

## Sensor/actuator cable - SAC-4P-M12MR/5,0-PVC - 1415593

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Sensor/actuator cable, 4-position, PVC, black RAL 9005, Plug angled M12, coding: A, on free cable end, cable length: 5 m

### Your advantages

- ✔ Easy and safe: 100% electrically tested plug-in components

### Key Commercial Data

|              |   |
|--------------|---|
| Packing unit | 1 pc  |
| GTIN         | <br>4 055626 049755 |
| GTIN         | 4055626049755   |

### Technical data

#### Dimensions

|                 |     |
|-----------------|-----|
| Length of cable | 5 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         | 250 V AC                      |
|                       | 250 V DC                      |
| Number of positions   | 4                             |
| Insulation resistance | ≥ 10 MΩ                       |
| Coding                | A - standard                  |
| Standards/regulations | M12 connector IEC 61076-2-101 |

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## Technical data

### General

|                              |         |
|------------------------------|---------|
| Status display               | No      |
| Protective circuit/component | unwired |
| Overvoltage category         | II      |
| Degree of pollution          | 3       |
| Insertion/withdrawal cycles  | ≥ 100   |
| Torque                       | 0.4 Nm  |

### 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                |

### Standards and Regulations

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

### Cable

|   |                                       |
|---|---------------------------------------|
| Cable type                                    | PVC black                             |
| Cable type (abbreviation)                     | PVC                                   |
| Cable abbreviation                            | LiYY                                  |
| UL AWM style                                  | 2464 / 1729 (80°C/300 V)              |
| Conductor cross section                       | 4x 0.34 mm <sup>2</sup> (Signal line) |
| AWG signal line                               | 22                                    |
| Conductor structure signal line               | 19x 0.15 mm                           |
| Core diameter including insulation            | 1.26 mm ±0.05 mm                      |
| Thickness, insulation                         | ≥ 0.23 mm (Core insulation)           |
| Wire colors                                   | brown, white, blue, black             |
| Overall twist                                 | 4 wires, twisted                      |
| External sheath, color                        | black RAL 9005                        |
| Outer sheath thickness                        | ≥ 0.76 mm                             |
| External cable diameter D                     | 4.7 mm ±0.15 mm                       |
| Minimum bending radius, fixed installation    | 5 x D                                 |
| Minimum bending radius, flexible installation | 10 x D                                |
| Cable weight                                  | 40 kg/km                              |
| Outer sheath, material                        | PVC                                   |
| Material conductor insulation                 | PVC                                   |
| Conductor material                            | Bare Cu litz wires                    |
| Insulation resistance                         | ≥ 200 MΩ*km (at 20 °C)                |
| Conductor resistance                          | ≤ 57 Ω/km (at 20 °C)                  |

