

SAC-4P-M12Y/28X-9XM12F OD RI - Sensor/actuator cable



1421454  
<https://www.phoenixcontact.com/us/products/1421454>

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Sensor/actuator cable, 4-position, PE-X halogen-free, black-gray RAL 7021, Plug straight M12, coding: A, on Plug straight M12, coding: A, M12 Y-distributor, for outdoor applications, with high-grade steel knurl

Your advantages

- Easy and safe: 100 % electrically tested plug-in components
- Robust throughout: resistant to oil, UV, and ozone, withstands temperatures from -40°C ... +105°C

Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1421454                        |
| Packing unit                         | 1 pc                           |
| Minimum order quantity               | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | BF03                           |
| Product key                          | BF1CCA                         |
| GTIN                                 | 4055626263922                  |
| Weight per piece (including packing) | 566.9 g                        |
| Weight per piece (excluding packing) | 545 g                          |
| Customs tariff number                | 85444290                       |
| Country of origin                    | PL                             |

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## Technical data

### Product properties

|                      |                       |
|----------------------|-----------------------|
| Product type         | Sensor/actuator cable |
| Application          | External areas        |
| Number of positions  | 4                     |
| No. of cable outlets | 1                     |
| Shielded             | no                    |
| Coding               | A                     |

### Insulation characteristics

|                     |   |
|---------------------|---|
| Degree of pollution | 3 |
|---------------------|---|

### Material specifications

|                                        |                 |
|----------------------------------------|-----------------|
| Flammability rating according to UL 94 | V0              |
| Seal material                          | FPM             |
| Material of grip body                  | PP              |
| Contact material                       | CuSn            |
| Contact surface material               | Ni/Au           |
| Contact carrier material               | PP              |
| Material for screw connection          | Stainless steel |

### Electrical properties

|                       |                            |
|-----------------------|----------------------------|
| Insulation resistance | $\geq 100 \text{ M}\Omega$ |
| Nominal voltage $U_N$ | 250 V AC                   |
|                       | 250 V DC                   |
| Nominal current $I_N$ | 4 A                        |

### Mechanical properties

#### Mechanical data

|                             |            |
|-----------------------------|------------|
| Insertion/withdrawal cycles | $\geq 100$ |
|-----------------------------|------------|

### Signaling

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

### Connection data

#### Conductor connection

|                   |                        |
|-------------------|------------------------|
| Tightening torque | 0.4 Nm (M12 connector) |
|-------------------|------------------------|

### Connector

#### Connection 1

|      |                   |
|------|-------------------|
| Type | Plug straight M12 |
|------|-------------------|

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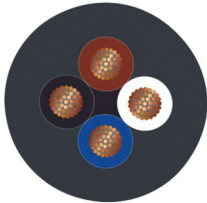
|                     |   |
|---------------------|---|
| Number of positions | 4 |
| Coding type         | A |

## Connection 2

|                     |                   |
|---------------------|-------------------|
| Type                | Plug straight M12 |
| Number of positions | 4                 |
| Coding type         | A                 |

## Cable/line

### PE-X black [28X]

|                                               |                                                                                     |  |
|-----------------------------------------------|-------------------------------------------------------------------------------------|--|
| Dimensional drawing                           |  |  |
| Cable weight                                  | 44 kg/km                                                                            |  |
| Number of positions                           | 4                                                                                   |  |
| Shielded                                      | no                                                                                  |  |
| Cable type                                    | PE-X black [28X]                                                                    |  |
| Conductor structure signal line               | 28x 0.15 mm                                                                         |  |
| AWG signal line                               | 20                                                                                  |  |
| Conductor cross section                       | 4x 0.5 mm <sup>2</sup> (Signal line)                                                |  |
| Wire diameter incl. insulation                | 1.6 mm ±0.05 mm (Signal line)                                                       |  |
| External cable diameter                       | 5.20 mm ±0.2 mm                                                                     |  |
| Outer sheath, material                        | PE-X                                                                                |  |
| External sheath, color                        | black-gray RAL 7021                                                                 |  |
| Conductor material                            | Bare Cu litz wires                                                                  |  |
| Material wire insulation                      | PE-X                                                                                |  |
| Single wire, color                            | brown, white, blue, black                                                           |  |
| Thickness, insulation                         | approx. 0.30 mm (Core insulation)                                                   |  |
|                                               | approx. 0.60 mm (Outer cable sheath)                                                |  |
| Overall twist                                 | 4 wires, twisted                                                                    |  |
| Length of twist, overall twist                | 61.6 mm                                                                             |  |
| Max. conductor resistance                     | ≤ 39 Ω/km (at 20 °C)                                                                |  |
| Insulation resistance                         | ≥ 100 MΩ*km (at 20 °C)                                                              |  |
| Nominal voltage, cable                        | ≤ 300 V AC                                                                          |  |
| Test voltage                                  | ≥ 3000 V AC                                                                         |  |
| Smallest bending radius, fixed installation   | 26 mm                                                                               |  |
| Smallest bending radius, movable installation | 52 mm                                                                               |  |
| Max. bending cycles                           | 2000000                                                                             |  |
| Halogen-free                                  | in accordance with DIN VDE 0472 part 815                                            |  |

