

## Sensor/actuator cable - SAC-4P- 5,0-28X/M12FS OD - 1454082

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Sensor/actuator cable, 4-position, PE-X halogen-free, black-gray RAL 7021, free cable end, on Socket straight M12, coding: A, cable length: 5 m, for outdoor applications, with high-grade steel knurl

### Your advantages

- ✓ Easy and safe: 100% electrically tested plug-in components
- ✓ Corrosion protection for all exposed metal parts, thanks to the use of stainless steel type 1.4404
- ✓ Robust throughout: resistant to oil, UV, and ozone, withstands temperatures from -40°C to +105°C

RoHS

### Key Commercial Data

|              |                                                                                      |
|--------------|--------------------------------------------------------------------------------------|
| Packing unit | 1 pc                                                                                 |
| GTIN         |  |
| GTIN         | 4046356568692                                                                        |

### Technical data

#### Dimensions

|                 |     |
|-----------------|-----|
| Length of cable | 5 m |
|-----------------|-----|

#### 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)) |
| Degree of protection            | IP65                                                                              |
|                                 | IP67                                                                              |
|                                 | IP68                                                                              |
|                                 | IP69K                                                                             |

#### General

|                       |          |
|-----------------------|----------|
| Rated current at 40°C | 4 A      |
| Rated voltage         | 250 V AC |
|                       | 250 V DC |

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## Technical data

### General

|                              |                               |
|------------------------------|-------------------------------|
| Number of positions          | 4                             |
| Insulation resistance        | $\geq 100 \text{ M}\Omega$    |
| Coding                       | A - standard                  |
| Standards/regulations        | M12 connector IEC 61076-2-101 |
| Status display               | No                            |
| Protective circuit/component | unwired                       |
| Overvoltage category         | II                            |
| Degree of pollution          | 3                             |
| Insertion/withdrawal cycles  | $\geq 100$                    |
| Torque                       | 0.4 Nm (M12 connector)        |

### Material

|                                        |                 |
|----------------------------------------|-----------------|
| Flammability rating according to UL 94 | V0              |
| Contact material                       | CuSn            |
| Contact surface material               | Ni/Au           |
| Contact carrier material               | PP              |
| Material of grip body                  | PP              |
| Material, knurls                       | Stainless steel |
| Sealing material                       | FPM             |

### Standards and Regulations

|                                        |                               |
|----------------------------------------|-------------------------------|
| Standards/specifications               | M12 connector IEC 61076-2-101 |
| Flammability rating according to UL 94 | V0                            |

### Cable

|                                               |                                      |
|-----------------------------------------------|--------------------------------------|
| Cable type                                    | PE-X black                           |
| Cable type (abbreviation)                     | 28X                                  |
| Cable abbreviation                            | Li2X2X                               |
| Conductor cross section                       | 4x 0.5 mm <sup>2</sup> (Signal line) |
| AWG signal line                               | 20                                   |
| Conductor structure signal line               | 28x 0.15 mm                          |
| Core diameter including insulation            | 1.6 mm $\pm$ 0.05 mm (Signal line)   |
| Thickness, insulation                         | approx. 0.3 mm (Core insulation)     |
|                                               | approx. 0.6 mm (Outer cable sheath)  |
| Wire colors                                   | brown, white, blue, black            |
| Overall twist                                 | 4 wires, twisted                     |
| Length of twist, overall twist                | 61.6 mm                              |
| External sheath, color                        | black-gray RAL 7021                  |
| External cable diameter D                     | 5.2 mm $\pm$ 0.2 mm                  |
| Smallest bending radius, fixed installation   | 26 mm                                |
| Smallest bending radius, movable installation | 52 mm                                |
| Number of bending cycles                      | 2000000                              |

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### Technical data

#### Cable

|                                 |                                                  |
|---------------------------------|--------------------------------------------------|
| Bending radius                  | 52 mm                                            |
| Traversing path                 | 10 m                                             |
| Traversing rate                 | 3 m/s                                            |
| Acceleration                    | 10 m/s <sup>2</sup>                              |
| Cable weight                    | 44 kg/km                                         |
| Outer sheath, material          | PE-X                                             |
| Material conductor insulation   | PE-X                                             |
| Conductor material              | Bare Cu litz wires                               |
| Insulation resistance           | ≥ 100 MΩ*km (at 20 °C)                           |
| Conductor resistance            | ≤ 39 Ω/km (at 20 °C)                             |
| Nominal voltage, cable          | ≤ 300 V AC                                       |
| Test voltage, cable             | ≥ 3000 V AC                                      |
| Special properties              | Irradiated                                       |
| Flame resistance                | according to DIN 60332-1-2                       |
|                                 | according to DIN EN 50266-2-5                    |
|                                 | according to IEC 60332-3-25 (bunched fire test)  |
| Halogen-free                    | in accordance with DIN VDE 0472 part 815         |
| Resistance to oil               | in accordance with DIN EN 60811-2-1              |
| Other resistance                | UV resistant according to DIN VDE 0276-605       |
| Concentration of fumes          | according to DIN EN 61034                        |
| Fume corrosiveness              | according to IEC 60754                           |
| Ambient temperature (operation) | -40 °C ... 105 °C (cable, fixed installation)    |
|                                 | -15 °C ... 105 °C (cable, flexible installation) |

