

# SAC-4P-15,0-100/M12FR VA SO - Sensor/actuator cable



1513981  
<https://www.phoenixcontact.com/us/products/1513981>

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Sensor/actuator cable, 4-position, PUR halogen-free, gray RAL 7001, free cable end, on Socket angled M12, cable length: 15 m

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1513981                        |
| Packing unit                         | 5 pc                           |
| Minimum order quantity               | 5 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | BF03                           |
| Product key                          | BF1CCA                         |
| GTIN                                 | 4017918960117                  |
| Weight per piece (including packing) | 844.6 g                        |
| Weight per piece (excluding packing) | 836.6 g                        |
| Customs tariff number                | 85444290                       |
| Country of origin                    | PL                             |

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## Technical data

### Product properties

|                     |                       |
|---------------------|-----------------------|
| Product type        | Sensor/actuator cable |
| Number of positions | 4                     |
| Shielded            | yes                   |

### Insulation characteristics

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

### Electrical properties

|                       |          |
|-----------------------|----------|
| Nominal voltage $U_N$ | 250 V AC |
|                       | 250 V DC |
| Nominal current $I_N$ | 4 A      |

### Mechanical properties

#### Mechanical data

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

### Connection data

#### Conductor connection

|                   |        |
|-------------------|--------|
| Tightening torque | 0.4 Nm |
|-------------------|--------|

### Connector

#### Connection 1

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

#### Connection 2

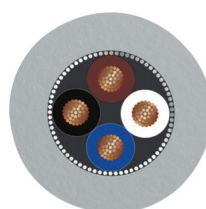
|                     |                   |
|---------------------|-------------------|
| Type                | Socket angled M12 |
| Number of positions | 4                 |

### Cable/line

|              |      |
|--------------|------|
| Cable length | 15 m |
|--------------|------|

#### PUR halogen-free gray [280]

##### Dimensional drawing



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|                                               |                                                                                                                                                                                                                 |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cable weight                                  | 36 kg/km                                                                                                                                                                                                        |
| UL AWM Style                                  | 20549 / 10493 (80°C/300 V)                                                                                                                                                                                      |
| Number of positions                           | 4                                                                                                                                                                                                               |
| Shielded                                      | yes                                                                                                                                                                                                             |
| Cable type                                    | PUR halogen-free gray [280]                                                                                                                                                                                     |
| Conductor structure signal line               | 42x 0.10 mm                                                                                                                                                                                                     |
| AWG signal line                               | 22                                                                                                                                                                                                              |
| Conductor cross section                       | 4x 0.34 mm <sup>2</sup> (Signal line)                                                                                                                                                                           |
| Wire diameter incl. insulation                | 1.27 mm ±0.02 mm (Signal line)                                                                                                                                                                                  |
| External cable diameter                       | 4.95 mm ±0.2 mm                                                                                                                                                                                                 |
| Outer sheath, material                        | PUR                                                                                                                                                                                                             |
| External sheath, color                        | gray RAL 7001                                                                                                                                                                                                   |
| Conductor material                            | Bare Cu litz wires                                                                                                                                                                                              |
| Material wire insulation                      | PP                                                                                                                                                                                                              |
| Single wire, color                            | brown, white, blue, black                                                                                                                                                                                       |
| Thickness, insulation                         | ≥ 0.21 mm                                                                                                                                                                                                       |
| Thickness, outer sheath                       | approx. 0.50 mm                                                                                                                                                                                                 |
| Overall twist                                 | 4 wires, twisted                                                                                                                                                                                                |
| Optical shield covering                       | 80 %                                                                                                                                                                                                            |
| Max. conductor resistance                     | max. 58 Ω/km (at 20 °C)                                                                                                                                                                                         |
| Insulation resistance                         | ≥ 100 GΩ*km (at 20 °C)                                                                                                                                                                                          |
| Wave impedance                                | ≥ 62 Ω (f = 10 MHz)                                                                                                                                                                                             |
| Cable capacity                                | ≤ 80 pF/m (Conductor-Conductor)<br>≤ 135 pF/m (Wire/shield)                                                                                                                                                     |
| Nominal voltage, cable                        | ≤ 300 V                                                                                                                                                                                                         |
| Test voltage                                  | ≥ 3000 V                                                                                                                                                                                                        |
| Minimum bending radius, fixed installation    | 5 x D                                                                                                                                                                                                           |
| Minimum bending radius, flexible installation | 10 x D                                                                                                                                                                                                          |
| Smallest bending radius, fixed installation   | 25 mm                                                                                                                                                                                                           |
| Smallest bending radius, movable installation | 50 mm                                                                                                                                                                                                           |
| Max. bending cycles                           | 10000000                                                                                                                                                                                                        |
| Halogen-free                                  | in accordance with DIN VDE 0472 part 815<br>in accordance with DIN EN 50267-2-1                                                                                                                                 |
| Flame resistance                              | in accordance with UL 758/1581 FT2<br>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>Resistant to salt water<br>partly UV-resistant (in accordance with DIN EN ISO 4892-2-A)<br>abrasion-resistant |
| Special properties                            | Flexible cable conduit capable<br>Silicone-free<br>Free of substances which would hinder coating with paint or                                                                                                  |

