

## Sensor/actuator cable - SAC-5P-M12MS/ 0,3-802/M12FR - 1457283

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Sensor/actuator cable, 5-position, PUR halogen-free, resistant to welding sparks, highly flexible, gray RAL 7001, Plug straight M12, coding: A, on Socket angled M12, coding: A, cable length: 0.3 m, for robots and drag chains

### Your advantages

- ✓ Easy and safe: 100% electrically tested plug-in components
- ✓ Flexible: cable supports a high degree of torsion and bending
- ✓ Reliable solution for the body shop as cable is resistant to welding sparks

RoHS

### Key Commercial Data

|              |                                                                                      |
|--------------|--------------------------------------------------------------------------------------|
| Packing unit | 1 pc                                                                                 |
| GTIN         |  |
| GTIN         | 4046356593564                                                                        |

### Technical data

#### Dimensions

|                 |       |
|-----------------|-------|
| Length of cable | 0.3 m |
|-----------------|-------|

#### Ambient conditions

|                                 |                                  |
|---------------------------------|----------------------------------|
| Ambient temperature (operation) | -25 °C ... 90 °C (Plug / socket) |
| Degree of protection            | IP65                             |
|                                 | IP67                             |
|                                 | IP68                             |

#### General

|                       |          |
|-----------------------|----------|
| Rated current at 40°C | 4 A      |
| Rated voltage         | 48 V AC  |
|                       | 60 V DC  |
| Number of positions   | 5        |
| Insulation resistance | ≥ 100 MΩ |

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## Technical data

### General

|                              |                               |
|------------------------------|-------------------------------|
| Coding                       | A - standard                  |
| Standards/regulations        | M12 connector IEC 61076-2-101 |
| Status display               | No                            |
| Protective circuit/component | unwired                       |
| Overvoltage category         | II                            |
| Degree of pollution          | 3                             |
| Insertion/withdrawal cycles  | ≥ 100                         |
| Torque                       | 0.4 Nm (M12 connector)        |

### Material

|                                        |                                             |
|----------------------------------------|---------------------------------------------|
| Flammability rating according to UL 94 | HB                                          |
| Contact material                       | CuSn                                        |
| Contact surface material               | Ni/Au                                       |
| Contact carrier material               | TPU GF                                      |
| Material of grip body                  | TPU, hardly inflammable, self-extinguishing |
| Material, knurls                       | Zinc die-cast, nickel-plated                |
| Sealing material                       | NBR                                         |

### Standards and Regulations

|                                        |                               |
|----------------------------------------|-------------------------------|
| Standards/specifications               | M12 connector IEC 61076-2-101 |
| Flammability rating according to UL 94 | HB                            |

### Cable

|                                                 |                                                                                                  |
|-------------------------------------------------|--------------------------------------------------------------------------------------------------|
| Note                                            | Due to the extremely robust outer sheath, this cable should only be stripped in 5 cm increments. |
| Cable abbreviation                              | LiF9Y11Y                                                                                         |
| UL AWM style                                    | 20549                                                                                            |
| Conductor cross section                         | 5x 0.34 mm <sup>2</sup> (Signal line)                                                            |
| AWG signal line                                 | 22                                                                                               |
| Conductor structure signal line                 | 42x 0.10 mm                                                                                      |
| Core diameter including insulation              | 1.3 mm ±0.05 mm (Signal line)                                                                    |
| Wire colors                                     | Black, brown, blue, white, green/yellow                                                          |
| Overall twist                                   | 5 wires around filler to the core                                                                |
| External sheath, color                          | gray RAL 7001                                                                                    |
| External cable diameter D                       | 5.1 mm ±0.2 mm                                                                                   |
| Minimum bending radius, fixed installation      | 5 x D                                                                                            |
| Minimum bending radius, flexible installation   | 5 x D                                                                                            |
| Number of bending cycles                        | 10000000                                                                                         |
| Minimum bending radius, drag chain applications | 7,5 x D                                                                                          |
| Traversing path                                 | 5 m                                                                                              |
| Traversing rate                                 | 3.3 m/s                                                                                          |
| Acceleration                                    | 5 m/s <sup>2</sup>                                                                               |
| Number of bending cycles                        | 15000000                                                                                         |

