

## Bus system cable - SAC-5P-M12MSB/15,0-900/M12FSB - 1507227

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Bus system cable, INTERBUS (16 Mbps), 5-position, PUR halogen-free, may green RAL 6017, shielded, Plug straight M12, coding: B, on Socket straight M12, coding: B, cable length: 15 m



### Key Commercial Data

|              |                                                                                                         |
|--------------|---------------------------------------------------------------------------------------------------------|
| Packing unit | 1 pc                                                                                                    |
| GTIN         | <br>4 017918 900076 |
| GTIN         | 4017918900076                                                                                           |

### Technical data

#### Dimensions

|                 |      |
|-----------------|------|
| Length of cable | 15 m |
|-----------------|------|

#### Ambient conditions

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

#### General

|                       |                                                                                                             |
|-----------------------|-------------------------------------------------------------------------------------------------------------|
| Note                  | Further products with variable cable type and variable cable length 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                | B - inverse                                                                                                 |
| Signal type/category  | INTERBUS, 16 Mbps                                                                                           |
| Status display        | No                                                                                                          |
| Overvoltage category  | II                                                                                                          |

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## Technical data

### General

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

### Material

|                                        |                                             |
|----------------------------------------|---------------------------------------------|
| Flammability rating according to UL 94 | V0                                          |
| Contact material                       | CuSn                                        |
| Contact surface material               | Ni/Au                                       |
| Contact carrier material               | PA 6.6                                      |
| Material of grip body                  | TPU, hardly inflammable, self-extinguishing |
| Material, knurls                       | Zinc die-cast, nickel-plated                |
| Sealing material                       | NBR                                         |

### Pin assignment

|                                                           |                                  |
|-----------------------------------------------------------|----------------------------------|
| Contact   Color (signal designation)   Contact (optional) | 1 (Plug)   YE (DO)   1 (Socket)  |
|                                                           | 2 (Plug)   GN (DO)   2 (Socket)  |
|                                                           | 3 (Plug)   GY (DI)   3 (Socket)  |
|                                                           | 4 (Plug)   PK (DI)   4 (Socket)  |
|                                                           | 5 (Plug)   BN (GND)   5 (Socket) |

### Standards and Regulations

|                                        |    |
|----------------------------------------|----|
| Flammability rating according to UL 94 | V0 |
|----------------------------------------|----|

### Cable

|                                               |                                      |
|-----------------------------------------------|--------------------------------------|
| Cable type                                    | INTERBUS                             |
| Cable type (abbreviation)                     | 900                                  |
| Cable structure                               | 3 x 2 x 0.22 mm <sup>2</sup>         |
| Conductor cross section                       | 3x 2x 0.22 mm <sup>2</sup>           |
| AWG signal line                               | 24                                   |
| Conductor structure signal line               | 32x 0.10 mm                          |
| Wire colors                                   | Green-yellow, white-brown, gray-pink |
| Twisted pairs                                 | 2 cores to the pair                  |
| Overall twist                                 | 3 pairs to the core                  |
| Shielding                                     | Braided copper wires                 |
| External sheath, color                        | may green RAL 6017                   |
| External cable diameter D                     | 8 mm                                 |
| Minimum bending radius, fixed installation    | 7.5 x D                              |
| Minimum bending radius, flexible installation | 15 x D                               |
| Number of bending cycles                      | 5000000                              |
| Bending radius                                | 120 mm                               |
| Traversing path                               | 10 m                                 |
| Traversing rate                               | 1.6 m/s                              |
| Acceleration                                  | 3.2 m/s <sup>2</sup>                 |

