

# Sensor/actuator cable - SAC-4P-MS/0,5-542/ FRSB SCO BK - 1406176


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Sensor/actuator cable, 4-position, PVC, yellow, shielded, Plug straight M12, coding: A, on Socket angled M12, coding: A, cable length: 0.5 m



## Key Commercial Data

|                        |   |
|------------------------|---|
| Packing unit           | 1 pc  |
| Minimum order quantity | 50 pc   |
| GTIN                   | <br>4 046356 798747 |
| GTIN                   | 4046356798747   |

## Technical data

### Dimensions

|                 |       |
|-----------------|-------|
| Length of cable | 0.5 m |
|-----------------|-------|

### Ambient conditions

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

### General

|                              |                               |
|------------------------------|-------------------------------|
| Rated current at 40°C        | 4 A                           |
| Rated voltage                | 48 V AC                       |
|                              | 60 V DC                       |
| Number of positions          | 4                             |
| 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                            |

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## Technical data

### General

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

### Standards and Regulations

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

### Cable

|   |   |
|---|---|
| Cable type                                    | PVC yellow 105 °C                               |
| Cable type (abbreviation)                     | 542   |
| UL AWM style                                  | 2517 (105 °C / 300 V)                           |
| AWG signal line                               | 22  |
| Conductor structure signal line               | 30x 1.30 mm                                     |
| Core diameter including insulation            | 1.27 mm ±0.03 mm                                |
| Wire colors                                   | brown, blue, black, white                       |
| Overall twist                                 | 4 wires, twisted                                |
| Shielding                                     | Tinned copper braided shield                    |
| Optical shield covering                       | 85 %  |
| External sheath, color                        | yellow  |
| External cable diameter D                     | 5.5 mm ±0.2 mm                                  |
| Minimum bending radius, flexible installation | 12 x D  |
| Cable weight                                  | 48 kg/km  |
| Outer sheath, material                        | PVC   |
| Material conductor insulation                 | PVC   |
| Conductor material                            | Tin-plated Cu litz wires                        |
| Insulation resistance                         | ≥ (550 M Ohms/m @ 500V)                         |
| Conductor resistance                          | max. 50.5 Ω/km (20 °C)                          |
| Nominal voltage, cable                        | 300 V   |
| Special properties                            | UL standards PLTC and ITC                       |
| Flame resistance                              | FT4   |
| Other resistance                              | UV resistant                                    |
| Ambient temperature (operation)               | -30 °C ... 105 °C (cable, fixed installation)   |
|   | -5 °C ... 105 °C (cable, flexible installation) |

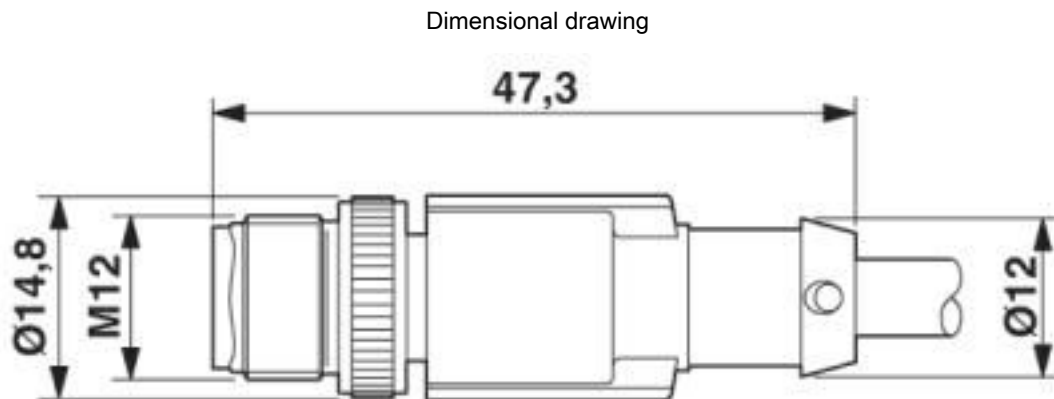
# Sensor/actuator cable - SAC-4P-MS/0,5-542/ FRSH SCO BK - 1406176

