

# SAC-8P-P12MS/ 5,0-PUR - Sensor/actuator cable



1649272

<https://www.phoenixcontact.com/us/products/1649272>

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Sensor/actuator cable, 8-position, PUR halogen-free, black-gray RAL 7021, Plug straight M12 Push Pull, coding: A, on free cable end, cable length: 5 m

## Your advantages

- Easy and safe: 100 % electrically tested plug-in components
- Save time, thanks to installation with push-pull fast locking

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1649272                        |
| Packing unit                         | 1 pc                           |
| Minimum order quantity               | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | BF03                           |
| Product key                          | AF1CFA                         |
| GTIN                                 | 4067923182363                  |
| Weight per piece (including packing) | 233 g                          |
| Weight per piece (excluding packing) | 233 g                          |
| Customs tariff number                | 85444290                       |
| Country of origin                    | PL                             |

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## Technical data

### Product properties

|                     |                       |
|---------------------|-----------------------|
| Product type        | Sensor/actuator cable |
| Application         | Standard              |
| Number of positions | 8                     |
| Shielded            | no                    |

### Insulation characteristics

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

### Material specifications

|                                        |    |
|----------------------------------------|----|
| Flammability rating according to UL 94 | V0 |
|----------------------------------------|----|

### Electrical properties

|                       |         |
|-----------------------|---------|
| Nominal voltage $U_N$ | 30 V AC |
|                       | 30 V DC |
| Nominal current $I_N$ | 2 A     |

### Connection data

#### Connection technology

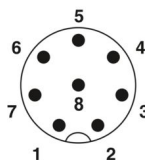
|                   |           |
|-------------------|-----------|
| Connection method | Push-Pull |
|-------------------|-----------|

#### Conductor connection

|                   |           |
|-------------------|-----------|
| Connection method | Push-Pull |
|-------------------|-----------|

### Connector

#### Connection 1

|                             |                                                                                                                                                  |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimensional drawing         | <br>M12 Push-Pull male pin assignment, 8-pos., pin-side view |
| Type                        | M12 Plug, straight, 8-position, Push Pull, Keying: A, Universal                                                                                  |
| Number of positions         | 8                                                                                                                                                |
| Shielded                    | no                                                                                                                                               |
| Signal type/category        | Universal                                                                                                                                        |
| Insertion/withdrawal cycles | $\geq 100$                                                                                                                                       |
| Insulation resistance       | $\geq 100 \Omega$                                                                                                                                |
| Overvoltage category        | II                                                                                                                                               |
| Degree of pollution         | 3                                                                                                                                                |

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|                                        |                                             |
|----------------------------------------|---------------------------------------------|
| Material Contact                       | CuSn                                        |
| Material Contact surface               | Ni/Au                                       |
| Material Contact carrier               | PK                                          |
| Material Grip body                     | TPU, hardly inflammable, self-extinguishing |
| Material Seal                          | FKM                                         |
| Material Release                       | Die-cast zinc, nickel-plated                |
| Flammability rating according to UL 94 | V0                                          |
| Degree of protection                   | IP65                                        |
|                                        | IP67                                        |
| Ambient temperature (operation)        | -25 °C ... 85 °C                            |
| Standard designation                   | M12-Push-Pull                               |
| Standards/regulations                  | IEC 61076-2-010                             |

## Connection 2

|      |                |
|------|----------------|
| Type | free cable end |
|------|----------------|

## Cable/line

|              |     |
|--------------|-----|
| Cable length | 5 m |
|--------------|-----|

## PUR halogen-free black [PUR]

|                                 |                                                                                      |
|---------------------------------|--------------------------------------------------------------------------------------|
| Dimensional drawing             |  |
| Cable weight                    | 46 kg/km                                                                             |
| UL AWM Style                    | 20549 / 10493 (80°C/300 V)                                                           |
| Number of positions             | 8                                                                                    |
| Shielded                        | no                                                                                   |
| Cable type                      | PUR halogen-free black [PUR]                                                         |
| Conductor structure signal line | 32x 0.10 mm                                                                          |
| AWG signal line                 | 24                                                                                   |
| Conductor cross-section         | 8x 0.25 mm <sup>2</sup> (Signal line)                                                |
| Wire diameter incl. insulation  | 1.17 mm ±0.02 mm                                                                     |
| External cable diameter         | 5.90 mm ±0.15 mm                                                                     |
| Outer sheath, material          | PUR                                                                                  |
| External sheath, color          | black-gray RAL 7021                                                                  |
| Conductor material              | Bare Cu litz wires                                                                   |
| Material, filler                | PE                                                                                   |
| Material wire insulation        | PP                                                                                   |
| Single wire, color              | white, brown, green, yellow, gray, pink, blue, red                                   |
| Thickness, insulation           | ≥ 0.21 mm                                                                            |