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## Technical data

### Cable

|                                       |                                                     |
|---------------------------------------|-----------------------------------------------------|
| Cable weight                          | 70 kg/km                                            |
| Outer sheath, material                | PUR                                                 |
| Material conductor insulation         | PE                                                  |
| Conductor material                    | Bare Cu litz wires                                  |
| Insulation resistance                 | $\geq 5 \text{ G}\Omega \cdot \text{km}$            |
| Loop resistance                       | $\leq 159.80 \text{ }\Omega/\text{km}$              |
| Cable capacity                        | $\leq 60 \text{ nF/km}$ (At 800 Hz)                 |
| Wave impedance                        | $120 \text{ }\Omega \pm 20 \%$ (at 64 kHz)          |
|                                       | $100 \text{ }\Omega \pm 15 \%$ (with 1 MHz)         |
| Near end crosstalk attenuation (NEXT) | $\geq 61 \text{ dB}$ (at 772 kHz)                   |
|                                       | $\geq 59 \text{ dB}$ (with 1 MHz)                   |
|                                       | $\geq 55 \text{ dB}$ (at 2 MHz)                     |
|                                       | $\geq 50 \text{ dB}$ (at 4 MHz)                     |
|                                       | $\geq 46 \text{ dB}$ (at 8 MHz)                     |
|                                       | $\geq 44 \text{ dB}$ (at 10 MHz)                    |
|                                       | $\geq 41 \text{ dB}$ (at 16 MHz)                    |
|                                       | $\geq 40 \text{ dB}$ (at 20 MHz)                    |
| Attenuation                           | $\leq 15 \text{ dB/km}$ (at 256 kHz)                |
|                                       | $\leq 24 \text{ dB/km}$ (at 772 kHz)                |
|                                       | $\leq 27 \text{ dB/km}$ (with 1 MHz)                |
|                                       | $\leq 52 \text{ dB/km}$ (at 4 MHz)                  |
|                                       | $\leq 84 \text{ dB/km}$ (at 10 MHz)                 |
|                                       | $\leq 112 \text{ dB/km}$ (at 16 MHz)                |
|                                       | $\leq 119 \text{ dB/km}$ (at 20 MHz)                |
| Signal speed                          | 0.66 c                                              |
| Coupling resistance                   | $< 250.00 \text{ m}\Omega/\text{m}$ (at 30 MHz)     |
| Nominal voltage, cable                | 250 V (Peak value, not for high-power applications) |
| Test voltage Core/Core                | 1500 V <sub>rms</sub>                               |
| Test voltage Core/Shield              | 1000 V <sub>rms</sub>                               |
| Flame resistance                      | according to VDE 0472, Part 4, test type B          |
|                                       | according to IEC 60332-1                            |
| Ambient temperature (operation)       | -40 °C ... 80 °C (cable, fixed installation)        |
|                                       | -30 °C ... 70 °C (cable, flexible installation)     |

