# SACC-EC-M12FS-4CON-PG9/0,5 - Device connector front mounting

1693791

https://www.phoenixcontact.com/us/products/1693791

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Device connector front mounting, Universal, 4-position, Socket, straight, M12-Standard, A-coding, on free cable end, Individual wires, cable length: 0.5 m, 0.34 $mm^2$, TPE litz wire, potted, this item is expected to be lead-free from Q4 2025 in accordance with RoHS II without exception 6c (Pb < 0.1%), a lead-free alternative is possible on request in advance

## Your advantages

- Preassembled with litz wires for immediate use
- Customer-specific assemblies and litz wire lengths available
- Sealed on the litz wire side for optimum leak-tightness
- For high transmission safety: shield connection to the housing with optional EMC nut

## Commercial data

| | |
|---|---|
| Item number | 1693791 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | AB24 |
| Product key | ABQCFE |
| GTIN | 4017918174323 |
| Weight per piece (including packing) | 36.1 g |
| Weight per piece (excluding packing) | 24.358 g |
| Customs tariff number | 85444290 |
| Country of origin | DE |



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## Technical data

### Notes

| | |
|---|---|
| Notes on operation | The electrical and mechanical data specified assume that the connector pair is correctly locked and mounted. If the connector is unlocked and if there is a danger of contamination, the connector must be sealed using a protective cap > IP54. Influences arising from litz wires, cables or PCB assembly must also be taken into consideration. |
| Order information: | Positioning nut is included in the scope of supply |
| General | Contact connection method: Crimp connection |

Safety note

| | |
|---|---|
| Safety note | WARNING: The connectors may not be plugged in or disconnected under load. Ignoring the warning or improper use may damage persons and/or property. |
| | • WARNING: Commission properly functioning products only. The products must be regularly inspected for damage. Decommission defective products immediately. Replace damaged products. Repairs are not possible. |
| | • WARNING: Only electrically qualified personnel may install and operate the product. They must observe the following safety notes. The qualified personnel must be familiar with the basics of electrical engineering. They must be able to recognize and prevent danger. The relevant symbol on the packaging indicates that only personnel familiar with electrical engineering are allowed to install and operate the product. |
| | • The products are suitable for applications in plant, controller, and electrical device engineering. |
| | • When operating the connectors in outdoor applications, they must be separately protected against environmental influences. |
| | • Assembled products may not be manipulated or improperly opened. |
| | • Only use mating connectors that are specified in the technical data of the standards listed (e.g. the ones listed in the product accessories online at phoenixcontact.com/products). |
| | • When using the product in direct connection with third-party manufacturers, the user is responsible. |
| | • For operating voltages > 50 V AC, conductive connector housings must be grounded |
| | • Ensure that when laying the cable, the tensile load on the connectors does not exceed the upper limit specified in the standards. |
| | • Observe the corresponding technical data. You will find information:<br>o On the product<br>o On the packing label<br>o In the supplied documentation<br>o Online at phoenixcontact.com/products under the product |
| | • Only use tools recommended by Phoenix Contact |
| | • Use a protective cap to protect connectors that are not in use. |



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| | |
|---|---|
| | The suitable accessories are available online in the accessory section of the product at phoenixcontact.com/products |
| | • Ensure that the protective or functional ground has been properly connected. |
| | • VDE 0100/1.97 § 411.1.3.2 and DIN EN 60 204/11.98 § 14.1.3 are applicable when combining several circuits in a cable and/or connector |
| | • The connector warms up in normal operation. Depending on the ambient conditions, the surface of the connector can continue to warm up. In this case, the user is responsible for posting warnings (e.g. DIN EN ISO 13732-1:2008-12). |

## Mounting

| | |
|---|---|
| Mounting type | Front mounting (Pg9, with locking nut) |
| Tightening torque | 2 Nm ... 3 Nm (Installation-side) |

## Product properties

| | |
|---|---|
| Product type | Circular connectors (device side) |
| Application | Signal |
| Sensor type | Universal |
| Number of positions | 4 |
| No. of cable outlets | 1 |
| Shielded | no |
| Coding | A |
| Thread type | M12 |

### Insulation characteristics

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

## Material specifications

| | |
|---|---|
| Material Molding compound | PUR (potted) |
| Material Contact carrier | PA 6.6 |
| Material Contact | CuZn |
| Material Contact surface | Ni/Au |
| Material Seal | NBR |
| Flammability rating according to UL 94 | V0 |
| Material of grip body | Brass, nickel-plated |
| Material for screw connection | Brass, nickel-plated |
| Conductor material | Tin-plated Cu litz wires |

