# SAC-4P-M12MS/ 3,0-PVC/M12FS - Sensor/actuator cable

1415614

https://www.phoenixcontact.com/us/products/1415614

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Sensor/actuator cable, 4-position, PVC, black RAL 9005, Plug straight M12, coding: A, on Socket straight M12, coding: A, cable length: 3 m

## Your advantages

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

## Commercial data

| | |
|---|---|
| Item number | 1415614 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | BF03 |
| Product key | AF1CCA |
| GTIN | 4055626049885 |
| Weight per piece (including packing) | 121 g |
| Weight per piece (excluding packing) | 120.88 g |
| Customs tariff number | 85444290 |
| Country of origin | DE |

## Technical data

### Product properties

| | |
|---|---|
| Product type | Sensor/actuator cable |
| Application | Standard |
| Number of positions | 4 |
| 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 |
| Material grommet GRP | 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 | ≥ 10 MΩ |
| Nominal voltage $U_N$ | 250 V AC |
| | 250 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 |

### Connector

Connection 1

| | |
|---|---|
| Type | Plug straight M12 |
| Number of positions | 4 |
| Coding type | A |

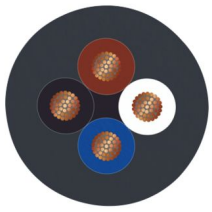
Connection 2

| | |
|---|---|
| Type | Socket straight M12 |
| Number of positions | 4 |
| Coding type | A |

## Cable/line

| | |
|---|---|
| Cable length | 3 m |

PVC black [PVC]

| | |
|---|---|
| Dimensional drawing |  |
| Cable weight | 40 kg/km |
| UL AWM Style | 2464 / 1729 (80°C/300 V) |
| Number of positions | 4 |
| Shielded | no |
| Cable type | PVC black [PVC] |
| Conductor structure signal line | 19x 0.15 mm |
| AWG signal line | 22 |
| Conductor cross-section | 4x 0.34 mm² (Signal line) |
| Wire diameter incl. insulation | 1.26 mm ±0.05 mm |
| External cable diameter | 4.70 mm ±0.15 mm |
| Outer sheath, material | PVC |
| External sheath, color | black RAL 9005 |
| Conductor material | Bare Cu litz wires |
| Material wire insulation | PVC |
| Single wire, color | brown, white, blue, black |
| Thickness, insulation | ≥ 0.23 mm (Core insulation) |
| Thickness, outer sheath | ≥ 0.76 mm |
| Overall twist | 4 wires, twisted |
| Max. conductor resistance | ≤ 57 Ω/km (at 20 °C) |
| Insulation resistance | ≥ 200 MΩ*km (at 20 °C) |
| Nominal voltage, cable | ≤ 300 V |
| Test voltage | ≥ 3000 V |
| Minimum bending radius, fixed installation | 5 x D |
| Minimum bending radius, flexible installation | 10 x D |

| | |
|---|---|
| Smallest bending radius, fixed installation | 24 mm |
| Smallest bending radius, movable installation | 47 mm |
| 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) | -25 °C ... 80 °C (cable, fixed installation) |
| | -10 °C ... 80 °C (Cable, flexible installation) |

## Environmental and real-life conditions

### Ambient conditions

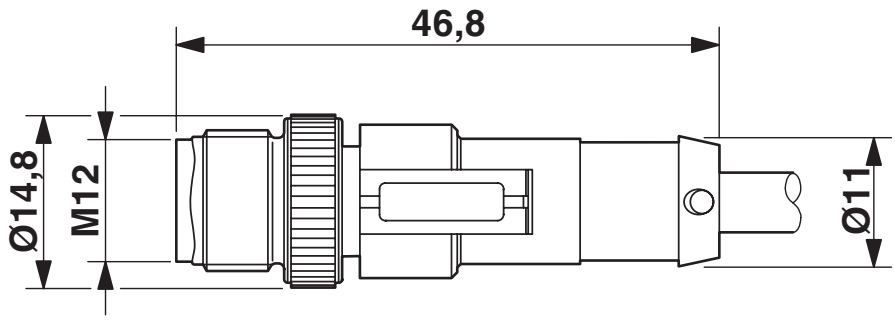
| | |
|---|---|
| Degree of protection | IP65 |
| | IP67 |
| | IP68 |
| Ambient temperature (operation) (male connector/female connector) | -25 °C ... 90 °C (Plug / socket) |

