

## Sensor/actuator cable - SAC-3P-M 8MS/3,0-PUR/M12FR - 1682375

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



Sensor/actuator cable, 3-position, PUR halogen-free, black-gray RAL 7021, Plug straight M8, on Socket angled M12, coding: A, cable length: 3 m

### Your advantages

- ✓ Easy and safe: 100% electrically tested plug-in components
- ✓ Our standard: robust halogen-free PUR cable

RoHS

### Key Commercial Data

|              |                                                                                                         |
|--------------|---------------------------------------------------------------------------------------------------------|
| Packing unit | 1 pc                                                                                                    |
| GTIN         | <br>4 017918 159030 |
| GTIN         | 4017918159030                                                                                           |
| Sales Key    | 02                                                                                                      |

### Technical data

#### Dimensions

|                 |     |
|-----------------|-----|
| Length of cable | 3 m |
|-----------------|-----|

#### 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         | 48 V AC  |
|                       | 60 V DC  |
| Number of positions   | 3        |
| Insulation resistance | ≥ 100 MΩ |

# Sensor/actuator cable - SAC-3P-M 8MS/3,0-PUR/M12FR - 1682375

## Technical data

### General

|                              |                               |
|------------------------------|-------------------------------|
| Coding                       | A - standard                  |
| Standards/regulations        | M12 connector IEC 61076-2-101 |
|                              | M8 connector IEC 61076-2-104  |
| Status display               | No                            |
| Protective circuit/component | unwired                       |
| Overvoltage category         | II                            |
| Degree of pollution          | 3                             |
| Insertion/withdrawal cycles  | ≥ 100                         |
| Torque                       | 0.4 Nm (M12 connector)        |
|                              | 0.2 Nm (M8 connectors)        |

### Material

|                                        |                                             |
|----------------------------------------|---------------------------------------------|
| Flammability rating 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                                         |

### Standards and Regulations

|                                        |                               |
|----------------------------------------|-------------------------------|
| Standards/specifications               | M12 connector IEC 61076-2-101 |
|                                        | M8 connector IEC 61076-2-104  |
| Flammability rating according to UL 94 | HB                            |

### 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                     | 3x 0.25 mm <sup>2</sup>     |
| AWG signal line                             | 24                          |
| Conductor structure signal line             | 32x 0.10 mm                 |
| Core diameter including insulation          | 1.17 mm ±0.02 mm            |
| Thickness, insulation                       | ≥ 0.21 mm (Core insulation) |
| Wire colors                                 | brown, blue, black          |
| Overall twist                               | 3 wires, twisted            |
| Length of twist, overall twist              | 40 mm                       |
| External sheath, color                      | black-gray RAL 7021         |
| Outer sheath thickness                      | approx. 0.5 mm              |
| External cable diameter D                   | 3.6 mm ±0.15 mm             |
| Smallest bending radius, fixed installation | 18 mm                       |

## Sensor/actuator cable - SAC-3P-M 8MS/3,0-PUR/M12FR - 1682375

### Technical data

#### Cable

|                                               |                                                                     |
|-----------------------------------------------|---------------------------------------------------------------------|
| Smallest bending radius, movable installation | 36 mm                                                               |
| Number of bending cycles                      | 10000000                                                            |
| Bending radius                                | 44 mm                                                               |
| Traversing path                               | 10 m                                                                |
| Traversing rate                               | 3 m/s                                                               |
| Acceleration                                  | 10 m/s <sup>2</sup>                                                 |
| Cable weight                                  | 18 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                          | ≤ 78 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 UL 758/1581 FT2                                  |
|                                               | DIN EN 60332-2-2 (20 s)                                             |
| Halogen-free                                  | in accordance with DIN VDE 0472 part 815                            |
| Resistance to oil                             | in accordance with DIN EN 60811-2-1                                 |
| Other resistance                              | hydrolysis and microbe resistant                                    |
|                                               | Highly resistant to acids, alkaline solutions and solvents          |
|                                               | Resistant to salt water                                             |
|                                               | 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)                     |

