# SAC-3P-M8MS/ 1,5-542/M12FR BK - Sensor/actuator cable

1406277

https://www.phoenixcontact.com/us/products/1406277

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Sensor/actuator cable, 3-position, PVC, yellow, Plug straight M8, on Socket angled M12, coding: A, cable length: 1.5 m

## Commercial data

| | |
|---|---|
| Item number | 1406277 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Note | Made to order (non-returnable) |
| Sales key | BF13 |
| Product key | BF1ICA |
| GTIN | 4046356797757 |
| Weight per piece (including packing) | 48.34 g |
| Weight per piece (excluding packing) | 50 g |
| Customs tariff number | 85444290 |
| Country of origin | US |

## Technical data

### Product properties

| | |
|---|---|
| Product type | Sensor/actuator cable |
| Application | Standard, U.S. cables |
| Number of positions | 3 |
| No. of cable outlets | 1 |
| Shielded | no |
| Coding | A |

Insulation characteristics

| | |
|---|---|
| Overvoltage category | II |
| Degree of pollution | 3 |

### Material specifications

| | |
|---|---|
| Flammability rating according to UL 94 | HB |
| Seal material | NBR |
| Material of grip body | TPU, hardly inflammable, self-extinguishing |
| Contact material | CuSn |
| Contact surface material | Ni/Au |
| Contact carrier material | TPU GF |
| Material for screw connection | Zinc die-cast, nickel-plated |
| Outer sheath, material | PVC |

### Electrical properties

| | |
|---|---|
| Insulation resistance | ≥ 100 MΩ |
| Nominal voltage $U_N$ | 48 V AC |
| | 60 V DC |
| Nominal current $I_N$ | 4 A |

### Mechanical properties

Mechanical data

| | |
|---|---|
| Insertion/withdrawal cycles | ≥ 100 |

### Signaling

| | |
|---|---|
| Status display | No |
| Status display present | No |

### Connection data

Conductor connection

| | |
|---|---|
| Tightening torque | 0.4 Nm (M12 connector) |
| | 0.2 Nm (M8 connectors) |

## Connector

### Connection 1

| | |
|---|---|
| Type | Plug straight M8 |
| Number of positions | 3 |

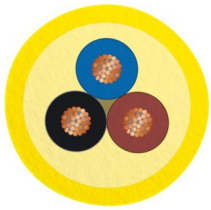
### Connection 2

| | |
|---|---|
| Type | Socket angled M12 |
| Number of positions | 3 |
| Coding type | A |

## Cable/line

| | |
|---|---|
| Cable length | 1.5 m |

### PVC yellow 105 °C [542]

| | |
|---|---|
| Dimensional drawing |  |
| Cable weight | 21 kg/km |
| UL AWM Style | 2517 (105 °C / 300 V) |
| Number of positions | 3 |
| Shielded | no |
| Cable type | PVC yellow 105 °C [542] |
| Conductor structure signal line | 32x 1.10 mm |
| AWG signal line | 24 |
| Wire diameter incl. insulation | 1.12 mm ±0.03 mm |
| External cable diameter | 4.10 mm ±0.2 mm |
| Outer sheath, material | PVC |
| External sheath, color | yellow |
| Conductor material | Tin-plated Cu litz wires |
| Material wire insulation | PVC |
| Single wire, color | brown, blue, black |
| Overall twist | 3 wires, twisted |
| Max. conductor resistance | max. 79.7 Ω/km (20 °C) |
| Insulation resistance | ≥ (550 M Ohms/m @ 500V) |
| Nominal voltage, cable | 300 V |
| Minimum bending radius, flexible installation | 8 x D |
| Smallest bending radius, movable installation | 33 mm |
| Flame resistance | FT4 |

| | |
|---|---|
| Other resistance | UV resistant |
| Ambient temperature (operation) | -30 °C ... 105 °C (cable, fixed installation) |