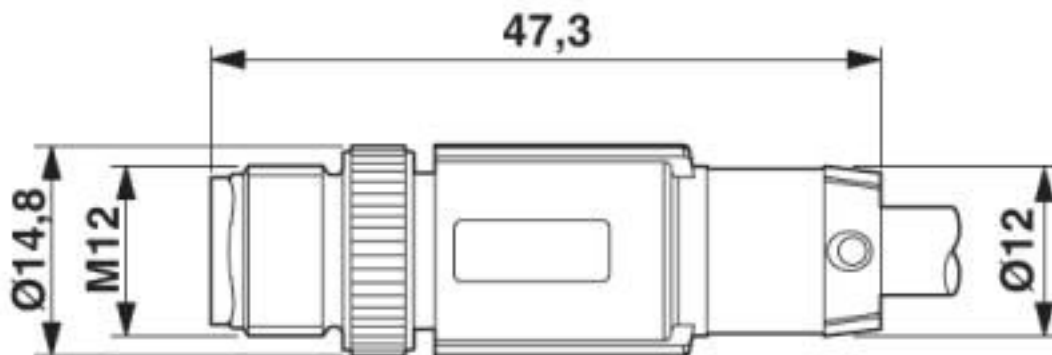
### Environmental Product Compliance

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

## Drawings

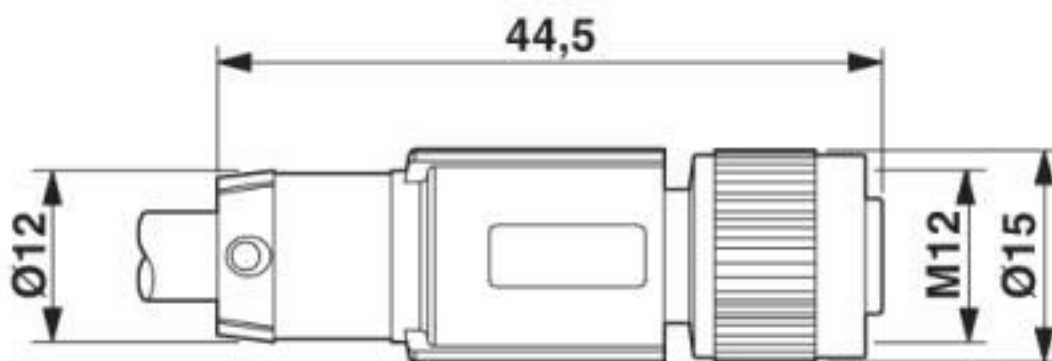
## Bus system cable - SAC-5P-M12MSB/15,0-900/M12FSB - 1507227

