

## Sensor/Actuator cable - SAC-4P-20,0-PUR/M12FS - 1500224

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Sensor/Actuator cable, 4-position, PUR halogen-free, Black-gray RAL 7021, Free cable end, on Socket straight M12, A-coded, Cable length: 20 m

### Key commercial data

|                  |               |
|------------------|---------------|
| package_quantity | 1             |
| GTIN             | 4017918584788 |

### Technical data

#### Dimensions

|                                            |       |
|--------------------------------------------|-------|
| Length of cable                            | 20 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                             |
| Degree of protection            | IP67                             |
| Degree of protection            | IP68                             |

#### General

|                             |              |
|-----------------------------|--------------|
| Rated current at 40°C       | 4 A          |
| Rated voltage               | 250 V        |
| Number of positions         | 4            |
| Contact resistance          | ≤ 5 mΩ       |
| Insulation resistance       | ≥ 100 MΩ     |
| Coding                      | A - standard |
| Status display              | No           |
| Surge voltage category      | II           |
| Pollution degree            | 3            |
| Insertion/withdrawal cycles | ≥ 100        |

#### Material

|                                         |        |
|-----------------------------------------|--------|
| Inflammability class according to UL 94 | HB     |
| Contact material                        | CuSn   |
| Contact surface material                | Ni/Au  |
| Contact carrier material                | TPU GF |

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## Technical data

### Material

|                       |                                             |
|-----------------------|---------------------------------------------|
| Material of grip body | TPU, hardly inflammable, self-extinguishing |
| Material, knurls      | Zinc die-cast, nickel-plated                |
| Sealing material      | NBR                                         |

### Cable

|                                                 |                                                                     |
|-------------------------------------------------|---------------------------------------------------------------------|
| Cable type                                      | PUR halogen-free black                                              |
| Cable type (abbreviation)                       | PUR                                                                 |
| Cable abbreviation                              | Li9Y11Y-HF                                                          |
| UL AWM style                                    | 20549 / 10493 (80°C/300 V)                                          |
| Conductor cross section                         | 4x 0.34 mm <sup>2</sup>                                             |
| AWG signal line                                 | 22                                                                  |
| Conductor structure signal line                 | 42x 0.10 mm                                                         |
| Core diameter including insulation              | 1.27 mm ±0.02 mm                                                    |
| Thickness, insulation                           | ≥ 0.21 mm                                                           |
| Wire colors                                     | brown, white, blue, black                                           |
| Overall twist                                   | 4 wires, twisted                                                    |
| External sheath, color                          | Black-gray RAL 7021                                                 |
| Outer sheath thickness                          | approx. 0.8 mm                                                      |
| External cable diameter D                       | 4.7 mm ±0.15 mm                                                     |
| Minimum bending radius, fixed installation      | 5 x D                                                               |
| Minimum bending radius, flexible installation   | 10 x D                                                              |
| Number of bending cycles                        | 4000000                                                             |
| Minimum bending radius, drag chain applications | 10 x D                                                              |
| Traversing path                                 | 10 m                                                                |
| Traversing rate                                 | 3 m/s                                                               |
| Acceleration                                    | 10 m/s <sup>2</sup>                                                 |
| Cable weight                                    | 30 kg/km                                                            |
| Outer sheath, material                          | PUR                                                                 |
| Material conductor insulation                   | PP                                                                  |
| Conductor material                              | Bare Cu litz wires                                                  |
| Insulation resistance                           | ≥ 1 GΩ*km                                                           |
| Conductor resistance                            | ≤ 58 Ω/km                                                           |
| Nominal voltage, cable                          | ≤ 300 V                                                             |
| Test voltage, cable                             | ≥ 3000 V                                                            |
| Special properties                              | Flexible cable conduit capable                                      |
| Special properties                              | Silicone-free                                                       |
| Special properties                              | Free of substances which would hinder coating with paint or varnish |
| Special properties                              | Flexible                                                            |
| Flame resistance                                | in accordance with DIN UL-Style 20549                               |
| Flame resistance                                | in accordance with FT1 as per UL 758                                |
| Halogen-free                                    | in accordance with DIN VDE 0472 part 815                            |

