

## Sensor/Actuator cable - SAC-4P-M12MR/ 1,5-PUR P - 1442599

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Sensor/Actuator cable, 4-position, PUR halogen-free, Black-gray RAL 7021, Plug angled M12, A-coded, on Free cable end, Cable length: 1.5 m, with plastic knurl

### Key commercial data

|                        |  |
|------------------------|--|
| Packing unit           | 0  |
| Minimum order quantity | 1  |
| Catalog page           | Page 132 (PC-2011)   |
| GTIN                   | <br>4 046356 535359 |
| Custom tariff number   | 85444290   |
| Country of origin      | POLAND   |

### Technical data

#### General data

|  |  |
|--|--|
| Rated current at 40°C                      | 4 A  |
| Rated voltage                              | 250 V  |
| Number of positions                        | 4  |
| Volume resistance                          | ≤ 5 mΩ   |
| Insulation resistance                      | ≥ 10 MΩ  |
| Length of cable                            | 1.5 m  |
| Stripping length of the free conductor end | 50 mm  |
| Ambient temperature (operation)            | -25 °C ... 90 °C (Male connector / female connector) |

#### General characteristics

|                             |                               |
|-----------------------------|-------------------------------|
| Standards/regulations       | M12 connector IEC 61076-2-101 |
| Coding                      | A - standard                  |
| Surge voltage category      | II                            |
| Pollution degree            | 3                             |
| Degree of protection        | IP65/IP68/IP69K               |
| Insertion/withdrawal cycles | ≥ 100                         |
| Torque                      | 0.4 Nm (M12 connector)        |
| Contact material            | CuSn                          |
| Contact surface material    | Ni/Au                         |
| Contact carrier material    | TPU GF                        |

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## Technical data

### General characteristics

|                       |   |
|-----------------------|---|
| Material of grip body | TPU, hardly inflammable, self-extinguishing |
| Material, knurls      | Polyamide                                   |
| Status display        | No  |

### Conductor data

|   |   |
|---|---|
| Cable type                                    | PUR halogen-free black  |
| Cable type (abbreviation)                     | PUR   |
| Cable abbreviation                            | Li9Y11Y-HF  |
| UL AWM Style                                  | 20549   |
| Conductor cross section                       | 4x 0.34 mm <sup>2</sup> (signal line)                               |
| AWG signal line                               | 22  |
| Conductor structure signal line               | 42x 0.10 mm   |
| Core diameter including insulation            | 1.27 mm ±0.02 mm (signal line)                                      |
| Thickness, insulation                         | ≥ 0.21 mm (Core insulation)   |
| Thickness, insulation                         | ≥ 0.8 mm (Outer cable sheath)                                       |
| External cable diameter                       | 4.7 mm ±0.15 mm   |
| Wire colors                                   | brown, white, blue, black   |
| External sheath, color                        | Black-gray RAL 7021   |
| Insulation resistance                         | ≥ 1 GΩ*km   |
| Conductor resistance                          | max. 58 Ω/km (at 20 °C)   |
| Nominal voltage, conductor                    | ≤ 300 V   |
| Test voltage, conductor                       | ≥ 3000 V  |
| Overall twist                                 | 4 wires, twisted  |
| Length of twist, overall twist                | 49.5 mm   |
| Outer sheath, material                        | PUR   |
| Material conductor insulation                 | PP  |
| Conductor material                            | Bare Cu litz wires  |
| Cable weight                                  | 30 kg/km  |
| Smallest bending radius, fixed installation   | 23.5 mm   |
| Smallest bending radius, movable installation | 47 mm   |
| Number of bending cycles                      | 4000000   |
| Bending radius                                | 47 mm   |
| Traversing path                               | 10 m  |
| Traversing rate                               | 3 m/s   |
| Acceleration                                  | 10 m/s <sup>2</sup>   |
| Ambient temperature (operation)               | -40 °C ... 80 °C (cable, fixed installation)                        |
| Ambient temperature (operation)               | -25 °C ... 80 °C (cable, flexible installation)                     |
| Special properties                            | Flexible cable conduit capable                                      |
| Special properties                            | Silicone-free   |
| Special properties                            | Free of substances which would hinder coating with paint or varnish |
| Special properties                            | Flexible  |
| Flame resistance                              | in accordance with DIN UL-Style 20549                               |
| Flame resistance                              | in accordance with FT1 as per UL 758                                |