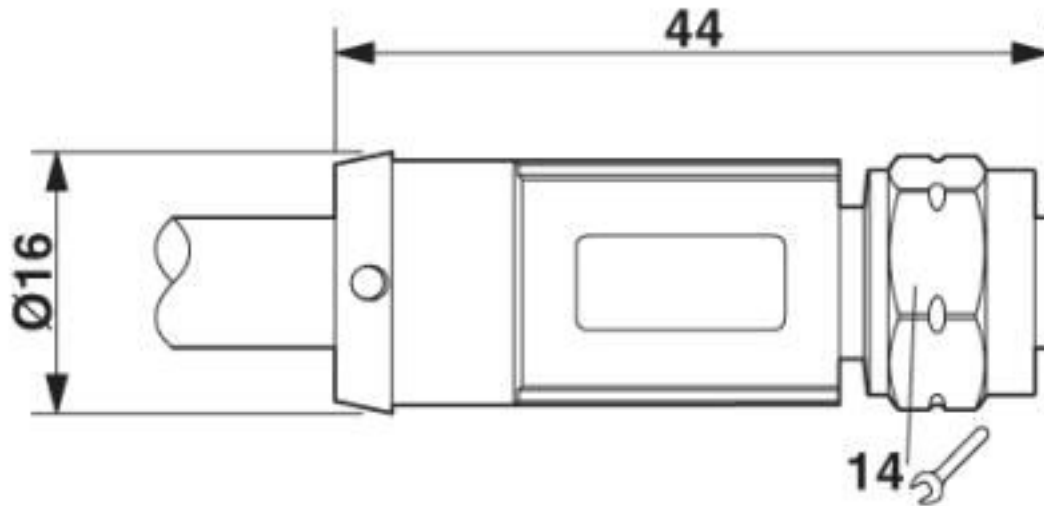
#### Environmental Product Compliance

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

### Drawings

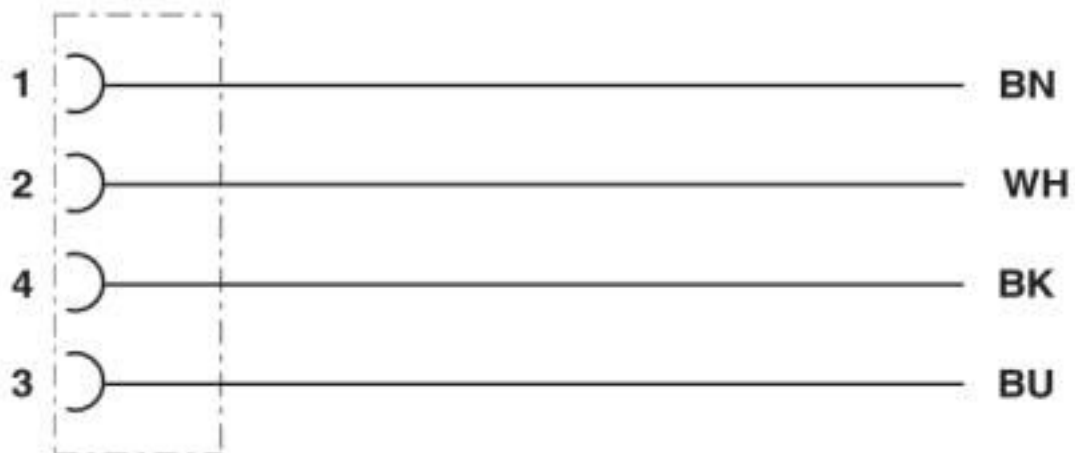
## Sensor/actuator cable - SAC-4P- 5,0-28X/M12FS OD - 1454082

