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

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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 STK   |
| GTIN         | <br>4 046356 431682 |

### 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

|                       |                                 |
|-----------------------|---------------------------------|
| Rated current at 40°C | 4 A                             |
| Rated voltage         | 250 V                           |
| Number of positions   | 3                               |
| Insulation resistance | ≥ 100 MΩ                        |
| Coding                | A - standard                    |
| Signal type/category  | FOUNDATION Fieldbus, 31.25 kbps |
| Status display        | No                              |
| Overvoltage category  | II                              |
| Degree of pollution   | 3                               |

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## Technical data

### General

|                             |                        |
|-----------------------------|------------------------|
| 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                       | High-grade 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                                      |
| Outer sheath, material                      | PVC   |
| Material conductor insulation               | PO (Signal line)                                  |
| Conductor material                          | Tin-plated Cu litz wires                          |
| Conductor resistance                        | ≤ 19.35 Ω/km (Signal line)                        |
|   | 26 Ω/km (shield)                                  |
| Working capacitance                         | 78 nF (at 1 kHz)                                  |
| Cable capacity                              | 147 pF/m (at 1 kHz, core/shield)                  |

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

### Technical data

#### Cable

|                                 |                                     |
|---------------------------------|-------------------------------------|
|                                 | ≤ 3.94 pF/m (capacitance unbalance) |
| Signal speed                    | 0.66 c                              |
| Shield attenuation              | 3 dB/km (At 39 kHz)                 |
| Cable impedance                 | 100 Ω ±20 % (At 31.25 kHz)          |
| Inductance                      | 0.6233 µH (per meter)               |
| 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                   |

### 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 | 27279218 |

#### ETIM

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

#### UNSPSC

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

### Approvals

#### Approvals

Approvals

EAC

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## Approvals

Ex Approvals

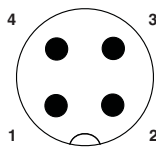
Approvals submitted

## Approval details

EAC

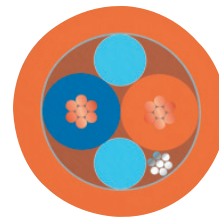
## Drawings

Schematic diagram



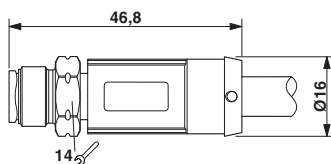
Pin assignment M12 plug, 4-pos., A-coded, view plug side

Cable cross section



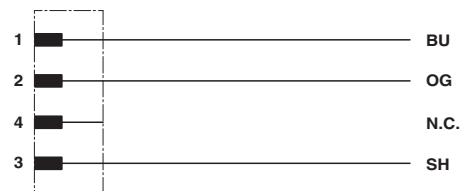
FOUNDATION Fieldbus orange [960]

Dimensional drawing



M12 x 1 plug, straight

Circuit diagram



Contact assignment of the M12 plug



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