

# SAC-12P- 3,0-PUR/FR SCO - Sensor/actuator cable



1430666

<https://www.phoenixcontact.com/us/products/1430666>

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Sensor/actuator cable, 12-position, PUR halogen-free, black RAL 9005, free cable end, on Socket angled M12 SPEEDCON, coding: A, cable length: 3 m

## Your advantages

- Easy and safe: 100 % electrically tested plug-in components
- Save time, thanks to installation with SPEEDCON fast locking system
- Our standard: robust halogen-free PUR cable
- Save space – with high-pos. connectors

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1430666       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | BF03          |
| Product key                          | AF1CGA        |
| GTIN                                 | 4046356456470 |
| Weight per piece (including packing) | 193.7 g       |
| Weight per piece (excluding packing) | 186.4 g       |
| Customs tariff number                | 85444290      |
| Country of origin                    | DE            |

## Technical data

### Product properties

|                      |                       |
|----------------------|-----------------------|
| Product type         | Sensor/actuator cable |
| Application          | Standard              |
| Number of positions  | 12                    |
| 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 | V0                                          |
| Seal material                          | NBR                                         |
| Material of grip body                  | TPU, hardly inflammable, self-extinguishing |
| Contact material                       | CuZn                                        |
| Contact surface material               | Ni/Au                                       |
| Contact carrier material               | PA 6.6                                      |
| Material for screw connection          | Zinc die-cast, nickel-plated                |

### Electrical properties

|                       |                            |
|-----------------------|----------------------------|
| Insulation resistance | $\geq 100 \text{ M}\Omega$ |
| Nominal voltage $U_N$ | 30 V AC                    |
|                       | 30 V DC                    |
| Nominal current $I_N$ | 1.5 A                      |

### Signaling

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

### Connection data

#### Conductor connection

|                   |                        |
|-------------------|------------------------|
| Tightening torque | 0.4 Nm (M12 connector) |
|-------------------|------------------------|

### Connector

#### Connection 1

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

#### Connection 2

|                     |                            |
|---------------------|----------------------------|
| Type                | Socket angled M12 SPEEDCON |
| Number of positions | 12                         |

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|              |          |
|--------------|----------|
| Locking type | SPEEDCON |
| Coding type  | A        |

## Cable/line

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

### PUR halogen-free black [PUR]

|                                               |                                                                                                                                       |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Dimensional drawing                           |                                                     |
| Cable weight                                  | 17 kg/km                                                                                                                              |
| Number of positions                           | 12                                                                                                                                    |
| Shielded                                      | no                                                                                                                                    |
| Cable type                                    | PUR halogen-free black [PUR]                                                                                                          |
| Conductor structure signal line               | 18x 0.10 mm                                                                                                                           |
| AWG signal line                               | 26                                                                                                                                    |
| Conductor cross-section                       | 12x 0.14 mm <sup>2</sup> (Signal line)                                                                                                |
| Wire diameter incl. insulation                | 1 mm ±0.05 mm (Signal line)                                                                                                           |
| External cable diameter                       | 7.20 mm                                                                                                                               |
| Outer sheath, material                        | PUR                                                                                                                                   |
| External sheath, color                        | black RAL 9005                                                                                                                        |
| Conductor material                            | Tin-plated Cu litz wires                                                                                                              |
| Material wire insulation                      | PP                                                                                                                                    |
| Single wire, color                            | white, brown, green, yellow, gray, pink, blue, red, black, violet, gray/pink, red/blue                                                |
| Overall twist                                 | 12 wires twisted in layers                                                                                                            |
| Max. conductor resistance                     | 142 Ω/km                                                                                                                              |
| Nominal voltage, cable                        | ≤ 300 V                                                                                                                               |
| Test voltage                                  | ≥ 1500 V                                                                                                                              |
| Minimum bending radius, fixed installation    | 5 x D                                                                                                                                 |
| Minimum bending radius, flexible installation | 10 x D                                                                                                                                |
| Smallest bending radius, fixed installation   | 36 mm                                                                                                                                 |
| Smallest bending radius, movable installation | 72 mm                                                                                                                                 |
| Dynamic load capacity (bending)               | Max. bending cycles: 4000000, Bending radius: 54 mm, Traversing path: 10 m, Traversing rate: 3 m/s, Acceleration: 10 m/s <sup>2</sup> |
| Halogen-free                                  | in accordance with DIN EN 50267-2-1                                                                                                   |
| Flame resistance                              | in acc. to UL VW1<br>DIN EN 60332-1-2                                                                                                 |
| Resistance to oil                             | EN 60811-2-1                                                                                                                          |

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|                                 |                                                              |
|---------------------------------|--------------------------------------------------------------|
| Other resistance                | EN 50525-2-21:2012-01                                        |
|                                 | partly UV-resistant (in accordance with DIN EN ISO 4892-2-A) |
| Special properties              | Low adhesion surface                                         |
| Ambient temperature (operation) | -40 °C ... 80 °C (cable, fixed installation)                 |
|                                 | -5 °C ... 80 °C (Cable, flexible installation)               |