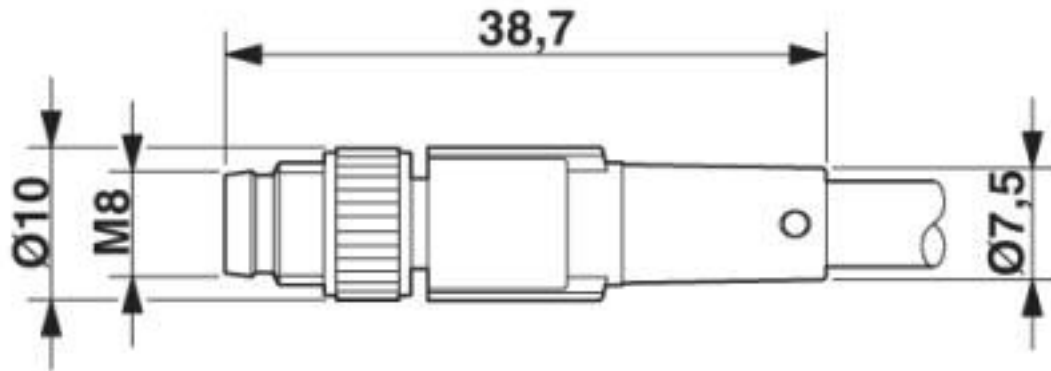
#### Environmental Product Compliance

|            |                                                                                                     |
|------------|-----------------------------------------------------------------------------------------------------|
| REACH SVHC | Lead 7439-92-1                                                                                      |
| China RoHS | Environmentally Friendly Use Period = 50 years                                                      |
|            | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

### Drawings

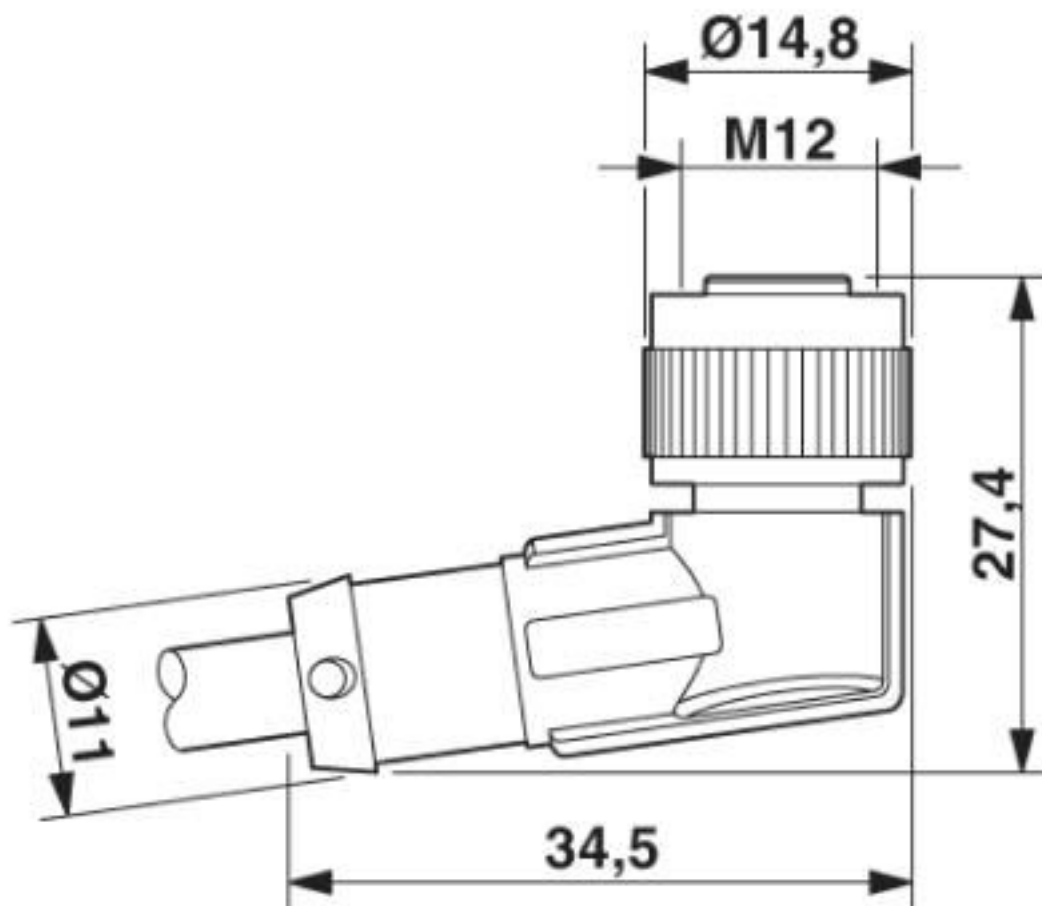
## Sensor/actuator cable - SAC-3P-M 8MS/3,0-PUR/M12FR - 1682375

