# Sensor/Actuator cable - SAC-3P-M12MR/1,5-PUR/A-1L-Z - 1439353

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As illustrated, but without SPEEDCON

Sensor/Actuator cable, 3-position, PUR halogen-free, Black-gray RAL 7021, Plug angled M12, A-coded, on A valve plug, with 1 LED, connected with Z diode, Cable length: 1.5 m

## Key commercial data

| | |
|---|---|
| Packing unit | 0 |
| Minimum order quantity | 1 |
| GTIN | 4 046356 489249 |
| Custom tariff number | 85444290 |
| Country of origin | POLAND |

## Technical data

### General data

| | |
|---|---|
| Rated current at 40°C | 4 A |
| Rated voltage | 24 V |
| Number of positions | 3 |
| Volume resistance | ≤ 5 mΩ |
| Insulation resistance | ≥ 100 MΩ |
| Length of cable | 1.5 m |
| Ambient temperature (operation) | -25 °C ... 90 °C (Male connector / female connector) |
| Ambient temperature (operation) | -20 °C ... 85 °C (valve plug) |

### General characteristics

| | |
|---|---|
| Standards/regulations | M12 connector IEC 61076-2-101 |
| Standards/regulations | Valve connector EN 175301-803 |
| Coding | A - standard |
| Surge voltage category | III |
| Pollution degree | 3 |
| Degree of protection | IP65/67 |
| Insertion/withdrawal cycles | ≥ 100 (M12 connector) |
| Torque | 0.4 Nm (M12 connector) |

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## Technical data

### General characteristics

| | |
|---|---|
| Torque | 0.6 Nm (Valve plug-in connector) |
| Contact material | CuSn |
| Contact surface material | Ni/Au |
| Contact carrier material | TPU GF |
| Contact material | CuSn |
| 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) |
| Status display | 1 LED |
| Protective circuit/component | Z diode |

### Conductor data

| | |
|---|---|
| Cable type | PUR halogen-free black |
| Cable type (abbreviation) | PUR |
| Cable abbreviation | Li9Y11Y-HF |
| UL AWM Style | 20549 |
| Conductor cross section | 3x 0.5 mm² |
| AWG signal line | 20 |
| Conductor structure signal line | 28x 0.15 mm |
| Core diameter including insulation | 1.5 mm ±0.05 mm (signal line) |
| External cable diameter | 4.5 mm ± 0.2 mm |
| Wire colors | Black 1, black 2, green/yellow |
| External sheath, color | Black-gray RAL 7021 |
| Insulation resistance | min. 20 MΩ*km |
| Conductor resistance | 39 Ω/km (at 20 °C) |
| Nominal voltage, conductor | ≤ 300 V |
| Test voltage, conductor | ≥ 1200 V |
| Overall twist | 3 wires, twisted |
| Outer sheath, material | PUR |
| Material conductor insulation | PP |
| Conductor material | Bare Cu litz wires |
| 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/s² |
| Ambient temperature (operation) | -40 °C ... 80 °C (cable, fixed installation) |
| Ambient temperature (operation) | -20 °C ... 80 °C (cable, flexible installation) |
| Flame resistance | According to DIN VDE 0482 |

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## Technical data

### Conductor data

| | |
|---|---|
| Flame resistance | According to DIN EN 50265-2-1 |
| Halogen-free | in accordance with DIN VDE 0472 part 815 |
| Other resistance | Largely oil-resistant |
| Other resistance | partly UV-resistant in accordance with DIN EN ISO 4892-2-A |

## Classifications

### eclass

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

### etim

| | |
|---|---|
| ETIM 3.0 | EC001855 |
| ETIM 4.0 | EC001855 |

### unspsc

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

## Accessories

### Accessories

### Assembly

Screw - SAC-V-SCREW-M3-29 KNURL - 1403779



Fillister head screw with plastic knurl, M3 x 40

### Fuse

# Sensor/Actuator cable - SAC-3P-M12MR/1,5-PUR/A-1L-Z - 1439353

## Accessories

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

## Marking

Insert label - PABA WH/15 - 1013151



Insert label, 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, yellow, 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 RD/15 - 1013944



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

Conductor marker carrier - PATO 2/15 - 1013122



Conductor marker carrier, transparent, Unlabeled, Mounting type: Clip on, Cable diameter: 2.8-5 mm, Lettering field: 4 x 15 mm

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## Accessories

Conductor marker carrier - PATO 3/15 - 1013135



Conductor marker carrier, transparent, Unlabeled, Mounting type: Clip on, Cable diameter: 5-8 mm, Lettering field: 4 x 15 mm

Conductor marker carrier - PATO 4/15 - 1013148



Conductor marker carrier, transparent, Unlabeled, Mounting type: Clip on, Cable diameter: 8-10 mm, Lettering field: 4 x 15 mm

Marker pen - B-STIFT - 1051993



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

## Protection and sealing elements

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

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



## Tools

Screw insert - SF-BIT-PH 1-70 - 1212582



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

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## Accessories

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

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

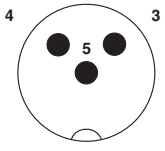
Tool - SAC BIT M12-D15 - 1208432



Nut for assembling sensor/actuator cables with M12 connector and for M12 connectors with QUICKON fast connection technology, for 4 mm hexagonal drive

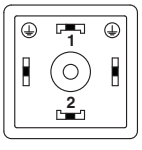
## Drawings

Schematic diagram




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

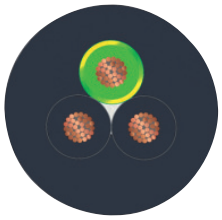
Schematic diagram




Valve connector pin assignment, type A

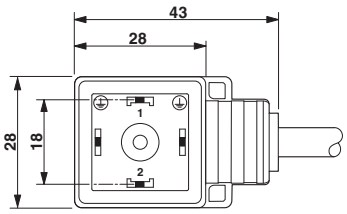
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## Cable cross section



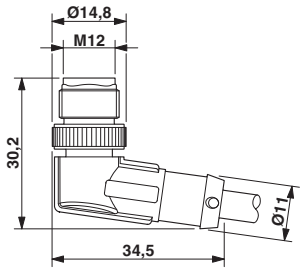
PUR halogen-free black [PUR]

## Dimensioned drawing



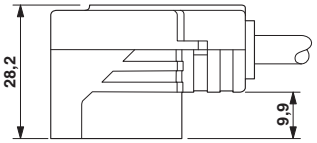

Valve plug, type A

## Dimensioned drawing



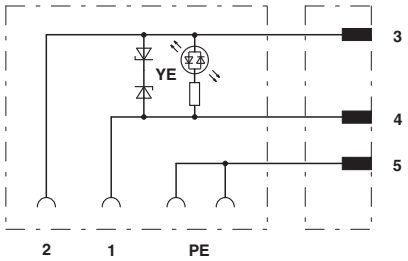

M12 x 1 male connector, angled

## Dimensioned drawing




Valve connector, type A, side view

## Circuit diagram




Contact assignment of M12 plug and valve connector

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