

## Sensor/Actuator cable - SAC-3P-MR/ 3,0-PUR/C-1L-Z SCO - 1435519

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Sensor/Actuator cable, 3-position, PUR halogen-free, Black-gray RAL 7021, Plug angled M12 SPEEDCON, A-coded, on Valve connector C (8 mm), with 1 LED, connected with Z diode, Cable length: 3 m

### Product Features

- ✓ Easy and safe: 100% electrically tested plug-in components
- ✓ Robust valve connector with Zener diode as protective circuit
- ✓ Save time, thanks to installation with SPEEDCON rapid interlock system
- ✓ Convenient: increased machine availability thanks to quick and easy diagnostics
- ✓ Our standard: robust halogen-free PUR cable



### Key commercial data

|                      |          |
|----------------------|----------|
| Packing unit         | 1 1      |
| 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) |
|                                 | -20 °C ... 85 °C (valve plug)    |
| Degree of protection            | IP65                             |
|                                 | IP67                             |
|                                 | IP68                             |

#### General

|                       |     |
|-----------------------|-----|
| Rated current at 40°C | 4 A |
|-----------------------|-----|

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## Technical data

### General

|                              |                               |
|------------------------------|-------------------------------|
| Rated voltage                | 24 V                          |
| 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 |
|                              | Valve connector EN 175301-803 |
| Status display               | 1 LED                         |
| Protective circuit/component | Z diode                       |
| Surge voltage category       | III                           |
| Pollution degree             | 3                             |
| Insertion/withdrawal cycles  | $\geq 100$ (M12 connector)    |
| Torque                       | 0.4 Nm (M12 connector)        |
|                              | 0.6 Nm (Valve 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                          |
| Valve plug contact material             | CuSn                         |
| Valve plug contact surface material     | Sn                           |
| Valve plug contact insert material      | PA 66                        |
| Material housing valve plug             | TPU                          |
| Material, knurls                        | Zinc die-cast, nickel-plated |
| Sealing material                        | TPU (Seal molded)            |

### Cable

|                                    |                                                    |
|------------------------------------|----------------------------------------------------|
| Cable type                         | PUR halogen-free black                             |
| Cable type (abbreviation)          | PUR                                                |
| Cable abbreviation                 | Li9Y11Y-HF                                         |
| UL AWM style                       | 20549                                              |
| Conductor cross section            | $3 \times 0.5 \text{ mm}^2$                        |
| AWG signal line                    | 20                                                 |
| Conductor structure signal line    | $28 \times 0.15 \text{ mm}$                        |
| Core diameter including insulation | $1.5 \text{ mm} \pm 0.05 \text{ mm}$ (signal line) |
| Wire colors                        | Black 1, black 2, green/yellow                     |

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### Technical data

#### Cable

|                                             |                                                            |
|---------------------------------------------|------------------------------------------------------------|
| Overall twist                               | 3 wires, twisted                                           |
| External sheath, color                      | Black-gray RAL 7021                                        |
| External cable diameter D                   | 4.5 mm ± 0.2 mm                                            |
| Smallest bending radius, fixed installation | 22.5 mm                                                    |
| Number of bending cycles                    | 15000000                                                   |
| Bending radius                              | 50 mm                                                      |
| Traversing path                             | 0.9 m                                                      |
| Traversing rate                             | 5 m/s                                                      |
| Acceleration                                | 30 m/s <sup>2</sup>                                        |
| Outer sheath, material                      | PUR                                                        |
| Material conductor insulation               | PP                                                         |
| Conductor material                          | Bare Cu litz wires                                         |
| Insulation resistance                       | min. 20 MΩ*km                                              |
| Conductor resistance                        | 39 Ω/km (at 20 °C)                                         |
| Nominal voltage, cable                      | ≤ 300 V                                                    |
| Test voltage, cable                         | ≥ 1200 V                                                   |
| Flame resistance                            | According to DIN VDE 0482                                  |
|                                             | According to DIN EN 50265-2-1                              |
| Halogen-free                                | in accordance with DIN VDE 0472 part 815                   |
| Other resistance                            | Largely oil-resistant                                      |
|                                             | partly UV-resistant in accordance with DIN EN ISO 4892-2-A |
| Ambient temperature (operation)             | -40 °C ... 80 °C (cable, fixed installation)               |
|                                             | -20 °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 |

#### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC001855 |
|----------|----------|

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### Classifications

#### ETIM

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

GOST

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Ex Approvals

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Approvals submitted

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#### Approval details

|                                                                                          |
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| GOST  |
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### Accessories

Accessories

Conductor marking

## Sensor/Actuator cable - SAC-3P-MR/ 3,0-PUR/C-1L-Z SCO - 1435519

### Accessories

#### 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

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#### 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

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#### 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

## Sensor/Actuator cable - SAC-3P-MR/ 3,0-PUR/C-1L-Z SCO - 1435519

### Accessories

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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### Protective cap

Sealing cap - PROT-M12 FS-PA-CHAIN - 1430873



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

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### Safety locking

Fuse clip - SAC-M12-EXCLIP-M - 1558988



Fuse clip for the pin side of various M12 sensor/actuator connectors prevents plug-in connections being interrupted without using a tool

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### Screwdriver tools

## Sensor/Actuator cable - SAC-3P-MR/ 3,0-PUR/C-1L-Z SCO - 1435519

### Accessories

Screw insert - SF-BIT-PH 2-70 - 1212583



Screw bit, PH crosshead, E6.3-1/4" drive, size: PH 2 x 70 mm, suitable for holder according to DIN 3126-F6.3/ISO 1173

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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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Tool - SAC BIT M12-D15 - 1208432



Nut for assembling sensor/actuator cables with M12 connector and for M12 connectors with QUICKON fast connection technology, for 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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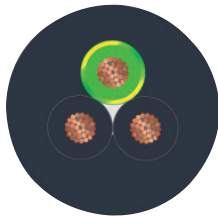
## Drawings

Schematic diagram



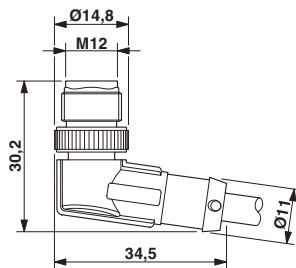
Pin assignment M12 plug, 3-pos., valve connector

Cable cross section



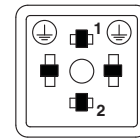
PUR halogen-free black [PUR]

Dimensioned drawing



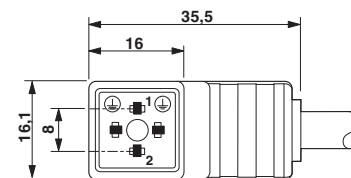
M12 x 1 male plug, angled

Schematic diagram



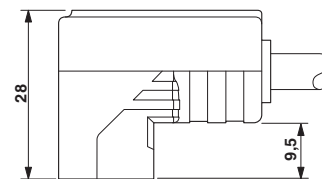
Valve connector connector pin assignment, type C

Dimensioned drawing



Valve connector, type C

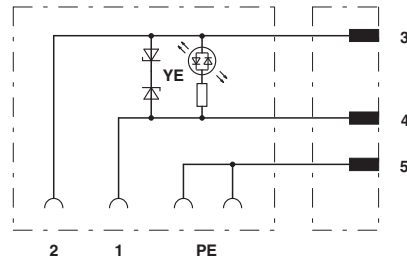
Dimensioned drawing



Valve connector, type C, side view

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Circuit diagram



Contact assignment of M12 plug and valve connector