

# SAC-8P- 3,0-PUR/M12FR - Sensor/actuator cable



1522639

<https://www.phoenixcontact.com/us/products/1522639>

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Sensor/actuator cable, 8-position, PUR halogen-free, black-gray RAL 7021, free cable end, on Socket angled M12, coding: A, cable length: 3 m

## Your advantages

- Easy and safe: 100 % electrically tested plug-in components

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1522639       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | BF03          |
| Product key                          | AF1CFA        |
| GTIN                                 | 4017918957469 |
| Weight per piece (including packing) | 145 g         |
| Weight per piece (excluding packing) | 140 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                     |
| 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                       | CuZn                                        |
| Contact surface material               | Ni/Au                                       |
| Contact carrier material               | TPU GF                                      |
| 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 $I_N$ | 2 A                        |

### Mechanical properties

#### Mechanical data

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

### Signaling

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

### Connection data

#### Conductor connection

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

### Connector

#### Connection 1

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

## Connection 2

|                     |                   |
|---------------------|-------------------|
| Type                | Socket angled M12 |
| Number of positions | 8                 |
| Coding type         | A                 |

## Cable/line

|              |     |
|--------------|-----|
| Cable length | 3 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                                                                           |
| Thickness, outer sheath                    | approx. 0.80 mm                                                                     |
| Overall twist                              | 8 wires around filler to the core                                                   |
| Max. conductor resistance                  | ≤ 78 Ω/km (at 20 °C)                                                                |
| Insulation resistance                      | ≥ 1 GΩ*km (at 20 °C)                                                                |
| Wave impedance                             | 100 Ω +15 % (with 1 MHz)                                                            |
| Cable capacity                             | ≤ 70 pF/m                                                                           |
| Nominal voltage, cable                     | ≤ 300 V                                                                             |
| Test voltage                               | ≥ 3000 V                                                                            |
| Minimum bending radius, fixed installation | 8 x D                                                                               |

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|                                               |                                                                                                                                        |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| 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                                                                                                     |
|                                               | 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                                                                             |
|                                               | hydrolysis and microbe resistant                                                                                                       |
|                                               | partly UV-resistant (in accordance with DIN EN ISO 4892-2-A)                                                                           |
|                                               | Low adhesion                                                                                                                           |
|                                               | abrasion-resistant                                                                                                                     |
| 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

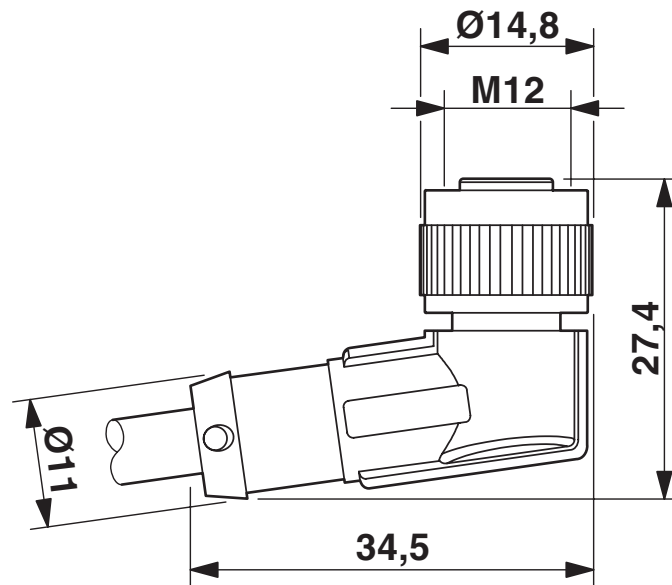
|                                                                   |                                                |
|-------------------------------------------------------------------|------------------------------------------------|
| Degree of protection                                        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

