

# SAC-5P-MSB/ 5,0-900 SCO - Bus system cable



1517880

<https://www.phoenixcontact.com/us/products/1517880>

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

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1517880       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | BF04          |
| Product key                          | AF1CKB        |
| GTIN                                 | 4017918968007 |
| Weight per piece (including packing) | 374.4 g       |
| Weight per piece (excluding packing) | 357.8 g       |
| Customs tariff number                | 85444290      |
| Country of origin                    | PL            |

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## Technical data

### Product properties

|                      |                         |
|----------------------|-------------------------|
| Product type         | Data cable preassembled |
| Application          | Standard                |
| Sensor type          | INTERBUS                |
| Number of positions  | 5                       |
| No. of cable outlets | 1                       |
| Shielded             | yes                     |
| Coding               | B                       |

### Insulation characteristics

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

### Interfaces

|                      |                   |
|----------------------|-------------------|
| Bus system           | INTERBUS          |
| Signal type/category | INTERBUS, 16 Mbps |

### Signaling

|                        |    |
|------------------------|----|
| Status display         | no |
| Status display present | no |

### Electrical properties

|                       |                            |
|-----------------------|----------------------------|
| Insulation resistance | $\geq 100 \text{ M}\Omega$ |
| Nominal voltage $U_N$ | 48 V AC                    |
|                       | 60 V DC                    |
| Nominal current $I_N$ | 4 A                        |
| Transmission medium   | Copper                     |
| Transmission speed    | 16 Mbps                    |

### Material specifications

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

### Connection data

#### Connection assignment

|                                                           |                             |
|-----------------------------------------------------------|-----------------------------|
| Contact   Color (signal designation)   Contact (optional) | 1 (Plug)   YE ( <u>DO</u> ) |
|                                                           | 2 (Plug)   GN ( <u>DO</u> ) |
|                                                           | 3 (Plug)   GY ( <u>DI</u> ) |

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|                     |
|---------------------|
| 4 (Plug)   PK (DI)  |
| 5 (Plug)   BN (GND) |

## Connector

### Connection 1

|                     |                            |
|---------------------|----------------------------|
| Type                | Plug straight M12 SPEEDCON |
| Number of positions | 5                          |
| Locking type        | SPEEDCON                   |
| Coding type         | B (inverse)                |

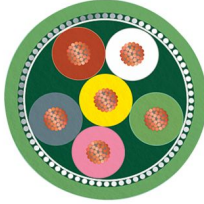
### Connection 2

|      |                |
|------|----------------|
| Type | free cable end |
|------|----------------|

## Cable/line

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

### INTERBUS [900]

|                                 |                                                                                      |
|---------------------------------|--------------------------------------------------------------------------------------|
| Dimensional drawing             |  |
| Cable weight                    | 70 kg/km                                                                             |
| Number of positions             | 6                                                                                    |
| Shielded                        | yes                                                                                  |
| Cable type                      | INTERBUS [900]                                                                       |
| Conductor structure             | 3 x 2 x 0.22 mm <sup>2</sup>                                                         |
| Signal speed                    | 0.66 c                                                                               |
| Conductor structure signal line | 32x 0.10 mm                                                                          |
| AWG signal line                 | 24                                                                                   |
| Conductor cross section         | 3x 2x 0.22 mm <sup>2</sup>                                                           |
| External cable diameter         | 8.00 mm                                                                              |
| Outer sheath, material          | PUR                                                                                  |
| External sheath, color          | may green RAL 6017                                                                   |
| Conductor material              | Bare Cu litz wires                                                                   |
| Material wire insulation        | PE                                                                                   |
| Single wire, color              | green-yellow, white-brown, gray-pink                                                 |
| Twisted pairs                   | 2 cores to the pair                                                                  |
| Overall twist                   | 3 pairs to the core                                                                  |
| Insulation resistance           | ≥ 5 GΩ*km                                                                            |
| Coupling resistance             | < 250.00 mΩ/m (at 30 MHz)                                                            |

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|                                               |                                                                                                                                           |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Loop resistance                               | ≤ 159.80 Ω/km                                                                                                                             |
| Wave impedance                                | 120 Ω ±20 % (at 64 kHz)                                                                                                                   |
|                                               | 100 Ω ±15 % (with 1 MHz)                                                                                                                  |
| Cable capacity                                | ≤ 60 nF/km (At 800 Hz)                                                                                                                    |
| 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                      | 1000.00 V <sub>rms</sub>                                                                                                                  |
| Minimum bending radius, fixed installation    | 7.5 x D                                                                                                                                   |
| Minimum bending radius, flexible installation | 15 x D                                                                                                                                    |
| Smallest bending radius, fixed installation   | 60 mm                                                                                                                                     |
| Smallest bending radius, movable installation | 120 mm                                                                                                                                    |
| Dynamic load capacity (bending)               | Max. 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> |
| Near end crosstalk attenuation (NEXT)         | ≥ 61 dB (at 772 kHz)                                                                                                                      |
|                                               | ≥ 59 dB (with 1 MHz)                                                                                                                      |
|                                               | ≥ 55 dB (at 2 MHz)                                                                                                                        |
|                                               | ≥ 50 dB (at 4 MHz)                                                                                                                        |
|                                               | ≥ 46 dB (at 8 MHz)                                                                                                                        |
|                                               | ≥ 44 dB (at 10 MHz)                                                                                                                       |
|                                               | ≥ 41 dB (at 16 MHz)                                                                                                                       |
|                                               | ≥ 40 dB (at 20 MHz)                                                                                                                       |
| Shield attenuation                            | ≤ 15 dB/km (at 256 kHz)                                                                                                                   |
|                                               | ≤ 24 dB/km (at 772 kHz)                                                                                                                   |
|                                               | ≤ 27 dB/km (with 1 MHz)                                                                                                                   |
|                                               | ≤ 52 dB/km (at 4 MHz)                                                                                                                     |
|                                               | ≤ 84 dB/km (at 10 MHz)                                                                                                                    |
|                                               | ≤ 112 dB/km (at 16 MHz)                                                                                                                   |
|                                               | ≤ 119 dB/km (at 20 MHz)                                                                                                                   |
| 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 and real-life conditions