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### Technical data

#### Cable

|                                 |                                                                                                                                      |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Bending radius                  | 50 mm                                                                                                                                |
| Traversing path                 | 0.9 m                                                                                                                                |
| Traversing rate                 | 5 m/s                                                                                                                                |
| Acceleration                    | 30 m/s <sup>2</sup>                                                                                                                  |
| Torsion force                   | ± 360 °/m (1 000 000 torsion cycles)                                                                                                 |
| Outer sheath, material          | PUR                                                                                                                                  |
| Material conductor insulation   | PP                                                                                                                                   |
| Conductor material              | Bare Cu litz wires                                                                                                                   |
| Insulation resistance           | ≥ 20 MΩ*km                                                                                                                           |
| Conductor resistance            | approx. 53 Ω/km                                                                                                                      |
| Nominal voltage, cable          | 300 V                                                                                                                                |
| Test voltage, cable             | 1200 V                                                                                                                               |
| 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                                                                  |
| Flame resistance                | in accordance with UL 758/1581 FT2                                                                                                   |
| Halogen-free                    | The cable is halogen-free                                                                                                            |
| Resistance to oil               | in accordance with DIN EN 60811-2-1                                                                                                  |
| Other resistance                | Highly resistant to acids, alkaline solutions and solvents                                                                           |
|                                 | Silicone-free                                                                                                                        |
| Ambient temperature (operation) | -40 °C ... 80 °C (cable, fixed installation)                                                                                         |
|                                 | -25 °C ... 80 °C (cable, flexible installation)                                                                                      |

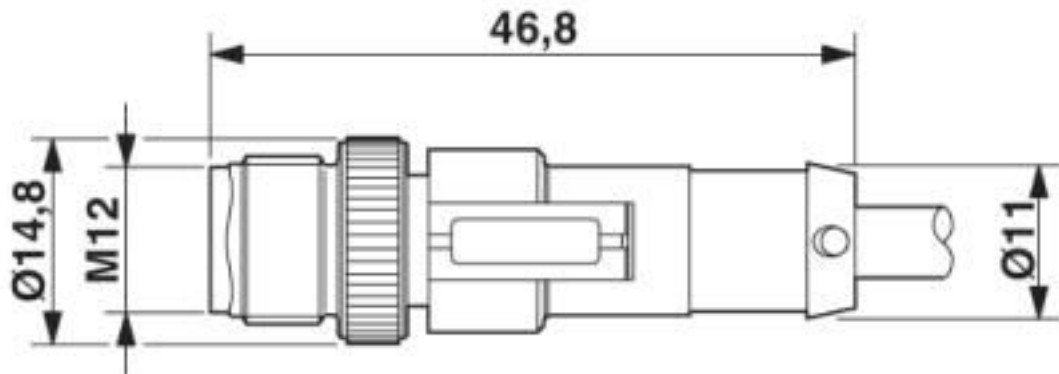
#### Environmental Product Compliance

|            |                                                         |
|------------|---------------------------------------------------------|
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
|            | No hazardous substances above threshold values          |