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|                                 |                                                 |
|---------------------------------|-------------------------------------------------|
| Ambient temperature (operation) | varnish                                         |
|                                 | Low adhesion surface                            |
|                                 | -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 ... 90 °C (Plug / socket)               |
|                                 | -25 °C ... 80 °C (cable, fixed installation)   |
|                                 | -5 °C ... 80 °C (Cable, flexible installation) |

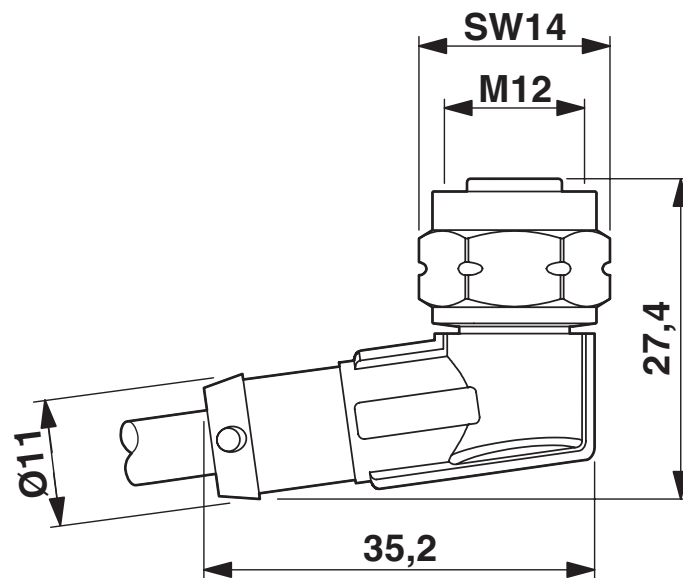
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## Drawings

Dimensional drawing



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## Approvals

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|  |                                                |                                |                   |                               |
|--|------------------------------------------------|--------------------------------|-------------------|-------------------------------|
|  | <b>UL Listed</b><br>Approval ID: FILE E 221474 |                                |                   |                               |
|  | Nominal voltage U <sub>N</sub>                 | Nominal current I <sub>N</sub> | Cross section AWG | Cross section mm <sup>2</sup> |
|  | 300 V                                          | 4 A                            | -                 | -                             |

|  |                                                 |                                |                   |                               |
|--|-------------------------------------------------|--------------------------------|-------------------|-------------------------------|
|  | <b>cUL Listed</b><br>Approval ID: FILE E 221474 |                                |                   |                               |
|  | Nominal voltage U <sub>N</sub>                  | Nominal current I <sub>N</sub> | Cross section AWG | Cross section mm <sup>2</sup> |
|  | 300 V                                           | 4 A                            | -                 | -                             |

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

|                     |
|---------------------|
| <b>cULus Listed</b> |
|---------------------|

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27060311 |
| ECLASS-12.0 | 27060311 |
| ECLASS-13.0 | 27060311 |

### ETIM

|          |          |
|----------|----------|
| ETIM 8.0 | 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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Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)