

# SAC-3P-M 8MS/ 1,0-PUR/4P-M 8FS - Sensor/actuator cable



1501346

<https://www.phoenixcontact.com/gb/products/1501346>

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Sensor/actuator cable, 3-position, PUR halogen-free, black-gray RAL 7021, Plug straight M8, coding: A, on Socket straight M8, cable length: 1 m

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1501346       |
| Packing unit                         | 5 pc          |
| Minimum order quantity               | 25 pc         |
| Sales key                            | AF1BBA        |
| Product key                          | AF1BBA        |
| GTIN                                 | 4017918613631 |
| Weight per piece (including packing) | 37.58 g       |
| Weight per piece (excluding packing) | 33.566 g      |
| Customs tariff number                | 85444290      |
| Country of origin                    | DE            |

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## Technical data

### Product properties

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

### Insulation characteristics

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

### Material specifications

|                                        |                                             |
|----------------------------------------|---------------------------------------------|
| Flammability rating according to UL 94 | HB                                          |
| Seal material                          | NBR                                         |
| Material of grip body                  | TPU, hardly inflammable, self-extinguishing |
| Contact material                       | CuSn                                        |
| Contact surface material               | Ni/Au                                       |
| Contact carrier material               | TPU GF                                      |
| Material for screw connection          | Zinc die-cast, nickel-plated                |
| Outer sheath, material                 | PUR                                         |
| Conductor material                     | Bare Cu litz wires                          |

### Electrical properties

|                           |                            |
|---------------------------|----------------------------|
| Insulation resistance     | $\geq 100 \text{ M}\Omega$ |
| Nominal voltage $U_N$     | 48 V AC                    |
|                           | 60 V DC                    |
| Nominal current $I_N$     | 4 A                        |
| Max. conductor resistance | 78 $\Omega/\text{km}$      |

### Mechanical properties

#### Mechanical data

|                     |         |
|---------------------|---------|
| Max. bending cycles | 4000000 |
|---------------------|---------|

### Signaling

|                        |    |
|------------------------|----|
| Status display         | no |
| Status display present | no |

### Connector

#### Connection 1

|                     |                  |
|---------------------|------------------|
| Type                | Plug straight M8 |
| Number of positions | 3                |

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|             |   |
|-------------|---|
| Coding type | A |
|-------------|---|

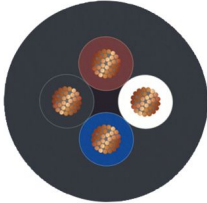
## Connection 2

|                     |                    |
|---------------------|--------------------|
| Type                | Socket straight M8 |
| Number of positions | 3                  |

## Cable/line

|              |     |
|--------------|-----|
| Cable length | 1 m |
|--------------|-----|

## PUR halogen-free black [PUR]

|                                               |                                                                                                                           |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Dimensional drawing                           |                                         |
| Cable weight                                  | 23 kg/km                                                                                                                  |
| UL AWM Style                                  | 20549 / 10493 (80°C/300 V)                                                                                                |
| Number of positions                           | 4                                                                                                                         |
| Shielded                                      | no                                                                                                                        |
| Cable type                                    | PUR halogen-free black [PUR]                                                                                              |
| Conductor structure signal line               | 32x 0.10 mm                                                                                                               |
| AWG signal line                               | 24                                                                                                                        |
| Conductor cross section                       | 4x 0.25 mm² (Signal line)                                                                                                 |
| Wire diameter incl. insulation                | 1.17 mm ±0.02 mm (Signal line)                                                                                            |
| External cable diameter                       | 3.95 mm ±0.15 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                            | brown, white, blue, black                                                                                                 |
| Thickness, insulation                         | ≥ 0.21 mm (Core insulation)<br>approx. 0.50 mm (Outer cable sheath)                                                       |
| Overall twist                                 | 4 wires, twisted                                                                                                          |
| Max. conductor resistance                     | max. 78 Ω/km (at 20 °C)                                                                                                   |
| Insulation resistance                         | ≥ 100 GΩ*km (at 20 °C)                                                                                                    |
| Nominal voltage, cable                        | ≤ 300 V                                                                                                                   |
| Test voltage                                  | ≥ 3000 V                                                                                                                  |
| Smallest bending radius, fixed installation   | 20 mm                                                                                                                     |
| Smallest bending radius, movable installation | 40 mm                                                                                                                     |
| Dynamic load capacity (bending)               | Max. bending cycles: 10000000, Bending radius: 44 mm, Traversing path: 10 m, Traversing rate: 3 m/s, Acceleration: 5 m/s² |

