

# SAC-3P-M12MS/3,0-PUR/A-1L-Z - Sensor/actuator cable



1400771

<https://www.phoenixcontact.com/us/products/1400771>

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

The figure shows the SPEEDCON version

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1400771       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | BF07          |
| Product key                          | AF1DJA        |
| GTIN                                 | 4046356509534 |
| Weight per piece (including packing) | 130 g         |
| Weight per piece (excluding packing) | 116.8 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 |
| Number of positions  | 3  |
| No. of cable outlets | 1  |
| Shielded             | no   |
| Coding               | A  |

### Insulation characteristics

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

### 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                        |

### Mechanical properties

#### Mechanical data

|                             |            |
|-----------------------------|------------|
| Insertion/withdrawal cycles | $\geq 100$ |
|-----------------------------|------------|

### Signaling

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

### Connector

#### Connection 1

|      |                   |
|------|-------------------|
| Type | Plug straight M12 |
|------|-------------------|

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|                     |   |
|---------------------|---|
| Number of positions | 3 |
| Coding type         | A |

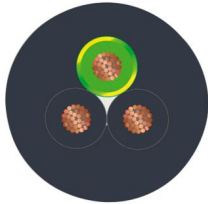
## Connection 2

|                     |                          |
|---------------------|--------------------------|
| Type                | Valve connector A        |
| Number of positions | 3                        |
| Material            | CuSn (Contact)           |
|                     | Sn (Contact surface)     |
|                     | PA 6.6 (Contact carrier) |
|                     | TPU (Housing)            |
| Protective circuit  | Z diode                  |

## Cable/line

|              |     |
|--------------|-----|
| Cable length | 3 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)  |
| 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  |

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|   |   |
|---|---|
| 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) | -25 °C ... 90 °C (Plug / socket)<br>-20 °C ... 85 °C (Valve connector)<br>-40 °C ... 80 °C (cable, fixed installation)<br>-15 °C ... 80 °C (Cable, flexible installation) |

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## Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

Dimensional drawing



Valve connector, type A

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Valve connector, type A, side view



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

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Schematic diagram



Valve connector pin assignment, type A

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/1400771>

|  <b>CSA</b><br>Approval ID: 13631 |                       |                       |                   |                             |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine  |                       |                       |                   |                             |
|  | 24 V                  | 4 A                   | -                 | -                           |

|  <b>EAC-RoHS</b><br>Approval ID: RU D-DE.HB35.B.00387 |  |  |  |  |
|--|--|--|--|--|
|--|--|--|--|--|

|  <b>CSAus</b><br>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                                | fff73b37-8941-4ebe-864a-762d182e1f4d       |

### EF3.1 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 2.274 kg CO2e |
|---------|---------------|

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