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### Technical data

#### Cable

|                                        |                                                            |
|----------------------------------------|------------------------------------------------------------|
| <b>Halogen-free</b>                    | in accordance with DIN EN 50267-2-1                        |
| <b>Resistance to oil</b>               | in accordance with DIN EN 60811-2-1                        |
| <b>Other resistance</b>                | Highly resistant to acids, alkaline solutions and solvents |
| <b>Other resistance</b>                | hydrolysis and microbe resistant                           |
| <b>Other resistance</b>                | partly UV-resistant in accordance with DIN EN ISO 4892-2-A |
| <b>Other resistance</b>                | Low adhesion                                               |
| <b>Other resistance</b>                | abrasion-resistant                                         |
| <b>Ambient temperature (operation)</b> | -40 °C ... 80 °C (cable, fixed installation)               |
| <b>Ambient temperature (operation)</b> | -25 °C ... 80 °C (cable, flexible installation)            |

### classifications

#### eCl@ss

|                   |          |
|-------------------|----------|
| <b>eCl@ss 4.0</b> | 27060306 |
| <b>eCl@ss 4.1</b> | 27060306 |
| <b>eCl@ss 5.0</b> | 27061801 |
| <b>eCl@ss 5.1</b> | 27061801 |
| <b>eCl@ss 6.0</b> | 27061801 |
| <b>eCl@ss 7.0</b> | 27061801 |
| <b>eCl@ss 8.0</b> | 27061801 |

#### ETIM

|                 |          |
|-----------------|----------|
| <b>ETIM 2.0</b> | EC000830 |
| <b>ETIM 3.0</b> | EC001855 |
| <b>ETIM 4.0</b> | EC001855 |
| <b>ETIM 5.0</b> | EC001855 |

#### UNSPSC

|                      |          |
|----------------------|----------|
| <b>UNSPSC 6.01</b>   | 31251501 |
| <b>UNSPSC 7.0901</b> | 31251501 |
| <b>UNSPSC 11</b>     | 31251501 |
| <b>UNSPSC 12.01</b>  | 31251501 |
| <b>UNSPSC 13.2</b>   | 31251501 |

### approvals

UL Listed / cUL Listed / cULus Listed /

#### Approval details

|                                                                                     |
|-------------------------------------------------------------------------------------|
|  |
|-------------------------------------------------------------------------------------|

## Sensor/Actuator cable - SAC-4P-20,0-PUR/M12FS - 1500224

### approvals

| Nominal voltage UN         | 300 V |
|----------------------------|-------|
| Nominal current IN         | 4 A   |
| mm <sup>2</sup> /AWG/kcmil |       |

| cUL Listed  |       |
|----------------------------------------------------------------------------------------------|-------|
|                                                                                              |       |
| Nominal voltage UN                                                                           | 300 V |
| Nominal current IN                                                                           | 4 A   |
| mm <sup>2</sup> /AWG/kcmil                                                                   |       |

|                                                                                                |  |
|------------------------------------------------------------------------------------------------|--|
| cULus Listed  |  |
|------------------------------------------------------------------------------------------------|--|

