

# SAC-3P-MS/ 0,6-PUR/C-1L-Z SCO - Sensor/actuator cable



1435441

<https://www.phoenixcontact.com/us/products/1435441>

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Sensor/actuator cable, 3-position, PUR halogen-free, black-gray RAL 7021, Plug straight M12 SPEEDCON, coding: A, on Valve connector C (8 mm), with 1 LED, Wiring: Z diode, cable length: 0.6 m

## Your advantages

- Easy and safe: 100 % electrically tested plug-in components
- Save time, thanks to installation with SPEEDCON fast locking system
- Convenient: increased machine availability thanks to quick and easy diagnostics
- Our standard: robust halogen-free PUR cable

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1435441       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | BF07          |
| Product key                          | AF1DNA        |
| GTIN                                 | 4046356413732 |
| Weight per piece (including packing) | 48 g          |
| Weight per piece (excluding packing) | 40 g          |
| Customs tariff number                | 85444290      |
| Country of origin                    | PL            |

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## Technical data

### Product properties

|                      |  |
|----------------------|--|
| Product type         | Sensor/actuator cable with valve connector |
| Application          | Standard                                   |
| Number of positions  | 3  |
| No. of cable outlets | 1  |
| Shielded             | no   |
| Coding               | A  |

### Insulation characteristics

|                      |     |
|----------------------|-----|
| Overvoltage category | III |
| Degree of pollution  | 3   |

### Connection data

#### Conductor connection

|                   |                          |
|-------------------|--------------------------|
| Tightening torque | 0.4 Nm (M12 connector)   |
|                   | 0.6 Nm (Valve connector) |

### Material specifications

|  |                              |
|--|------------------------------|
| Flammability rating according to UL 94 | HB                           |
| Seal material                          | TPU                          |
| Material housing valve plug            | TPU                          |
| Material of grip body                  | TPU                          |
| Contact material                       | CuSn                         |
| Contact surface material               | Ni/Au                        |
| Contact carrier material               | TPU GF                       |
| Contact material                       | CuSn                         |
| Valve plug contact insert material     | PA 6.6                       |
| Contact surface material               | Sn                           |
| Material for screw connection          | Zinc die-cast, nickel-plated |

### Electrical properties

|                       |                            |
|-----------------------|----------------------------|
| Insulation resistance | $\geq 100 \text{ M}\Omega$ |
| Nominal voltage $U_N$ | 24 V AC                    |
|                       | 24 V DC                    |
| Nominal current $I_N$ | 4 A                        |

### Valve connector characteristics

|                  |   |
|------------------|---|
| Fixing screws    | M2,5 x 27,5                             |
| Pulse power      | 40 W (at 100 $\mu$ s square-wave pulse) |
| Terminal voltage | 70 V (at 2 mA constant current)         |
| Reverse voltage  | 50 V                                    |

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## Mechanical properties

### Mechanical data

|                             |                       |
|-----------------------------|-----------------------|
| Insertion/withdrawal cycles | ≥ 100 (M12 connector) |
|-----------------------------|-----------------------|

## Signaling

|                        |       |
|------------------------|-------|
| Status display         | 1 LED |
| Status display present | yes   |

## Connector

### Connection 1

|              |                            |
|--------------|----------------------------|
| Type         | Plug straight M12 SPEEDCON |
| Locking type | SPEEDCON                   |
| Coding type  | A                          |

### Connection 2

|                    |                          |
|--------------------|--------------------------|
| Type               | Valve connector C (8 mm) |
| Material           | CuSn (Contact)           |
|                    | Sn (Contact surface)     |
|                    | PA 6.6 (Contact carrier) |
|                    | TPU (Housing)            |
| Protective circuit | Z diode                  |

## Cable/line

|              |       |
|--------------|-------|
| Cable length | 0.6 m |
|--------------|-------|

### PUR halogen-free black [PUR]

|                                 |  |
|---------------------------------|--|
| Dimensional drawing             |  |
| Cable weight                    | 30 kg/km   |
| UL AWM Style                    | 20549  |
| Number of positions             | 3  |
| Shielded                        | no   |
| Cable type                      | PUR halogen-free black [PUR]   |
| Conductor structure signal line | 28x 0.15 mm  |
| AWG signal line                 | 20   |
| Conductor cross-section         | 3x 0.5 mm <sup>2</sup>   |
| Wire diameter incl. insulation  | 1.5 mm ±0.05 mm (Signal line)  |

