

# SAC-5P-P12MS/ 3,0-PUR/P12FS - Sensor/actuator cable



1396099  
<https://www.phoenixcontact.com/us/products/1396099>

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Sensor/actuator cable, 5-position, PUR halogen-free, black-gray RAL 7021, Plug straight M12 Push Pull, coding: A, on Socket straight M12 Push Pull, coding: A, cable length: 3 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                          | 1396099       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | BF06          |
| Product key                          | BF1CDC        |
| GTIN                                 | 4063151816827 |
| Weight per piece (including packing) | 120.4 g       |
| Weight per piece (excluding packing) | 124.15 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  | 5                     |
| No. of cable outlets | 1                     |
| Shielded             | no                    |
| Coding               | A                     |

### Insulation characteristics

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

### Material specifications

|                                        |                                             |
|----------------------------------------|---------------------------------------------|
| Material                               | PK                                          |
|                                        | PA                                          |
| Flammability rating according to UL 94 | V0                                          |
| Seal material                          | FKM                                         |
| Material of grip body                  | TPU, hardly inflammable, self-extinguishing |
| Contact material                       | CuSn                                        |
| Contact surface material               | Ni/Au                                       |
| Material for screw connection          | Brass, nickel-plated                        |

### 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                        |

### Mechanical properties

#### Mechanical data

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

### Signaling

|                        |    |
|------------------------|----|
| Status display         | No |
| Status display present | No |

### Connector

#### Connection 1

|                     |                             |
|---------------------|-----------------------------|
| Type                | Plug straight M12 Push Pull |
| Number of positions | 5                           |
| Locking type        | Push Pull                   |

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

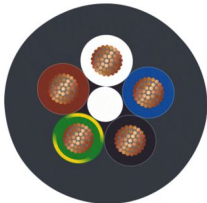
## Connection 2

|                     |                               |
|---------------------|-------------------------------|
| Type                | Socket straight M12 Push Pull |
| Number of positions | 5                             |
| Locking type        | Push Pull                     |
| Coding type         | A                             |

## Cable/line

|              |     |
|--------------|-----|
| Cable length | 3 m |
|--------------|-----|

## PUR halogen-free black [PUR]

|                                               |                                                                                     |
|-----------------------------------------------|-------------------------------------------------------------------------------------|
| Dimensional drawing                           |  |
| Cable weight                                  | 33 kg/km                                                                            |
| UL AWM Style                                  | 20549                                                                               |
| Number of positions                           | 5                                                                                   |
| Shielded                                      | no                                                                                  |
| Cable type                                    | PUR halogen-free black [PUR]                                                        |
| Conductor structure signal line               | 42x 0.10 mm                                                                         |
| AWG signal line                               | 22                                                                                  |
| Conductor cross section                       | 5x 0.34 mm <sup>2</sup> (Signal line)                                               |
| Wire diameter incl. insulation                | 1.27 mm 0.05 mm (Signal line)                                                       |
| External cable diameter                       | 4.55 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, green-yellow                                             |
| Thickness, insulation                         | approx. 0.50 mm                                                                     |
| Max. conductor resistance                     | max. 58 Ω/km (at 20 °C)                                                             |
| Insulation resistance                         | ≥ 16 GΩ*km (at 20 °C)                                                               |
| Nominal voltage, cable                        | 300 V                                                                               |
| Test voltage                                  | 3000 V                                                                              |
| Smallest bending radius, fixed installation   | 23 mm                                                                               |
| Smallest bending radius, movable installation | 46 mm                                                                               |
| Max. bending cycles                           | 4000000                                                                             |
| Bending radius                                | 50 mm                                                                               |
| Traversing path                               | 10 m                                                                                |

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|                                 |                                                                     |
|---------------------------------|---------------------------------------------------------------------|
| Traversing rate                 | 3 m/s                                                               |
| Acceleration                    | 10 m/s <sup>2</sup>                                                 |
| 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                                    |
|                                 | Resistant to salt water                                             |
|                                 | 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 |
|                                 | flexible                                                            |
| 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                             |
| Ambient temperature (operation) | -25 °C ... 85 °C (Plug / socket) |

## Standards and regulations

|                          |                 |
|--------------------------|-----------------|
| Standard designation     | M12-Push-Pull   |
| Standards/specifications | IEC 61076-2-010 |