### Drawings

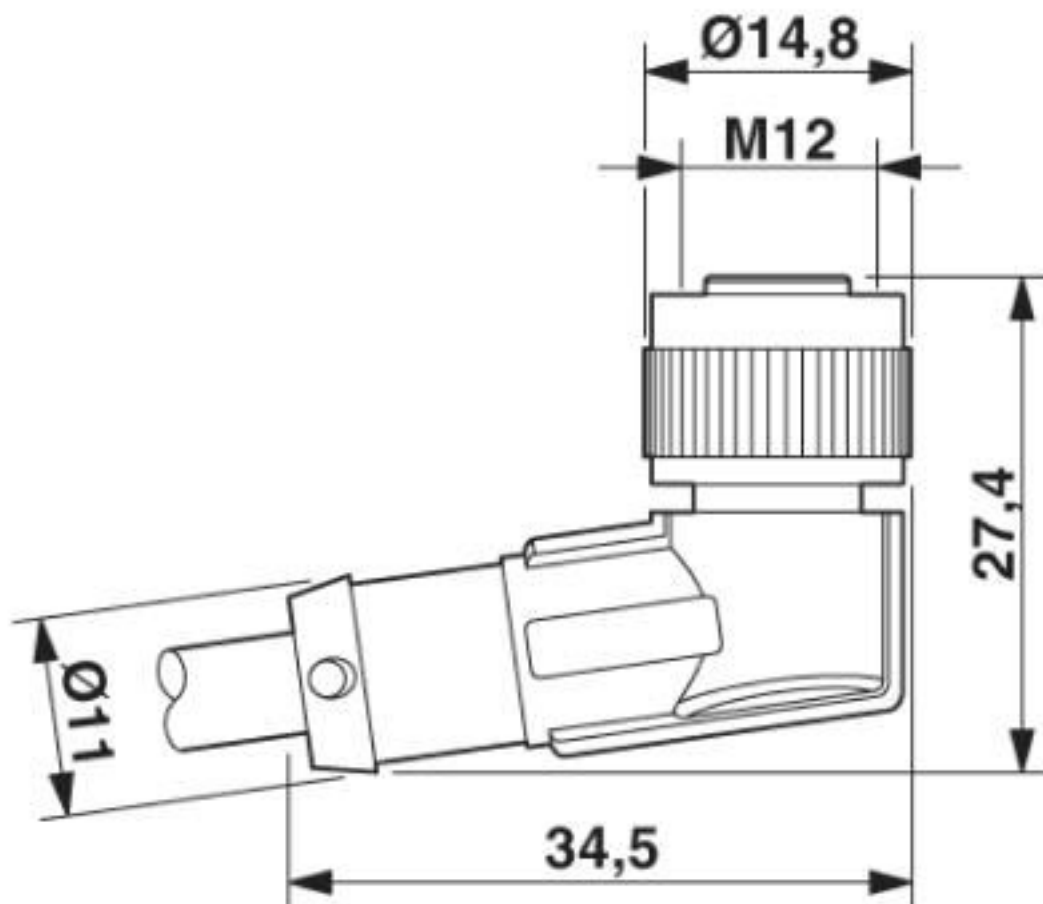
## Sensor/actuator cable - SAC-5P-M12MS/ 0,3-802/M12FR - 1457283

