

## Bus system cable - SAC-4P-M12MS/15,0-960 VA - 1431209

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



Bus system cable, FOUNDATION Fieldbus (31.25 kbps), 3-position, PVC, orange RAL 2003, shielded, Plug straight M12, A-coded, on free cable end, cable length: 15 m



### Key Commercial Data

|              |                                                                                                         |
|--------------|---------------------------------------------------------------------------------------------------------|
| Packing unit | 1 pc                                                                                                    |
| GTIN         | <br>4 046356 431682 |
| GTIN         | 4046356431682                                                                                           |

### Technical data

#### Dimensions

|                                            |       |
|--------------------------------------------|-------|
| Length of cable                            | 15 m  |
| Stripping length of the free conductor end | 50 mm |

#### Ambient conditions

|                                 |                                  |
|---------------------------------|----------------------------------|
| Ambient temperature (operation) | -25 °C ... 90 °C (Plug / socket) |
| Degree of protection            | IP65                             |
|                                 | IP67                             |
|                                 | IP68                             |
|                                 | IP69K                            |

#### 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   | 3                                                                                                           |
| Color handle area     | black                                                                                                       |
| Insulation resistance | ≥ 100 MΩ                                                                                                    |

# Bus system cable - SAC-4P-M12MS/15,0-960 VA - 1431209

## Technical data

### General

|                             |                                 |
|-----------------------------|---------------------------------|
| Coding                      | A - standard                    |
| Signal type/category        | FOUNDATION Fieldbus, 31.25 kbps |
| Status display              | No                              |
| 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                       | Stainless steel                             |
| Sealing material                       | NBR                                         |

### Standards and Regulations

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

### Cable

|                                             |                                                   |
|---------------------------------------------|---------------------------------------------------|
| Cable type                                  | FOUNDATION Fieldbus orange                        |
| Cable type (abbreviation)                   | 960                                               |
| Cable structure                             | 2xAWG18/7 + 1xAWG20/7                             |
| Conductor cross section                     | 2x 0.75 mm <sup>2</sup> (Signal line)             |
|                                             | 1x 0.5 mm <sup>2</sup> (Drain wire)               |
| AWG signal line                             | 18                                                |
| Conductor structure signal line             | 7x 0.40 mm                                        |
| Core diameter including insulation          | 2.24 mm ±0.05 mm                                  |
| Thickness, insulation                       | 0.5 mm                                            |
| Wire colors                                 | Blue, orange                                      |
| Twisted pairs                               | 2 cores to the pair                               |
| Overall twist                               | One pair with one drain wire and fillers for core |
| Shielding                                   | Plastic-coated aluminum foil with a drain wire    |
| Optical shield covering                     | 100 %                                             |
| External sheath, color                      | orange RAL 2003                                   |
| Outer sheath thickness                      | 1 mm                                              |
| External cable diameter D                   | 7.5 mm ±0.25 mm                                   |
| Smallest bending radius, fixed installation | 75 mm                                             |
| Cable weight                                | 56.552 kg/km                                      |
| Tensile strength GRP                        | 260 N                                             |
| Outer sheath, material                      | PVC                                               |

## Bus system cable - SAC-4P-M12MS/15,0-960 VA - 1431209

### Technical data

#### Cable

|                                 |                                                  |
|---------------------------------|--------------------------------------------------|
| Material conductor insulation   | PO (Signal line)                                 |
| Conductor material              | Tin-plated Cu litz wires                         |
| Conductor resistance            | $\leq 19.35 \Omega/\text{km}$ (Signal line)      |
|                                 | $26 \Omega/\text{km}$ (shield)                   |
| Working capacitance             | 78 nF (at 1 kHz)                                 |
| Cable capacity                  | 147 pF/m (at 1 kHz, core/shield)                 |
|                                 | $\leq 3.94 \text{ pF/m}$ (capacitance unbalance) |
| Signal speed                    | 0.66 c                                           |
| Shield attenuation              | 3 dB/km (at 39 kHz)                              |
| Cable impedance                 | $100 \Omega \pm 20 \%$ (At 31.25 kHz)            |
| Conductor inductance            | $0.6233 \mu\text{H/m}$                           |
| Nominal voltage, cable          | 300 V                                            |
| Special properties              | UL standards PLTC-ER and ITC                     |
| Flame resistance                | UL 1685 (CSA FT 4)                               |
|                                 | UL 1685 (vertical tray)                          |
|                                 | UL 1666 (riser)                                  |
| Ambient temperature (operation) | -40 °C ... 105 °C (cable, fixed installation)    |

