

## Sensor/actuator cable - SAC-3P-M12MS/ 3,0-800/M12FS - 1456802

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's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



Sensor/actuator cable, 3-position, PUR, gray RAL 7001, Plug straight M12, A-coded, on Socket straight M12, A-coded, cable length: 3 m, for robots and drag chains

### Why buy this product

- ✓ 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 STK   |
| GTIN                                 | <br>4 046356 593168 |
| GTIN                                 | 4046356593168   |
| Weight per Piece (excluding packing) | 100.000 g   |
| Custom tariff number                 | 85444290  |
| Country of origin                    | Poland  |

### Technical data

#### Dimensions

|                 |     |
|-----------------|-----|
| Length of cable | 3 m |
|-----------------|-----|

#### Ambient conditions

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

## Sensor/actuator cable - SAC-3P-M12MS/ 3,0-800/M12FS - 1456802

### Technical data

#### General

|                              |                               |
|------------------------------|-------------------------------|
| Rated current at 40°C        | 4 A                           |
| Rated voltage                | 250 V AC                      |
|                              | 250 V DC                      |
| Number of positions          | 3                             |
| Insulation resistance        | ≥ 100 MΩ                      |
| 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

|  |                 |
|--|-----------------|
| Standard designation                   | M12 connector   |
| Standards/regulations                  | 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 type                         | Gray, highly flexible PUR  |
| Cable type (abbreviation)          | 800  |
| Cable abbreviation                 | Li12Y11Y-HF  |
| UL AWM style                       | 20233  |
| Conductor cross section            | 3x 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)  |

## Sensor/actuator cable - SAC-3P-M12MS/ 3,0-800/M12FS - 1456802

### Technical data

#### Cable

|   |  |
|---|--|
| Wire colors                                     | brown, blue, black   |
| Overall twist                                   | 3 wires, twisted   |
| External sheath, color                          | gray RAL 7001  |
| External cable diameter D                       | 4.5 mm ±0.2 mm   |
| Minimum bending radius, fixed installation      | 4 x D  |
| Minimum bending radius, flexible installation   | 7.5 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   |
| 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)   |
| Cable weight                                    | 28.3 kg/km   |
| Outer sheath, material                          | PUR  |
| Material conductor insulation                   | PES  |
| 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                             | 2000 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                                | according to IEC 60332-1-2   |
|   | According to UL 758/1581 VW-1  |
|   | According to UL 758/1581 FT1   |
| Halogen-free                                    | in accordance with DIN VDE 0472 part 815   |
| Resistance to oil                               | According to HD 22.10  |
|   | in accordance with DIN EN 60811-404 (external sheath)  |
| Other resistance                                | Highly resistant to acids, alkaline solutions and solvents   |
|   | Silicone-free  |

# Sensor/actuator cable - SAC-3P-M12MS/ 3,0-800/M12FS - 1456802

## Technical data

### Cable

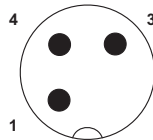
|                                 |   |
|---------------------------------|---|
| Ambient temperature (operation) | -40 °C ... 90 °C (cable, fixed installation)    |
|                                 | -30 °C ... 90 °C (cable, flexible installation) |
|                                 | to 120 °C (for 3000 h)                          |

### Environmental Product Compliance

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

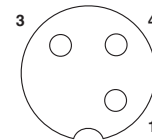
## Drawings

Schematic diagram



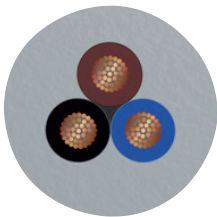
Pin assignment M12 plug, 3-pos., A-coded, view male side

Schematic diagram



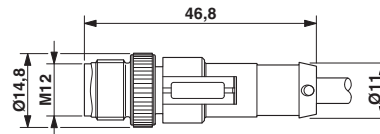
Pin assignment socket M 12

Cable cross section



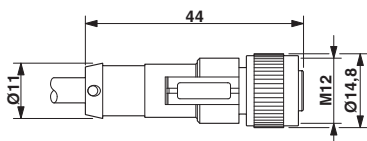
Gray, highly flexible PUR [800]

Dimensional drawing



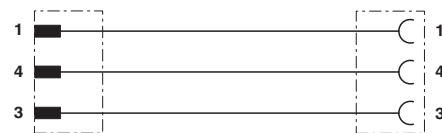
Plug, M12 x 1, straight, shielded

Dimensional drawing



M12 x 1 socket, straight

Circuit diagram



Contact assignment of the M12 plug and the M12 socket

# Sensor/actuator cable - SAC-3P-M12MS/ 3,0-800/M12FS - 1456802

## Classifications

### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27060306 |
| eCl@ss 4.1 | 27060306 |
| eCl@ss 5.0 | 27061801 |
| 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 |

### ETIM

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

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 31251501 |
| UNSPSC 7.0901 | 31251501 |
| UNSPSC 11     | 31251501 |
| UNSPSC 12.01  | 31251501 |
| UNSPSC 13.2   | 31251501 |

## Approvals


### Approvals

#### Approvals

UL Listed / cUL Listed / 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 | 300 V   |   |               |


## Sensor/actuator cable - SAC-3P-M12MS/ 3,0-800/M12FS - 1456802

### Approvals

|                    |     |
|--------------------|-----|
| 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 | 300 V   |   |               |
| Nominal current IN | 4 A   |   |               |

|     |   |               |
|-----|---|---------------|
| EAC |  | EAC-Zulassung |
|-----|---|---------------|

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

### Accessories

#### Accessories

#### 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



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

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



#### Screwdriver tools

## Sensor/actuator cable - SAC-3P-M12MS/ 3,0-800/M12FS - 1456802

### Accessories

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

---

### Torque tool

Torque screwdriver - TSD 04 SAC - 1208429



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