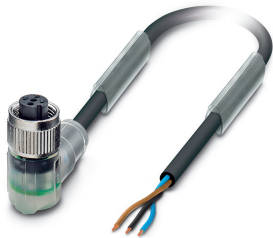


## Sensor/actuator cable - SAC-3P-10,0-PUR/M12FR-2L - 1694428

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 halogen-free, black-gray RAL 7021, free cable end, on Socket angled M12, coding: A, with 2 LEDs, cable length: 10 m

### Your advantages

- ✓ Easy and safe: 100% electrically tested plug-in components
- ✓ Our standard: robust halogen-free PUR cable
- ✓ Convenient: increased machine availability thanks to quick and easy diagnostics

### Key Commercial Data

|                                      |   |
|--------------------------------------|---|
| Packing unit                         | 1 pc  |
| GTIN                                 | <br>4 017918 178291 |
| GTIN                                 | 4017918178291   |
| Weight per Piece (excluding packing) | 263.500 g   |
| Custom tariff number                 | 85444290  |
| Country of origin                    | Poland  |

### Technical data

#### Dimensions

|  |       |
|--|-------|
| Length of cable                            | 10 m  |
| Stripping length of the free conductor end | 50 mm |

#### Ambient conditions

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

## Sensor/actuator cable - SAC-3P-10,0-PUR/M12FR-2L - 1694428

### Technical data

#### Ambient conditions

|  |      |
|--|------|
|  | IP67 |
|  | IP68 |

#### General

|                              |                               |
|------------------------------|-------------------------------|
| Rated current at 40°C        | 4 A                           |
| Rated voltage                | 24 V DC                       |
| Number of positions          | 3                             |
| Color handle area            | transparent                   |
| Insulation resistance        | ≥ 100 MΩ                      |
| Coding                       | A - standard                  |
| Standards/regulations        | M12 connector IEC 61076-2-101 |
| Status display               | 2 LEDs                        |
| 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

|                                 |                                       |
|---------------------------------|---------------------------------------|
| Cable type                      | PUR halogen-free black                |
| Cable type (abbreviation)       | PUR                                   |
| Cable abbreviation              | Li9Y11Y                               |
| UL AWM style                    | 20549                                 |
| Conductor cross section         | 3x 0.34 mm <sup>2</sup> (Signal line) |
| AWG signal line                 | 22                                    |
| Conductor structure signal line | 42x 0.10 mm                           |

## Sensor/actuator cable - SAC-3P-10,0-PUR/M12FR-2L - 1694428

### Technical data

#### Cable

|   |   |
|---|---|
| Core diameter including insulation            | 1.27 mm ±0.02 mm (Signal line)                                      |
| Thickness, insulation                         | ≥ 0.21 mm (Core insulation)   |
|   | approx. 0.5 mm (Outer cable sheath)                                 |
| Wire colors                                   | brown, blue, black  |
| Overall twist                                 | 3 wires, twisted  |
| External sheath, color                        | black-gray RAL 7021   |
| External cable diameter D                     | 3.85 mm ±0.15 mm  |
| Smallest bending radius, fixed installation   | 19 mm   |
| Smallest bending radius, movable installation | 38 mm   |
| Number of bending cycles                      | 10000000  |
| Bending radius                                | 44 mm   |
| Traversing path                               | 10 m  |
| Traversing rate                               | 3 m/s   |
| Acceleration                                  | 10 m/s <sup>2</sup>   |
| Cable weight                                  | 23 kg/km  |
| Outer sheath, material                        | PUR   |
| Material conductor insulation                 | PP  |
| Conductor material                            | Bare Cu litz wires  |
| Insulation resistance                         | ≥ 100 GΩ*km (at 20 °C)  |
| Conductor resistance                          | max. 58 Ω/km (at 20 °C)   |
| Nominal voltage, cable                        | ≤ 300 V   |
| Test voltage, cable                           | ≥ 3000 V  |
| Special properties                            | Flexible cable conduit capable                                      |
|   | Silicone-free   |
|   | Free of substances which would hinder coating with paint or varnish |
| 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          |
| Flame resistance                              | in accordance with UL 758/1581 FT2                                  |
|   | DIN EN 60332-2-2 (20 s)   |
| Halogen-free                                  | in accordance with DIN VDE 0472 part 815                            |
| Resistance to oil                             | in accordance with DIN EN 60811-2-1                                 |
| 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 |
|------------|---|