### Ambient conditions

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

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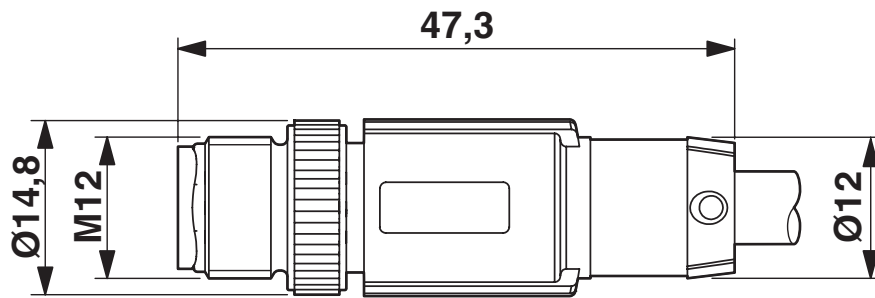


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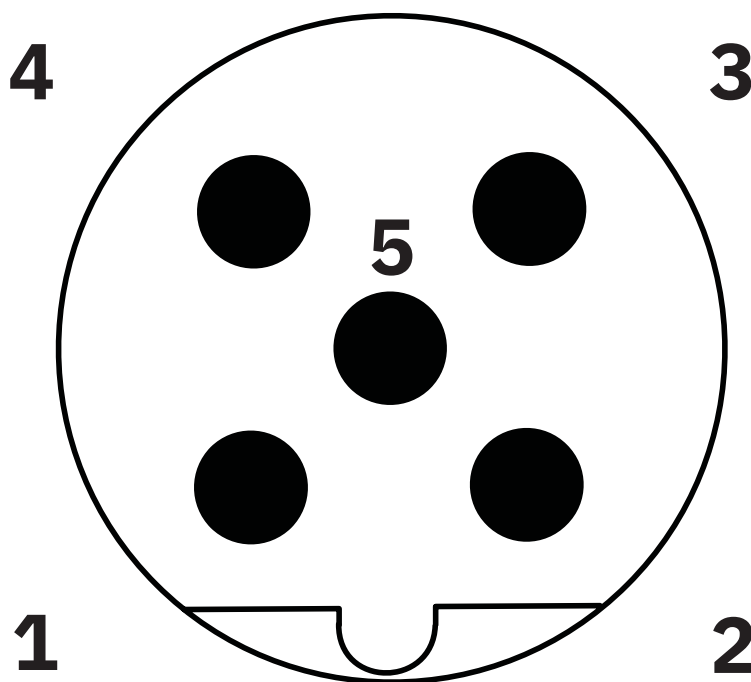
## Drawings

Dimensional drawing



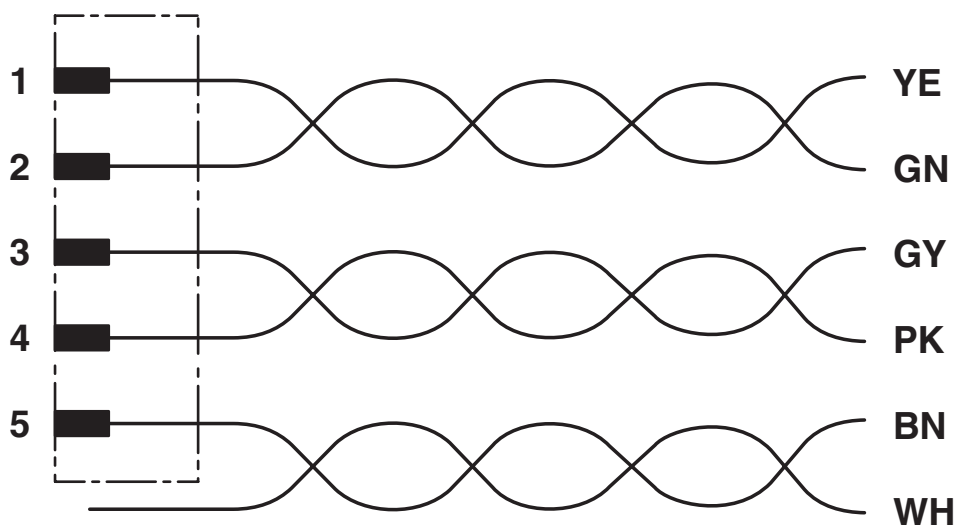
Plug, M12 x 1, straight, shielded

Schematic diagram



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

Circuit diagram



Contact assignment of the M12 plug

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## Approvals

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**EAC-RoHS**

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

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27060307 |
| ECLASS-15.0 | 27060307 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC001855 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 26121600 |
|-------------|----------|

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## Environmental product compliance

### EU RoHS

|                                         |                    |
|-----------------------------------------|--------------------|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |
|-----------------------------------------|--------------------|

### China RoHS

|                                        |                                          |
|----------------------------------------|------------------------------------------|
| Environment friendly use period (EFUP) | EFUP-E                                   |
|                                        | No hazardous substances above the limits |

### EU REACH SVHC

|                                     |                            |
|-------------------------------------|----------------------------|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

### EF3.0 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 1.911 kg CO2e |
|---------|---------------|

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