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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 A, with 1 LED, connected with Z diode, Cable length: 0.6 m

## **Product Features**

- Easy and safe: 100% electrically tested plug-in components
- Solution of the second second
- Save time, thanks to installation with SPEEDCON rapid interlock system
- Tonvenient: increased machine availability thanks to quick and easy diagnostics
- ☑ Our standard: robust halogen-free PUR cable



## Key commercial data

| Packing unit         | 11       |
|----------------------|----------|
| Custom tariff number | 85444290 |
| Country of origin    | Poland   |

## Technical data

Dimensions

| Length of cable | 0.6 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 |
|-----------------------|-----|



## Technical data

### General

| Rated voltage                | 24 V                          |
|------------------------------|-------------------------------|
| Number of positions          | 3                             |
| Contact resistance           | $\leq$ 5 m $\Omega$           |
| Insulation resistance        | $\geq$ 100 MΩ                 |
| 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  | ≥ 100 (M12 connector)         |
| Torque                       | 0.4 Nm (M12 connector)        |
|                              | 0.6 Nm (Valve connector)      |

#### Material

| Inflammability class according to UL 94 | НВ                           |
|---|------------------------------|
| Contact material                        | CuSn                         |
| Contact surface material                | Ni/Au                        |
| Contact carrier material                | TPU GF                       |
| 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            | 3x 0.5 mm <sup>2</sup>         |
| AWG signal line                    | 20                             |
| Conductor structure signal line    | 28x 0.15 mm                    |
| Core diameter including insulation | 1.5 mm ±0.05 mm (signal line)  |
| Wire colors                        | Black 1, black 2, green/yellow |
| Overall twist                      | 3 wires, twisted               |



## Technical data

Cable

| 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                    | 1500000  |
| 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)                |
| Ambient temperature (operation)             | -40 °C 80 °C (cable, fixed 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 |
|----------|----------|
| ETIM 4.0 | EC001855 |



## Classifications

ETIM

| ETIM 5.0 | EC001855 |
|----------|----------|
| UNSPSC   |          |

#### UNSPSC

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

## Approvals

### Approvals

| Approvals |  |
|-----------|--|

GOST

Ex Approvals

Approvals submitted

## Approval details

GOST 🙆

## 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



## Accessories

### 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

#### 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

### 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

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

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



## Accessories

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

Mounting material

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



Fillister head screw with plastic knurl, M3 x 40

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

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

Screwdriver tools

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## Accessories

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

### 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

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

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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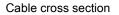


## Drawings

Schematic diagram



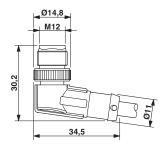
Pin assignment M12 plug, 3-pos., valve connector





PUR halogen-free black [PUR]

#### **Dimensioned drawing**



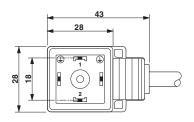
M12 x 1 male plug, angled

### Schematic diagram



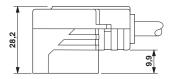
Valve connector pin assignment, type A

### Dimensioned drawing



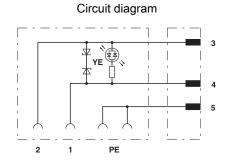
Valve connector, type A

#### **Dimensioned drawing**



Valve connector, type A, side view





Contact assignment of M12 plug and valve connector

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