

## Sensor/Actuator cable - SAC-3P-M 8MR/3,0-PUR/M 8FR-2L - 1682139

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Sensor/Actuator cable, 3-position, PUR halogen-free, Black-gray RAL 7021, Plug angled M8, on Socket angled M8, with 2 LEDs, Cable length: 3 m

### Product Features

- ✓ Easy and safe: 100% electrically tested plug-in components
- ✓ Our standard: robust halogen-free PUR cable
- ✓ Convenient: increased machine availability thanks to quick and easy diagnostics



### Key commercial data

|                                      |            |
|--------------------------------------|------------|
| Packing unit                         | 1 1        |
| Weight per Piece (excluding packing) | 111.15 GRM |
| Custom tariff number                 | 85444290   |
| Country of origin                    | Poland     |

### 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         | 24 V   |
| Number of positions   | 3      |
| Contact resistance    | ≤ 5 mΩ |

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### Technical data

#### General

|                              |                              |
|------------------------------|------------------------------|
| Insulation resistance        | ≥ 100 MΩ                     |
| Coding                       | A - standard                 |
| Standards/regulations        | M8 connector IEC 61076-2-104 |
| Status display               | 2 LEDs                       |
| Protective circuit/component | Unwired                      |
| Surge voltage category       | II                           |
| Pollution degree             | 3                            |
| Insertion/withdrawal cycles  | ≥ 100                        |
| Torque                       | 0.2 Nm (M8 connectors)       |

#### 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-HF                            |
| UL AWM style                                  | 20549                                 |
| Conductor cross section                       | 3x 0.25 mm <sup>2</sup> (signal line) |
| AWG signal line                               | 24                                    |
| Conductor structure signal line               | 32x 0.10 mm                           |
| Core diameter including insulation            | 1.17 mm ±0.02 mm (signal line)        |
| Thickness, insulation                         | ≥ 0.38 mm (Core insulation)           |
|   | approx. 0.9 mm (Outer cable sheath)   |
| Wire colors                                   | brown, blue, black                    |
| Overall twist                                 | 3 wires, twisted                      |
| Length of twist, overall twist                | 40 mm                                 |
| External sheath, color                        | Black-gray RAL 7021                   |
| External cable diameter D                     | 4.4 mm ±0.15 mm                       |
| Smallest bending radius, fixed installation   | 22 mm                                 |
| Smallest bending radius, movable installation | 44 mm                                 |
| Number of bending cycles                      | 4000000                               |

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### Technical data

#### Cable

|                                 |   |
|---------------------------------|---|
| Bending radius                  | 44 mm   |
| Traversing path                 | 10 m  |
| Traversing rate                 | 3 m/s   |
| Acceleration                    | 10 m/s <sup>2</sup>   |
| Cable weight                    | 24 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 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                | 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)                     |

### 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

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#### Approvals

UL Listed / cUL Listed / GOST / cULus Listed

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#### Ex Approvals

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#### Approvals submitted

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## Approval details

|   |      |
|---|------|
| UL Listed  |      |
| Nominal current I <sub>N</sub>  | 4 A  |
| Nominal voltage U <sub>N</sub>  | 24 V |

# Sensor/Actuator cable - SAC-3P-M 8MR/3,0-PUR/M 8FR-2L - 1682139

## Approvals

|                    |      |
|--------------------|------|
| cUL Listed         |      |
|                    |      |
| Nominal current IN | 4 A  |
| Nominal voltage UN | 24 V |

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

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

## Accessories

### Accessories

#### Conductor marking

Insert label - PABA WH/15 - 1013151



Insert label, Strip, white, Unlabeled, Can be labeled with: Plotter, Mounting type: Thread on, Cable diameter: 0.6-50 mm, Lettering field: 15 x 4 mm

Insert label - PABA YE/15 - 1013698



Insert label, Strip, yellow, Unlabeled, Can be labeled with: Plotter, Mounting type: Thread on, Cable diameter: 0.6-50 mm, Lettering field: 15 x 4 mm

## Sensor/Actuator cable - SAC-3P-M 8MR/3,0-PUR/M 8FR-2L - 1682139

### Accessories

Insert label - PABA RD/15 - 1013944



Insert label, Strip, red, Unlabeled, Can be labeled with: Plotter, Mounting type: Thread on, Cable diameter: 0.6-50 mm, Lettering field: 15 x 4 mm

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### Marker carrier cable

Conductor marker carrier - PATO 2/15 - 1013122



Conductor marker carrier, transparent, Unlabeled, Mounting type: Clip on, Cable diameter: 2.8-4.4 mm, Lettering field: 4 x 15 mm

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Conductor marker carrier - PATO 3/15 - 1013135



Conductor marker carrier, transparent, Unlabeled, Mounting type: Clip on, Cable diameter: 4.4-6.7 mm, Lettering field: 4 x 15 mm

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Conductor marker carrier - PATO 4/15 - 1013148



Conductor marker carrier, transparent, Unlabeled, Mounting type: Clip on, Cable diameter: 6.7-10 mm, Lettering field: 4 x 15 mm

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### 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

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### Accessories

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#### 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



Screw plug - PROT-M 8 MS-PA-CHAIN - 1430860

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



#### Screwdriver tools

Tool - SAC BIT M8-D10 - 1208461



Nut for assembling sensor/actuator cables with M8 connector and for M8 connectors with QUICKON fast connection technology, for 4 mm hexagonal drive

#### Torque tool

Torque screwdriver - TSD 02 SAC - 1208487

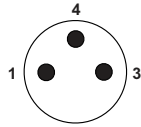


Torque screwdriver, with preset torque of 0.2 Nm and 4 mm hexagonal drive for M8 connectors

### Drawings

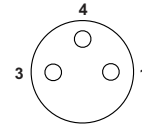
# Sensor/Actuator cable - SAC-3P-M 8MR/3,0-PUR/M 8FR-2L - 1682139

Schematic diagram



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

Schematic diagram



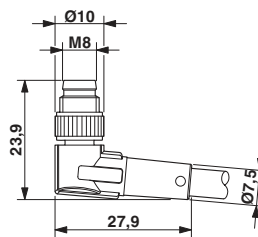
Pin assignment M8 socket, 3-pos., view female side

Cable cross section



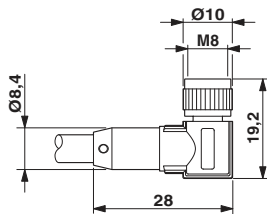
PUR halogen-free black [PUR]

Dimensioned drawing



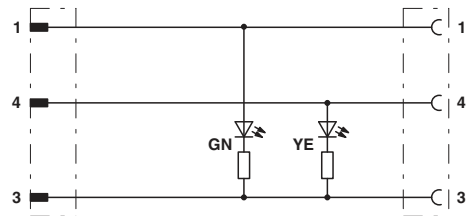
M8 x 1 male plug, angled version

Dimensioned drawing



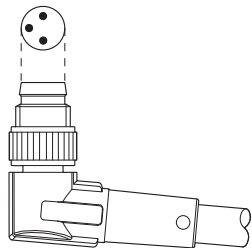
Socket M8 x 1, angled, with LED

Circuit diagram



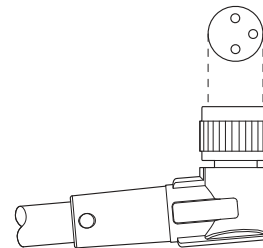
Contact assignment of M8 plugs/sockets

Schematic diagram



Layout of connector pin assignments

Schematic diagram



Layout of connector pin assignments