### accessories

#### Conductor marking

PABA WH/15 - 1013151



PABA YE/15 - 1013698



PABA RD/15 - 1013944



#### Marker carrier cable

## Sensor/Actuator cable - SAC-4P-20,0-PUR/M12FS - 1500224

### accessories

PATG 2/15 - 1013038



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PATG 3/15 - 1013041



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PATG 4/15 - 1013054



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### Marker pen

B-STIFT - 1051993



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### Cutting tools

CUTFOX-S VDE - 1212207



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### Stripping tool

## Sensor/Actuator cable - SAC-4P-20,0-PUR/M12FS - 1500224

### accessories

WIREFOX SAC - 1212623



WIREFOX 10 - 1212150



### Protective cap

PROT-M12 MS-PA-CHAIN - 1430899



### Safety locking

SAC-M12-EXCLIP-F - 1558991



### Torque tool

TSD 04 SAC - 1208429



## Sensor/Actuator cable - SAC-4P-20,0-PUR/M12FS - 1500224

### accessories

TSD-M 1,2NM - 1212224



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### Screwdriver tools

TSD-M SAC-BIT ADAPTER - 1212600



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SAC BIT M12-D15 - 1208432



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### accessories

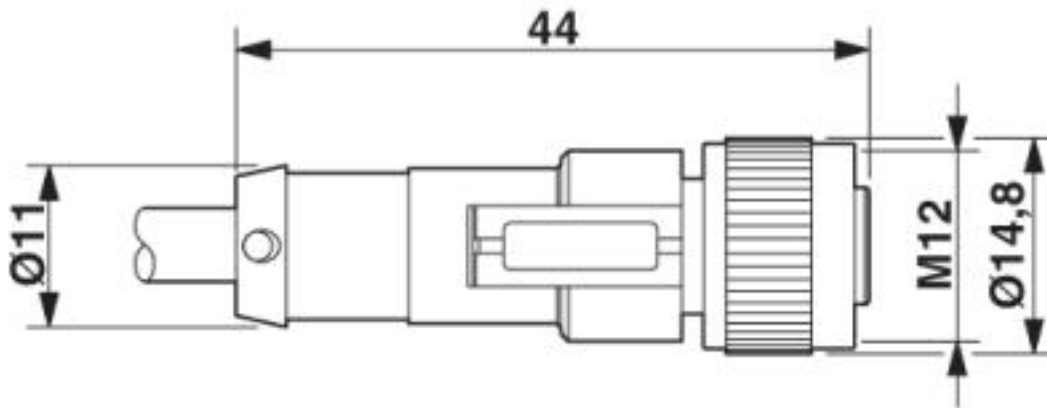
WIREFOX SAC-1 - 1212757

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### Drawings

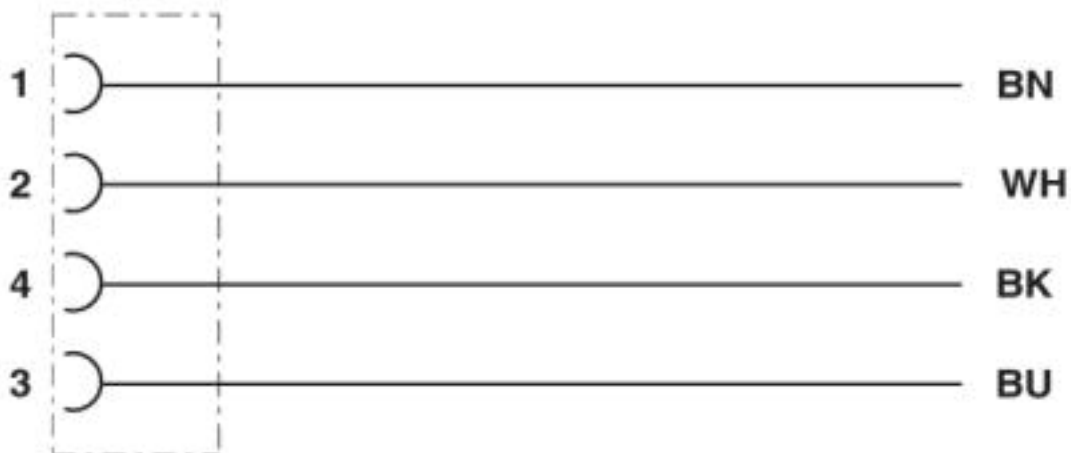
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Dimensioned drawing