## Environmental and real-life conditions

### Ambient conditions

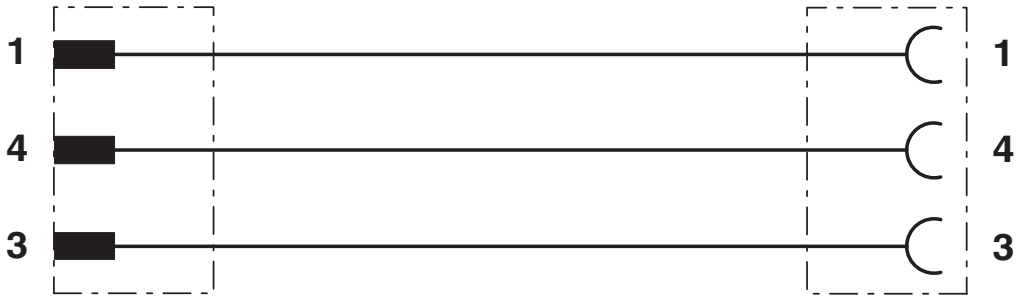
| | |
|---|---|
| Degree of protection | IP65 |
| | IP67 |
| | IP68 |
| Ambient temperature (operation) | -25 °C ... 90 °C (Plug / socket) |
| | -40 °C ... 80 °C (cable, fixed installation) |
| | -5 °C ... 80 °C (Cable, flexible installation) |

## Standards and regulations

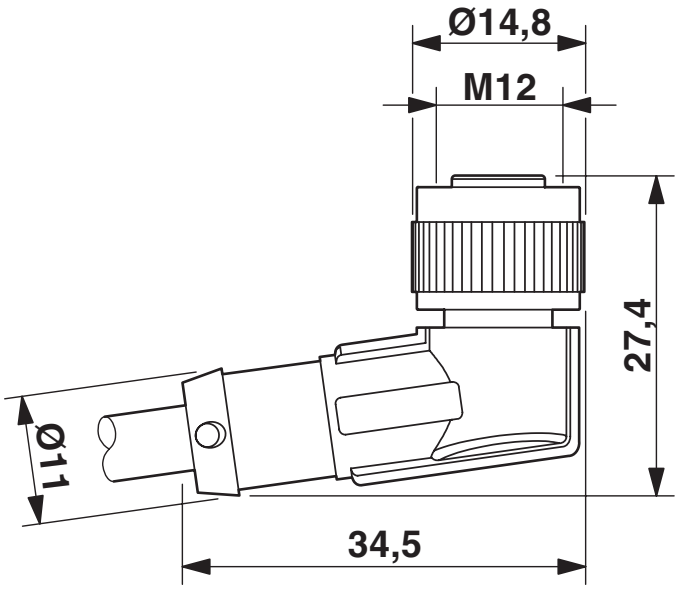
| | |
|---|---|
| Standard designation | M12 connector |
| Standards/specifications | IEC 61076-2-101 |
| Standard designation | M8 connector |
| Standards/specifications | IEC 61076-2-104 |

