# SAC-4P-M8MS/1,5-680/M8FS FDP - Sensor/actuator cable

1096002

https://www.phoenixcontact.com/us/products/1096002

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Sensor/actuator cable, 4-position, PVC, gray, shielded, Plug straight M8, coding: A, on Socket straight M8, coding: A, cable length: 1.5 m, Foil shielding and drain wire connected to pin 2

## Commercial data

| | |
|---|---|
| Item number | 1096002 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | BF13 |
| Product key | AF1IEF |
| GTIN | 4055626929538 |
| Weight per piece (including packing) | 22.22 g |
| Weight per piece (excluding packing) | 22.22 g |
| Country of origin | US |

## Technical data

### Product properties

| | |
|---|---|
| Product type | Sensor/actuator cable |
| Application | Standard, U.S. cables |
| Number of positions | 4 |
| No. of cable outlets | 1 |
| Shielded | yes |
| 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 |

### 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 | 0.2 Nm (M8 connectors) |

### Connector

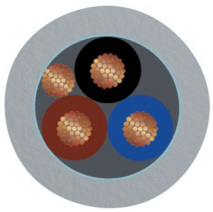
Connection 1

| | |
|---|---|
| Type | Plug straight M8 |
| Coding type | A |

Connection 2

| | |
|---|---|
| Type | Socket straight M8 |
| Coding type | A |

## Cable/line

| | |
|---|---|
| Cable length | 1.5 m |
| Dimensional drawing |  |
| Cable weight | 26.04 kg/km |
| UL AWM Style | 2517 (105 °C / 300 V) |
| Number of positions | 3 |
| Shielded | yes |
| AWG signal line | 24 |
| Wire diameter incl. insulation | 1.12 mm ±0.03 mm |
| External cable diameter | 4.17 mm ±0.2 mm |
| Outer sheath, material | PVC |
| External sheath, color | gray |
| Conductor material | Tin-plated Cu litz wires |
| Material wire insulation | PVC (Signal line) |
| Single wire, color | brown, blue, black |
| Type of pair shielding | Plastic-coated aluminum foil, aluminum side inside |
| Overall twist | Conductors, fillers, and drain wire are twisted with left-hand lay |
| Max. conductor resistance | max. 80.2 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 | 34 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 |

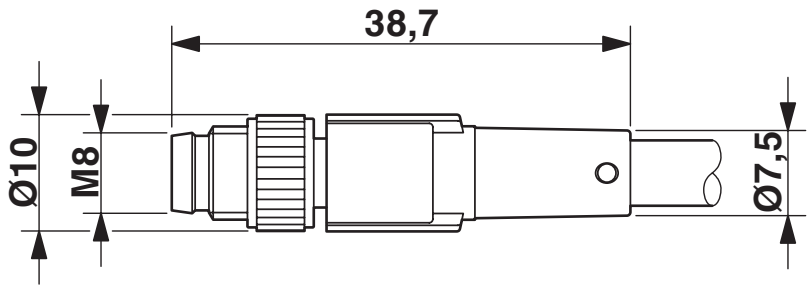
| | |
|---|---|
| | IP68 |
| Ambient temperature (operation) (male connector/female connector) | -25 °C ... 90 °C (Plug / socket) |
| Ambient temperature (operation) (Cable, flexible installation) | -40 °C ... 80 °C (cable, fixed installation) |
| | -5 °C ... 80 °C (Cable, flexible installation) |