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|   |   |
|---|---|
| External cable diameter                       | 4.50 mm ±0.2 mm   |
| Outer sheath, material                        | PUR   |
| External sheath, color                        | black-gray RAL 7021   |
| Conductor material                            | Bare Cu litz wires  |
| Material wire insulation                      | PP  |
| Single wire, color                            | black 1, black 2, green/yellow  |
| Overall twist                                 | 3 wires, twisted  |
| Max. conductor resistance                     | 39 Ω/km (at 20 °C)  |
| Insulation resistance                         | min. 20 MΩ*km   |
| Nominal voltage, cable                        | ≤ 300 V   |
| Test voltage                                  | ≥ 1200 V  |
| Minimum bending radius, fixed installation    | 5 x D   |
| Minimum bending radius, flexible installation | 10 x D  |
| Smallest bending radius, fixed installation   | 22.5 mm   |
| Smallest bending radius, movable installation | 45 mm   |
| Dynamic load capacity (bending)               | Max. bending cycles: 15000000, Bending radius: 50 mm, Traversing path: 0.9 m, Traversing rate: 5 m/s, Acceleration: 30 m/s <sup>2</sup> |
| Halogen-free                                  | in accordance with DIN VDE 0472 part 815  |
| Flame resistance                              | according to DIN VDE 0482<br>According to DIN EN 50265-2-1  |
| Resistance to oil                             | in accordance with DIN EN 60811-2-1   |
| Other resistance                              | largely oil-resistant<br>partly UV-resistant (in accordance with DIN EN ISO 4892-2-A)   |
| Ambient temperature (operation)               | -40 °C ... 80 °C (cable, fixed installation)<br>-20 °C ... 80 °C (Cable, flexible installation)   |

## Environmental and real-life conditions

### Ambient conditions

|   |   |
|---|---|
| Degree of protection  | IP65<br>IP67                                    |
| Ambient temperature (operation) (male connector/female connector) | -25 °C ... 90 °C (Plug / socket)                |
| Ambient temperature (operation) (Valve connector)                 | -20 °C ... 85 °C (Valve connector)              |
| Ambient temperature (operation) (Cable, fixed installation)       | -40 °C ... 80 °C (cable, fixed installation)    |
| Ambient temperature (operation) (Cable, flexible installation)    | -15 °C ... 80 °C (Cable, flexible installation) |

## Standards and regulations

### M12

|                          |                 |
|--------------------------|-----------------|
| Standard designation     | M12 connector   |
| Standards/specifications | IEC 61076-2-101 |

### Valve connector

|                      |                 |
|----------------------|-----------------|
| Standard designation | Valve connector |
|----------------------|-----------------|

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Standards/specifications

EN 175301-803

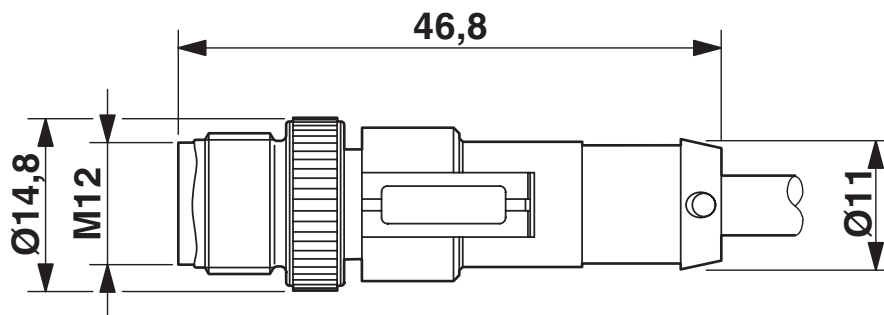
# SAC-3P-MS/ 0,6-PUR/C-1L-Z SCO - Sensor/actuator cable