## Drawings

Circuit diagram

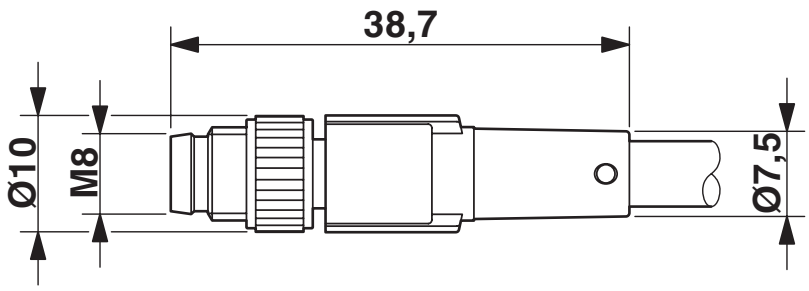



Dimensional drawing



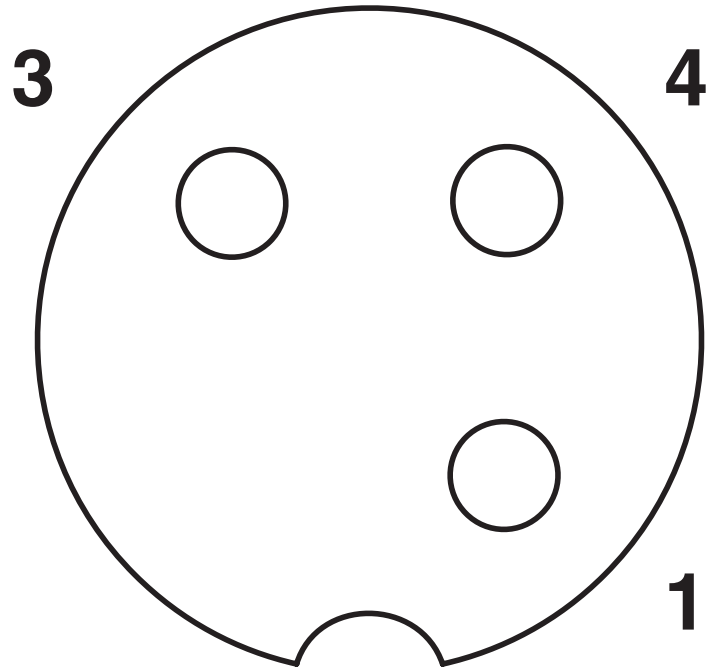

M12 x 1 socket, angled

Dimensional drawing



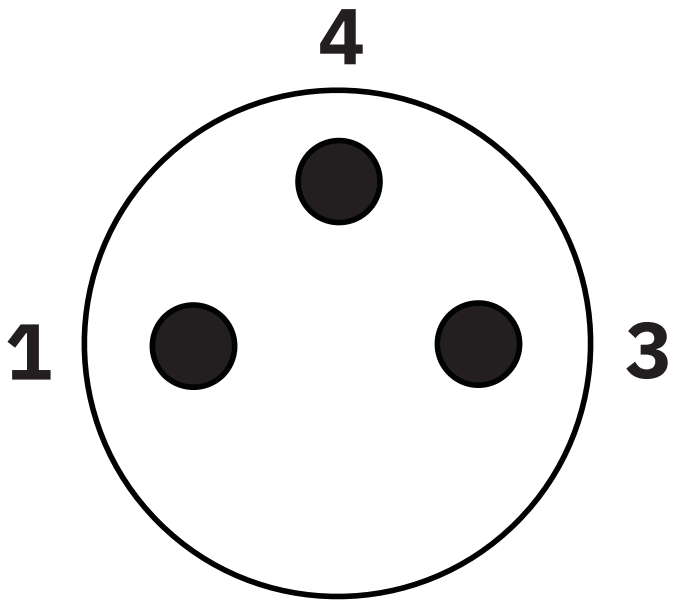

M8 x 1 male plug, straight version

Schematic diagram




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

Schematic diagram




Pin assignment M8 plug, 3-pos., view male side

## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1406277

**UL Listed**
Approval ID: FILE E 221474

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| | 125 V | 4 A | - | - |

**cUL Listed**
Approval ID: FILE E 221474

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| | 125 V | 4 A | - | - |

**EAC-RoHS**
Approval ID: RU D-DE.HB35.B.00387

**cUL Listed**
Approval ID: FILE E 221474

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| | 60 V | 4 A | - | - |

**UL Listed**
Approval ID: FILE E 221474

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| | 60 V | 4 A | - | - |

## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-11.0 | 27060311 |
| ECLASS-12.0 | 27060311 |
| ECLASS-13.0 | 27060311 |

### ETIM

| | |
|---|---|
| ETIM 9.0 | EC001855 |

### UNSPSC

| | |
|---|---|
| UNSPSC 21.0 | 26121600 |

## Environmental product compliance

EU RoHS

| | |
|---|---|
| Fulfills EU RoHS substance requirements | Yes |
| Exemption | 6(c) |

China RoHS

| | |
|---|---|
| Environment friendly use period (EFUP) | EFUP-50 |
| | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

EU REACH SVHC

| | |
|---|---|
| REACH candidate substance (CAS No.) | Lead(CAS: 7439-92-1) |
| SCIP | df503516-ea15-488a-b6b6-dcd88cc5265c |

## Accessories

### PROT-M 8 FS-PA-CHAIN - Sealing cap

1430857

https://www.phoenixcontact.com/us/products/1430857

M8 sealing cap made of plastic with fixing band for sensor cables, for M8 plugs



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

1430899

https://www.phoenixcontact.com/us/products/1430899

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



## SAC-M12-EXCLIP-F - Locking clip

1558991

https://www.phoenixcontact.com/us/products/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

## TSD 02 SAC - Torque screwdriver

1208487

https://www.phoenixcontact.com/us/products/1208487



Torque screwdriver, with preset torque of 0.2 Nm and 4 mm hexagonal drive for M8 connectors

## SAC BIT M8-D10 - Tool

1208461

https://www.phoenixcontact.com/us/products/1208461




Nut for assembling M8 connectors with longitudinal knurl and a knurl diameter of 10 mm, for 4 mm hexagonal drive

## TSD 04 SAC - Torque screwdriver

1208429

https://www.phoenixcontact.com/us/products/1208429



Torque screwdriver, with preset torque of 0.4 Nm and 4 mm hexagonal drive for M12 connectors

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

1212224

https://www.phoenixcontact.com/us/products/1212224



Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 0. 3 - 1.2 Nm

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

1212600

https://www.phoenixcontact.com/us/products/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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## SAC BIT M12-D15 - Tool

1208432

https://www.phoenixcontact.com/us/products/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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