

# SAC-3P-M12MS/15,0-PUR/A-1L-Z - Sensor/actuator cable



1400637

<https://www.phoenixcontact.com/us/products/1400637>

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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: 15 m

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1400637                        |
| Packing unit                         | 1 pc                           |
| Minimum order quantity               | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | BF07                           |
| Product key                          | AF1DJA                         |
| GTIN                                 | 4046356509282                  |
| Weight per piece (including packing) | 459.4 g                        |
| Weight per piece (excluding packing) | 459.4 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                                         |

### 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<br>24 V DC         |
| Nominal current $I_N$ | 4 A                        |

### Signaling

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

### Connector

#### Connection 1

|                     |                   |
|---------------------|-------------------|
| Type                | Plug straight M12 |
| Number of positions | 3                 |
| Coding type         | A                 |

#### Connection 2

|                     |                   |
|---------------------|-------------------|
| Type                | Valve connector A |
| Number of positions | 3                 |

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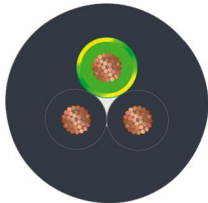
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|                    |                          |
|--------------------|--------------------------|
| Material           | CuSn (Contact)           |
|                    | Sn (Contact surface)     |
|                    | PA 6.6 (Contact carrier) |
|                    | TPU (Housing)            |
| Protective circuit | Z diode                  |

## Cable/line

|              |      |
|--------------|------|
| Cable length | 15 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                                                                                                                                   |
| 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> |

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|                                 |                                                              |
|---------------------------------|--------------------------------------------------------------|
| Halogen-free                    | in accordance with DIN VDE 0472 part 815                     |
| Flame resistance                | according to DIN VDE 0482                                    |
|                                 | According to DIN EN 50265-2-1                                |
| Resistance to oil               | in accordance with DIN EN 60811-2-1                          |
| 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)              |

## Environmental and real-life conditions

### Ambient conditions

|                                                                   |                                                 |
|-------------------------------------------------------------------|-------------------------------------------------|
| Degree of protection                                              | IP65                                            |
|                                                                   | 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) (fixed installation)              | -40 °C ... 80 °C (cable, fixed installation)    |
| Ambient temperature (operation) (flexible installation)           | -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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1400637

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Valve connector, type A, side view



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

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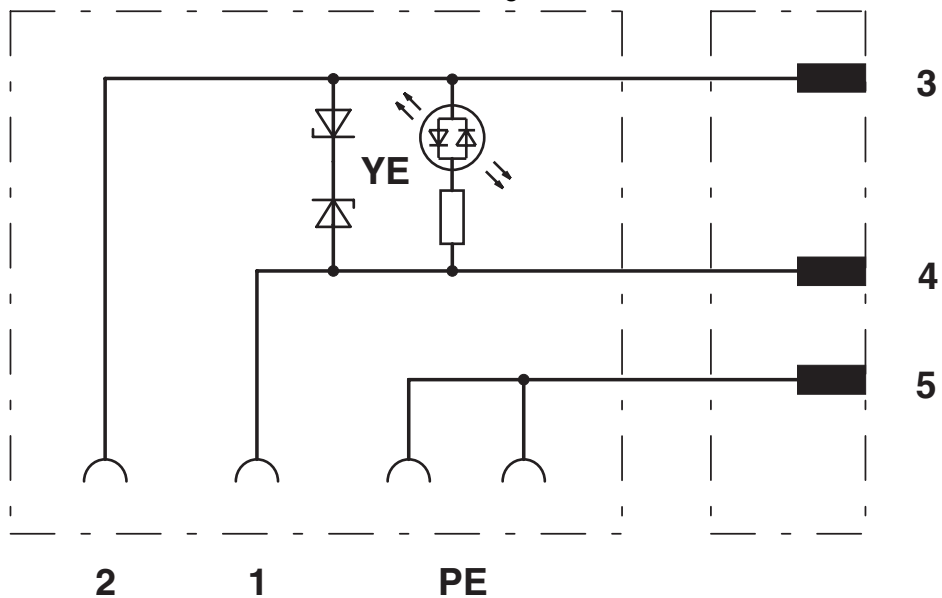
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Schematic diagram



Valve connector pin assignment, type A

Circuit diagram



Contact assignment of M12 plug and valve connector

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## Classifications

### ECLASS

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

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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.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

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