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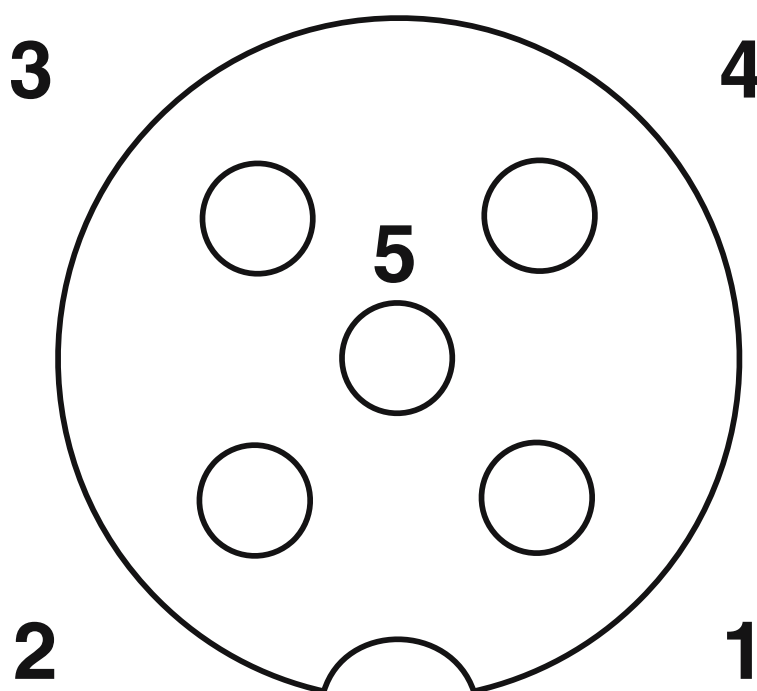


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## Drawings

Schematic diagram



Pin assignment socket M 12

Circuit diagram

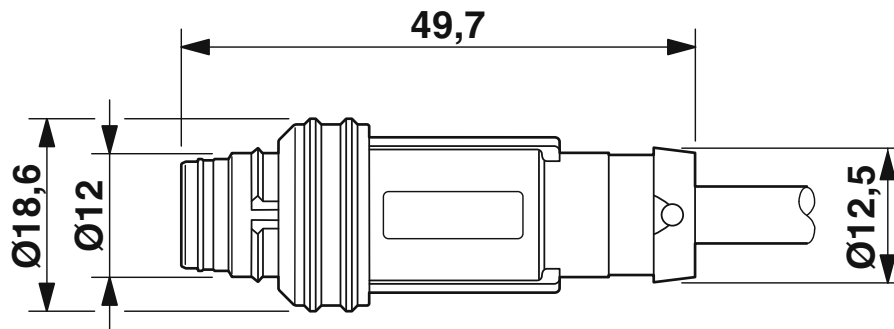


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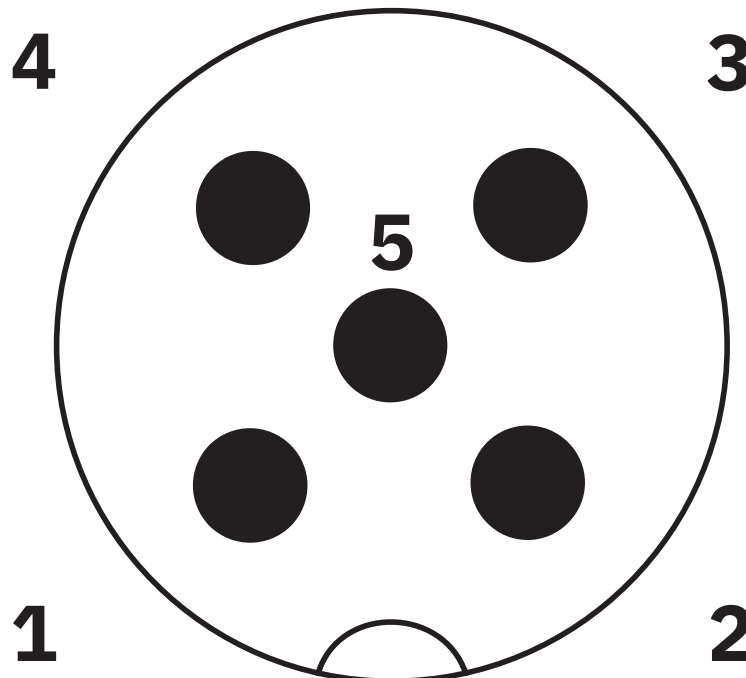
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Dimensional drawing



M12 push-pull male connector, straight

Schematic diagram



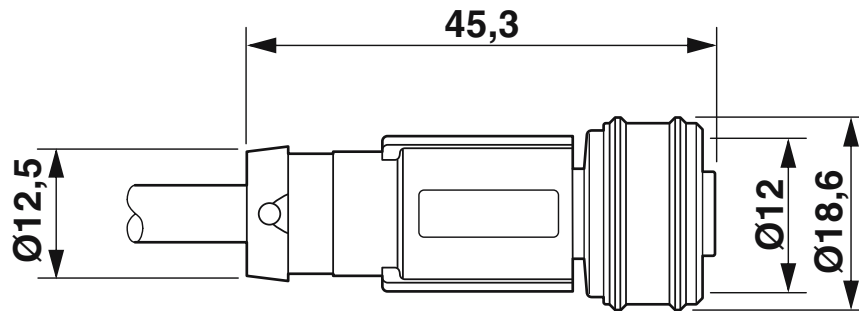
Pin assignment M12 male connector

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Dimensional drawing



M12 push-pull female connector, straight

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27060311 |
| ECLASS-12.0 | 27060311 |
| 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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