Dimensional drawing



Plug, M12 x 1, straight, shielded

Dimensional drawing



M12 x 1 socket, angled

## Sensor/actuator cable - SAC-5P-M12MS/ 0,3-802/M12FR - 1457283

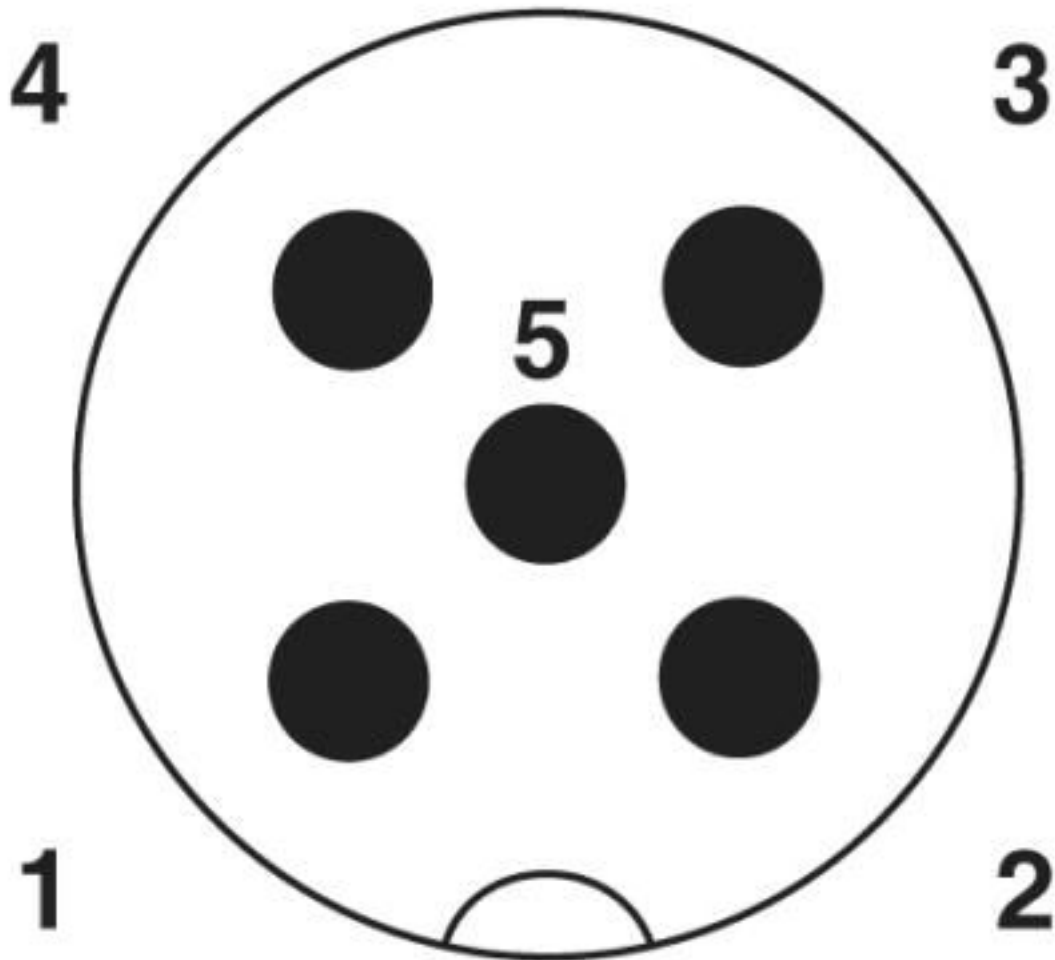
Circuit diagram



Contact assignment of the M12 plug and the M12 socket

## Sensor/actuator cable - SAC-5P-M12MS/ 0,3-802/M12FR - 1457283

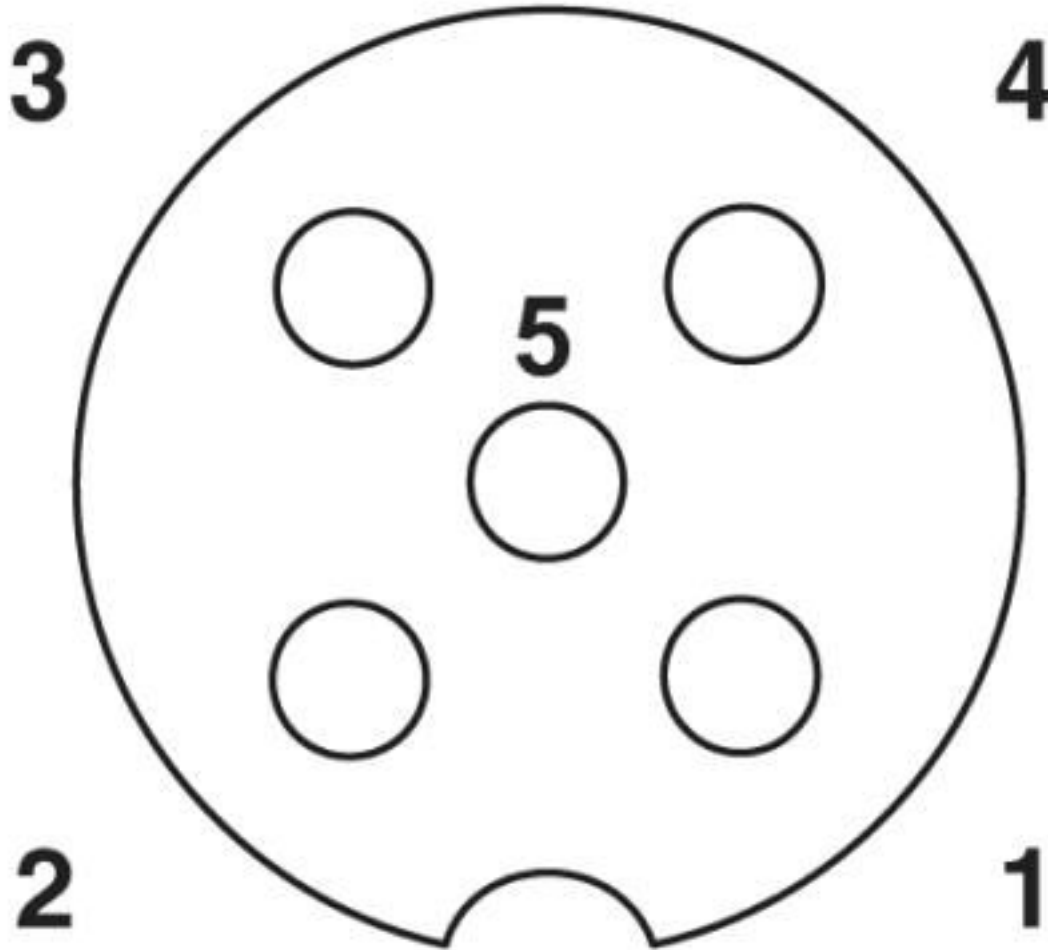
Schematic diagram



Pin assignment M12 male connector, 5-pos., A-coded, male side

## Sensor/actuator cable - SAC-5P-M12MS/ 0,3-802/M12FR - 1457283

Schematic diagram



Pin assignment M12 socket, 5-pos., A-coded, socket side view

## Sensor/actuator cable - SAC-5P-M12MS/ 0,3-802/M12FR - 1457283

Cable cross section



PUR halogen-free highly flexible resistant to welding sparks gray 5th conductor green/yellow [802]

### Classifications

eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27060311 |
| eCl@ss 4.0    | 27060300 |
| eCl@ss 4.1    | 27060300 |
| eCl@ss 5.0    | 27061800 |
| eCl@ss 5.1    | 27061800 |
| eCl@ss 6.0    | 27279200 |
| eCl@ss 7.0    | 27279218 |
| eCl@ss 8.0    | 27279218 |
| eCl@ss 9.0    | 27060311 |

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### Classifications

#### ETIM

|          |          |
|----------|----------|
| ETIM 4.0 | EC001855 |
| ETIM 5.0 | EC001855 |
| ETIM 6.0 | EC001855 |
| ETIM 7.0 | EC001855 |

#### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 31251501 |
| UNSPSC 7.0901 | 31251501 |
| UNSPSC 11     | 31251501 |
| UNSPSC 12.01  | 31251501 |
| UNSPSC 13.2   | 31251501 |
| UNSPSC 19.0   | 31251501 |
| UNSPSC 20.0   | 31251501 |
| UNSPSC 21.0   | 31251501 |

### Approvals

#### Approvals

#### Approvals

UL Listed / cUL Listed / EAC-RoHS / EAC / cULus Listed

#### Ex Approvals

#### Approval details

|                    |                                                                                     |                                                                                                                                                       |               |
|--------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| UL Listed          |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 221474 |
| Nominal voltage UN | 125 V                                                                               |                                                                                                                                                       |               |
| Nominal current IN | 4 A                                                                                 |                                                                                                                                                       |               |

|                    |                                                                                     |                                                                                                                                                       |               |