## Standards and regulations

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

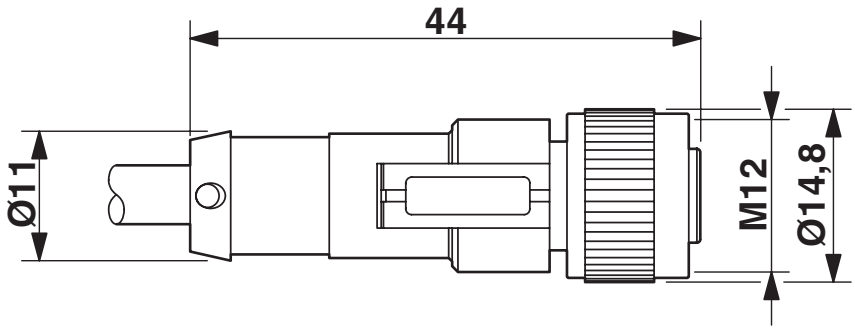
## Drawings

Dimensional drawing



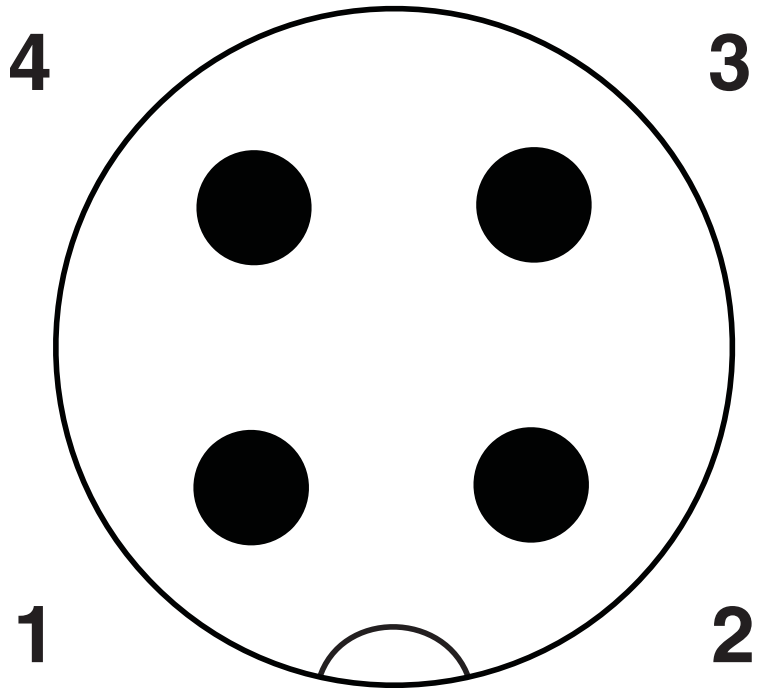

Plug, M12 x 1, straight, shielded

Dimensional drawing



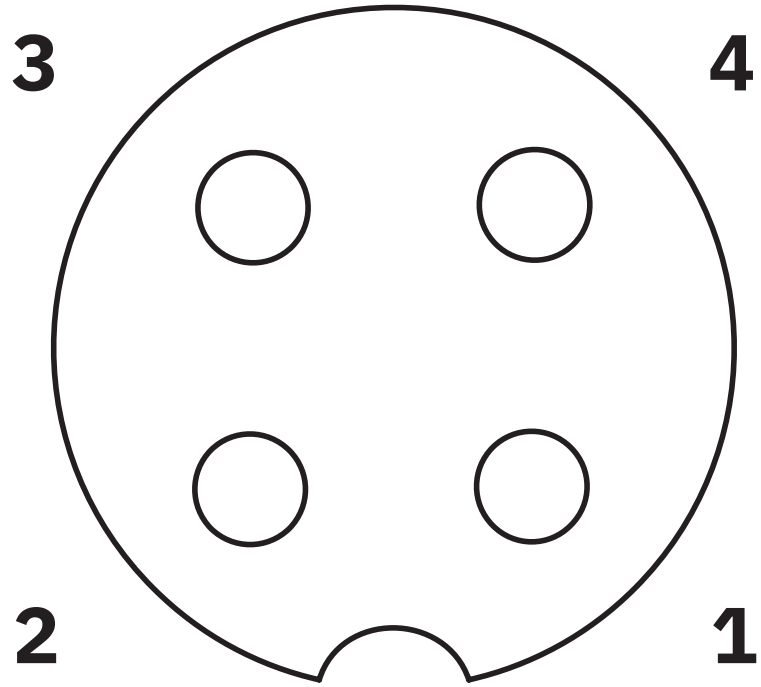

M12 x 1 socket, straight

Schematic diagram



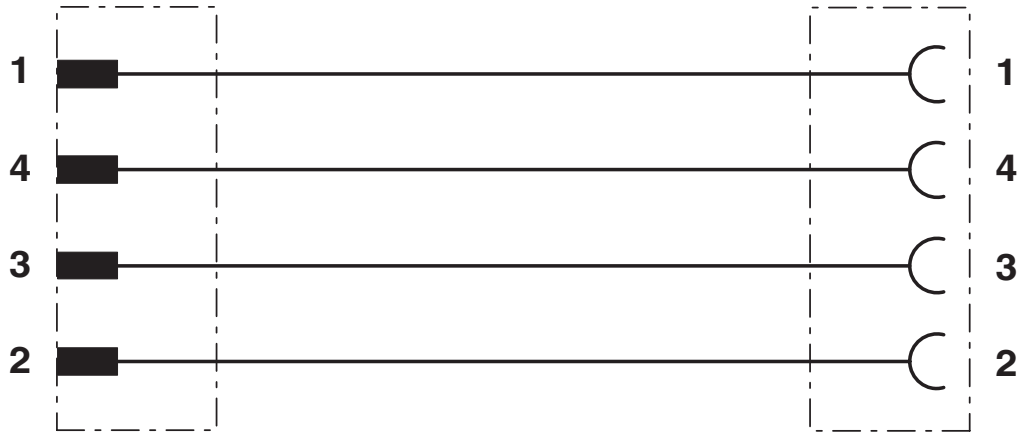

Pin assignment M12 plug, 4-pos., A-coded, view plug side

Schematic diagram




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

Circuit diagram




Contact assignment of the M12 plug and the M12 socket

## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1415614

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

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| keine | | | | |
| | 300 V | 4 A | - | - |

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|---|---|---|---|---|
| keine | | | | |
| | 300 V | 4 A | - | - |

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

## Classifications

### ECLASS

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

### ETIM

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

### UNSPSC

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

## 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% |

EF3.1 Climate Change

| | |
|---|---|
| CO2e kg | 1.312 kg CO2e |


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