

# SAC-3P- 1,5-800/M12FS - Sensor/actuator cable



1456679

<https://www.phoenixcontact.com/us/products/1456679>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Sensor/actuator cable, 3-position, PUR halogen-free, resistant to welding sparks, highly flexible, gray RAL 7001, free cable end, on Socket straight M12, coding: A, cable length: 1.5 m, for robots and drag chains

## Your advantages

- Easy and safe: 100 % electrically tested plug-in components
- Reliable solution for the body shop as cable is resistant to welding sparks

## Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 1456679             |
| Packing unit                         | 1 pc                |
| Minimum order quantity               | 1 pc                |
| Sales key                            | BF03                |
| Product key                          | AF1CBA              |
| Catalog page                         | Page 192 (C-2-2019) |
| GTIN                                 | 4046356593038       |
| Weight per piece (including packing) | 52.3 g              |
| Weight per piece (excluding packing) | 52.3 g              |
| Customs tariff number                | 85444290            |
| Country of origin                    | PL                  |

# SAC-3P- 1,5-800/M12FS - Sensor/actuator cable



1456679

<https://www.phoenixcontact.com/us/products/1456679>

## Technical data

### Product properties

|                      |                        |
|----------------------|------------------------|
| Product type         | Sensor/actuator cable  |
| Application          | Robots and drag chains |
| Number of positions  | 3                      |
| 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                       | CuSn                                        |
| 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 $U_N$ | 250 V AC                   |
|                       | 250 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 |

### Connection data

#### Conductor connection

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

### Connector

#### Connection 1

# SAC-3P- 1,5-800/M12FS - Sensor/actuator cable



1456679

<https://www.phoenixcontact.com/us/products/1456679>

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

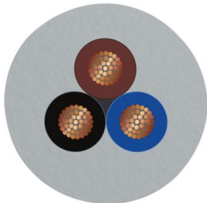
## Connection 2

|                     |                     |
|---------------------|---------------------|
| Type                | Socket straight M12 |
| Number of positions | 3                   |
| Coding type         | A                   |

## Cable/line

|              |       |
|--------------|-------|
| Cable length | 1.5 m |
|--------------|-------|

## Gray, highly flexible PUR [800]

|                                               |                                                                                                  |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------|
| Dimensional drawing                           |               |
| Note                                          | Due to the extremely robust outer sheath, this cable should only be stripped in 5 cm increments. |
| Cable weight                                  | 28.3 kg/km                                                                                       |
| UL AWM Style                                  | 20549                                                                                            |
| Number of positions                           | 3                                                                                                |
| Shielded                                      | no                                                                                               |
| Cable type                                    | Gray, highly flexible PUR [800]                                                                  |
| Conductor structure signal line               | 42x 0.10 mm                                                                                      |
| AWG signal line                               | 22                                                                                               |
| Conductor cross section                       | 3x 0.34 mm <sup>2</sup> (Signal line)                                                            |
| Wire diameter incl. insulation                | 1.3 mm ±0.05 mm (Signal line)                                                                    |
| External cable diameter                       | 4.50 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, blue, black                                                                               |
| Overall twist                                 | 3 wires, twisted                                                                                 |
| Max. conductor resistance                     | approx. 53 Ω/km                                                                                  |
| Insulation resistance                         | ≥ 20 MΩ*km                                                                                       |
| Nominal voltage, cable                        | 300 V                                                                                            |
| Test voltage                                  | 2000 V                                                                                           |
| Minimum bending radius, fixed installation    | 4 x D                                                                                            |
| Minimum bending radius, flexible installation | 7.5 x D                                                                                          |
| Smallest bending radius, fixed installation   | 18 mm                                                                                            |
| Smallest bending radius, movable installation | 34 mm                                                                                            |

# SAC-3P- 1,5-800/M12FS - Sensor/actuator cable



1456679

<https://www.phoenixcontact.com/us/products/1456679>

|                                 |                                                                                                                                          |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Dynamic load capacity (bending) | Max. bending cycles: 10000000, Bending radius: 7,5 x D, Traversing path: 5 m, Traversing rate: 3.3 m/s, Acceleration: 5 m/s <sup>2</sup> |
|                                 | Max. bending cycles: 15000000, Bending radius: 50 mm, Traversing path: 0.9 m, Traversing rate: 5 m/s, Acceleration: 30 m/s <sup>2</sup>  |
| Dynamic load capacity (torsion) | Torsion: $\pm 360^\circ/\text{m}$ , Torsion cycles: 1000000, Torsional frequency: 35 cycles/min.                                         |
| Halogen-free                    | in accordance with DIN VDE 0472 part 815                                                                                                 |
| Flame resistance                | in accordance with UL 758/1581 FT2                                                                                                       |
| Resistance to oil               | in accordance with DIN EN 60811-2-1                                                                                                      |
| Other resistance                | Highly resistant to acids, alkaline solutions and solvents<br>Silicone-free                                                              |
| Special properties              | Cable jacket is welding spark-resistant, recyclable, matt, low-adhesion, abrasion-resistant, flame-retardant, and self-extinguishing     |
|                                 | Free from silicone and cadmium                                                                                                           |
|                                 | Free of substances which would hinder coating with paint or varnish                                                                      |
| Ambient temperature (operation) | -40 °C ... 80 °C (cable, fixed installation)                                                                                             |
|                                 | -25 °C ... 80 °C (Cable, flexible installation)                                                                                          |