|--------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| cUL Listed         |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 221474 |
| Nominal voltage UN | 125 V                                                                               |                                                                                                                                                       |               |
| Nominal current IN | 4 A                                                                                 |                                                                                                                                                       |               |

## Sensor/actuator cable - SAC-5P-M12MS/ 0,3-802/M12FR - 1457283

### Approvals

|          |                                                                                   |                          |
|----------|-----------------------------------------------------------------------------------|--------------------------|
| EAC-RoHS |  | RU D-<br>DE.HB35.B.00387 |
|----------|-----------------------------------------------------------------------------------|--------------------------|

|     |                                                                                   |                          |
|-----|-----------------------------------------------------------------------------------|--------------------------|
| EAC |  | RU C-<br>DE.BL08.B.00286 |
|-----|-----------------------------------------------------------------------------------|--------------------------|

|              |                                                                                   |  |
|--------------|-----------------------------------------------------------------------------------|--|
| cULus Listed |  |  |
|--------------|-----------------------------------------------------------------------------------|--|

### Accessories

#### Accessories

Plug for cable screw gland

Screw plug - PROT-M12 MS-PA-CHAIN - 1430899

M12 sealing cap with fixing band, for sensor cables, for free M12 sockets



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#### Protective cap

Sealing cap - PROT-M12 FS-PA-CHAIN - 1430873

M12 sealing cap made of plastic with fixing band, for sensor cables, for free M12 plugs



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#### Screwdriver tools

Tool - SAC BIT M12-D15 - 1208432



Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 15 mm, for 4 mm hexagonal drive

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#### Torque tool

## Sensor/actuator cable - SAC-5P-M12MS/ 0,3-802/M12FR - 1457283

### Accessories

Torque screwdriver - TSD 04 SAC - 1208429



Torque screwdriver, with preset torque of 0.4 Nm and 4 mm hexagonal drive for M12 connectors

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PHOENIX CONTACT GmbH & Co. KG  
Flachsmarktstr. 8  
32825 Blomberg  
Germany  
Tel. +49 5235 300  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.com>

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