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|                                 |                                                  |
|---------------------------------|--------------------------------------------------|
| Flame resistance                | according to DIN 60332-1-2                       |
|                                 | according to DIN EN 50266-2-5                    |
|                                 | according to IEC 60332-3-25 (bunched fire test)  |
| Fume corrosiveness              | according to IEC 60754                           |
| Concentration of fumes          | according to DIN EN 61034                        |
| Resistance to oil               | in accordance with DIN EN 60811-2-1              |
| Other resistance                | UV resistant (according to DIN VDE 0276-605)     |
| Special properties              | Irradiated                                       |
| Ambient temperature (operation) | -40 °C ... 105 °C (cable, fixed installation)    |
|                                 | -15 °C ... 105 °C (Cable, flexible installation) |
|                                 | 120 °C (at 48 h - see test report 19233)         |
|                                 | 180 °C (at 48 h - see test report 19233)         |

## Environmental and real-life conditions

### Ambient conditions

|                                 |                                                                                   |
|---------------------------------|-----------------------------------------------------------------------------------|
| Ambient temperature (operation) | -40 °C ... 105 °C (Plug / socket)                                                 |
|                                 | -40 °C ... 85 °C (On sudden changes in temperature (according to IEC 60512-11-4)) |
|                                 | 120 °C (at 48 h - see test report 19233)                                          |

## Standards and regulations

### M12

|                          |                 |
|--------------------------|-----------------|
| Standard designation     | M12 connector   |
| Standards/specifications | IEC 61076-2-101 |

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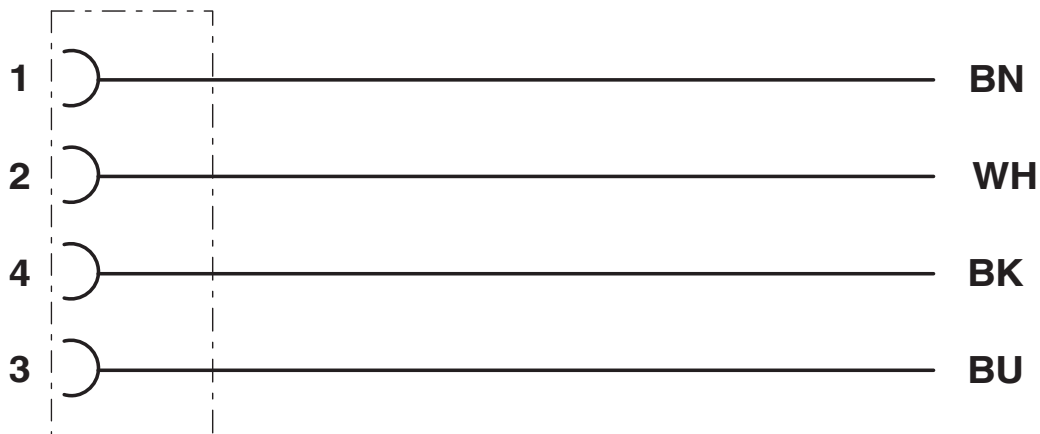