## Standards and regulations

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

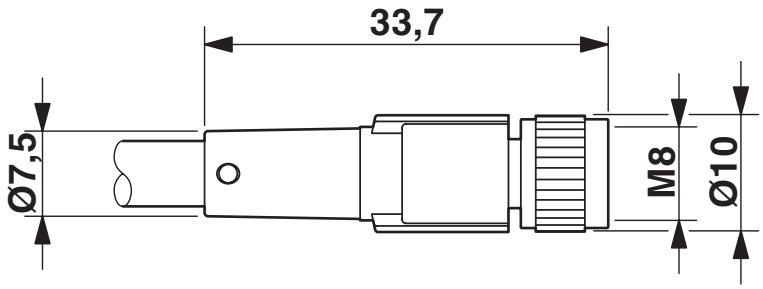
## Drawings

Dimensional drawing



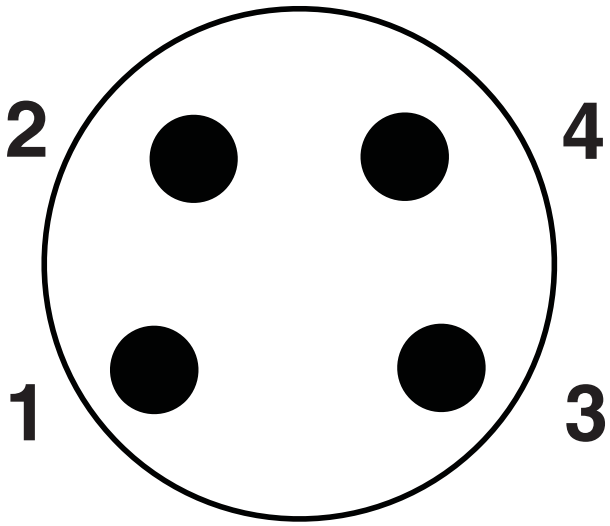

M8 x 1 male plug, straight version

Dimensional drawing



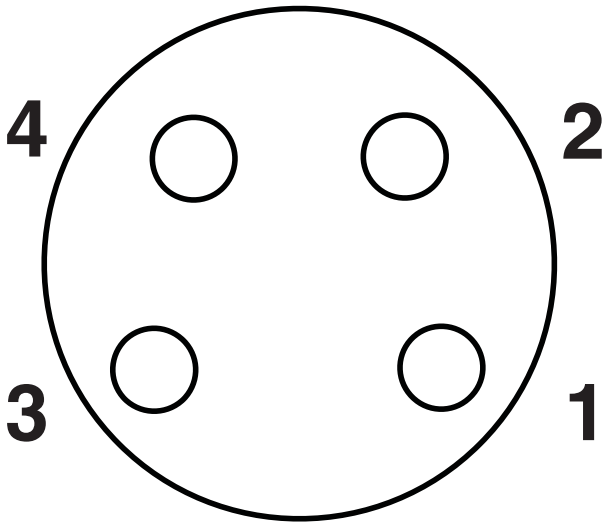

Socket M8 x 1, straight

Schematic diagram



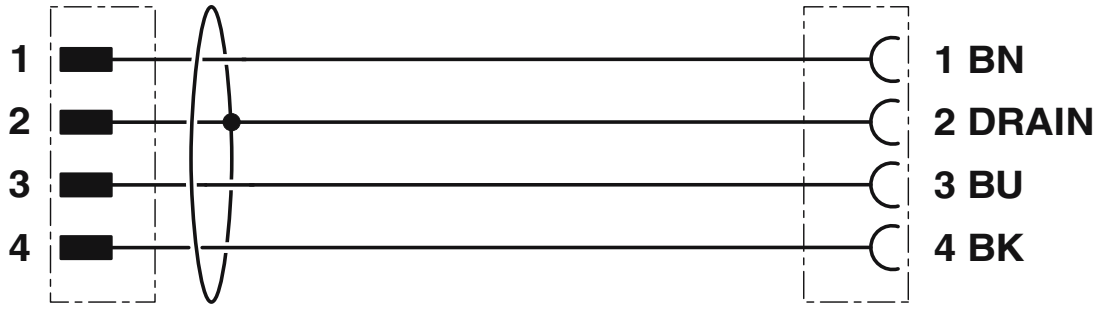

Pin assignment M8 plug, 4-pos., view male side

Schematic diagram




Pin assignment M8 socket, 4-pos., view female side

Circuit diagram




Contact assignment of M8 plugs/sockets

## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1096002

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

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| keine | | | | |
| | 30 V | 4 A | - | - |

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|---|---|---|---|---|
| keine | | | | |
| | 30 V | 4 A | - | - |

## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-13.0 | 27060311 |
| ECLASS-15.0 | 27060311 |

### ETIM

| | |
|---|---|
| ETIM 10.0 | EC001855 |

### UNSPSC

| | |
|---|---|
| UNSPSC 21.0 | 31251501 |

## Environmental product compliance

EU RoHS

| | |
|---|---|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |

China RoHS

| | |
|---|---|
| Environment friendly use period (EFUP) | EFUP-E |
| | No hazardous substances above the limits |

EU REACH SVHC

| | |
|---|---|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |


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