Dimensional drawing



Plug, M12 x 1, straight, shielded

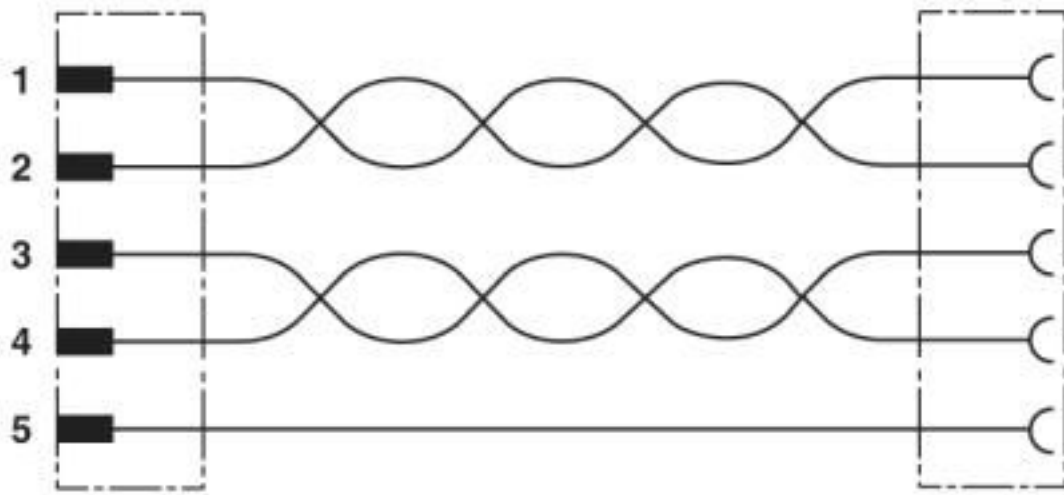
Dimensional drawing



M12 x 1 socket, straight, shielded

## Bus system cable - SAC-5P-M12MSB/15,0-900/M12FSB - 1507227

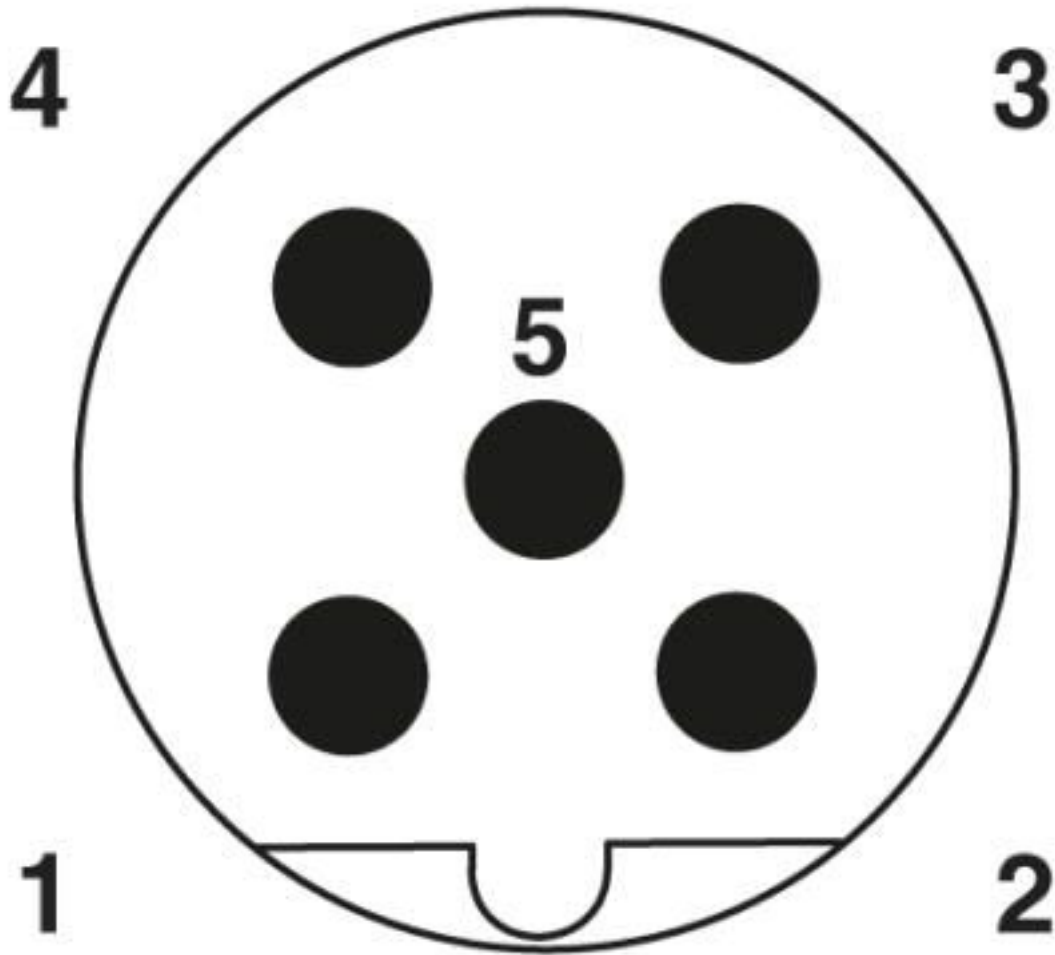
Circuit diagram



Contact assignment of the M12 connector and the M12 socket

## Bus system cable - SAC-5P-M12MSB/15,0-900/M12FSB - 1507227

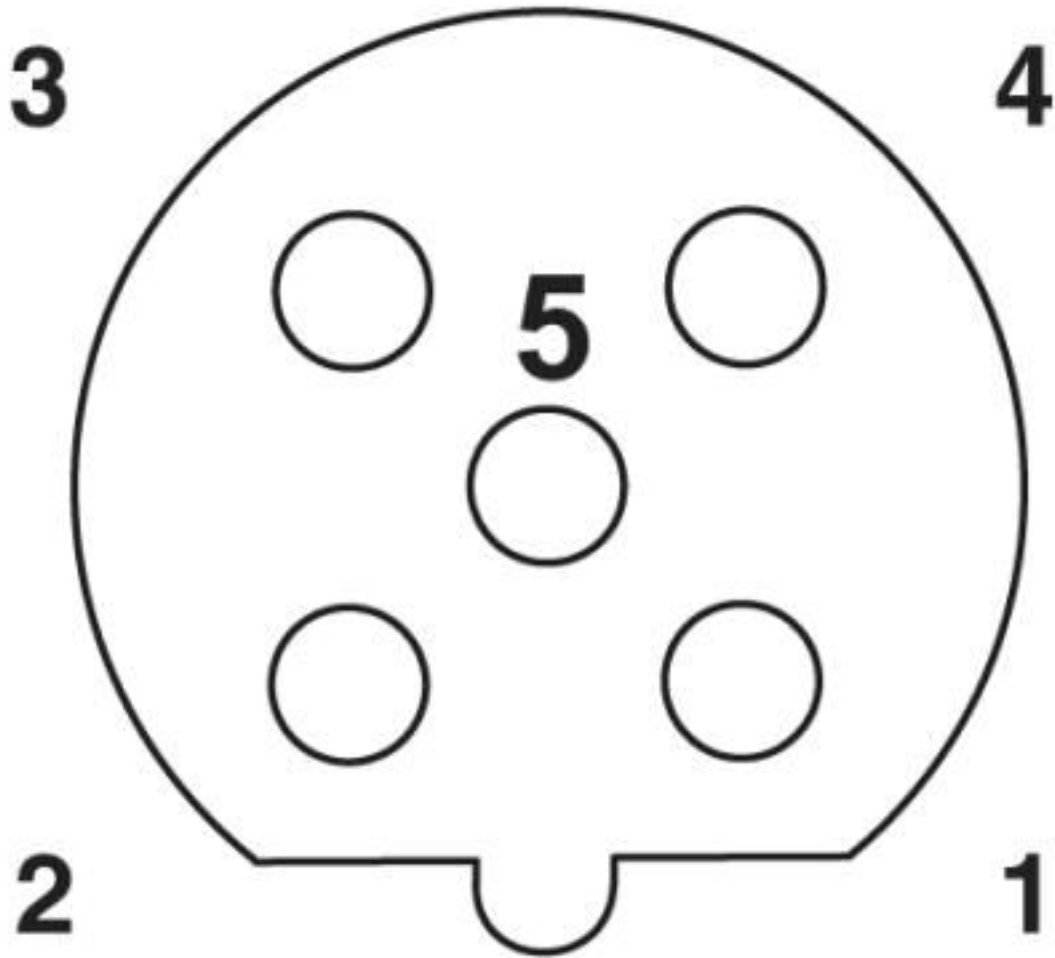