## Environmental and real-life conditions

### Ambient conditions

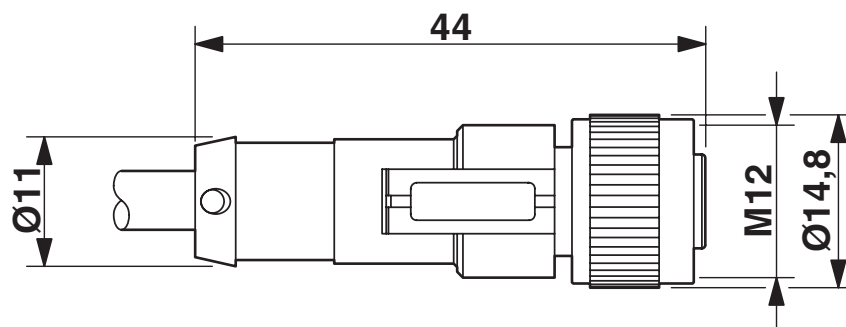
|                                 |                                                 |
|---------------------------------|-------------------------------------------------|
| Degree of protection            | IP65                                            |
|                                 | IP67                                            |
|                                 | IP68                                            |
| Ambient temperature (operation) | -25 °C ... 90 °C (Plug / socket)                |
|                                 | -40 °C ... 90 °C (cable, fixed installation)    |
|                                 | -30 °C ... 90 °C (Cable, flexible installation) |
|                                 | to 120 °C (for 3000 h)                          |
|                                 | to 90 °C (in acc. with UL)                      |

## Standards and regulations

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

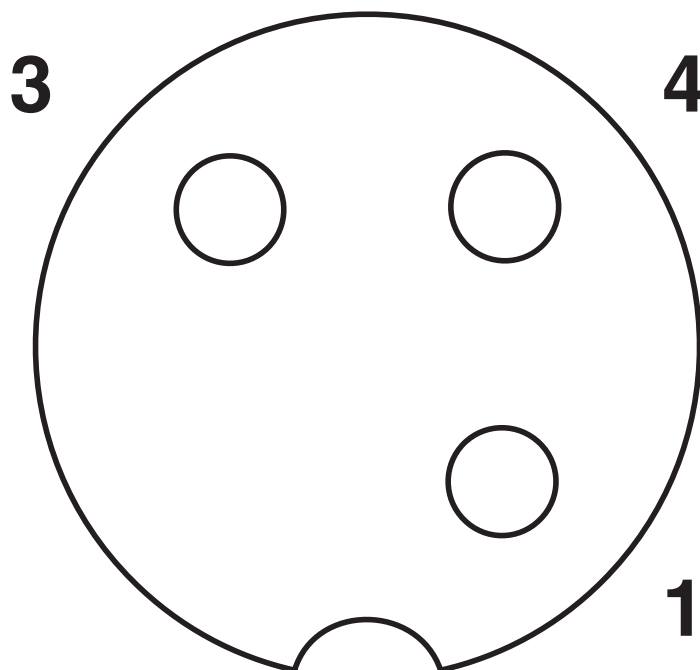
## Drawings

Dimensional drawing



M12 x 1 socket, straight

Schematic diagram



Pin assignment M12 socket, 3-pos., A-coded, view female side

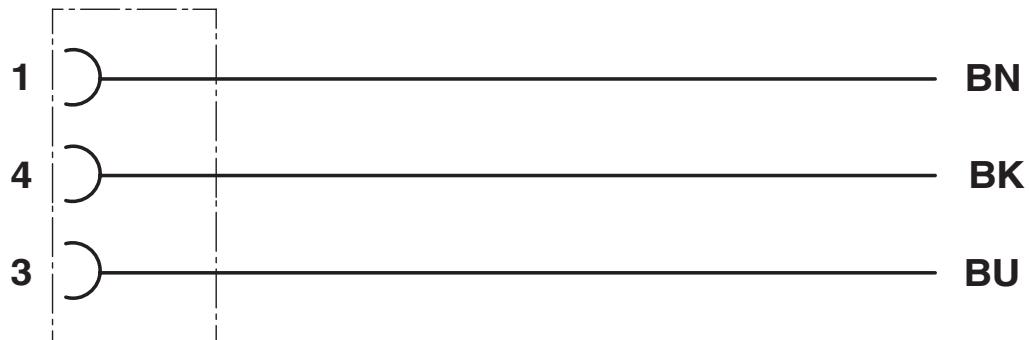
# SAC-3P- 1,5-800/M12FS - Sensor/actuator cable



1456679

<https://www.phoenixcontact.com/us/products/1456679>

Circuit diagram



Contact assignment of the M12 socket

# SAC-3P- 1,5-800/M12FS - Sensor/actuator cable



1456679

<https://www.phoenixcontact.com/us/products/1456679>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1456679>

|                                                                                                                                  |                                |                                |                   |                               |
|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------|-------------------|-------------------------------|
|  <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 |  |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|

# SAC-3P- 1,5-800/M12FS - Sensor/actuator cable



1456679

<https://www.phoenixcontact.com/us/products/1456679>

## Classifications

### ECLASS

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

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC001855 |
|----------|----------|

### UNSPSC

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

# SAC-3P- 1,5-800/M12FS - Sensor/actuator cable



1456679

<https://www.phoenixcontact.com/us/products/1456679>

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

### EF3.0 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 0.263 kg CO2e |
|---------|---------------|

Phoenix Contact 2025 © - all rights reserved  
<https://www.phoenixcontact.com>

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