Dimensional drawing



M8 x 1 male plug, straight version

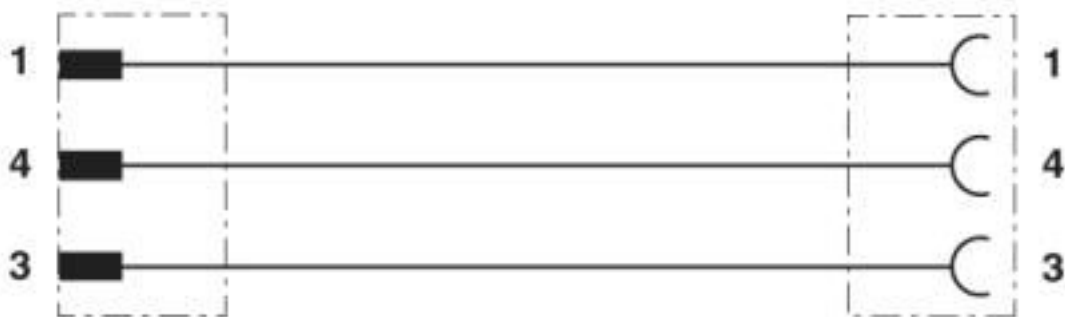
Dimensional drawing



M12 x 1 socket, angled

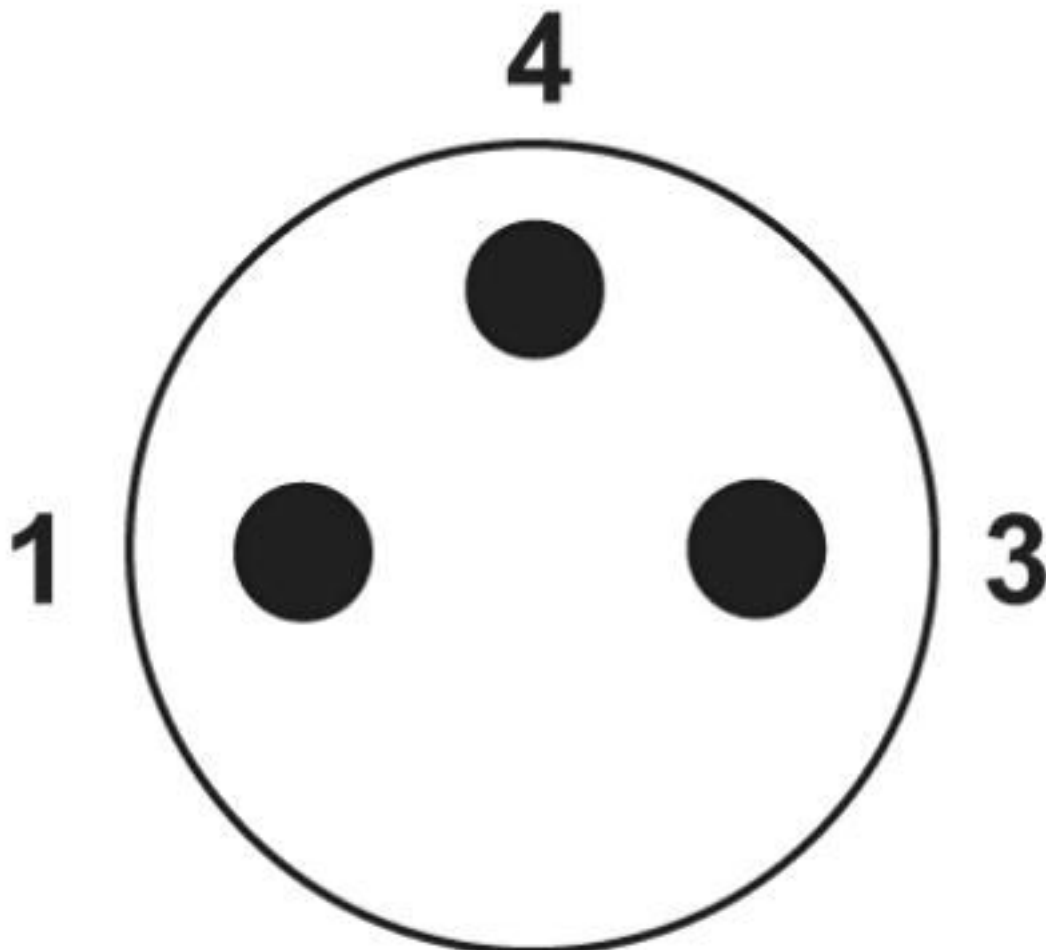
## Sensor/actuator cable - SAC-3P-M 8MS/3,0-PUR/M12FR - 1682375