Schematic diagram



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

## Bus system cable - SAC-5P-M12MSB/15,0-900/M12FSB - 1507227

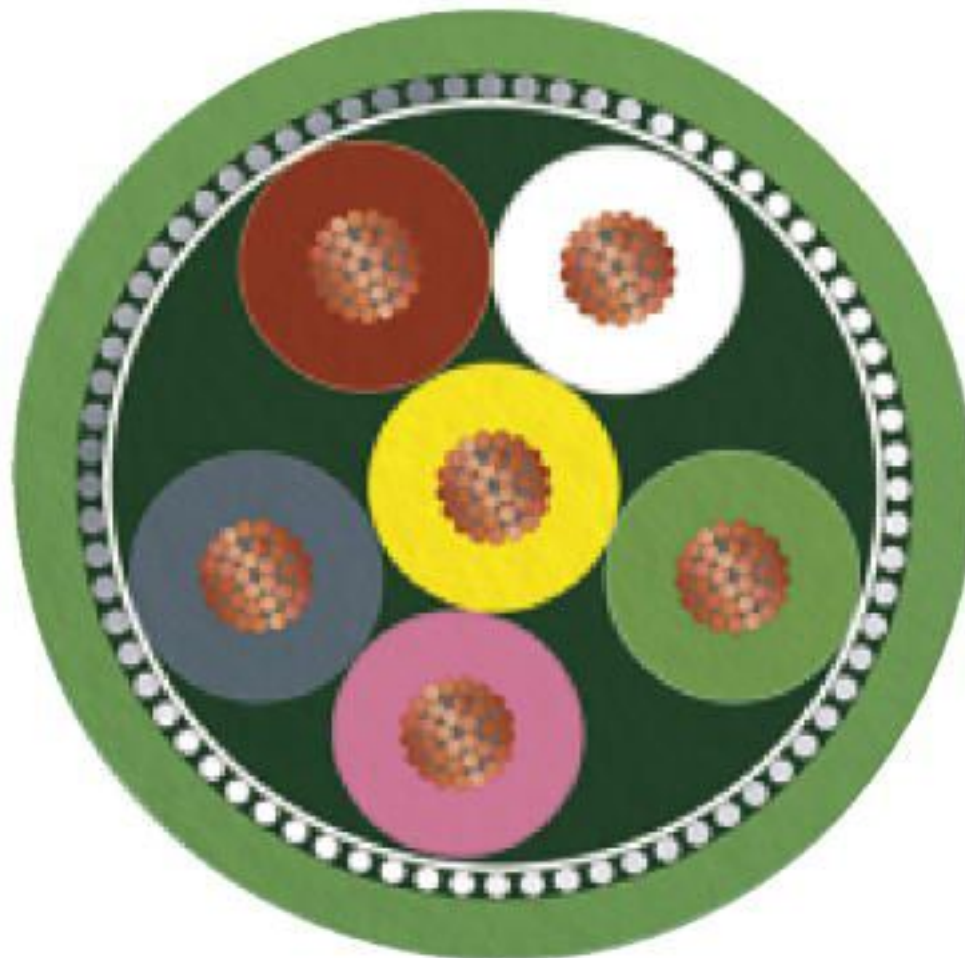
Schematic diagram



Pin assignment M12 socket, 5-pos., B-coded, female side

## Bus system cable - SAC-5P-M12MSB/15,0-900/M12FSB - 1507227

Cable cross section



INTERBUS [900]

