

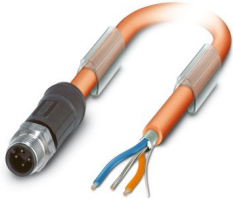
SAC-4P-M12MS/10,0-960 VA - Bus system cable



1431199

<https://www.phoenixcontact.com/us/products/1431199>

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Bus system cable, FOUNDATION Fieldbus (31.25 kbps), 3-position, PVC, orange RAL 2003, shielded, Plug straight M12, coding: A, on free cable end, cable length: 10 m



Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 1431199 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | BF04 |
| Product key | AF1CCG |
| GTIN | 4046356431675 |
| Weight per piece (including packing) | 689.185 g |
| Weight per piece (excluding packing) | 689.185 g |
| Customs tariff number | 85444290 |
| Country of origin | PL |

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Technical data

Notes

| | |
|---------|---|
| General | Further products with variable cable type and variable cable length can be found in the accessories section |
|---------|---|

Product properties

| | |
|----------------------|-------------------------|
| Product type | Data cable preassembled |
| Application | Process technology |
| Sensor type | FOUNDATION Fieldbus |
| Number of positions | 3 |
| No. of cable outlets | 1 |
| Shielded | yes |
| Coding | A |

Insulation characteristics

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

Interfaces

| | |
|----------------------|---------------------------------|
| Bus system | FOUNDATION Fieldbus |
| Signal type/category | FOUNDATION Fieldbus, 31.25 kbps |

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 | 31.25 kbps |

Mechanical properties

Mechanical data

| | |
|-----------------------------|------------|
| Insertion/withdrawal cycles | ≥ 100 |
|-----------------------------|------------|

Material specifications

| | |
|--|-----|
| Flammability rating according to UL 94 | HB |
| Seal material | NBR |

Connection data

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Connection assignment

| | |
|---|------------------------|
| Contact Color (signal designation) Contact (optional) | 1 (Plug) BU (DATA-) |
| | 2 (Plug) OG (DATA+) |
| | 3 (Plug) SR (shield) |

Connector

Connection 1

| | |
|------------------------------------|---|
| Type | Plug straight M12 |
| Number of positions | 3 |
| Coding type | A (Standard) |
| Material | CuSn (Contact) |
| | Ni/Au (Contact surface) |
| | TPU GF (Contact carrier) |
| | TPU, hardly inflammable, self-extinguishing (Grip body) |
| Stainless steel (Screw connection) | |
| Ambient temperature (operation) | -25 °C ... 90 °C |

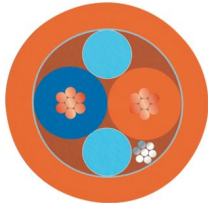
Connection 2

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

Cable/line

| | |
|--------------|------|
| Cable length | 10 m |
|--------------|------|

FOUNDATION Fieldbus orange [960]

| | |
|---------------------------------|--|
| Dimensional drawing |  |
| Cable weight | 56.552 kg/km |
| Number of positions | 2 |
| Shielded | yes |
| Cable type | FOUNDATION Fieldbus orange [960] |
| Conductor structure | 2xAWG18/7 + 1xAWG20/7 |
| Signal speed | 0.66 c |
| Conductor structure signal line | 7x 0.40 mm |
| AWG signal line | 18 |
| Conductor cross-section | 2x 0.75 mm ² (Signal line) |
| | 1x 0.5 mm ² (Drain wire) |
| Wire diameter incl. insulation | 2.24 mm ±0.05 mm |
| External cable diameter | 7.50 mm ±0.25 mm |