# Sensor/actuator cable - SAC-3P-10,0-PUR/M12FR-2L - 1694428

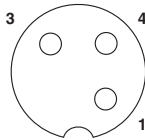
## Technical data

### Environmental Product Compliance

|  |  |
|--|--|
|  | No hazardous substances above threshold values |
|--|--|

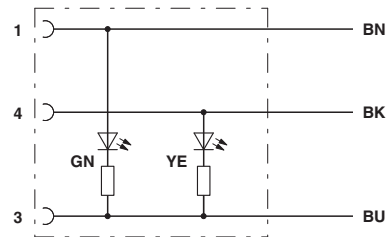
## Drawings

Schematic diagram



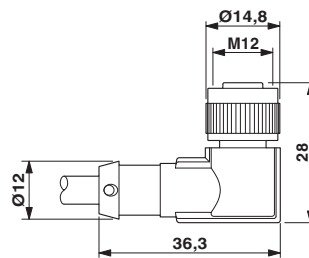
Pin assignment M12 socket, 3-pos., A-coded, view female side

Circuit diagram



Contact assignment of M12 sockets with LED

Dimensional drawing



Socket M12 x 1, angled, with LED

## Classifications

eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27060311 |
| eCl@ss 11.0   | 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 9.0    | 27060311 |

# Sensor/actuator cable - SAC-3P-10,0-PUR/M12FR-2L - 1694428

## Classifications

### ETIM

|          |          |
|----------|----------|
| ETIM 2.0 | EC000830 |
| ETIM 3.0 | EC001855 |
| ETIM 4.0 | 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 | 24 V  |   |               |
| Nominal current IN | 4 A   |   |               |

# Sensor/actuator cable - SAC-3P-10,0-PUR/M12FR-2L - 1694428

## Approvals

|                    |  |   |               |
|--------------------|--|---|---------------|
| 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 |  | 24 V  |               |
| Nominal current IN |  | 4 A   |               |

|          |  |                      |
|----------|--|----------------------|
| EAC-RoHS |  | RU D-DE.HB35.B.00387 |
|----------|--|----------------------|

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

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

## Accessories

### Accessories

#### Conductor marking

Insert label - PABA WH/23 - 1013779



Insert label, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, mounting type: thread on, cable diameter range: 1.5 ... 35 mm, lettering field size: 23 x 4 mm, Number of individual labels: 20

Insert label - PABA YE/23 - 1013782



Insert label, Strip, yellow, unlabeled, can be labeled with: CMS-P1-PLOTTER, mounting type: thread on, cable diameter range: 1.5 ... 35 mm, lettering field size: 23 x 4 mm, Number of individual labels: 20

#### Corrugated pipe

## Sensor/actuator cable - SAC-3P-10,0-PUR/M12FR-2L - 1694428

### Accessories

Protective hose - WP-PA HF 13,0 BK - 3240681



Polyamide protective hose, inflammability class V0, UV resistant

---

Protective hose - WP-PA HF-HB 13,0 BK - 3240839



Polyamide protective hose, inflammability class HB, UV resistant

---

### Cutting tools

Diagonal cutter - CUTFOX-S VDE - 1212207



Diagonal cutter for hard (piano wire) and soft wires, VDE 1000 V AC/1500 V DC tested

---

### Marker pen

Marker pen - B-STIFT - 1051993



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

---

### Plug for cable screw gland

## Sensor/actuator cable - SAC-3P-10,0-PUR/M12FR-2L - 1694428

### Accessories

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

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



---

### Safety locking

Locking clip - SAC-M12-EXCLIP-F - 1558991



Locking clip for the socket side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools

---

### Screwdriver tools

Adapter insert - TSD-M SAC-BIT ADAPTER - 1212600



Adapter bit for TSD-M...torque tools, E6.3-1/4" drive with 4 mm hexagon to accommodate SAC bits

---

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

---

### Stripping tool

## Sensor/actuator cable - SAC-3P-10,0-PUR/M12FR-2L - 1694428

### Accessories

Stripping tool - WIREFOX SAC-1 - 1212757



Stripping pliers, for halogen-free sensor/actuator cables (SAC cables), with PUR and PVC insulation, from  $\varnothing$  of 3.2 to 4.4 mm, any stripping length

---

Stripping tool - WIREFOX SAC - 1212623



Stripping pliers, for halogen-free sensor/actuator cables (SAC cables), with PUR and PVC insulation, from  $\varnothing$  of 4.4 to 7 mm, any stripping length

---

Stripping tool - WIREFOX 10 - 1212150



Stripping tool, for cables and conductors from 0.02 - 10 mm<sup>2</sup>, self-adjusting, stripping length of up to 18 mm, cutting capacity of up to 10 mm<sup>2</sup> stranded/1.5 mm<sup>2</sup> solid, replaceable stripping blade

---

### 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

---

Torque screwdriver - TSD-M 1,2NM - 1212224



Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 0.3 - 1.2 Nm

---

## Sensor/actuator cable - SAC-3P-10,0-PUR/M12FR-2L - 1694428

### Accessories

Protective hose adapter - WP-CTA POM 13,0 BK - 1422884



Protective hose adapter, for corrugated hoses with a nominal size of 13 (10 x 13), corrugated in parallel