Dimensional drawing



M12 x 1 socket, straight

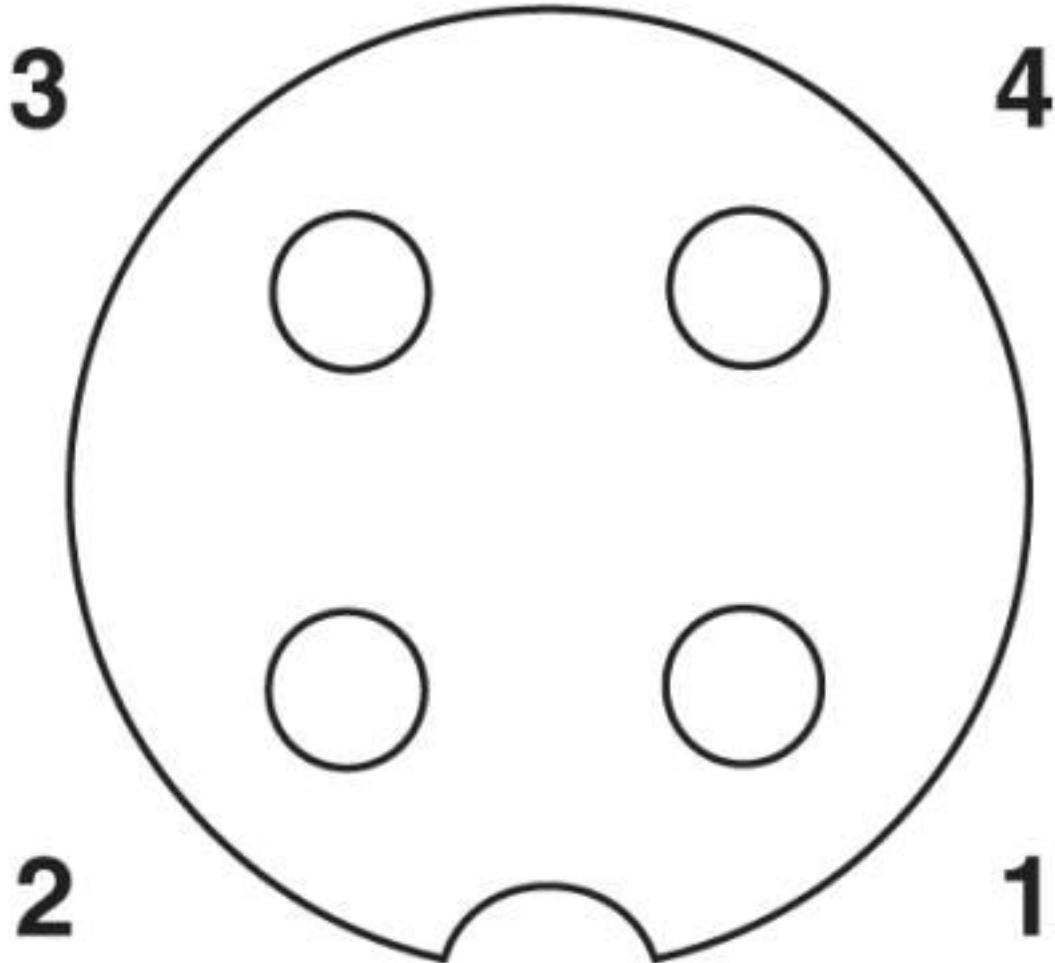
Circuit diagram



Contact assignment of the M12 socket

## Sensor/actuator cable - SAC-4P- 5,0-28X/M12FS OD - 1454082

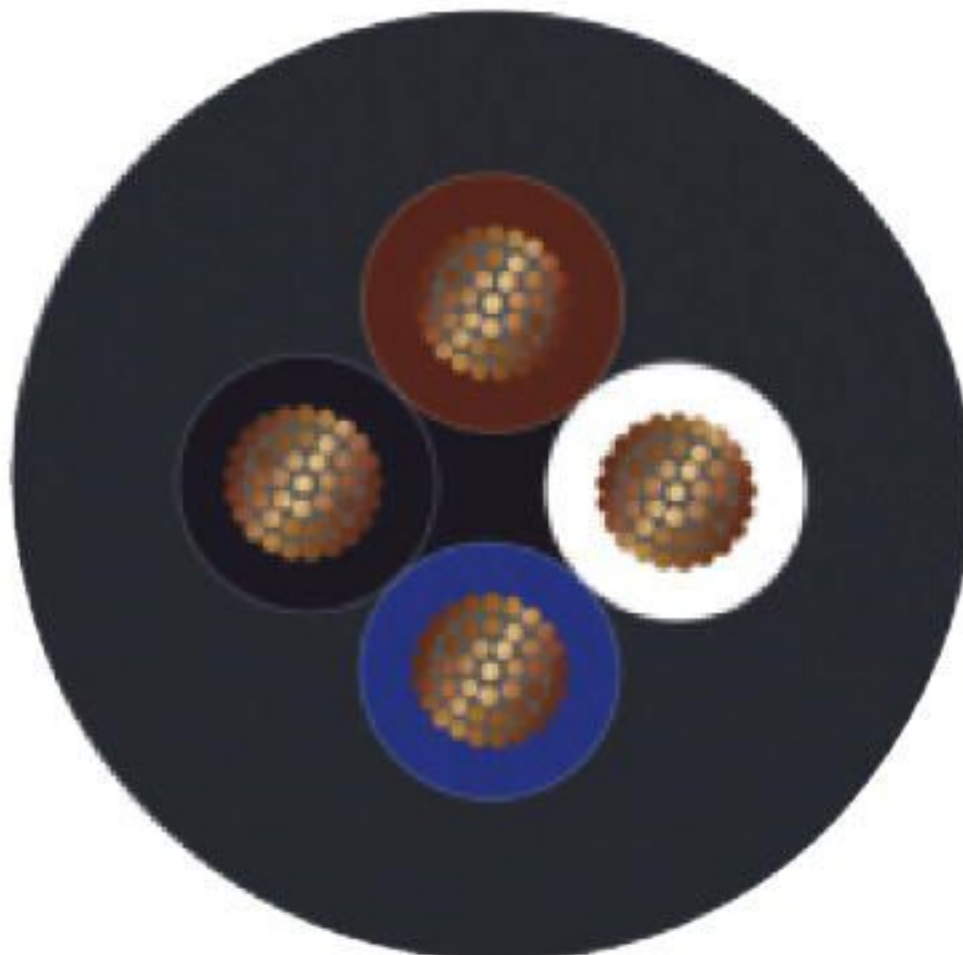
Schematic diagram



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

## Sensor/actuator cable - SAC-4P- 5,0-28X/M12FS OD - 1454082

Cable cross section



PE-X black [28X]

### Classifications

eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27060311 |
| eCl@ss 4.0    | 27060300 |
| eCl@ss 4.1    | 27060300 |
| eCl@ss 5.0    | 27061800 |
| eCl@ss 5.1    | 27061800 |
| eCl@ss 6.0    | 27279200 |
| eCl@ss 7.0    | 27279218 |
| eCl@ss 8.0    | 27279218 |
| eCl@ss 9.0    | 27060311 |

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### Classifications

#### ETIM

|          |          |
|----------|----------|
| ETIM 4.0 | EC001855 |
| ETIM 5.0 | EC001855 |
| ETIM 6.0 | EC001855 |
| ETIM 7.0 | EC001855 |

#### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 31251501 |
| UNSPSC 7.0901 | 31251501 |
| UNSPSC 11     | 31251501 |
| UNSPSC 12.01  | 31251501 |
| UNSPSC 13.2   | 31251501 |
| UNSPSC 19.0   | 31251501 |
| UNSPSC 20.0   | 31251501 |
| UNSPSC 21.0   | 31251501 |

### Approvals

#### Approvals

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DNV GL / EAC-RoHS / EAC

#### Ex Approvals

#### Approval details

|        |                                                                                     |                                                                                   |            |
|--------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------|
| DNV GL |  | <a href="https://approvalfinder.dnvgl.com/">https://approvalfinder.dnvgl.com/</a> | TAE00002K4 |
|--------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------|

|          |                                                                                     |                          |
