# SAC-5P-M12MS/ 0,5-924/M12FR - Bus system cable

1405991

https://www.phoenixcontact.com/us/products/1405991

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Bus system cable, CANopen®, DeviceNet™, 5-position, PVC, gray, shielded, Plug straight M12, coding: A, on Socket angled M12, coding: A, cable length: 0.5 m, Connector unshielded

## Commercial data

| | |
|---|---|
| Item number | 1405991 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Note | Made to order (non-returnable) |
| Sales key | BF15 |
| Product key | AF1IHE |
| GTIN | 4046356800372 |
| Weight per piece (including packing) | 52.8 g |
| Weight per piece (excluding packing) | 52.8 g |
| Customs tariff number | 85444290 |
| Country of origin | US |

# Technical data

## Product properties

| | |
|---|---|
| Product type | Data cable preassembled |
| Application | Standard, U.S. cables |
| Number of positions | 5 |
| No. of cable outlets | 1 |
| Shielded | yes |
| Coding | A |

### Insulation characteristics

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

## Interfaces

| | |
|---|---|
| Bus system | CANopen®/DeviceNet™ |
| Signal type/category | CANopen® |
| | DeviceNet™ |

## Signaling

| | |
|---|---|
| Status display | no |
| Status display present | no |

## Electrical properties

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

## 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 |

## Connector

### Connection 1

| | |
|---|---|
| Type | Plug straight M12 |
| Number of positions | 5 |
| Coding type | A (Standard) |

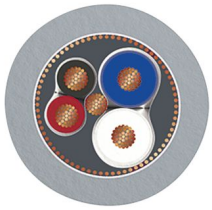
Connection 2

| | |
|---|---|
| Type | Socket angled M12 |
| Number of positions | 5 |
| Coding type | A (Standard) |

## Cable/line

| | |
|---|---|
| Cable length | 0.5 m |

CANopen®/DeviceNet™, PVC, gray [924]

| | |
|---|---|
| Dimensional drawing |  |
| Cable weight | 64.51 kg/km |
| UL AWM Style | 2464 (80°C/300 V) |
| Number of positions | 4 |
| Shielded | yes |
| Cable type | CANopen®/DeviceNet™, PVC, gray [924] |
| Conductor structure | 2xAWG22 (Signal) + 2xAWG22 (Power) |
| Signal runtime | 4.46 ns/m |
| Conductor structure signal line | 19x 0.15 mm |
| AWG signal line | 22 |
| Conductor structure, voltage supply | 19x 0.15 mm |
| AWG power supply | 22 |
| Conductor cross-section | 2x 0.34 mm² (Signal line) |
| | 2x 0.34 mm² (Power supply) |
| Wire diameter incl. insulation | 1.27 mm ±0.05 mm (Signal line) |
| | 2.24 mm ±0.13 mm (Power supply) |
| External cable diameter | 6.90 mm ±0.13 mm |
| Outer sheath, material | PVC |
| External sheath, color | gray |
| Conductor material | Bare Cu litz wires |
| Material wire insulation | Foamed PE (Signal line) |
| | PVC (Power supply) |
| Single wire, color | red-black, blue-white |
| Twisted pairs | 2 cores to the pair |
| Type of pair shielding | Plastic-coated aluminum foil, aluminum side inside |
| Overall twist | 2 pairs around a drain wire in the center to the core |
| Insulation resistance | ≥ 59.38 Ω*m (Signal line) |
| | ≥ 57.41 GΩ*km (Power supply) |

| | |
|---|---|
| Wave impedance | 120 Ω ±12 Ω |
| Working capacitance | nom. 78.74 pF (per meter) |
| Minimum bending radius, flexible installation | 15 x D |
| Smallest bending radius, movable installation | 104 mm |
| Shield attenuation | 0.95 dB (f = 125 kHz) |
| | 1.64 dB (f = 500 kHz) |
| | 2.30 dB (f = 1 MHz) |
| Flame resistance | FT4 |
| Resistance to oil | yes |
| Other resistance | UV resistant |
| Special properties | UL standards PLTC and ITC |
| Ambient temperature (operation) | -30 °C ... 75 °C (cable, fixed installation) |