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| | |
|---|---|
| Outer sheath, material | PVC |
| External sheath, color | orange RAL 2003 |
| Conductor material | Tin-plated Cu litz wires |
| Material wire insulation | PO (Signal line) |
| Single wire, color | blue, orange |
| Thickness, insulation | 0.50 mm |
| Thickness, outer sheath | 1.00 mm |
| Twisted pairs | 2 cores to the pair |
| Overall twist | One pair with one drain wire and fillers for core |
| Optical shield covering | 100 % |
| Max. conductor resistance | ≤ 19.35 Ω/km (Signal line) |
| | 26 Ω/km (shield) |
| Cable capacity | 147 pF/m (at 1 kHz, core/shield) |
| | ≤ 3.94 pF/m (capacitance unbalance) |
| Working capacitance | 78 nF (at 1 kHz) |
| Cable impedance | 100 Ω ±20 % (At 31.25 kHz) |
| Nominal voltage, cable | 300 V |
| Smallest bending radius, fixed installation | 75 mm |
| Tensile strength | 260 N |
| Shield attenuation | 3.00 dB/km (at 39 kHz) |
| Flame resistance | UL 1685 (CSA FT 4) |
| | UL 1685 (vertical tray) |
| | UL 1666 (riser) |
| Special properties | UL standards PLTC-ER and ITC |
| Ambient temperature (operation) | -40 °C ... 105 °C (cable, fixed installation) |

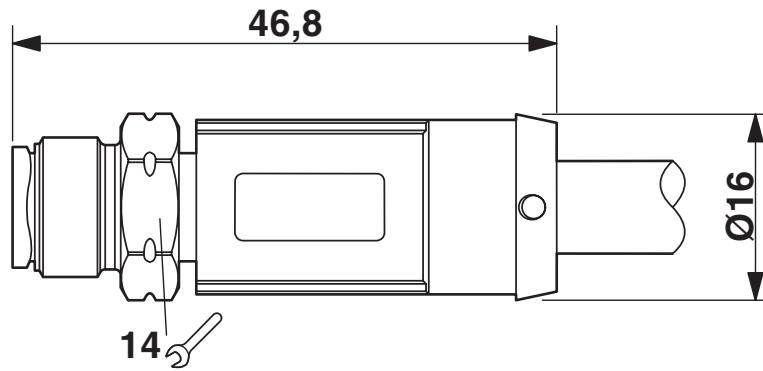
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Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

Schematic diagram



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

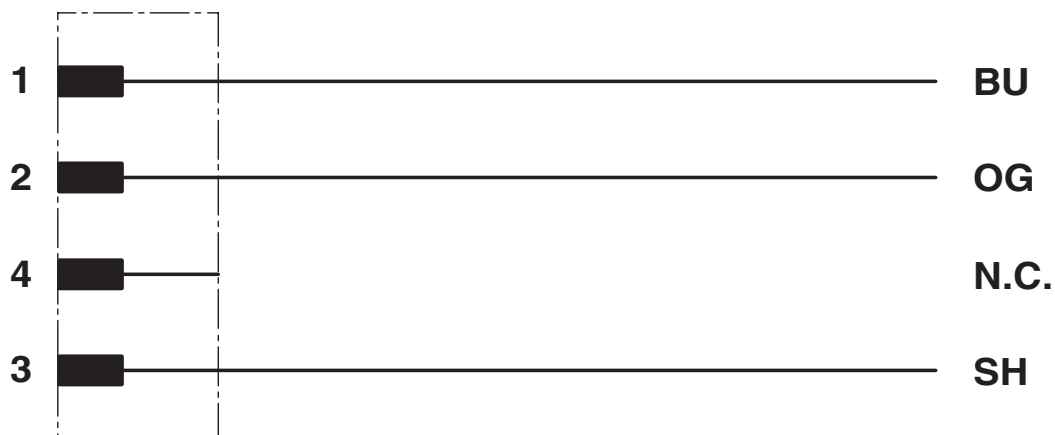
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Circuit diagram



Contact assignment of the M12 plug

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1431199>



EAC-RoHS

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



cULus Listed

Approval ID: E221474

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Classifications

ECLASS

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

ETIM

| | |
|-----------|----------|
| ETIM 10.0 | 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% |
|-------------------------------------|----------------------------|

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Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com