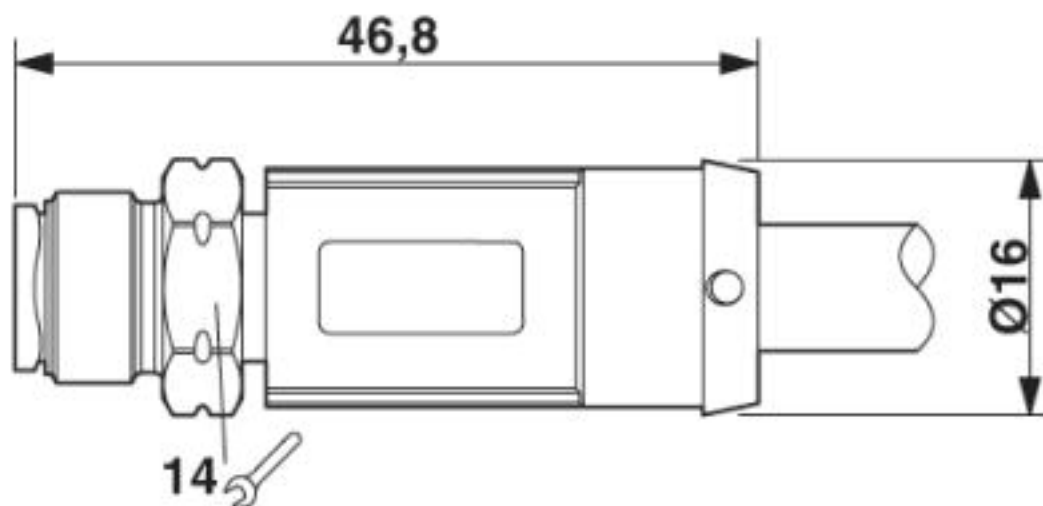
#### Environmental Product Compliance

|            |                                                                                                     |
|------------|-----------------------------------------------------------------------------------------------------|
|            | Lead 7439-92-1                                                                                      |
| China RoHS | Environmentally Friendly Use Period = 50                                                            |
|            | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

### Drawings

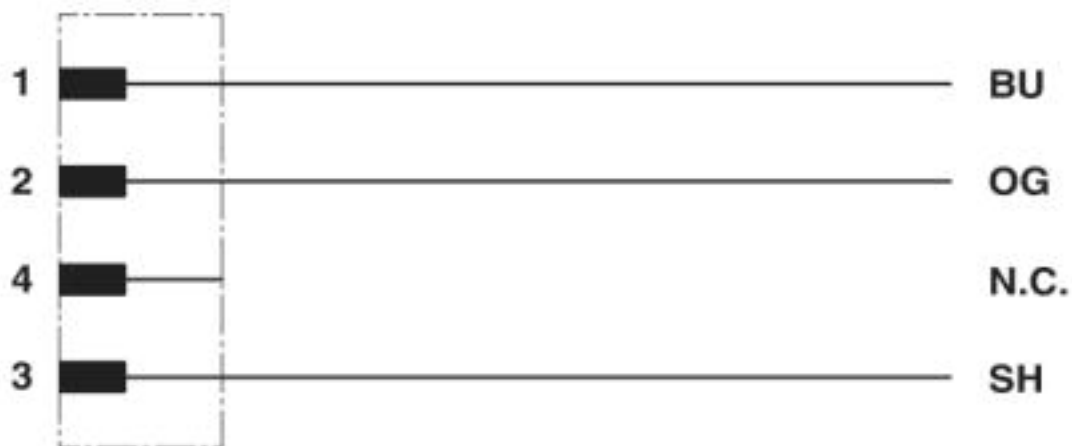
## Bus system cable - SAC-4P-M12MS/15,0-960 VA - 1431209