M12 x 1 socket, straight

Circuit diagram

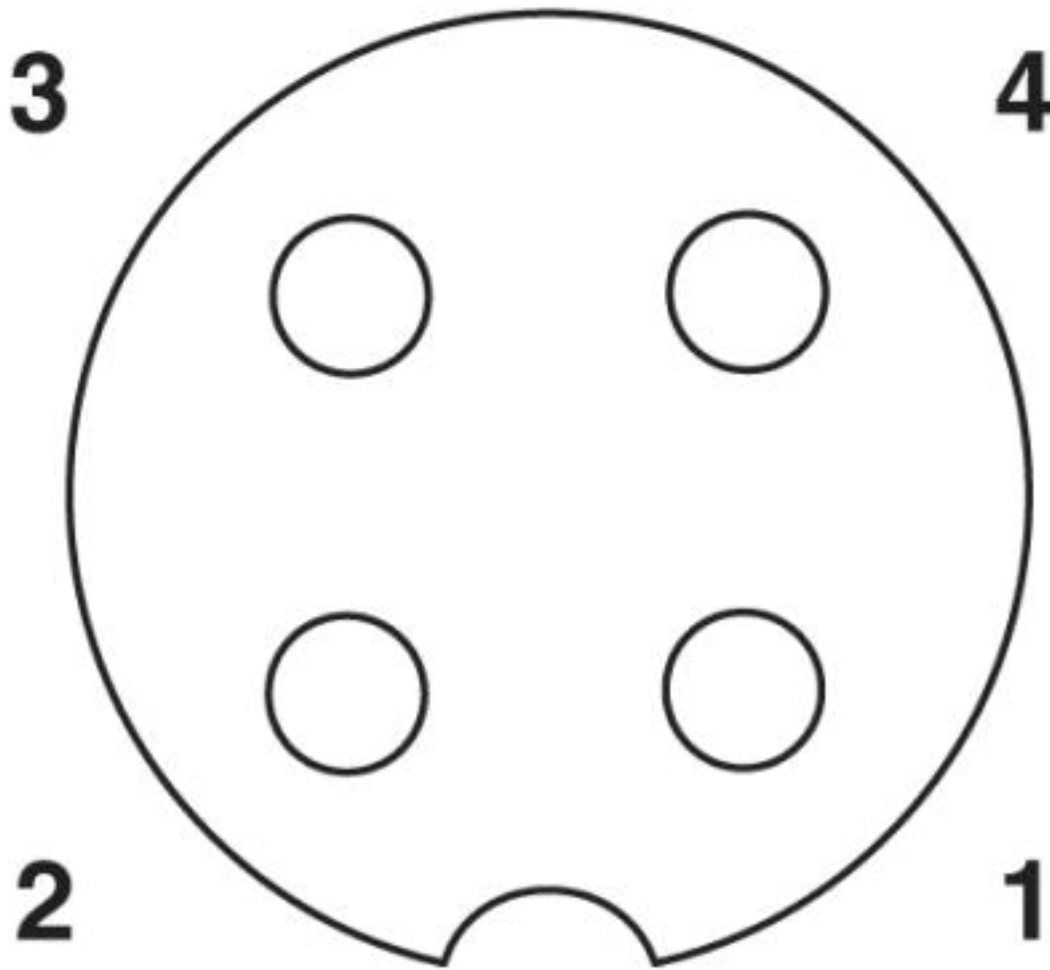


Contact assignment of the M12 socket



## Sensor/Actuator cable - SAC-4P-20,0-PUR/M12FS - 1500224

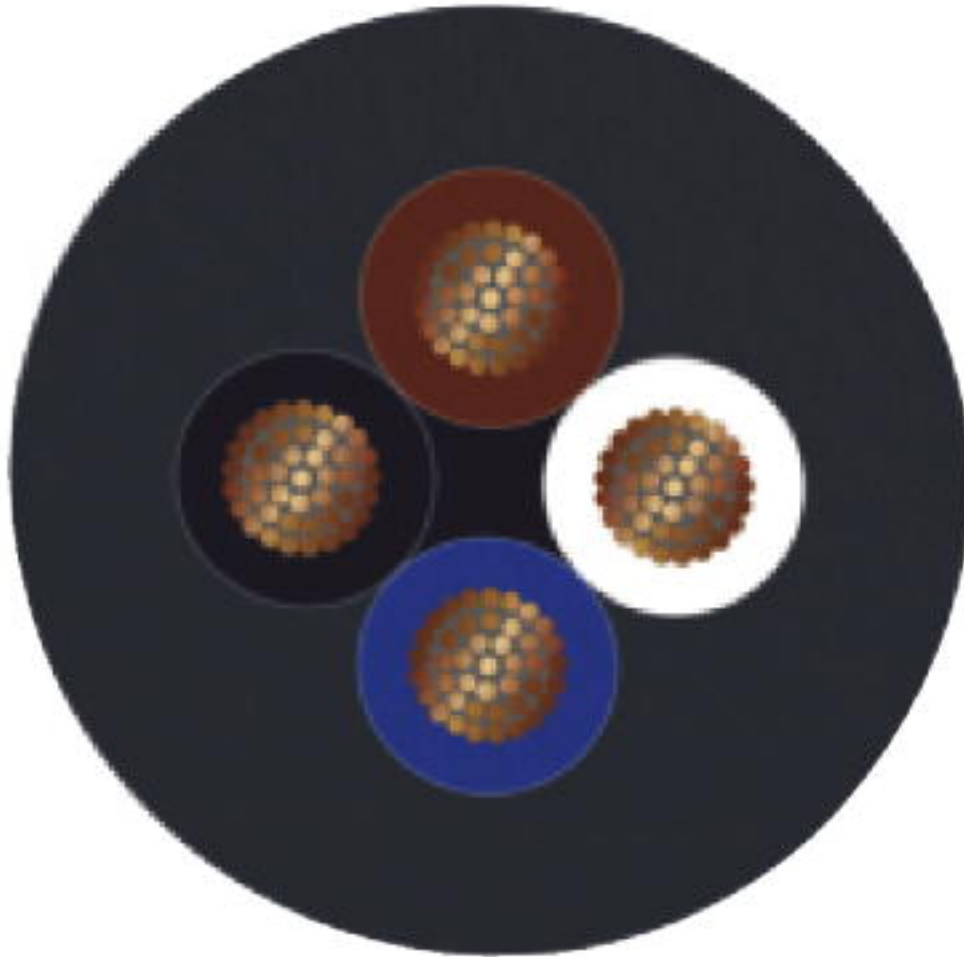
Schematic diagram



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

## Sensor/Actuator cable - SAC-4P-20,0-PUR/M12FS - 1500224

Cable cross section



PUR halogen-free black [PUR]

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