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## Technical data

### Conductor data

|                   |  |
|-------------------|--|
| Halogen-free      | in accordance with DIN VDE 0472 part 815                   |
| Halogen-free      | in accordance with DIN EN 50267-2-1                        |
| Resistance to oil | in accordance with DIN EN 60811-2-1                        |
| Other resistance  | Highly resistant to acids, alkaline solutions and solvents |
| Other resistance  | hydrolysis and microbe resistant                           |
| Other resistance  | partly UV-resistant in accordance with DIN EN ISO 4892-2-A |

## Classifications

### eclass

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27060306 |
| eCl@ss 4.1 | 27060306 |
| eCl@ss 5.0 | 27061801 |
| eCl@ss 5.1 | 27061801 |
| eCl@ss 6.0 | 27279218 |
| eCl@ss 7.0 | 27279218 |

### etim

|          |          |
|----------|----------|
| ETIM 2.0 | EC000830 |
| ETIM 3.0 | EC001855 |
| ETIM 4.0 | EC001855 |

### unspsc

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

## Approvals

### Approvals

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Approvals

GOST

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Ex Approvals

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Approvals submitted

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## Sensor/Actuator cable - SAC-4P-M12MR/ 1,5-PUR P - 1442599

### Approvals

#### Approval details



### Accessories

#### Accessories

##### Fuse

Fuse clip - SAC-M12-EXCLIP-M - 1558988



Fuse clip for the pin side of various M12 sensor/actuator connectors prevents plug-in connections being interrupted without using a tool

### Marking

Insert label - PABA WH/15 - 1013151



Insert label, white, Unlabeled, Can be labeled with: Plotter, Mounting type: Thread on, Cable diameter: 0.6-50 mm, Lettering field: 15 x 4 mm

Insert label - PABA YE/15 - 1013698



Insert label, yellow, Unlabeled, Can be labeled with: Plotter, Mounting type: Thread on, Cable diameter: 0.6-50 mm, Lettering field: 15 x 4 mm

Insert label - PABA RD/15 - 1013944



Insert label, red, Unlabeled, Can be labeled with: Plotter, Mounting type: Thread on, Cable diameter: 0.6-50 mm, Lettering field: 15 x 4 mm

## Sensor/Actuator cable - SAC-4P-M12MR/ 1,5-PUR P - 1442599

### Accessories

Conductor marker carrier - PATG 2/23 - 1013850



Conductor marker carrier, transparent, Unlabeled, Mounting type: Slide on, Cable diameter: 2-4 mm, Lettering field: 4 x 23 mm

Conductor marker carrier - PATG 3/23 - 1013863



Conductor marker carrier, transparent, Unlabeled, Mounting type: Slide on, Cable diameter: 4-7 mm, Lettering field: 4 x 23 mm

Conductor marker carrier - PATG 4/23 - 0808011



Conductor marker carrier, transparent, Unlabeled, Mounting type: Slide on, Cable diameter: 6-10 mm, Lettering field: 4 x 23 mm

Marker pen - B-STIFT - 1051993



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

### Protection and sealing elements

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

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



### Tools

## Sensor/Actuator cable - SAC-4P-M12MR/ 1,5-PUR P - 1442599

### Accessories

Cable-cutting tool - CUTFOX-S VDE - 1212207



Diagonal cutter for copper and aluminum conductors, VDE-tested

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Stripping tool - WIREFOX SAC - 1212623



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

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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

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



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

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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

# Sensor/Actuator cable - SAC-4P-M12MR/ 1,5-PUR P - 1442599

## Accessories

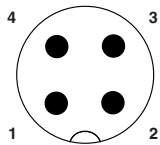
Tool - SAC BIT M12-D15 - 1208432



Nut for assembling sensor/actuator cables with M12 connector and for M12 connectors with QUICKON fast connection technology, for 4 mm hexagonal drive

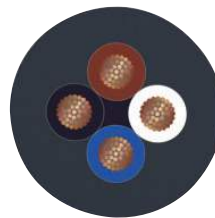
## Drawings

Schematic diagram



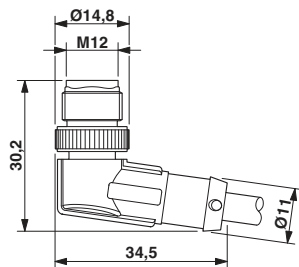
Pin assignment M12 plug, 4-pos., A-coded, view plug side

Cable cross section



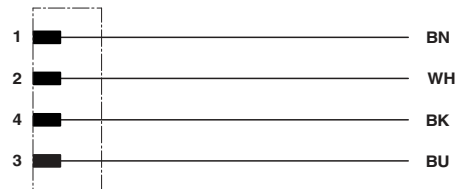
PUR halogen-free black [PUR]

Dimensioned drawing



M12 x 1 male connector, angled

Circuit diagram



Contact assignment of the M12 plug