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|                                               |                                                                                                                                                                                                      |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Thickness, outer sheath                       | approx. 0.80 mm                                                                                                                                                                                      |
| Overall twist                                 | 8 wires around filler to the core                                                                                                                                                                    |
| Max. conductor resistance                     | $\leq 78 \Omega/\text{km}$ (at 20 °C)                                                                                                                                                                |
| Insulation resistance                         | $\geq 1 \text{ G}\Omega \cdot \text{km}$ (at 20 °C)                                                                                                                                                  |
| Wave impedance                                | 100 $\Omega$ +15 % (with 1 MHz)                                                                                                                                                                      |
| Cable capacity                                | $\leq 70 \text{ pF/m}$                                                                                                                                                                               |
| Nominal voltage, cable                        | $\leq 300 \text{ V}$                                                                                                                                                                                 |
| Test voltage                                  | $\geq 3000 \text{ V}$                                                                                                                                                                                |
| Minimum bending radius, fixed installation    | 8 x D                                                                                                                                                                                                |
| Minimum bending radius, flexible installation | 10 x D                                                                                                                                                                                               |
| Smallest bending radius, fixed installation   | 48 mm                                                                                                                                                                                                |
| Smallest bending radius, movable installation | 59 mm                                                                                                                                                                                                |
| Dynamic load capacity (bending)               | Max. bending cycles: 10000000, Bending radius: 59 mm, Traversing path: 10 m, Traversing rate: 3 m/s, Acceleration: 10 m/s <sup>2</sup>                                                               |
| Dynamic load capacity (torsion)               | Torsion: $\pm 180^\circ/\text{m}$ , Torsion cycles: $\geq 5000000$ , Torsional frequency: 35 cycles/min.                                                                                             |
| Halogen-free                                  | in accordance with DIN VDE 0472 part 815                                                                                                                                                             |
| Flame resistance                              | in accordance with UL 758/1581 FT2<br>According to 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<br>hydrolysis and microbe resistant<br>partly UV-resistant (in accordance with DIN EN ISO 4892-2-A)<br>Low adhesion<br>abrasion-resistant |
| Special properties                            | Flexible cable conduit capable<br>Silicone-free<br>Free of substances which would hinder coating with paint or varnish<br>flexible                                                                   |
| Ambient temperature (operation)               | -40 °C ... 80 °C (cable, fixed installation)<br>-25 °C ... 80 °C (Cable, flexible installation)                                                                                                      |

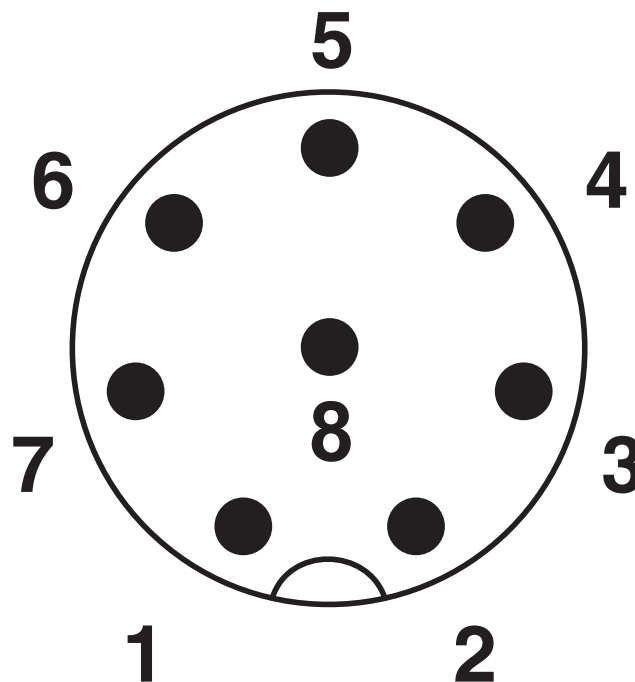
## Drawings

Dimensional drawing



M12 push-pull male connector, straight

Schematic diagram



Pin assignment M12 plug, 8-pos., view plug side

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Circuit diagram



Contact assignment of the M12 plug

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27060311 |
| ECLASS-15.0 | 27060311 |

### ETIM

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

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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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