR (shield) = 1 (Plug); 1 (Socket) |
|  | 2 (Distributor) = RD (V+) = 2 (Plug); 2 (Socket)     |
|  | 3 (Distributor) = BK (V-) = 3 (Plug); 3 (Socket)     |
|  | 4 (Distributor) = WH (CAN_H) = 4 (Plug); 4 (Socket)  |
|  | 5 (Distributor) = BU (CAN_L) = 5 (Plug); 5 (Socket)  |

#### Cable

|   |   |
|---|---|
| Cable type                                  | CAN Bus/DeviceNet                                     |
| Cable type (abbreviation)                   | 920   |
| Conductor cross section                     | 2x 0.25 mm <sup>2</sup> (signal line)                 |
|   | 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 (signal line)                        |
|   | 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                      | Aluminum-lined polyester foil                         |
| Overall twist                               | 2 pairs around a drain wire in the center to the core |
| Shielding                                   | Tinned copper braided shield                          |
| Optical shield covering                     | 80 %  |
| External sheath, color                      | Violet, RAL 4001                                      |
| External cable diameter D                   | 6.7 mm ±0.3 mm  |
| Smallest bending radius, fixed installation | 67 mm   |

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### Technical data

#### Cable

|   |   |
|---|---|
| Smallest bending radius, movable installation | 67 mm   |
| Number of bending cycles                      | 2000000   |
| Bending radius                                | 67 mm   |
| Traversing path                               | 4.5 m   |
| Traversing rate                               | 3 m/s   |
| Acceleration                                  | 3 m/s <sup>2</sup>                              |
| Outer sheath, material                        | PUR   |
| Material conductor insulation                 | Foamed PE (signal line)                         |
|   | PE (Power supply)                               |
| Conductor material                            | Tin-plated Cu litz wires                        |
| Insulation resistance                         | ≥ 5 GΩ*km (signal line)                         |
|   | ≥ 5 GΩ*km (Power supply)                        |
| Working capacitance                           | nom. 40 nF (signal line)                        |
| Wave impedance                                | 120 Ω ± 12 Ω (with 1 MHz)                       |
| Nominal voltage, cable                        | max. 300 V                                      |
| Test voltage, cable                           | 2000 V (50 Hz, 1 min.)                          |
| Flame resistance                              | UL 1581, Sec. 1060 (FT-1)                       |
|   | IEC 60332-1                                     |
| Ambient temperature (operation)               | -40 °C ... 80 °C (cable, fixed installation)    |
|   | -20 °C ... 70 °C (cable, flexible installation) |

### Classifications

#### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27060306 |
| eCl@ss 4.1 | 27060306 |
| eCl@ss 5.0 | 27061801 |
| eCl@ss 5.1 | 27061801 |
| eCl@ss 6.0 | 27061801 |
| eCl@ss 7.0 | 27061801 |
| eCl@ss 8.0 | 27061801 |

#### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC001855 |
| ETIM 4.0 | EC001855 |
| ETIM 5.0 | EC001855 |

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## Classifications

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 31251501 |
| UNSPSC 7.0901 | 31251501 |
| UNSPSC 11     | 31251501 |
| UNSPSC 12.01  | 31251501 |
| UNSPSC 13.2   | 31251501 |

## Approvals

### Approvals

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#### Approvals

GOST

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#### Ex Approvals

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Approvals submitted

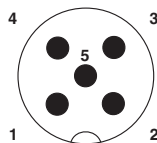
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### Approval details



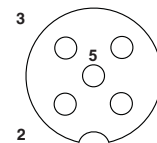
## Drawings

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

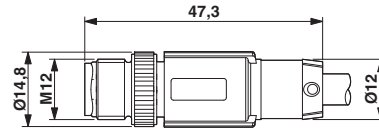
# Bus system cable - SAC-5PY-F/2X 2,0-920-MS-FS - 1436042

Cable cross section



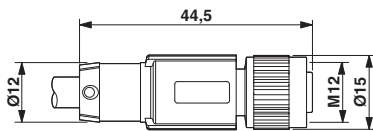
CAN Bus/DeviceNet [920]

Dimensioned drawing



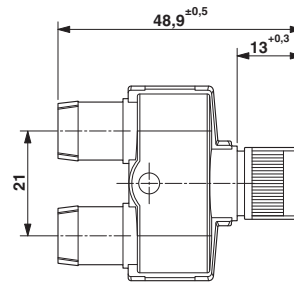
M12 SPEEDCON plug, straight

Dimensioned drawing



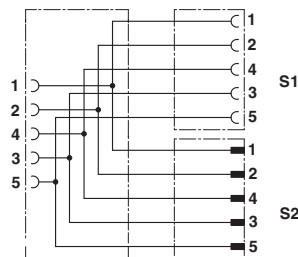
M12-SPEEDCON socket, straight

Dimensioned drawing



M12-SPEEDCON socket, Y-distributor

Circuit diagram



Contact assignment of the M12 socket and the M12 plug