Circuit diagram



Contact assignment of M8 plugs / M12 sockets

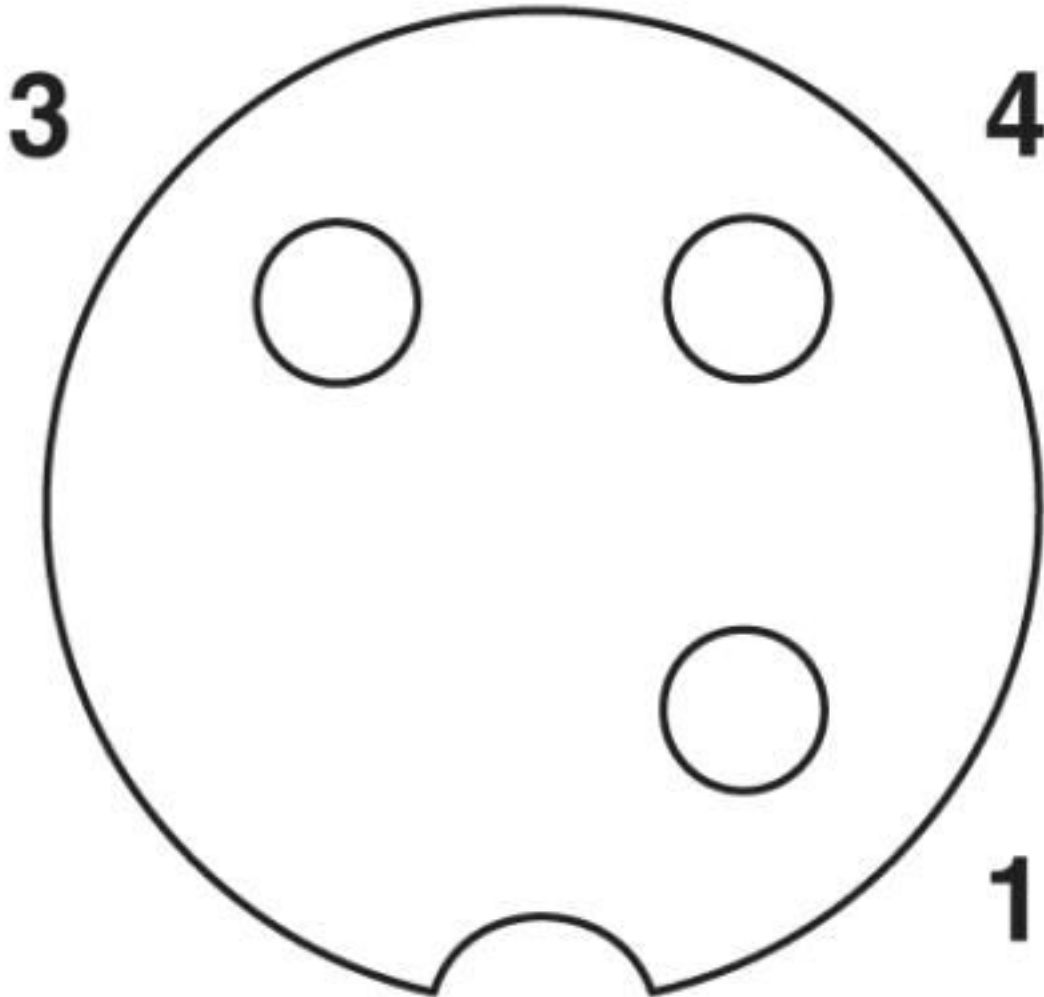
Schematic diagram



Pin assignment M8 plug, 3-pos., view male side

## Sensor/actuator cable - SAC-3P-M 8MS/3,0-PUR/M12FR - 1682375