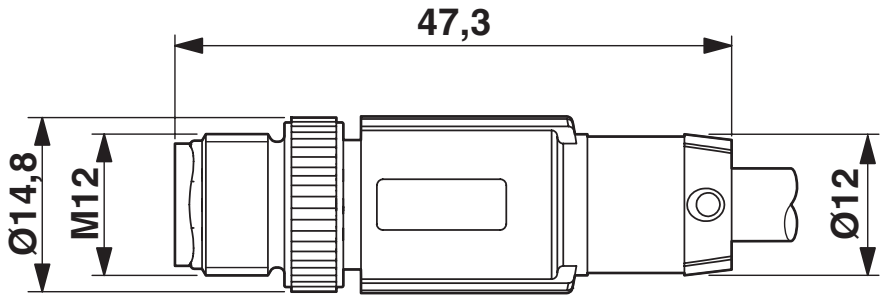
## Environmental and real-life conditions

### Ambient conditions

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

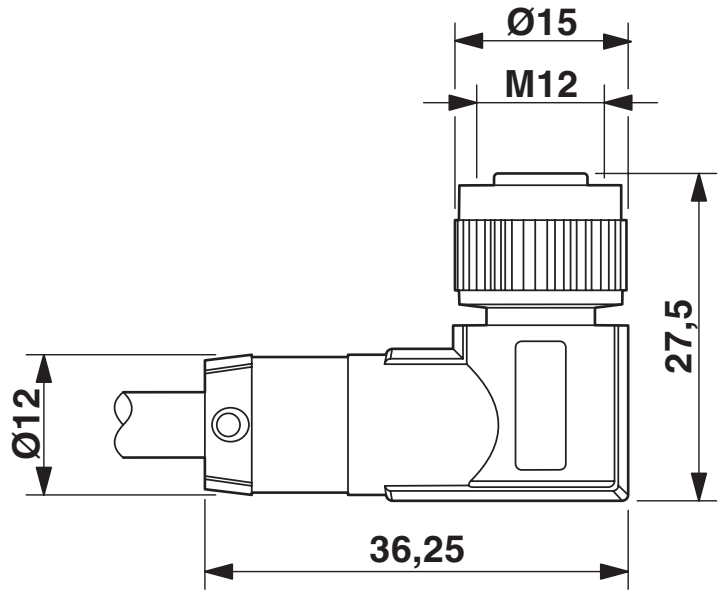
## Drawings

Dimensional drawing



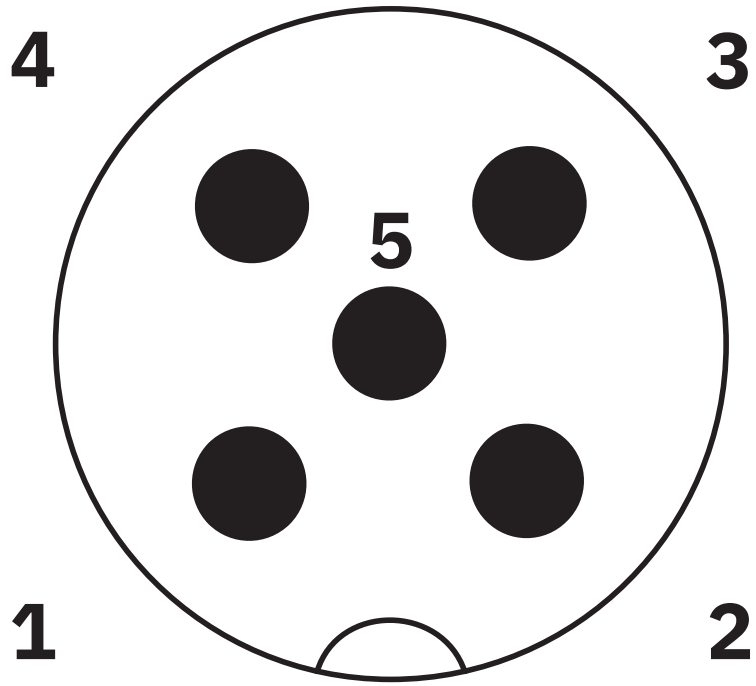

M12 x 1 plug, straight

Dimensional drawing



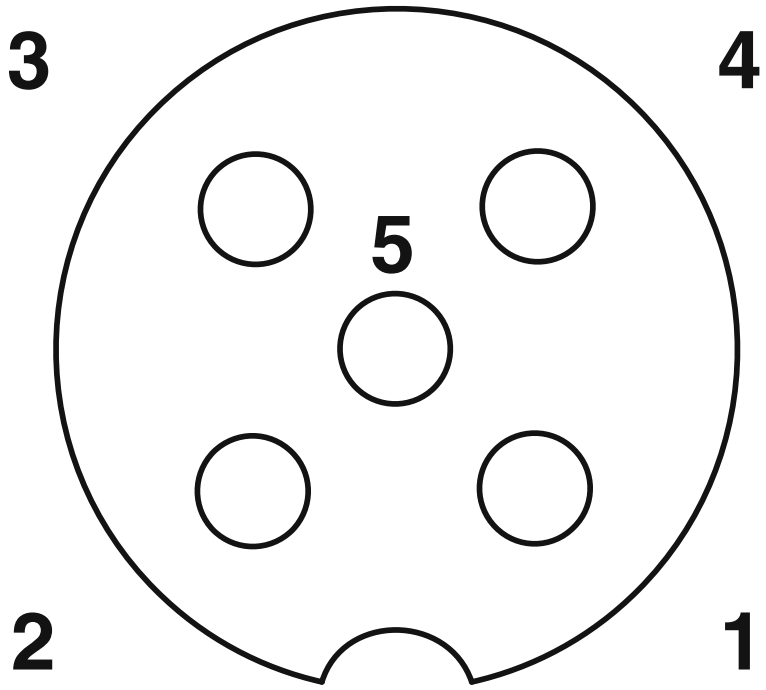

M12 x 1 socket, angled

Schematic diagram



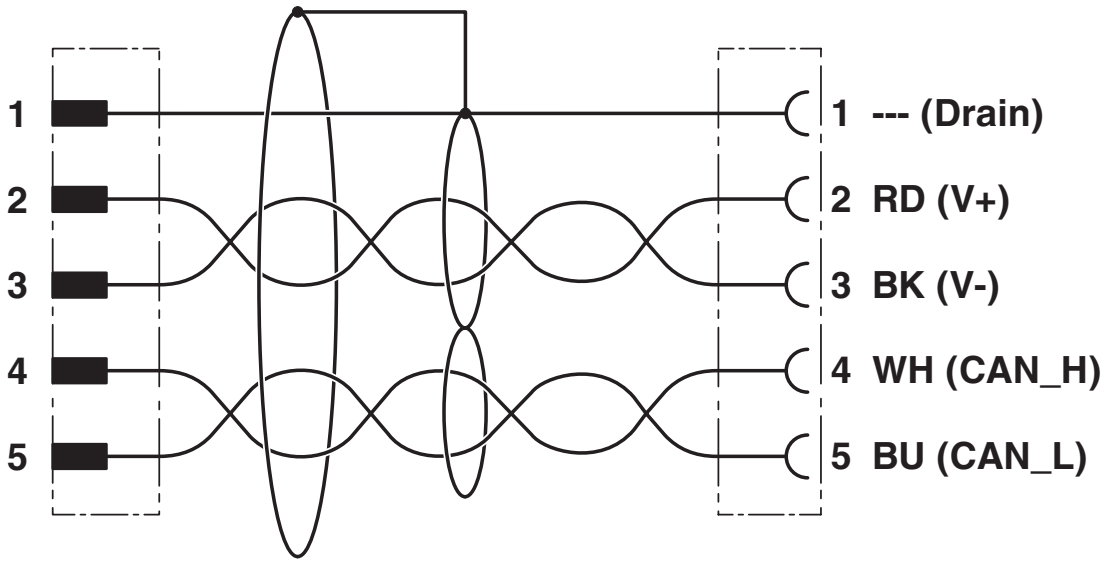

Pin assignment M12 male connector, 5-pos., A-coded, male side

Schematic diagram




Pin assignment M12 socket, 5-pos., A-coded, socket side view

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/1405991

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

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

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

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

## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-13.0 | 27060307 |
| ECLASS-15.0 | 27060307 |

### ETIM

| | |
|---|---|
| ETIM 10.0 | EC002599 |

### 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.) | Diazene-1,2-dicarboxamide (C,C'-azodi(formamide)) (ADCA)(CAS: 123-77-3) |
| | bis(2-ethylhexyl) tetrabromophthalate covering any of the individual isomers and/or combinations thereof(CAS: 26040-51-7) |
| | 2-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol (UV-329)(CAS: 3147-75-9) |
| SCIP | e2b4886f-8ef5-47bc-80d8-fbed53f129a8 |


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