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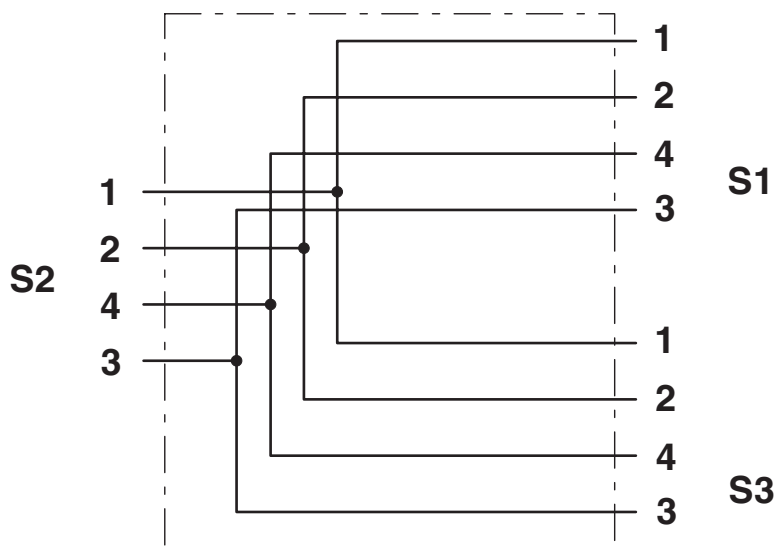
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## Drawings

Circuit diagram



Circuit diagram



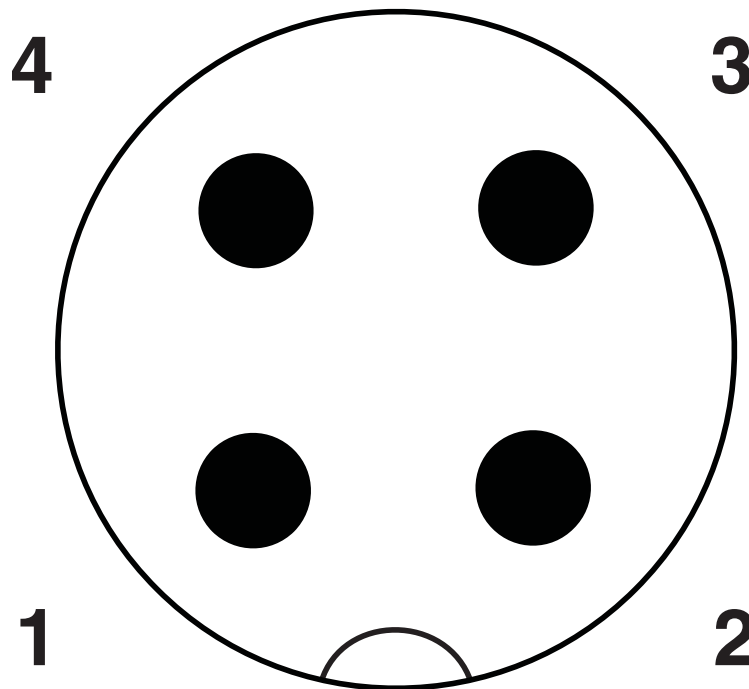
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Schematic diagram