|----------|-------------------------------------------------------------------------------------|--------------------------|
| EAC-RoHS |  | RU D-<br>DE.HB35.B.00387 |
|----------|-------------------------------------------------------------------------------------|--------------------------|

|     |                                                                                     |                          |
|-----|-------------------------------------------------------------------------------------|--------------------------|
| EAC |  | RU C-<br>DE.BL08.B.00286 |
|-----|-------------------------------------------------------------------------------------|--------------------------|

### Accessories

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## Sensor/actuator cable - SAC-4P- 5,0-28X/M12FS OD - 1454082

### Accessories

#### Circular connector (cable-side)

Connector - SACC-M12MS-4QO-0,75-VA - 1440779



Connector, Universal, 4-position, Plug straight M12, Coding: A, Insulation displacement connection, knurl material: Stainless steel 1.4404, external cable diameter 4 mm ... 8 mm

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#### Screwdriver tools

Adapter insert - TSD-M SAC-BIT ADAPTER - 1212600



Adapter bit for TSD-M...torque tools, E6.3-1/4" drive with 4 mm hexagon to accommodate SAC bits

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Adapter - SAC BIT M12-W14 - 1212513



Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a hexagonal knurl wrench size of 14 mm, with 4 mm hexagonal drive

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#### Torque tool

Torque screwdriver - TSD 04 SAC - 1208429



Torque screwdriver, with preset torque of 0.4 Nm and 4 mm hexagonal drive for M12 connectors

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Torque screwdriver - TSD-M 1,2NM - 1212224



Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 0.3 - 1.2 Nm



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