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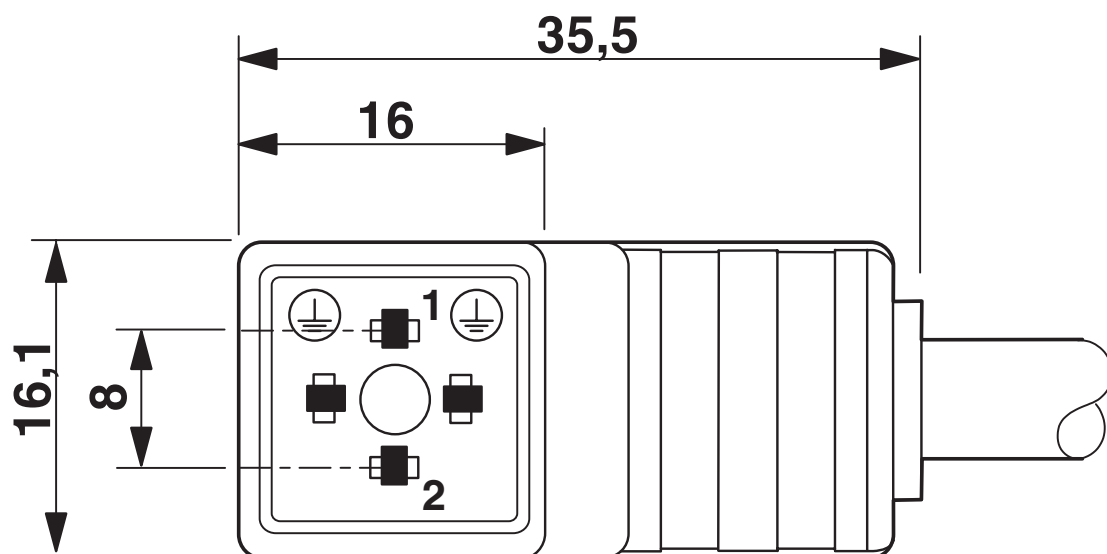
## Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

Dimensional drawing



Valve connector, type C

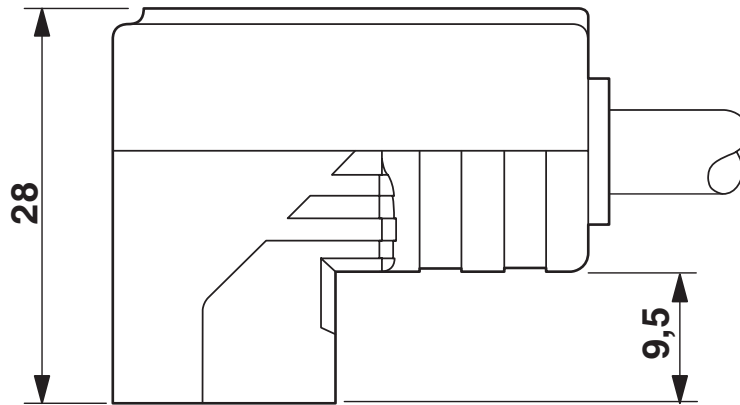
# SAC-3P-MS/ 0,6-PUR/C-1L-Z SCO - Sensor/actuator cable



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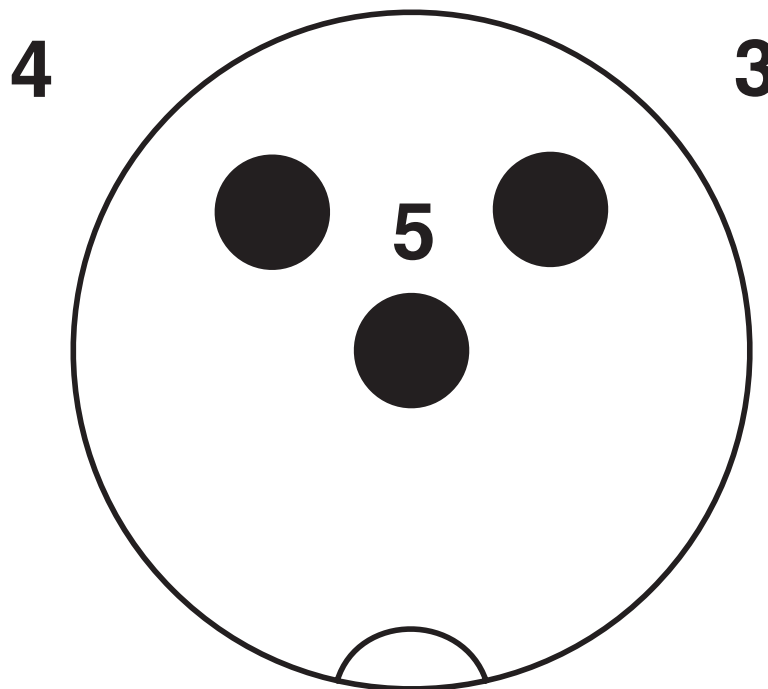
<https://www.phoenixcontact.com/us/products/1435441>