## Sensor/actuator cable - SAC-4P-M12MR/5,0-PVC - 1415593

### Technical data

#### Cable

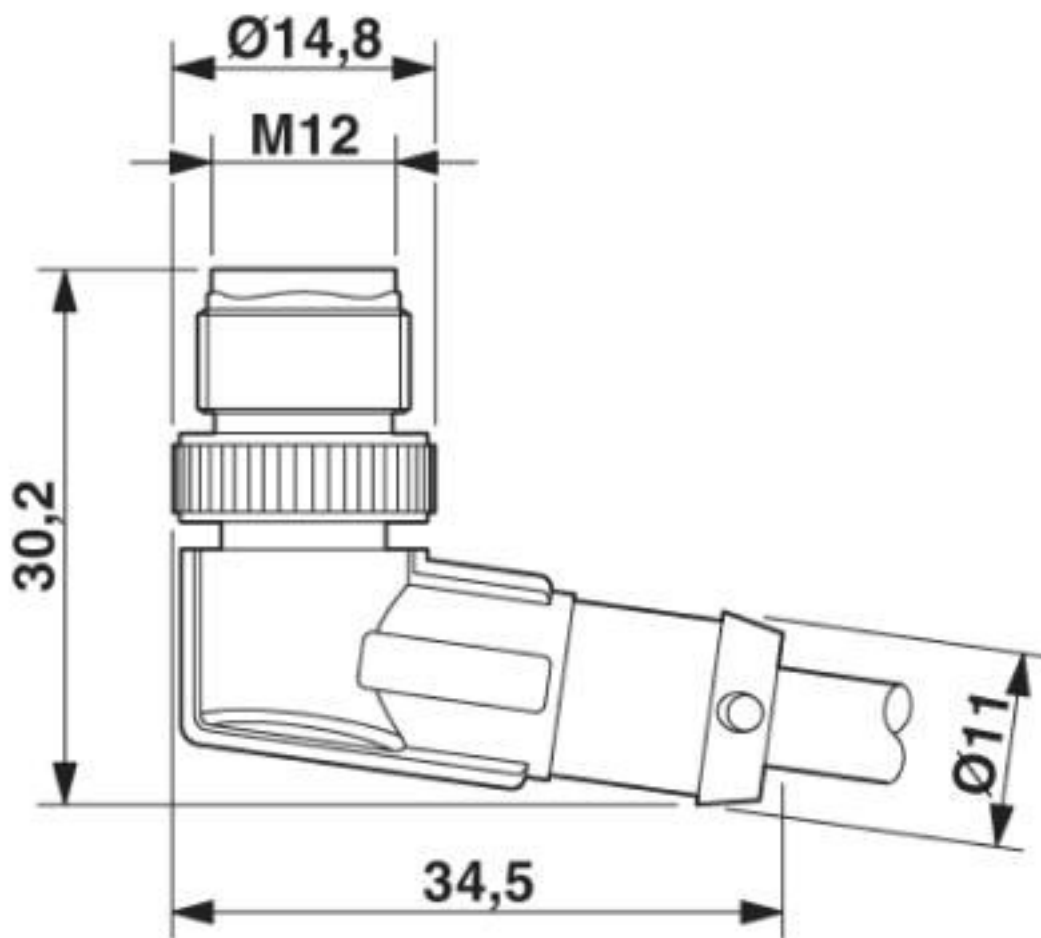
|                                 |   |
|---------------------------------|---|
| Nominal voltage, cable          | ≤ 300 V   |
| Test voltage, cable             | ≥ 3000 V  |
| Flame resistance                | As per UL-Style 2464                            |
| Resistance to oil               | according to DIN EN 60811-2-1, 168 h at 60 °C   |
| 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