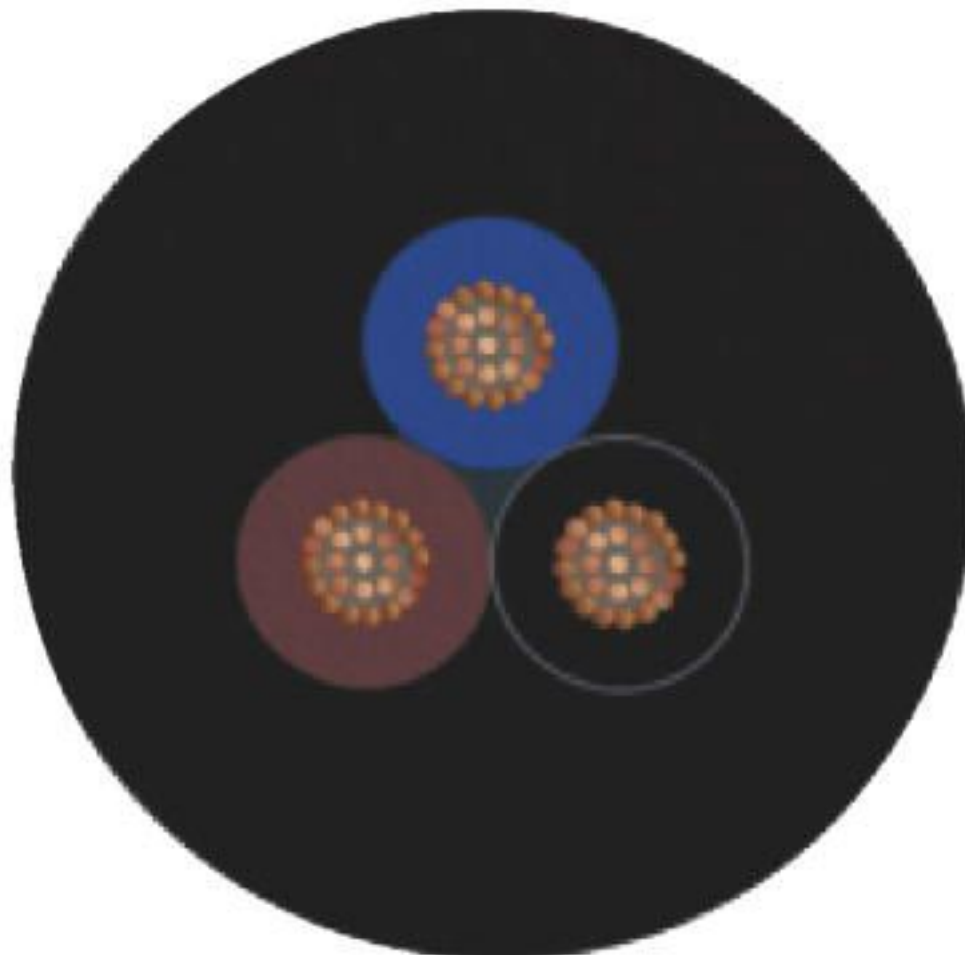
Schematic diagram



Pin assignment M12 socket, 3-pos., A-coded, view female side

## Sensor/actuator cable - SAC-3P-M 8MS/3,0-PUR/M12FR - 1682375

Cable cross section



PUR halogen-free black [PUR]

