

## Sensor/Actuator cable - SAC-5P-M12MS/10,0-PUR P - 1442421

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Sensor/Actuator cable, 5-position, PUR halogen-free, black-gray RAL 7021, Plug straight M12, A-coded, on free cable end, Cable length: 10 m, with plastic knurl

### Why buy this product

- ✓ Easy and safe: 100% electrically tested plug-in components
- ✓ Our standard: robust halogen-free PUR cable
- ✓ Save weight – our connectors with light plastic knurl



### Key commercial data

|                                      |                                                                                                         |
|--------------------------------------|---------------------------------------------------------------------------------------------------------|
| Packing unit                         | 1 pc                                                                                                    |
| GTIN                                 | <br>4 046356 535014 |
| Weight per Piece (excluding packing) | 354.22 g                                                                                                |
| Custom tariff number                 | 85444290                                                                                                |
| Country of origin                    | Poland                                                                                                  |
| Note                                 | Made to Order (non-returnable)                                                                          |

### 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) |
| Degree of protection            | IP65                             |
|                                 | IP67                             |
|                                 | IP68                             |

#### General

|                       |      |
|-----------------------|------|
| Rated current at 40°C | 4 A  |
| Rated voltage         | 60 V |
| Number of positions   | 5    |

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## Technical data

### General

|                              |                               |
|------------------------------|-------------------------------|
| Contact resistance           | $\leq 5 \text{ m}\Omega$      |
| Insulation resistance        | $\geq 10 \text{ M}\Omega$     |
| Coding                       | A - standard                  |
| Standards/regulations        | M12 connector IEC 61076-2-101 |
| Status display               | No                            |
| Protective circuit/component | Unwired                       |
| Surge voltage category       | II                            |
| Pollution degree             | 3                             |
| Insertion/withdrawal cycles  | $\geq 100$                    |
| Torque                       | 0.4 Nm (M12 connector)        |

### Material

|                                         |                                             |
|-----------------------------------------|---------------------------------------------|
| Inflammability class 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                        | Polyamide                                   |

### Cable

|                                               |                                                      |
|-----------------------------------------------|------------------------------------------------------|
| Cable type                                    | PUR halogen-free black                               |
| Cable type (abbreviation)                     | PUR                                                  |
| 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            | 1.27 mm $\pm$ 0.02 mm (signal line)                  |
| Thickness, insulation                         | approx. 0.7 mm                                       |
| Wire colors                                   | brown, white, blue, black, green-yellow              |
| External sheath, color                        | black-gray RAL 7021                                  |
| External cable diameter D                     | 5 mm $\pm$ 0.15 mm                                   |
| Smallest bending radius, fixed installation   | 25 mm                                                |
| Smallest bending radius, movable installation | 50 mm                                                |
| Number of bending cycles                      | 4000000                                              |
| Bending radius                                | 50 mm                                                |
| Traversing path                               | 10 m                                                 |
| Traversing rate                               | 3 m/s                                                |
| Acceleration                                  | 10 m/s <sup>2</sup>                                  |
| Cable weight                                  | 35 kg/km                                             |
| Outer sheath, material                        | PUR                                                  |
| Conductor material                            | Bare Cu litz wires                                   |
| Insulation resistance                         | $\geq 16 \text{ G}\Omega \cdot \text{km}$ (at 20 °C) |

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## Technical data

### Cable

|                                 |                                                                     |
|---------------------------------|---------------------------------------------------------------------|
| 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 |
|                                 | Flexible                                                            |
| Flame resistance                | in accordance with DIN UL-Style 20549                               |
| Halogen-free                    | in accordance with DIN VDE 0472 part 815                            |
| Resistance to oil               | in accordance with DIN EN 60811-2-1                                 |
| Other resistance                | Highly resistant to acids, alkaline solutions and solvents          |
|                                 | hydrolysis and microbe resistant                                    |
|                                 | Resistant to salt water                                             |
|                                 | partly UV-resistant in accordance with DIN EN ISO 4892-2-A          |
| Ambient temperature (operation) | -40 °C ... 80 °C (cable, fixed installation)                        |
|                                 | -25 °C ... 80 °C (cable, flexible installation)                     |

## Classifications

### eCl@ss

|            |          |
|------------|----------|
| 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 |
| eCl@ss 8.0 | 27279218 |

### ETIM

|          |          |
|----------|----------|
| ETIM 2.0 | EC000830 |
| ETIM 3.0 | EC001855 |
| ETIM 4.0 | EC001855 |
| ETIM 5.0 | EC001855 |

### UNSPSC

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

## Sensor/Actuator cable - SAC-5P-M12MS/10,0-PUR P - 1442421

### Approvals

#### Approvals

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Approvals

EAC

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Ex Approvals

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Approvals submitted

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#### Approval details

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|-----|
| EAC |
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### Accessories

#### Accessories

##### Conductor marking

Insert label - PABA WH/15 - 1013151



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

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Insert label - PABA YE/15 - 1013698



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

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Insert label - PABA RD/15 - 1013944



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

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## Sensor/Actuator cable - SAC-5P-M12MS/10,0-PUR P - 1442421

### Accessories

#### Cutting tools

Diagonal cutter - CUTFOX-S VDE - 1212207



Diagonal cutter for copper and aluminum conductors, VDE-tested

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#### Marker carrier cable

Conductor marker carrier - PATG 2/15 - 1013038



Conductor marker carrier, transparent, unlabeled, Mounting type: slide on, Cable diameter: 2-4 mm, Lettering field: 4 x 15 mm

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Conductor marker carrier - PATG 3/15 - 1013041



Conductor marker carrier, transparent, unlabeled, Mounting type: slide on, Cable diameter: 4-7 mm, Lettering field: 4 x 15 mm

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Conductor marker carrier - PATG 4/15 - 1013054



Conductor marker carrier, transparent, unlabeled, Mounting type: slide on, Cable diameter: 6-10 mm, Lettering field: 4 x 15 mm

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#### 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

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#### Protective cap

## Sensor/Actuator cable - SAC-5P-M12MS/10,0-PUR P - 1442421

### Accessories

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

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



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### Safety locking

Locking clip - SAC-M12-EXCLIP-M - 1558988



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### 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

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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

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### Stripping tool

Stripping tool - WIREFOX SAC-1 - 1212757



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

## Sensor/Actuator cable - SAC-5P-M12MS/10,0-PUR P - 1442421

### Accessories

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

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

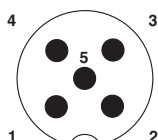
Torque screwdriver - TSD-M 1,2NM - 1212224



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

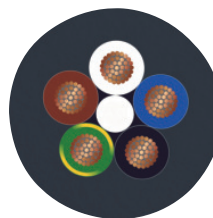
### Drawings

Schematic diagram



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

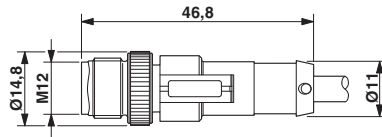
Cable cross section



PUR halogen-free black [PUR]

## Sensor/Actuator cable - SAC-5P-M12MS/10,0-PUR P - 1442421

Dimensioned drawing



Circuit diagram



M12 x 1 plug, straight

Contact assignment of the M12 plug