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

Circuit diagram

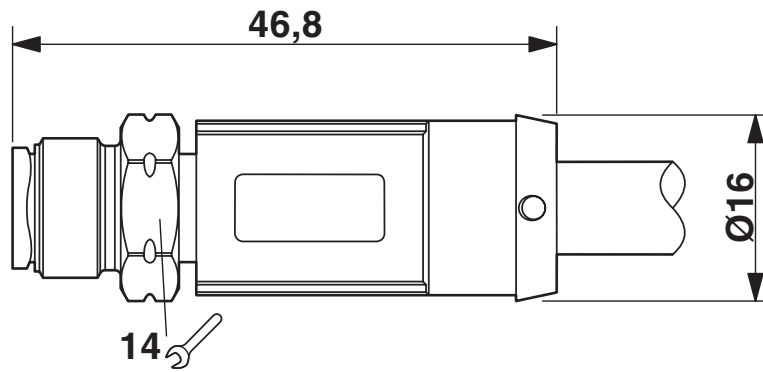


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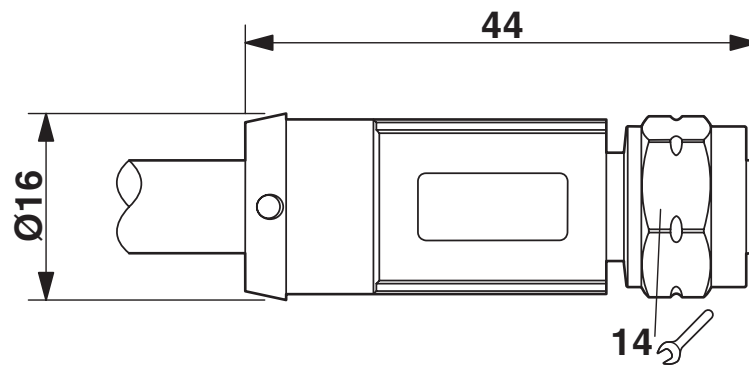
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Dimensional drawing



Plug, M12 x 1, straight, shielded

Dimensional drawing



M12 x 1 socket, straight

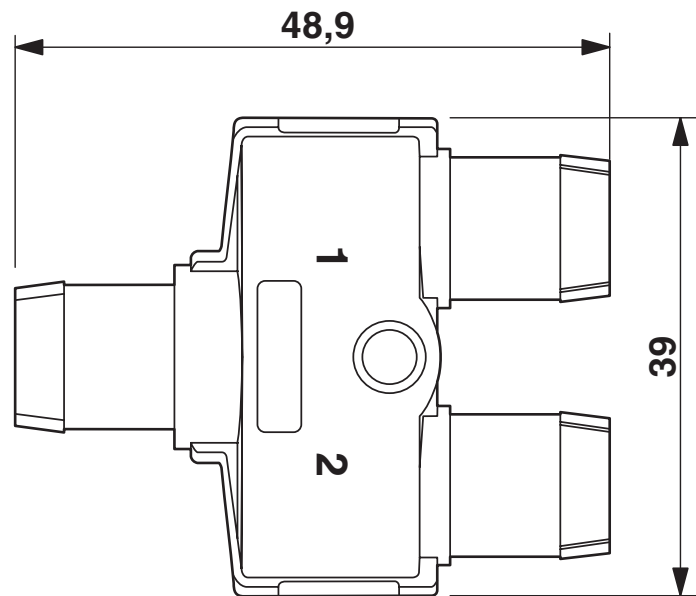
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Dimensional drawing



Y-distributor

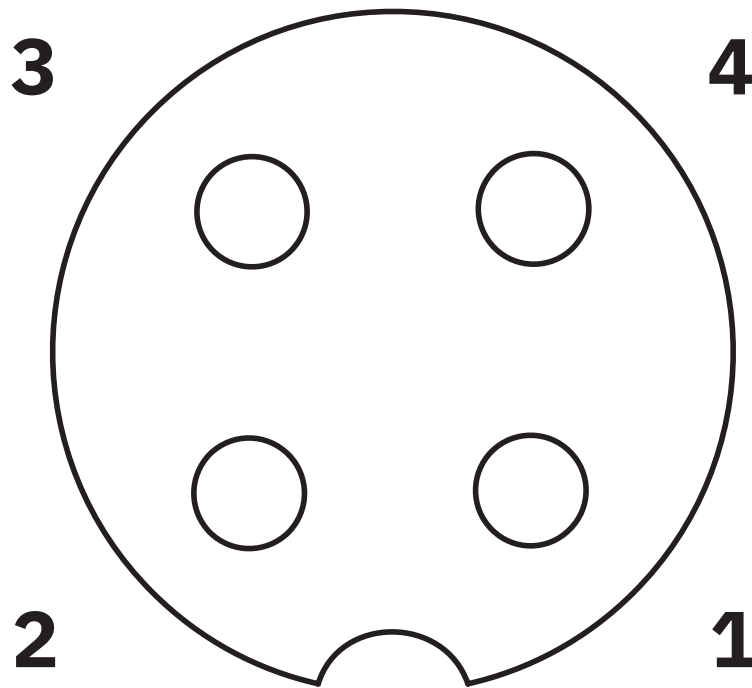
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Schematic diagram



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

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Classifications

ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27060311 |
| ECLASS-12.0 | 27060311 |
| ECLASS-13.0 | 27060311 |

ETIM

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