Dimensional drawing



Valve connector, type C, side view

Schematic diagram



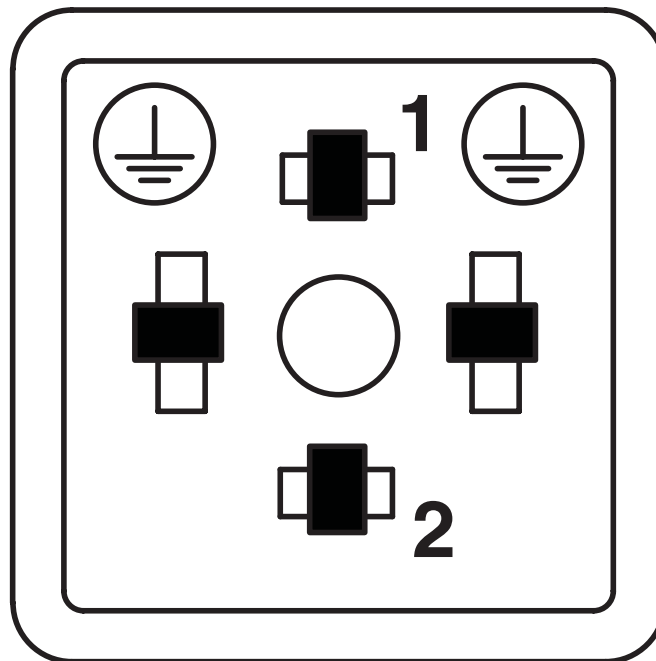
Pin assignment M12 plug, 3-pos., valve connector

# SAC-3P-MS/ 0,6-PUR/C-1L-Z SCO - Sensor/actuator cable

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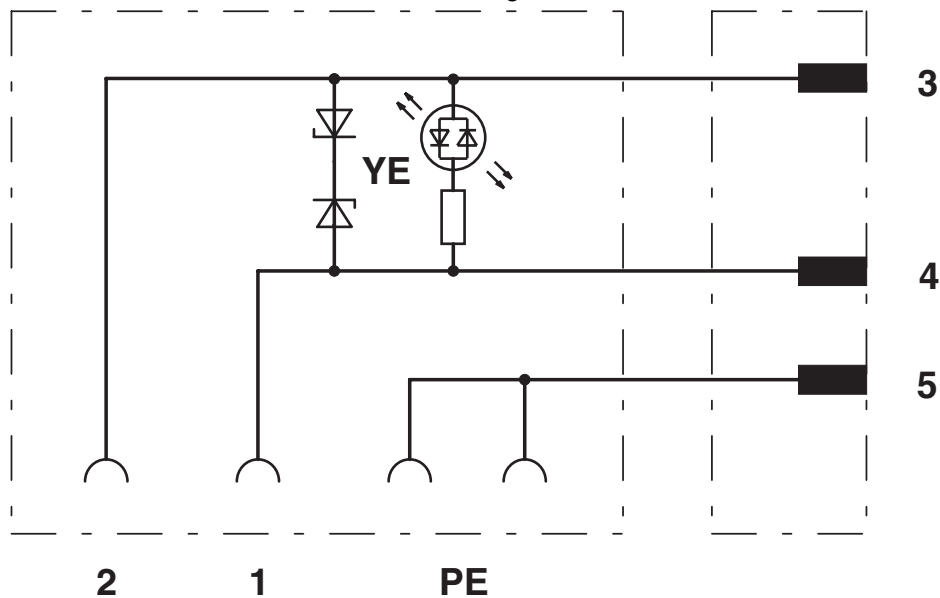
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Schematic diagram



Valve connector connector pin assignment, type C

Circuit diagram



Contact assignment of M12 plug and valve connector

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1435441>



**EAC-RoHS**

Approval ID: RU D-DE.HB35.B.00387



**CSAus**

Approval ID: 13631

|       | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|-------|-----------------------|-----------------------|-------------------|-----------------------------|
| keine |                       |                       |                   |                             |
|       | 24 V                  | 4 A                   | -                 | -                           |

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27060312 |
| ECLASS-15.0 | 27060312 |

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | EC001855 |
|-----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 31251500 |
|-------------|----------|

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## Environmental product compliance

### EU RoHS

|   |        |
|---|--------|
| Fulfills EU RoHS substance requirements | Yes    |
| Exemption                               | 7(c)-I |

### China RoHS

|  |   |
|--|---|
| Environment friendly use period (EFUP) | EFUP-50   |
|  | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

### EU REACH SVHC

|                                     |  |
|-------------------------------------|--|
| REACH candidate substance (CAS No.) | Diboron trioxide(CAS: 1303-86-2)           |
|                                     | Lead monoxide (lead oxide)(CAS: 1317-36-8) |
| SCIP                                | 4421220f-c8c9-4fbb-9b81-984aa383a58d       |

### EF3.1 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 0.495 kg CO2e |
|---------|---------------|

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