## Environmental and real-life conditions

### Ambient conditions

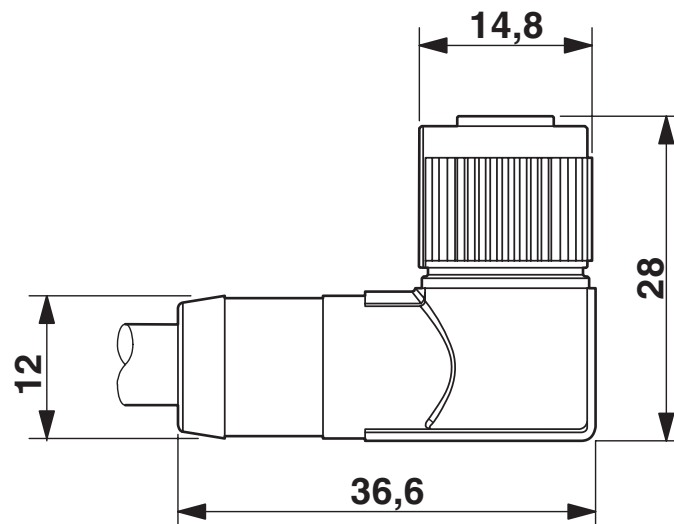
|                                                                   |                                                 |
|-------------------------------------------------------------------|-------------------------------------------------|
| Degree of protection                                              | IP65                                            |
|                                                                   | IP67                                            |
|                                                                   | IP68                                            |
| Ambient temperature (operation) (male connector/female connector) | -25 °C ... 85 °C (Plug / socket)                |
| Ambient temperature (operation) (Cable, fixed installation)       | -40 °C ... 80 °C (cable, fixed installation)    |
| Ambient temperature (operation) (Cable, flexible installation)    | -20 °C ... 80 °C (Cable, flexible installation) |

## Standards and regulations

|                          |                 |
|--------------------------|-----------------|
| Standard designation     | M12 connector   |
| Standards/specifications | IEC 61076-2-101 |

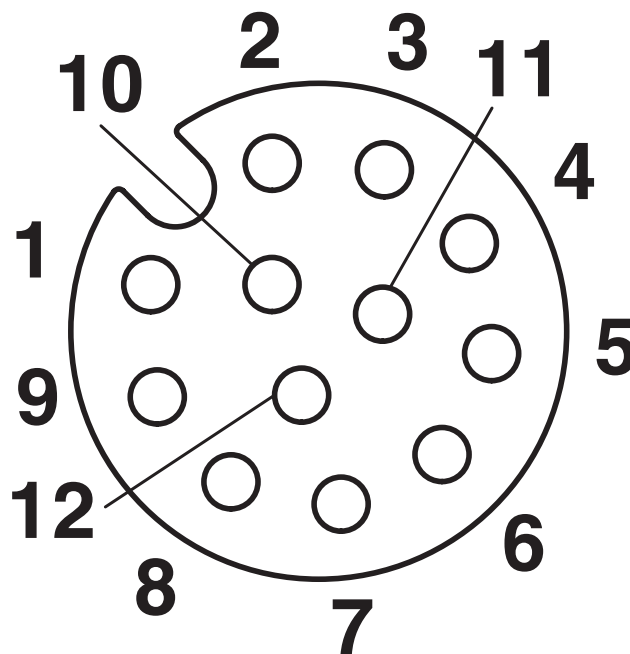
## Drawings

Dimensional drawing



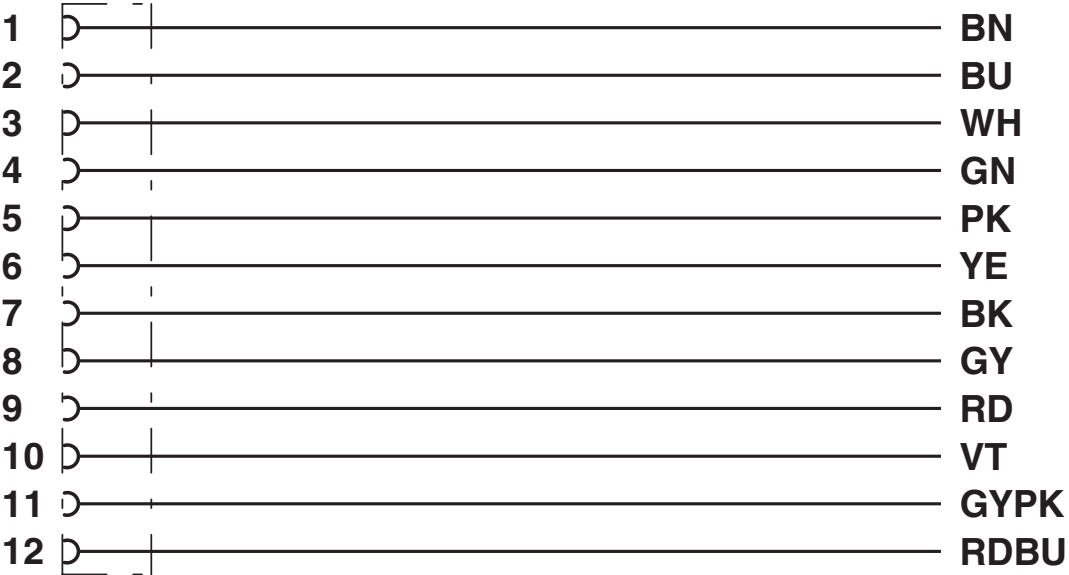
Socket M12-SPEEDCON, angled, shielded

Schematic diagram



Pin assignment M12, 12-pos., female side view

Circuit diagram



Contact assignment of the M12 socket

Approvals

 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1430666>

|  <b>UL Listed</b><br>Approval ID: E221474 |                                |                                |                   |                               |
|----------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------|-------------------|-------------------------------|
|                                                                                                                            | Nominal voltage U <sub>N</sub> | Nominal current I <sub>N</sub> | Cross section AWG | Cross section mm <sup>2</sup> |
|                                                                                                                            | keine                          |                                |                   |                               |
|                                                                                                                            | 30 V                           | 1 A                            | -                 | -                             |

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

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## Classifications

### ECLASS

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

### ETIM

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

### UNSPSC

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

## 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% |
|-------------------------------------|----------------------------|

### EF3.1 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 3.864 kg CO2e |
|---------|---------------|