## Electrical properties

| | |
|---|---|
| Rated surge voltage | 2.5 kV |
| Contact resistance | ≤ 3 mΩ |
| Insulation resistance | > 100 MΩ |
| Nominal voltage $U_N$ | 250 V (AC) |




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| | |
|---|---|
| | 250 V (DC) |
| Nominal current $I_N$ | 4 A |
| Max. conductor resistance | 57.6 Ω/km |

## Connection data

Conductor connection

| | |
|---|---|
| Connection method | Individual wires |
| Contact connection type | Socket |
| Conductor cross-section | 0.34 mm² |
| Tightening torque | 2 Nm ... 3 Nm (Installation-side) |

## Mechanical properties

Mechanical data

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

## Connector

Connection 1

| | |
|---|---|
| Head design | Socket |
| Head cable outlet | straight |
| Head thread type | M12 |
| Head locking type | Standard |
| Coding | A |

Connection 2

| | |
|---|---|
| Head design | free cable end |

## Cable/line

| | |
|---|---|
| Cable length | 0.5 m |
| Cable type | TPE litz wire |
| Signal type/category | Universal |
| Wire diameter incl. insulation | 1.2 mm ±0.07 mm |
| Single wire, color | brown, white, blue, black |
| Cable cross section | 0.34 mm² |
| Conductor material | Tin-plated Cu litz wires |
| Conductor structure signal line | 7x 0.25 mm |
| AWG signal line | 22 |
| Material wire insulation | TPE |
| Thickness, insulation | 0.21 mm (Core insulation) |
| Nominal voltage, cable | 300 V |
| Test voltage, cable | 2000 V AC |
| Cable resistance | ≤ 57.6 Ω/km |
| Cable insulation resistance | ≥ 20 MΩ*km |




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| | |
|---|---|
| Ambient temperature (operation) | -40 °C ... 85 °C (cable, fixed installation) |
| | -25 °C ... 85 °C (Cable, flexible installation) |

## Environmental and real-life conditions

### Ambient conditions

| | |
|---|---|
| Degree of protection | IP67 |
| Ambient temperature (operation) (male connector/female connector) | -25 °C ... 85 °C (Plug / socket) |
| | -40 °C ... 85 °C (without mechanical actuation) |
| Ambient temperature (operation) (Cable, flexible installation) | -25 °C ... 85 °C (Cable, flexible installation) |
| Ambient temperature (operation) (Cable, fixed installation) | -40 °C ... 85 °C (cable, fixed installation) |
| UL Type Rating | Type 4 (indoor use only) |

## Standards and regulations

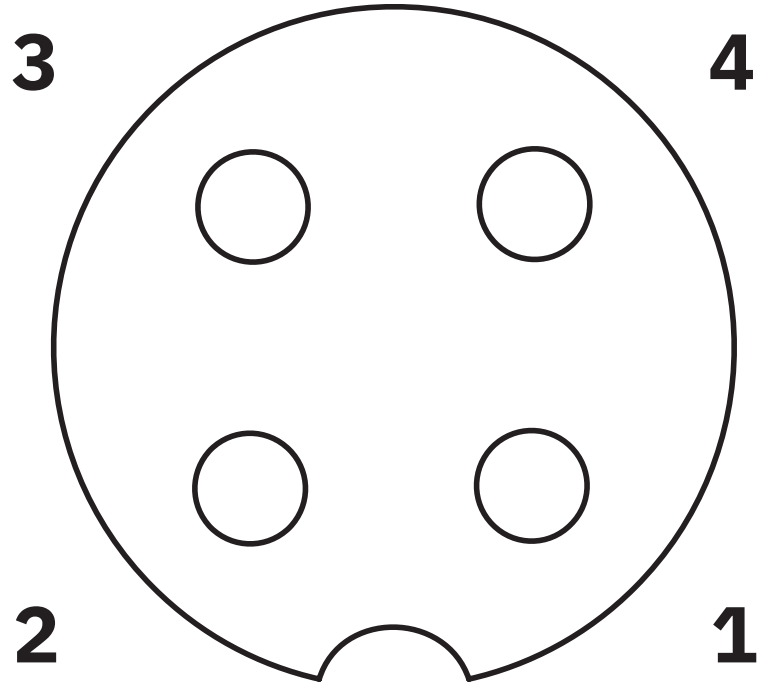
| | |
|---|---|
| Standard designation | M12 circular connector |
| Standards/specifications | according to IEC 61076-2-101 |