## Technical data

### Environmental Product Compliance

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

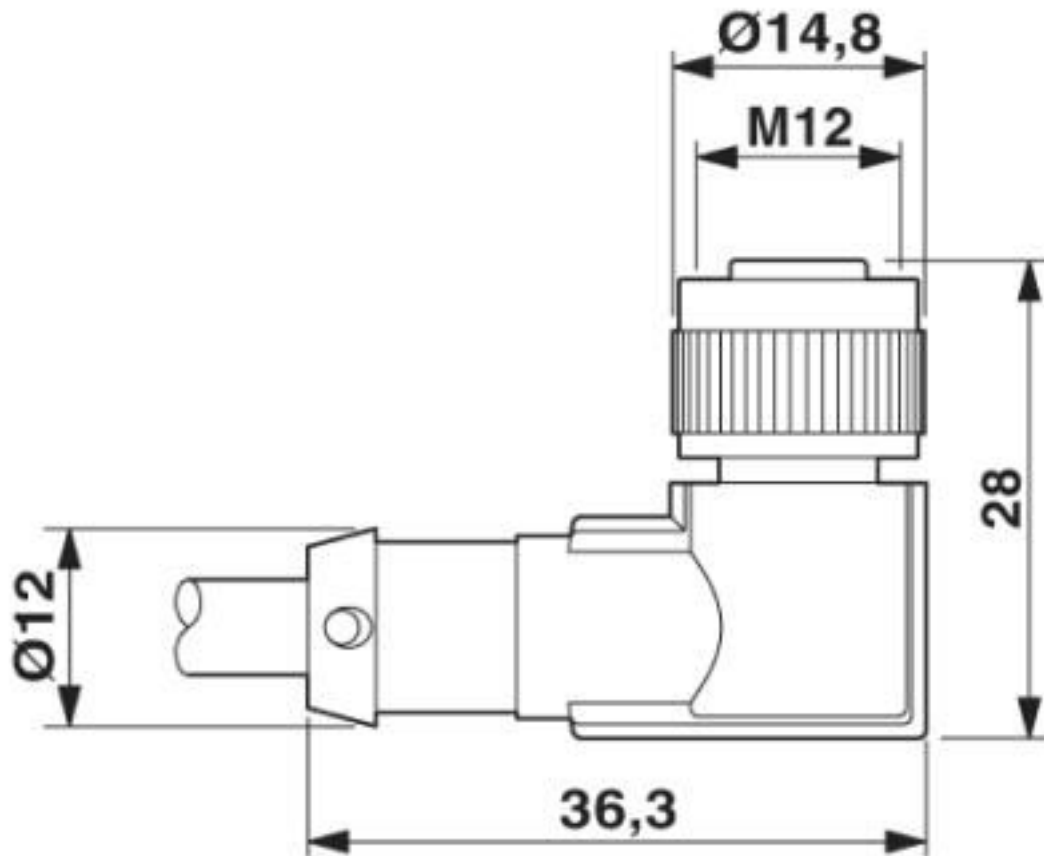
## Drawings



Plug, M12 x 1, straight, shielded

# Sensor/actuator cable - SAC-4P-MS/0,5-542/ FRSH SCO BK - 1406176

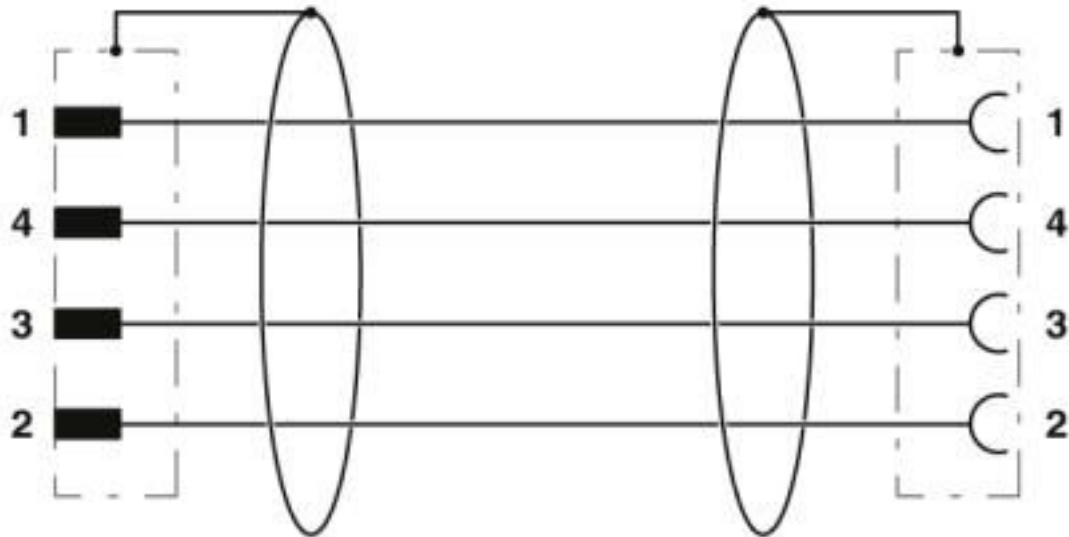
Dimensional drawing



M12 x 1 socket, angled, shielded

## Sensor/actuator cable - SAC-4P-MS/0,5-542/ FRSB SCO BK - 1406176

Circuit diagram



Contact assignment of the M12 plug and the M12 socket

# Sensor/actuator cable - SAC-4P-MS/0,5-542/ FRSH SCO BK - 1406176

Schematic diagram



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

# Sensor/actuator cable - SAC-4P-MS/0,5-542/ FRSB SCO BK - 1406176

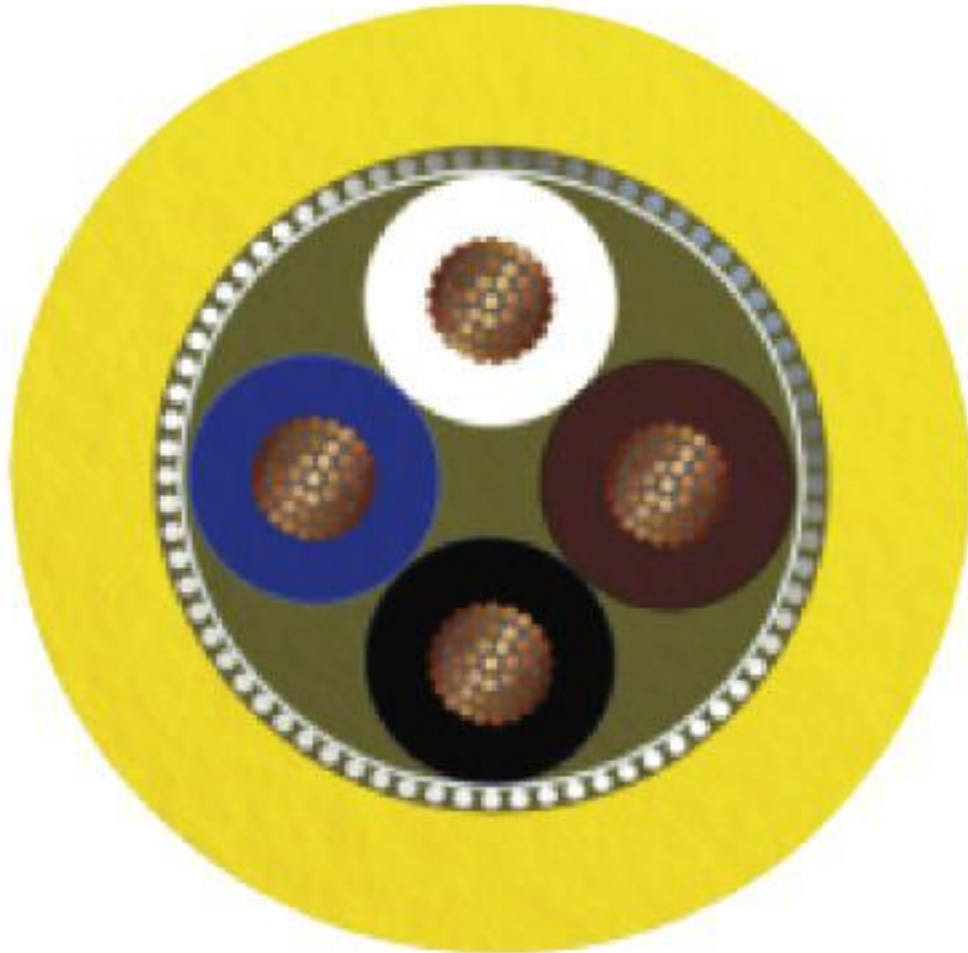
Schematic diagram



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

# Sensor/actuator cable - SAC-4P-MS/0,5-542/ FRSB SCO BK - 1406176

Cable cross section



PVC yellow 105 °C [542]

## 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-MS/0,5-542/ FRSH SCO BK - 1406176

## Classifications

### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC001855 |
| ETIM 4.0 | EC001855 |
| ETIM 5.0 | 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 | 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   |   |               |
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# Sensor/actuator cable - SAC-4P-MS/0,5-542/ FRSH SCO BK - 1406176

## Approvals

|          |  |                          |
|----------|--|--------------------------|
| EAC-RoHS |  | RU D-<br>DE.HB35.B.00387 |
|----------|--|--------------------------|

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

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

## Accessories

### Accessories

#### Plug for cable screw gland

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

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



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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

## Sensor/actuator cable - SAC-4P-MS/0,5-542/ FRSH SCO BK - 1406176

### Accessories

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

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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 M12 connectors for assembly, with a knurl diameter of 15 mm, for 4 mm hexagonal drive

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### 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

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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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