

## Sensor/Actuator cable - SAC-3P- 3,0-PUR/M12FR B - 1668205

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Sensor/Actuator cable, 3-position, PUR halogen-free, black-gray RAL 7021, free cable end, on Socket angled M12, A-coded, PIN 2+4 bridged, Cable length: 3 m

### Product Features

- ✓ Easy and safe: 100% electrically tested plug-in components
- ✓ Our standard: robust halogen-free PUR cable
- ✓ Efficient integration of bridging functions directly in the connector



### Key commercial data

|                                      |          |
|--------------------------------------|----------|
| Packing unit                         | 1 pc     |
| Weight per Piece (excluding packing) | 88.7 GRM |
| Custom tariff number                 | 85444290 |
| Country of origin                    | Poland   |

### Technical data

#### Dimensions

|                                            |        |
|--------------------------------------------|--------|
| Length of cable                            | 3 m    |
| Cable diameter                             | 5.2 mm |
| Stripping length of the free conductor end | 50 mm  |

#### Ambient conditions

|                                 |                                  |
|---------------------------------|----------------------------------|
| Ambient temperature (operation) | -25 °C ... 90 °C (Plug / socket) |
| Degree of protection            | IP65                             |
|                                 | IP67                             |
|                                 | IP68                             |

#### General

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

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### Technical data

#### General

|                              |                               |
|------------------------------|-------------------------------|
| Number of positions          | 3                             |
| Contact resistance           | $\leq 5 \text{ m}\Omega$      |
| 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                       |
| Surge voltage category       | II                            |
| Pollution degree             | 3                             |
| Insertion/withdrawal cycles  | $\geq 100$                    |
| Torque                       | 0.4 Nm (M12 connector)        |

#### Material

|                                         |                                             |
|-----------------------------------------|---------------------------------------------|
| Inflammability class according to UL 94 | HB                                          |
| Contact material                        | CuSn                                        |
| Contact surface material                | Ni/Au                                       |
| Contact carrier material                | TPU GF                                      |
| 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                                  |
| UL AWM style                                  | 20549                                    |
| Conductor cross section                       | 3x 0.34 mm <sup>2</sup> (signal line)    |
| AWG signal line                               | 22                                       |
| Conductor structure signal line               | 42x 0.10 mm                              |
| Core diameter including insulation            | 1.27 mm $\pm$ 0.02 mm (signal line)      |
| Thickness, insulation                         | $\geq 0.21 \text{ mm}$ (Core insulation) |
|                                               | approx. 0.8 mm (Outer cable sheath)      |
| Wire colors                                   | brown, blue, black                       |
| Overall twist                                 | 3 wires, twisted                         |
| External sheath, color                        | black-gray RAL 7021                      |
| External cable diameter D                     | 4.4 mm $\pm$ 0.15 mm                     |
| Smallest bending radius, fixed installation   | 22 mm                                    |
| Smallest bending radius, movable installation | 44 mm                                    |

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### Technical data

#### Cable

|                                 |                                                                     |
|---------------------------------|---------------------------------------------------------------------|
| Number of bending cycles        | 4000000                                                             |
| Bending radius                  | 44 mm                                                               |
| Traversing path                 | 10 m                                                                |
| Traversing rate                 | 3 m/s                                                               |
| Acceleration                    | 10 m/s <sup>2</sup>                                                 |
| Cable weight                    | 26 kg/km                                                            |
| Outer sheath, material          | PUR                                                                 |
| Material conductor insulation   | PP                                                                  |
| Conductor material              | Bare Cu litz wires                                                  |
| Insulation resistance           | ≥ 100 GΩ*km (at 20 °C)                                              |
| Conductor resistance            | max. 58 Ω/km (at 20 °C)                                             |
| Nominal voltage, cable          | ≤ 300 V                                                             |
| Test voltage, cable             | ≥ 3000 V                                                            |
| Special properties              | Flexible cable conduit capable                                      |
|                                 | Silicone-free                                                       |
|                                 | Free of substances which would hinder coating with paint or varnish |
| Flame resistance                | in accordance with DIN UL-Style 20549                               |
| Halogen-free                    | in accordance with DIN VDE 0472 part 815                            |
| 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          |
| Ambient temperature (operation) | -40 °C ... 80 °C (cable, fixed installation)                        |
|                                 | -25 °C ... 80 °C (cable, flexible installation)                     |

### Classifications

#### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27060306 |
| eCl@ss 4.1 | 27060306 |
| eCl@ss 5.0 | 27061801 |
| eCl@ss 5.1 | 27061801 |
| eCl@ss 6.0 | 27061801 |
| eCl@ss 7.0 | 27061801 |
| eCl@ss 8.0 | 27061801 |

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### Classifications

#### ETIM

|          |          |
|----------|----------|
| ETIM 2.0 | EC000830 |
| ETIM 3.0 | EC001855 |
| ETIM 4.0 | EC001855 |
| ETIM 5.0 | EC001855 |

#### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 31251501 |
| UNSPSC 7.0901 | 31251501 |
| UNSPSC 11     | 31251501 |
| UNSPSC 12.01  | 31251501 |
| UNSPSC 13.2   | 31251501 |

### Approvals

#### Approvals

#### Approvals

UL Listed / cUL Listed / GOST / cULus Listed

#### Ex Approvals

#### Approvals submitted

### Approval details

|                                                                                               |       |
|-----------------------------------------------------------------------------------------------|-------|
| UL Listed  |       |
| Nominal current I <sub>N</sub>                                                                | 4 A   |
| Nominal voltage U <sub>N</sub>                                                                | 300 V |

# Sensor/Actuator cable - SAC-3P- 3,0-PUR/M12FR B - 1668205

## Approvals

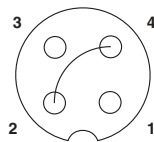
|                    |       |
|--------------------|-------|
| cUL Listed         |       |
| Nominal current IN | 4 A   |
| Nominal voltage UN | 300 V |

|      |
|------|
| GOST |
|------|

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

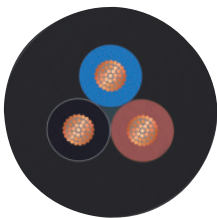
## Drawings

Schematic diagram



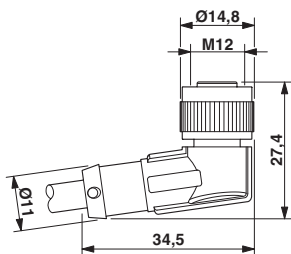
Pin assignment M12 socket, 3-pos., PIN 2+4 bridged, A-coded, view female side

Cable cross section



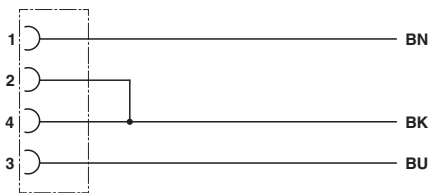
PUR halogen-free black [PUR]

Dimensioned drawing



M12 x 1 socket, angled

Circuit diagram



Contact assignment of the M12 socket