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|                                 |                                                                                                          |
|---------------------------------|----------------------------------------------------------------------------------------------------------|
| Dynamic load capacity (torsion) | Torsion: $\pm 180^\circ/\text{m}$ , Torsion cycles: $\geq 2000000$ , Torsional frequency: 35 cycles/min. |
| Halogen-free                    | in accordance with DIN VDE 0472 part 815                                                                 |
| Flame resistance                | in accordance with UL 758/1581 FT2                                                                       |
|                                 | DIN EN 60332-2-2 (20 s)                                                                                  |
| Resistance to oil               | in accordance with DIN EN 60811-2-1                                                                      |
| Other resistance                | Highly resistant to acids, alkaline solutions and solvents                                               |
|                                 | hydrolysis and microbe resistant                                                                         |
|                                 | partly UV-resistant (in accordance with DIN EN ISO 4892-2-A)                                             |
| Special properties              | Flexible cable conduit capable                                                                           |
|                                 | Silicone-free                                                                                            |
|                                 | Free of substances which would hinder coating with paint or varnish                                      |
| Ambient temperature (operation) | -40 °C ... 80 °C (cable, fixed installation)                                                             |
|                                 | -25 °C ... 80 °C (Cable, flexible installation)                                                          |

## Environmental and real-life conditions

### Ambient conditions

|                                 |                                                |
|---------------------------------|------------------------------------------------|
| Degree of protection            | IP65                                           |
|                                 | IP67                                           |
|                                 | IP68                                           |
| Ambient temperature (operation) | -25 °C ... 90 °C (Plug / socket)               |
|                                 | -40 °C ... 80 °C (cable, fixed installation)   |
|                                 | -5 °C ... 80 °C (Cable, flexible installation) |

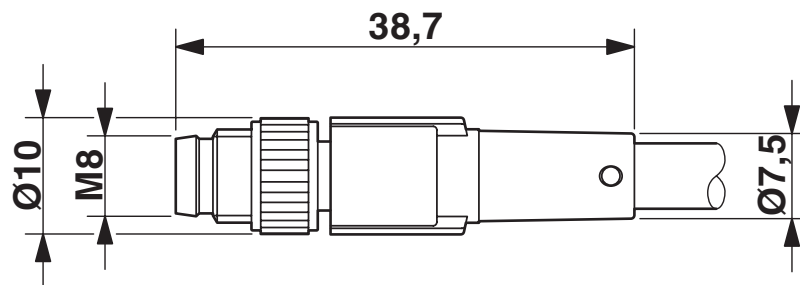
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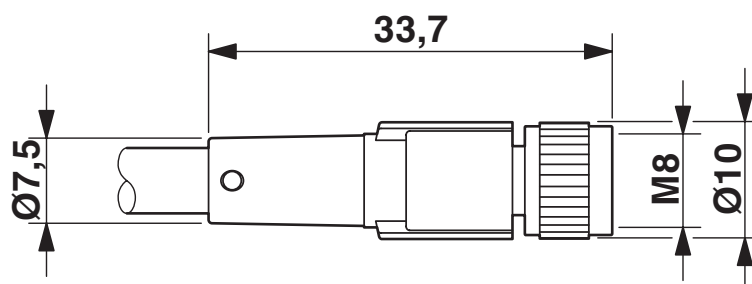
## Drawings