### 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 |

# Sensor/actuator cable - SAC-3P-M 8MS/3,0-PUR/M12FR - 1682375

## Classifications

### ETIM

|          |          |
|----------|----------|
| ETIM 2.0 | EC000830 |
| ETIM 3.0 | EC001855 |
| 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

#### Approvals

UL Listed / cUL Listed / EAC-RoHS / EAC / cULus Listed

#### Ex Approvals

### Approval details

|                    |                                                                                     |                                                                                                                                                       |               |
|--------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| UL Listed          |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 221474 |
| Nominal voltage UN | 60 V                                                                                |                                                                                                                                                       |               |
| Nominal current IN | 4 A                                                                                 |                                                                                                                                                       |               |

|                    |                                                                                     |                                                                                                                                                       |               |
|--------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| cUL Listed         |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 221474 |
| Nominal voltage UN | 60 V                                                                                |                                                                                                                                                       |               |



## Sensor/actuator cable - SAC-3P-M 8MS/3,0-PUR/M12FR - 1682375

### Approvals

|                                |     |
|--------------------------------|-----|
| Nominal current I <sub>N</sub> | 4 A |
|--------------------------------|-----|

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

|     |            |               |
|-----|------------|---------------|
| EAC | <b>EAC</b> | EAC-Zulassung |
|-----|------------|---------------|

|              |                         |  |
|--------------|-------------------------|--|
| cULus Listed | <b>cULus<br/>LISTED</b> |  |
|--------------|-------------------------|--|

### Accessories

#### Accessories

#### Conductor marking

Insert label - PABA WH/23 - 1013779



Insert label, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, mounting type: thread on, cable diameter range: 1.5 ... 35 mm, lettering field size: 23 x 4 mm, Number of individual labels: 20

Insert label - PABA YE/23 - 1013782



Insert label, Strip, yellow, unlabeled, can be labeled with: CMS-P1-PLOTTER, mounting type: thread on, cable diameter range: 1.5 ... 35 mm, lettering field size: 23 x 4 mm, Number of individual labels: 20

#### Marker pen

Marker pen - B-STIFT - 1051993



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

## Sensor/actuator cable - SAC-3P-M 8MS/3,0-PUR/M12FR - 1682375

### Accessories

Plug for cable screw gland

Screw plug - PROT-M12 MS-PA-CHAIN - 1430899

M12 sealing cap with fixing band, for sensor cables, for free M12 sockets



---

### Protective cap

Sealing cap - PROT-M 8 FS-PA-CHAIN - 1430857

M8 sealing cap made of plastic with fixing band for sensor cables, for M8 plugs



---

### Safety locking

Locking clip - SAC-M12-EXCLIP-F - 1558991



Locking clip for the socket side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools

---

### Screwdriver tools

Tool - SAC BIT M8-D10 - 1208461



Nut for assembling M8 connectors with longitudinal knurl and a knurl diameter of 10 mm, for 4 mm hexagonal drive

---

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

## Sensor/actuator cable - SAC-3P-M 8MS/3,0-PUR/M12FR - 1682375

### Accessories

Tool - SAC BIT M12-D15 - 1208432



Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 15 mm, for 4 mm hexagonal drive

---

### Torque tool

Torque screwdriver - TSD 02 SAC - 1208487



Torque screwdriver, with preset torque of 0.2 Nm and 4 mm hexagonal drive for M8 connectors

---

Torque screwdriver - TSD 04 SAC - 1208429



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

---

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



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

---

Phoenix Contact 2020 © - all rights reserved  
<http://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG  
Flachmarktstr. 8  
32825 Blomberg  
Germany  
Tel. +49 5235 300  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.com>

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Phoenix Contact:](#)

[1682375](#)