## Standards and regulations

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

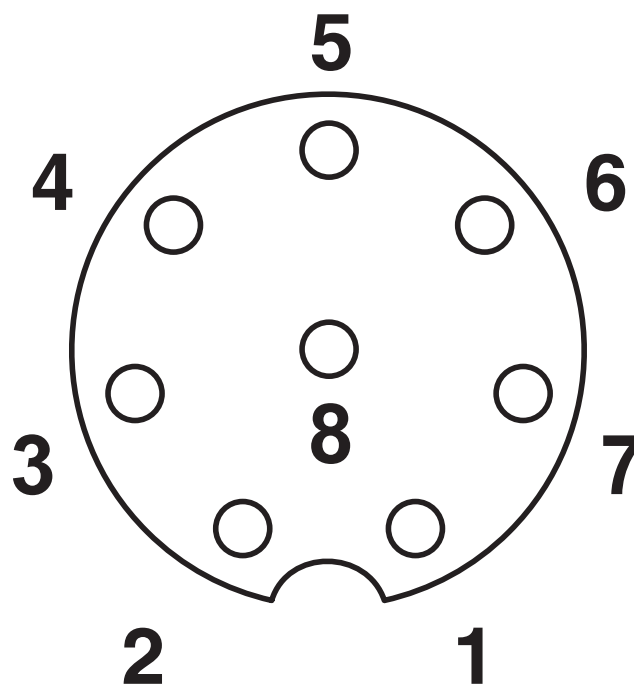
## Drawings

Dimensional drawing



M12 x 1 socket, angled

Schematic diagram

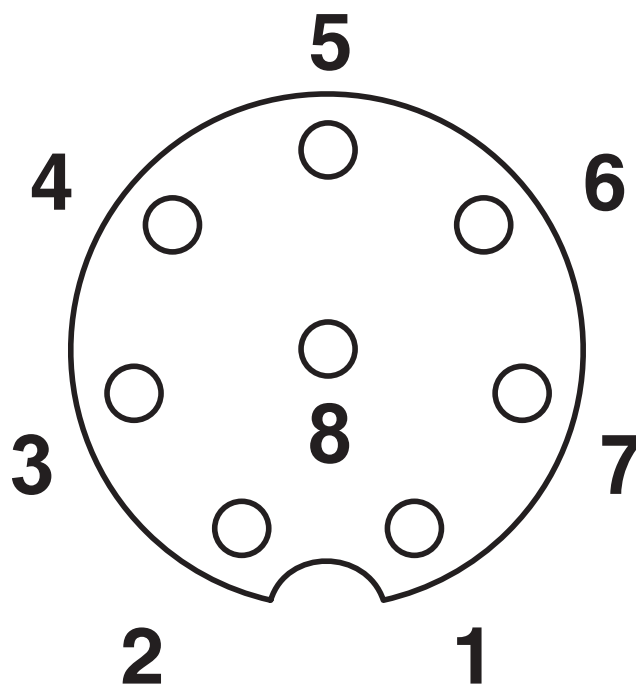


Pin assignment M12 socket, 8-pos., A-coded, view female side

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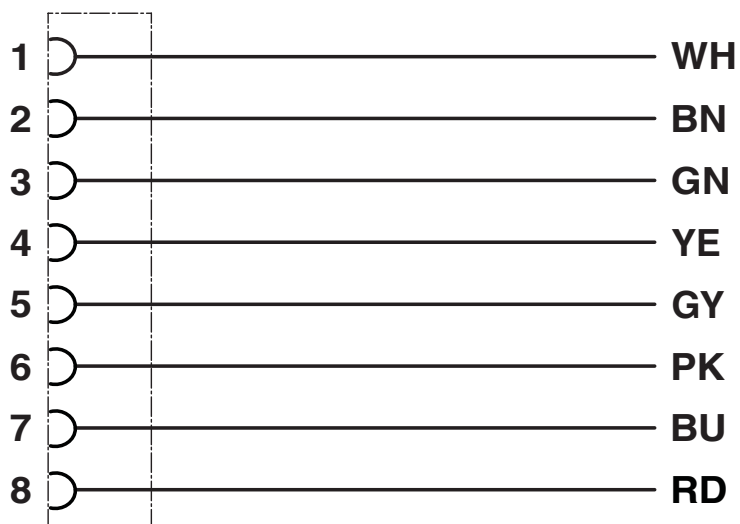
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Schematic diagram



Pin assignment M12 socket, 8-pos., A-coded, view female side

Circuit diagram



Contact assignment of the M12 socket

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1522639>



### UL Listed

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> |
|-------|--------------------------------|--------------------------------|-------------------|-------------------------------|
| keine |                                |                                |                   |                               |
|       | 30 V                           | 2 A                            | -                 | -                             |



### cUL Listed

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> |
|-------|--------------------------------|--------------------------------|-------------------|-------------------------------|
| keine |                                |                                |                   |                               |
|       | 30 V                           | 2 A                            | -                 | -                             |



### EAC-RoHS

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 |
|-------------|----------|

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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% |
|-------------------------------------|----------------------------|

### EF3.1 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 1.668 kg CO2e |
|---------|---------------|

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