### Classifications

eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27060308 |
| eCl@ss 4.0    | 27060300 |
| eCl@ss 4.1    | 27060300 |
| eCl@ss 5.0    | 27061800 |
| eCl@ss 5.1    | 27061800 |
| eCl@ss 6.0    | 27279200 |
| eCl@ss 7.0    | 27279218 |
| eCl@ss 8.0    | 27279218 |
| eCl@ss 9.0    | 27060308 |



## Bus system cable - SAC-5P-M12MSB/15,0-900/M12FSB - 1507227

### Classifications

#### ETIM

|          |          |
|----------|----------|
| ETIM 2.0 | EC000830 |
| ETIM 3.0 | EC001855 |
| ETIM 4.0 | EC001855 |
| ETIM 5.0 | EC002599 |
| ETIM 6.0 | EC001262 |
| ETIM 7.0 | EC001262 |

#### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 31251501 |
| UNSPSC 7.0901 | 31251501 |
| UNSPSC 11     | 31251501 |
| UNSPSC 12.01  | 31251501 |
| UNSPSC 13.2   | 31251501 |
| UNSPSC 18.0   | 26121604 |
| UNSPSC 19.0   | 26121604 |
| UNSPSC 20.0   | 26121604 |
| UNSPSC 21.0   | 26121604 |

### Approvals

#### Approvals

#### Approvals

EAC / EAC-RoHS / EAC

#### Ex Approvals

#### Approval details

|     |                                                                                     |                          |
|-----|-------------------------------------------------------------------------------------|--------------------------|
| EAC |  | RU C-<br>DE.BL08.B.00286 |
|-----|-------------------------------------------------------------------------------------|--------------------------|

|          |                                                                                     |                          |
|----------|-------------------------------------------------------------------------------------|--------------------------|
| EAC-RoHS |  | RU D-<br>DE.HB35.B.00387 |
|----------|-------------------------------------------------------------------------------------|--------------------------|

|     |                                                                                     |               |
|-----|-------------------------------------------------------------------------------------|---------------|
| EAC |  | EAC-Zulassung |
|-----|-------------------------------------------------------------------------------------|---------------|

## Bus system cable - SAC-5P-M12MSB/15,0-900/M12FSB - 1507227

### Accessories

#### Accessories

#### Data cable preassembled

#### Bus system cable - SAC-5P-M12MSB/900/... - 1537983



Bus system cable, INTERBUS (16 Mbps), 5-position, PUR halogen-free, may green RAL 6017, shielded, Plug straight M12, coding: B, on free cable end, cable length: Free input (0.2 ... 40.0 m)

#### Bus system cable - SAC-5P-M12FSB/900/... - 1538005



Bus system cable, INTERBUS (16 Mbps), 5-position, PUR halogen-free, may green RAL 6017, shielded, free cable end, on Socket straight M12, coding: B, cable length: Free input (0.2 ... 40.0 m)

#### Bus system cable - SAC-5P-M12MSB-M12FSB/900/... - 1538021



Bus system cable, INTERBUS (16 Mbps), 5-position, PUR halogen-free, may green RAL 6017, shielded, Plug straight M12, coding: B, on Socket straight M12, coding: B, cable length: Free input (0.2 ... 40.0 m)

### Plug for cable screw gland

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

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



### Protective cap

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

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



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### Accessories

#### Safety locking

Locking clip - SAC-M12-EXCLIP-M - 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

Locking clip - SAC-M12-EXCLIP-F - 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

#### Screwdriver tools

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



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

Tool - SAC BIT M12-D15 - 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

#### Torque tool

Torque screwdriver - TSD 04 SAC - 1208429



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

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### Accessories

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



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

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