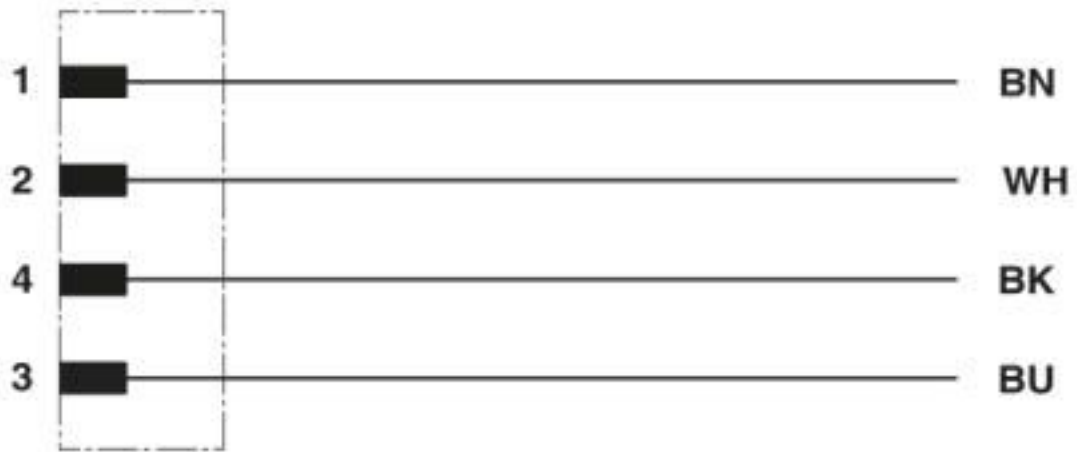
Dimensional drawing



M12 x 1 male plug, angled

## Sensor/actuator cable - SAC-4P-M12MR/5,0-PVC - 1415593

Circuit diagram



Contact assignment of the M12 plug

## Sensor/actuator cable - SAC-4P-M12MR/5,0-PVC - 1415593

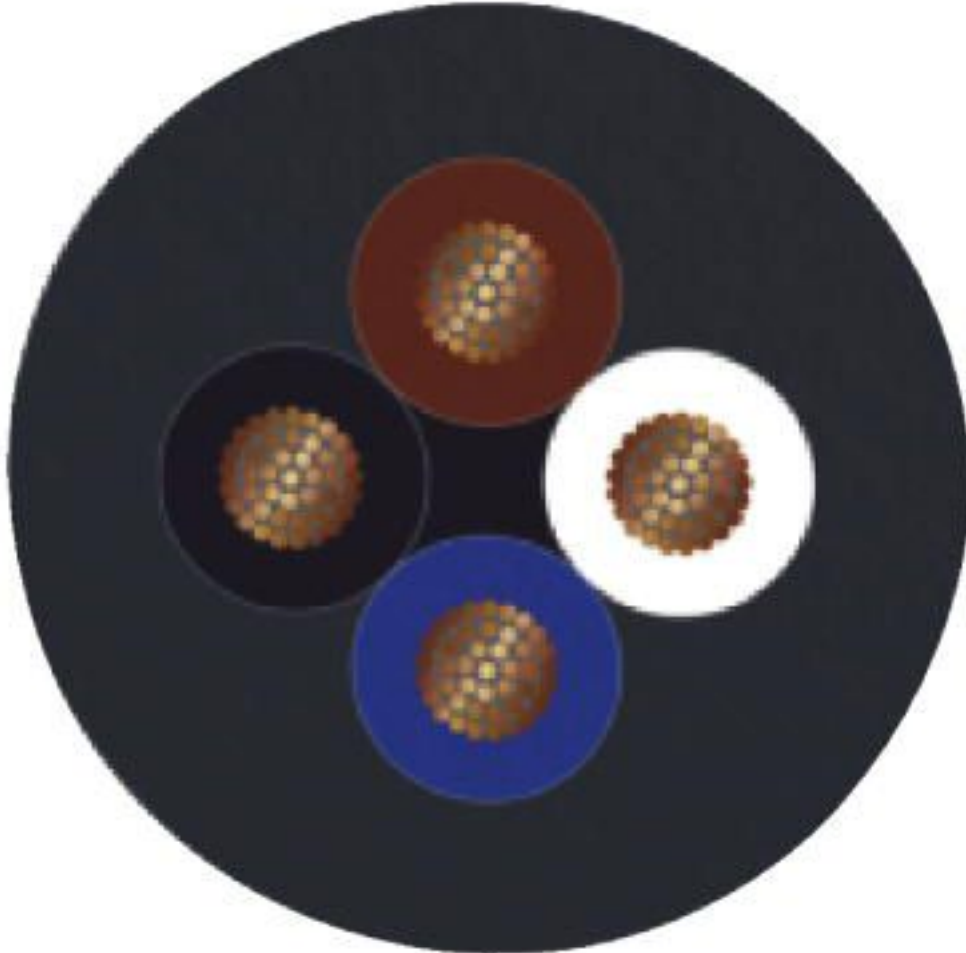
Schematic diagram



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

# Sensor/actuator cable - SAC-4P-M12MR/5,0-PVC - 1415593

Cable cross section



PVC black [PVC]

## 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 |

# Sensor/actuator cable - SAC-4P-M12MR/5,0-PVC - 1415593

## Classifications

### ETIM

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

### UNSPSC

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

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

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## Approvals

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

|              |  |
|--------------|--|
| 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

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



## Sensor/actuator cable - SAC-4P-M12MR/5,0-PVC - 1415593

### Accessories

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#### 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

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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

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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#### Safety locking

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



Locking clip for the pin 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

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#### Screwdriver tools

## Sensor/actuator cable - SAC-4P-M12MR/5,0-PVC - 1415593

### Accessories

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 M12 connectors for assembly, with a knurl diameter of 15 mm, 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  $\varnothing$  of 3.2 to 4.4 mm, any stripping length

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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  $\varnothing$  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 tool

## Sensor/actuator cable - SAC-4P-M12MR/5,0-PVC - 1415593

### 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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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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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

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