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## Drawings

Schematic diagram

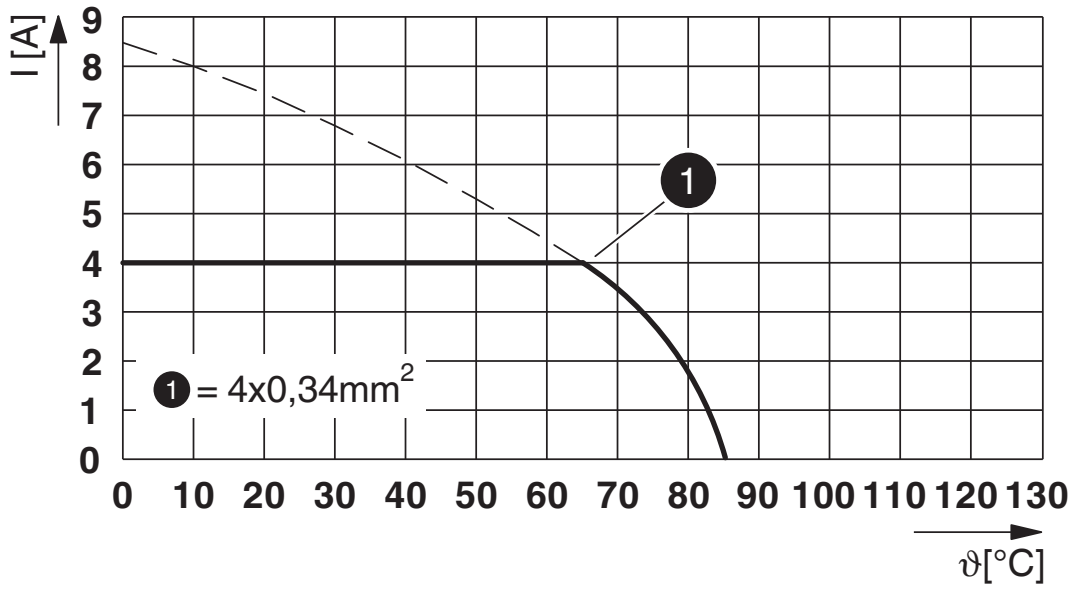



Pin assignment M12 socket, 4-pos., A-coded, view female side



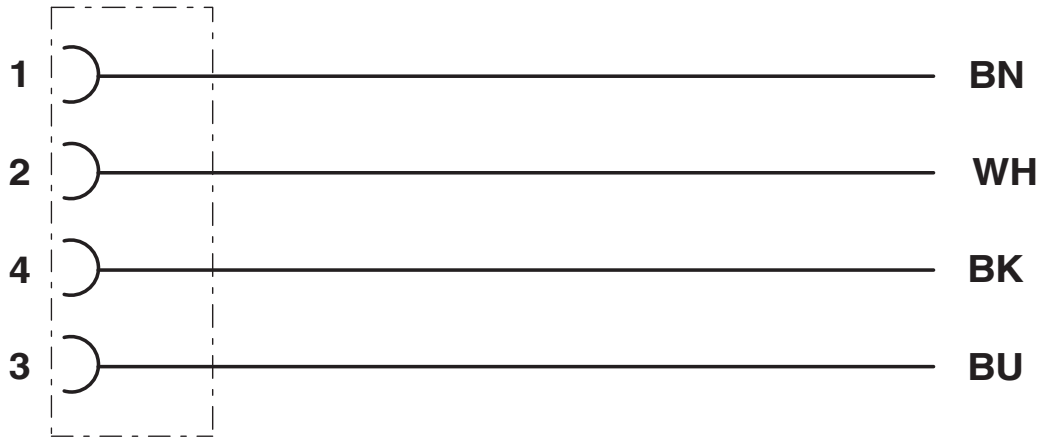
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Diagram




I = current strength, T = ambient temperature

Circuit diagram




Contact assignment of the M12 socket



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## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1693791

**cUL Recognized**
Approval ID: E118976-20100522

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| keine | | | | |
| | 250 V | 4 A | 22 | - |

**UL Recognized**
Approval ID: E118976-20100522

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| keine | | | | |
| | 250 V | 4 A | 22 | - |

**cULus Recognized**
Approval ID: E221474-20140616

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| keine | | | | |
| | 250 V | 4 A | 22 - 20 | - |




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## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-13.0 | 27440103 |
| ECLASS-15.0 | 27440103 |

### ETIM

| | |
|---|---|
| ETIM 9.0 | EC003570 |

### UNSPSC

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|---|---|
| UNSPSC 21.0 | 39121400 |



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## 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 | 9fa30159-3dd3-432c-b0c5-db093741884b |


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