

# SAC-5P-MS/ 5,0-923/FS CAN SCO - Bus system cable



1419053

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Bus system cable, CANopen<sup>®</sup>, DeviceNet<sup>™</sup>, 5-position, PUR halogen-free, silver-grey RAL 7001, shielded (Tinned copper braided shield), Plug straight M12 SPEEDCON, coding: A, on Socket straight M12 SPEEDCON, coding: A, cable length: 5 m, Connector unshielded

## Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 1419053             |
| Packing unit                         | 1 pc                |
| Minimum order quantity               | 1 pc                |
| Product key                          | BF1CDD              |
| Catalog page                         | Page 431 (C-2-2019) |
| GTIN                                 | 4046356542975       |
| Weight per piece (including packing) | 326 g               |
| Weight per piece (excluding packing) | 318 g               |
| Customs tariff number                | 85444290            |
| Country of origin                    | PL                  |

## Technical data

### Product properties

|                      |                         |
|----------------------|-------------------------|
| Product type         | Data cable preassembled |
| Sensor type          | CANopen <sup>®</sup>    |
| Number of positions  | 5                       |
| Application          | Standard                |
| No. of cable outlets | 1                       |
| Coding               | A                       |

### Insulation characteristics

|                      |    |
|----------------------|----|
| Overvoltage category | II |
| Degree of pollution  | 3  |

### Interfaces

|                      |                                              |
|----------------------|----------------------------------------------|
| Bus system           | CANopen <sup>®</sup> /DeviceNet <sup>™</sup> |
| Signal type/category | CANopen <sup>®</sup>                         |
|                      | DeviceNet <sup>™</sup>                       |

### Signaling

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

### Electrical properties

|                       |         |
|-----------------------|---------|
| Nominal voltage $U_N$ | 48 V AC |
|                       | 60 V DC |
| Nominal current $I_N$ | 4 A     |
| Transmission medium   | Copper  |

### Material specifications

|                                        |                                             |
|----------------------------------------|---------------------------------------------|
| Flammability rating according to UL 94 | HB                                          |
| Seal material                          | NBR                                         |
| Material of grip body                  | TPU, hardly inflammable, self-extinguishing |
| Contact material                       | CuSn                                        |
| 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)  |

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5 (Plug) | BU (CAN\_L) | 5 (Socket)

## Connector

### Connection 1

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

### Connection 2

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

## Cable/line

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

### CANopen<sup>®</sup>/DeviceNet<sup>™</sup>, PUR, gray [923]

|                                 |                                                                                                                        |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Dimensional drawing             |                                    |
| Cable weight                    | 90 kg/km                                                                                                               |
| UL AWM Style                    | 21198 (80°C/300 V)                                                                                                     |
| Number of positions             | 4                                                                                                                      |
| Shielded                        | yes                                                                                                                    |
| Cable type                      | CANopen <sup>®</sup> /DeviceNet <sup>™</sup> , PUR, gray [923]                                                         |
| Conductor structure             | 2xAWG24/19+2xAWG22/19                                                                                                  |
| Conductor structure signal line | 19x 0.13 mm                                                                                                            |
| AWG signal line                 | 24                                                                                                                     |
| Conductor cross section         | 2x 0.25 mm <sup>2</sup> (Data cable)<br>2x 0.34 mm <sup>2</sup> (Power supply)<br>1x 0.34 mm <sup>2</sup> (Drain wire) |
| Wire diameter incl. insulation  | 1.95 mm ±0.05 mm (Data cable)<br>1.4 mm ±0.05 mm (Power supply)                                                        |
| External cable diameter         | 6.70 mm ±0.3 mm                                                                                                        |
| Outer sheath, material          | PUR                                                                                                                    |

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|                                               |                                                                     |
|-----------------------------------------------|---------------------------------------------------------------------|
| External sheath, color                        | silver-grey RAL 7001                                                |
| 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                                                 |
| 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                         | $\geq 5 \text{ G}\Omega\cdot\text{km}$ (Data cable)                 |
|                                               | $\geq 5 \text{ G}\Omega\cdot\text{km}$ (Power supply)               |
| Loop resistance                               | $\leq 181.80 \text{ }\Omega/\text{km}$ (Data cable)                 |
|                                               | $\leq 114.80 \text{ }\Omega/\text{km}$ (Power supply)               |
| Wave impedance                                | $120 \text{ }\Omega \pm 10 \text{ }\%$ (with 1 MHz)                 |
| Cable capacity                                | nom. 40 nF/km (Data cable)                                          |
| 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    | 5 x D                                                               |
| Minimum bending radius, flexible installation | 10 x D                                                              |
| Smallest bending radius, fixed installation   | 34 mm                                                               |
| Smallest bending radius, movable installation | 67 mm                                                               |
| Max. bending cycles                           | 5000000                                                             |
| Shield attenuation                            | $\leq 22.9 \text{ dB/km}$ (with 1 MHz)                              |
|                                               | $\leq 16.4 \text{ dB/km}$ (At 500 kHz)                              |
|                                               | $\leq 9.5 \text{ dB/km}$ (At 125 kHz)                               |
| Halogen-free                                  | in accordance with DIN VDE 0472 part 815                            |
|                                               | according to IEC 60754-1                                            |
| Flame resistance                              | UL 1581, Sec. 1060 (FT-1)                                           |
|                                               | IEC 60332-1                                                         |
| Other resistance                              | Low adhesion                                                        |
| Ambient temperature (operation)               | -40 °C ... 80 °C (cable, fixed installation)                        |
|                                               | -20 °C ... 80 °C (Cable, flexible installation)                     |
|                                               | $\leq 70 \text{ }^{\circ}\text{C}$ (cable, drag chain applications) |

## Environmental and real-life conditions

### Ambient conditions

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

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