Dimensional drawing



Plug, M12 x 1, straight, shielded

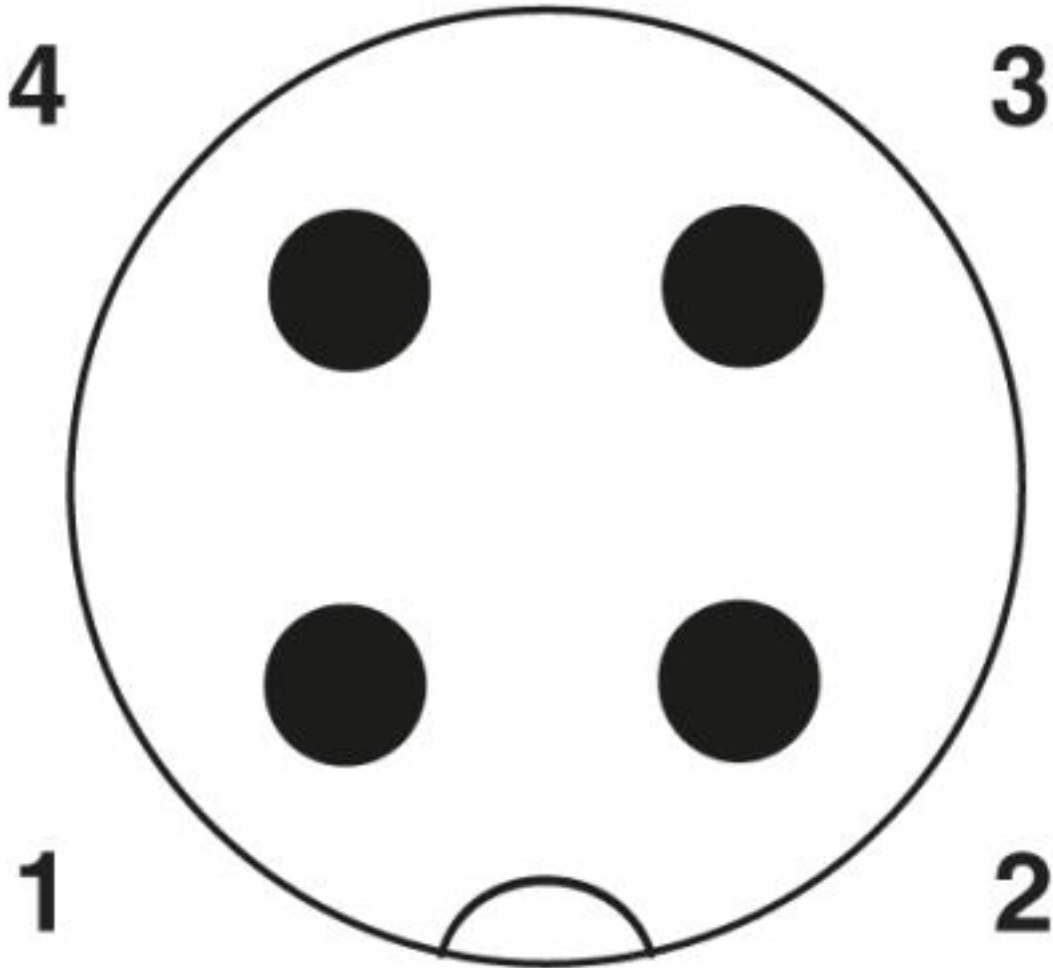
Circuit diagram



Contact assignment of the M12 plug

## Bus system cable - SAC-4P-M12MS/15,0-960 VA - 1431209

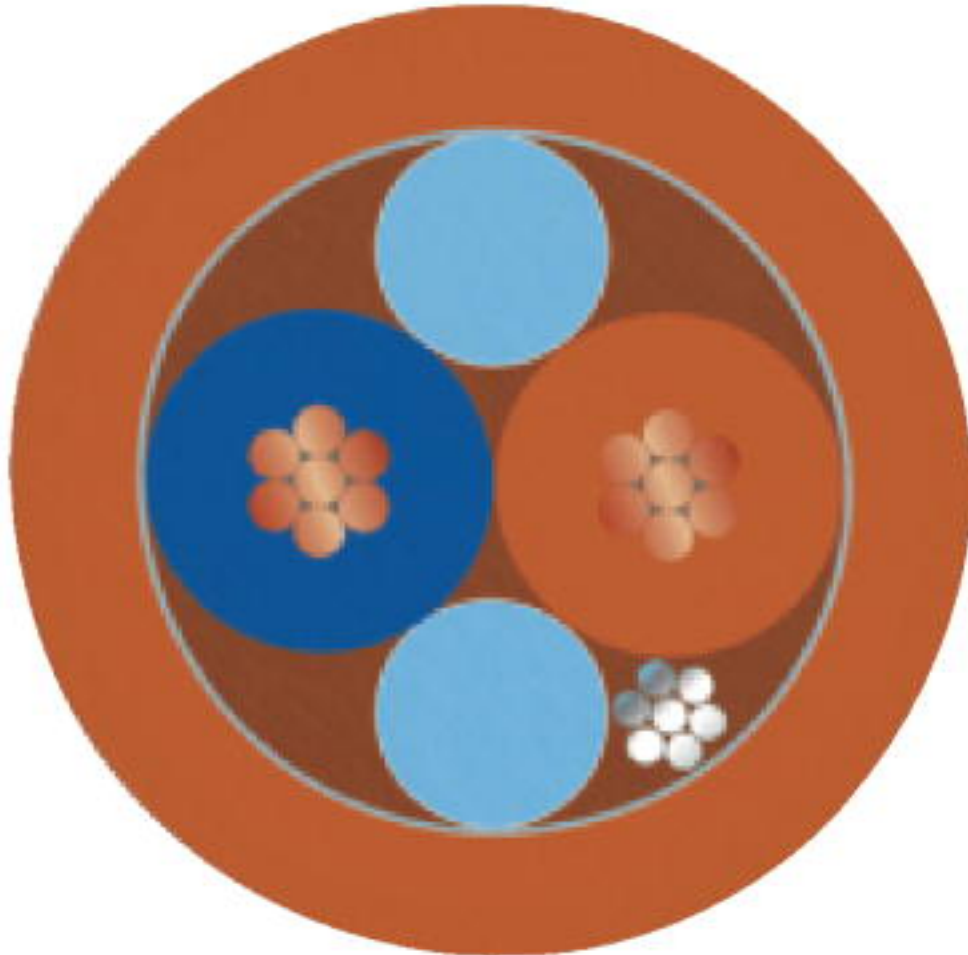
Schematic diagram



Pin assignment M12 plug, 4-pos., A-coded, view plug side

## Bus system cable - SAC-4P-M12MS/15,0-960 VA - 1431209

Cable cross section



FOUNDATION Fieldbus orange [960]

### Approvals

Approvals

---

Approvals

EAC

---

Ex Approvals

---

Approval details

## Bus system cable - SAC-4P-M12MS/15,0-960 VA - 1431209

### Approvals

EAC



RU C-  
DE.BL08.B.00286

Phoenix Contact 2019 © - all rights reserved  
<http://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG  
Flachsmarktstr. 8  
32825 Blomberg  
Germany  
Tel. +49 5235 300  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.com>