Dimensional drawing



M8 x 1 male plug, straight version

Dimensional drawing

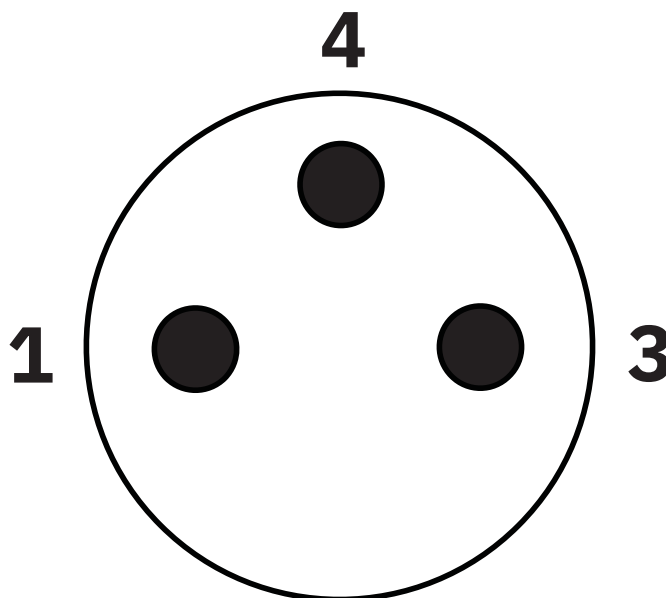


Socket M8 x 1, straight

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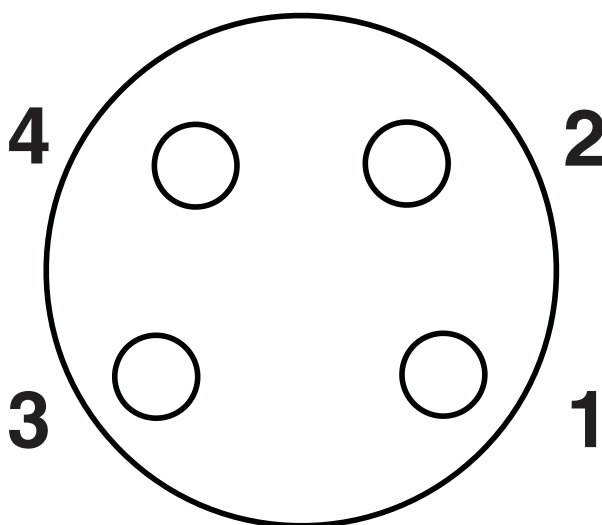
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Schematic diagram



Pin assignment M8 plug, 3-pos., view male side

Schematic diagram



Pin assignment M8 socket, 4-pos., view female side

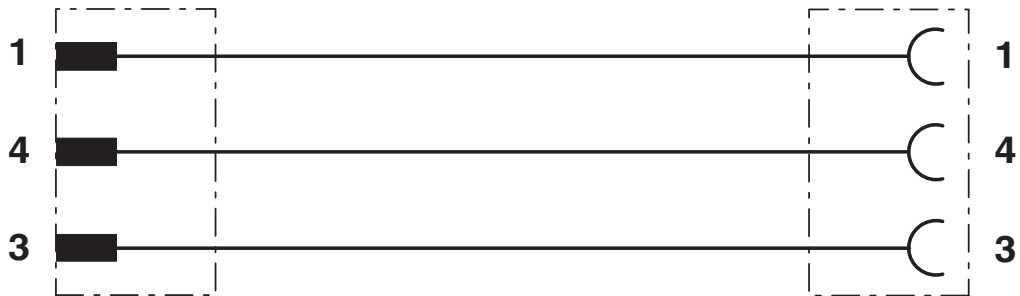
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Circuit diagram



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## Approvals

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### UL Listed

Approval ID: FILE E 221474

|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | 60 V                  | 4 A                   | -                 | -                           |



### cUL Listed

Approval ID: FILE E 221474

|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | 60 V                  | 4 A                   | -                 | -                           |



### EAC-RoHS

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

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27060311 |
|-------------|----------|

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC001855 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 26121600 |
|-------------|----------|

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## Environmental product compliance

### EU RoHS

|                                         |                    |
|-----------------------------------------|--------------------|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |
|-----------------------------------------|--------------------|

### China RoHS

|                                        |                                          |
|----------------------------------------|------------------------------------------|
| Environment friendly use period (EFUP) | EFUP-E                                   |
|                                        | No hazardous substances above the limits |

### EU REACH SVHC

|                                     |                            |
|-------------------------------------|----------------------------|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

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