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# Sensor/actuator cable - SAC-4P-M12MS/ 6,0-PUR/M12FS

1504628

https://www.phoenixcontact.com/gb/products/1504628

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Sensor/actuator cable, 4-position, PUR halogen-free, black-gray RAL 7021, Plug straight M12, coding: A, on Socket straight M12, coding: A, cable length: 6 m

## Commercial Data

| | |
|---|---|
| Item number | 1504628 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales Key | BF1CCA |
| Product Key | BF1CCA |
| GTIN | 4017918840679 |
| Weight per Piece (including packing) | 170.2 g |
| Weight per Piece (excluding packing) | 170.2 g |
| Customs tariff number | 85444290 |
| Country of origin | DE |

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## Technical Data

### Product properties

| | |
|---|---|
| Number of positions | 4 |
| No. of cable outlets | 1 |
| Shielded | no |
| Coding | A - standard |

Insulation characteristics

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

### Electrical properties

| | |
|---|---|
| Contact resistance | ≤ 5 mΩ |
| Insulation resistance | ≥ 100 MΩ |
| Nominal voltage $U_N$ | 250 V AC |
| | 250 V DC |
| Nominal current $I_N$ | 4 A |

### LED signaling

| | |
|---|---|
| Status display | No |
| Status display present | No |

### Material specifications

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

### Connector

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

Header 1

| | |
|---|---|
| Head design | Plug |
| Head cable outlet | straight |
| Head thread type | M12 |
| Coding | A |

Head 2

| | |
|---|---|
| Head design | Socket |
| Head cable outlet | straight |
| Head thread type | M12 |

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| | |
|---|---|
| Coding | A |

## Cable / line

| | |
|---|---|
| Cable length | 6 m |
| Cable weight | 30 kg/km |
| UL AWM Style | 20549 / 10493 (80°C/300 V) |
| Number of positions | 4 |
| Shielded | no |
| Cable type | PUR halogen-free black [PUR] |
| Conductor structure signal line | 42x 0.10 mm |
| AWG signal line | 22 |
| Conductor cross section | 4x 0.34 mm² |
| Wire diameter incl. insulation | 1.27 mm ±0.02 mm |
| External cable diameter | 4.2 mm ±0.15 mm |
| Outer sheath, material | PUR |
| External sheath, color | black-gray RAL 7021 |
| Conductor material | Bare Cu litz wires |
| Material wire insulation | PP |
| Single wire, color | brown, white, blue, black |
| Thickness, insulation | ≥ 0.21 mm |
| Thickness, outer sheath | approx. 0.5 mm |
| Overall twist | 4 wires, twisted |
| Max. conductor resistance | ≤ 58 Ω/km |
| Insulation resistance | ≥ 1 GΩ*km |
| Nominal voltage, cable | ≤ 300 V |
| Test voltage | ≥ 3000 V |
| Minimum bending radius, fixed installation | 5 x D |
| Minimum bending radius, flexible installation | 10 x D |
| Max. bending cycles | 10000000 |
| Halogen-free | in accordance with DIN VDE 0472 part 815 |
| | in accordance with DIN EN 50267-2-1 |
| Flame resistance | in accordance with UL 758/1581 FT2 |
| | DIN EN 60332-2-2 (20 s) |
| Resistance to oil | in accordance with DIN EN 60811-2-1 |
| Other resistance | Highly resistant to acids, alkaline solutions and solvents |
| | hydrolysis and microbe resistant |
| | partly UV-resistant in accordance with DIN EN ISO 4892-2-A |
| | Low adhesion |
| | abrasion-resistant |
| Special properties | Flexible cable conduit capable |
| | Silicone-free |
| | Free of substances which would hinder coating with paint or varnish |
| | flexible |

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| | |
|---|---|
| Ambient temperature (operation) | -40 °C ... 80 °C (cable, fixed installation) |
| | -25 °C ... 80 °C (Cable, flexible installation) |
| Cable weight | 39 kg/km |

Cable structure

| | |
|---|---|
| Cable abbreviation | LiYY-11Y |
| Cable type | PUR/PVC black |
| External cable diameter | 5.20 mm |
| Outer sheath, material | PUR |
| External sheath, color | black RAL 9005 |
| Material, inner sheath | PVC |
| Conductor material | Bare Cu litz wires |
| Conductor structure signal line | 42x 0.10 mm |
| AWG signal line | 22 |
| Material wire insulation | PVC |
| Thickness, insulation | ≥ 0.3 mm (Core insulation) |
| Wire diameter incl. insulation | 1.5 mm ±0.05 mm |
| Single wire, color | brown, white, blue, black |
| Overall twist | 4 wires, twisted |

Electrical properties

| | |
|---|---|
| Nominal voltage, cable | 300 V |
| Test voltage, cable | 3000 V |
| Conductor resistance | ≤ 58 Ω/km |
| Cable insulation resistance | ≥ 1 GΩ*km |

Mechanical properties

| | |
|---|---|
| Smallest bending radius, fixed installation | 52 mm |
| Smallest bending radius, movable installation | 52 mm |
| Number of bending cycles | 2000000 |
| Bending radius | 52 mm |
| Traversing path | 5 m |
| Traversing rate | 3 m/s |

Bending cycles

| | |
|---|---|
| Smallest bending radius, fixed installation | 52 mm |
| Smallest bending radius, movable installation | 52 mm |
| Number of bending cycles | 2000000 |
| Bending radius | 52 mm |
| Traversing path | 5 m |
| Traversing rate | 3 m/s |

## Environmental and real-life conditions

Ambient conditions

| | |
|---|---|
| | IP65 |

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| | |
|---|---|
| Degree of protection | IP67 |
| | IP68 |
| Ambient temperature (operation) | -25 °C ... 90 °C (Plug / socket) |
| | -40 °C ... 80 °C (cable, fixed installation) |
| | -5 °C ... 80 °C (Cable, flexible installation) |

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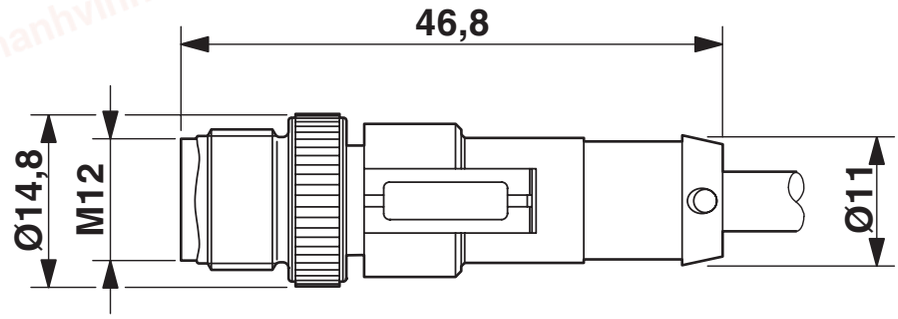
# Sensor/actuator cable - SAC-4P-M12MS/ 6,0-PUR/M12FS

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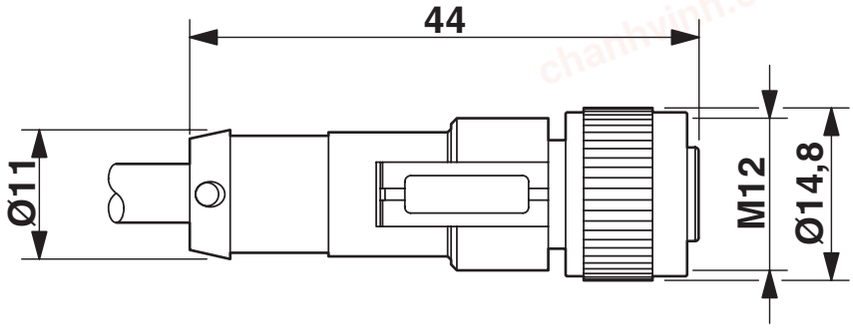
## Drawings

Dimensional drawing




Plug, M12 x 1, straight, shielded

Dimensional drawing




M12 x 1 socket, straight

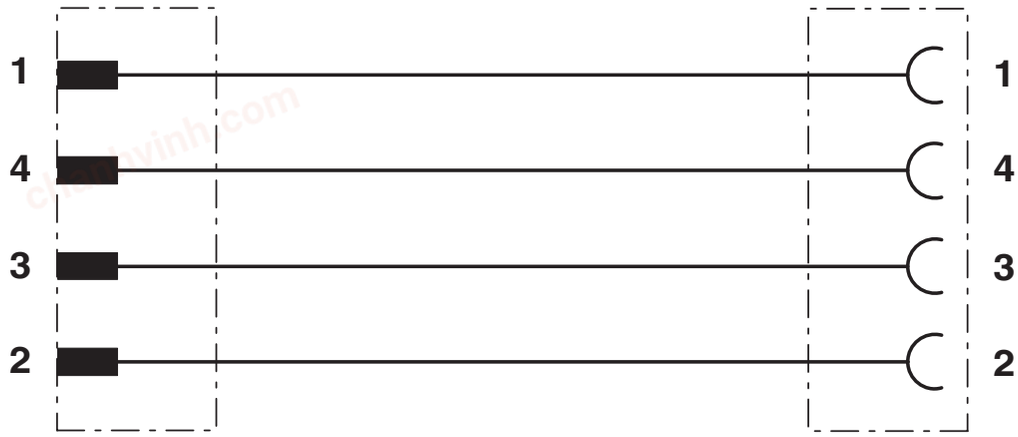
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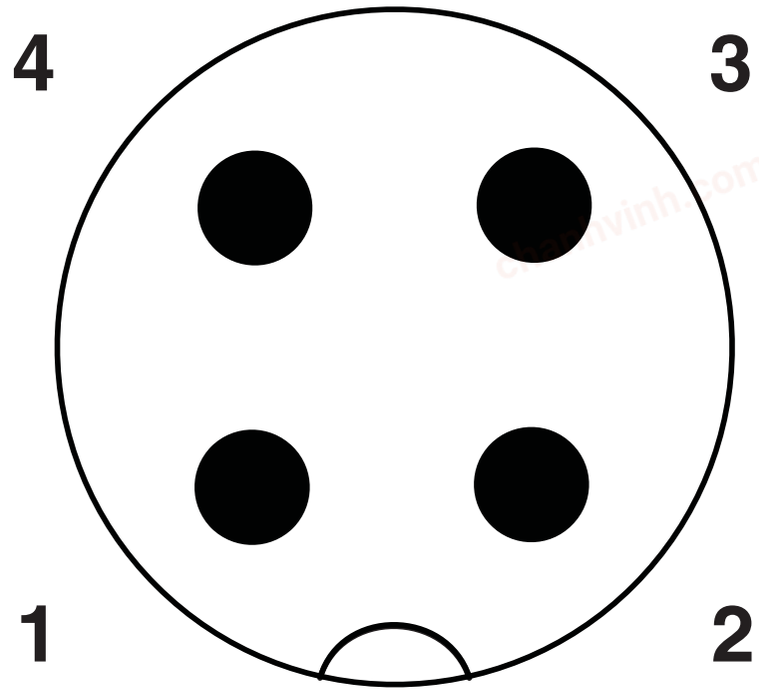
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Circuit diagram




Contact assignment of the M12 connector and the M12 socket

Schematic diagram




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

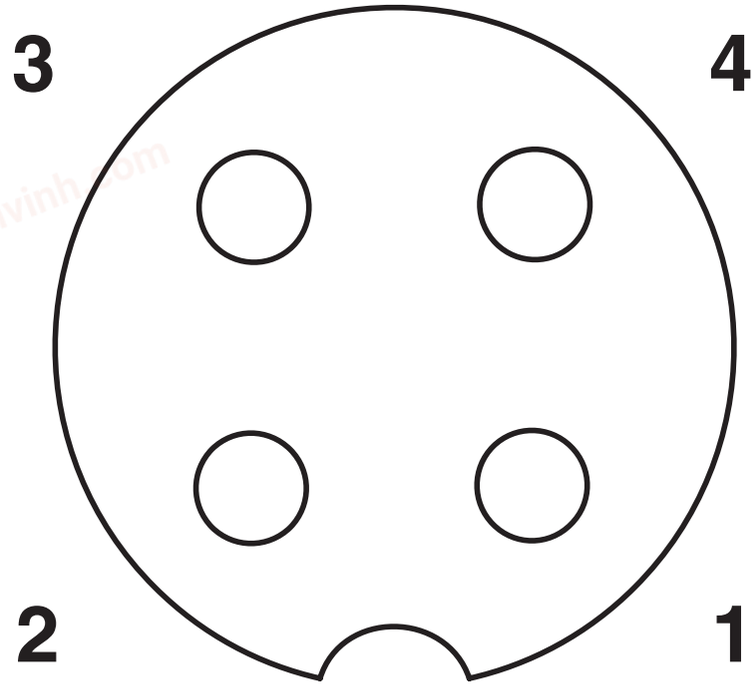
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Schematic diagram




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

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## Approvals

**EAC**

**UL Listed**

| | Nominal Voltage $U_N$ | Nominal Current $I_N$ | Cross Section AWG | Cross Section $mm^2$ |
|---|---|---|---|---|
| | 300 V | 4 A | - | - |

**cUL Listed**

| | Nominal Voltage $U_N$ | Nominal Current $I_N$ | Cross Section AWG | Cross Section $mm^2$ |
|---|---|---|---|---|
| | 300 V | 4 A | - | - |

**EAC**

**cULus Listed**

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# Sensor/actuator cable - SAC-4P-M12MS/ 6,0-PUR/M12FS

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## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-9.0 | 27060311 |
| ECLASS-10.0.1 | 27060311 |
| ECLASS-11.0 | 27060311 |

### ETIM

| | |
|---|---|
| ETIM 8.0 | EC001855 |

### UNSPSC

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

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## Environmental Product Compliance

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

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