# SACC-E-M12MS-5CON-M20/0,5 - Device connector front mounting

1408446

https://www.phoenixcontact.com/us/products/1408446

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Device connector front mounting, Universal, 5-position, Pin, straight, M12, A-coding, on free cable end, Individual wires, cable length: 0.5 m, 0.34 $mm^2$, TPE litz wire, potted, Item is lead-free in accordance with RoHS II without Exemption 6c (Pb < 0.1 %)

## 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 | 1408446 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | AB24 |
| Product key | ABQCEC |
| GTIN | 4046356828529 |
| Weight per piece (including packing) | 46.7 g |
| Weight per piece (excluding packing) | 34.72 g |
| Customs tariff number | 85444290 |
| Country of origin | DE |

## 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. |
| General | Contact connection method: Crimp connection |

Safety note

| | |
|---|---|
| Safety note | • 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. |

### Mounting

| | |
|---|---|
| Mounting type | Front mounting (M20 x 1,5) |
| Tightening torque | 3 Nm ... 4 Nm (Installation-side) |

### Product properties

| | |
|---|---|
| Product type | Circular connectors (device side) |
| Application | Signal |
| Number of positions | 5 |
| No. of cable outlets | 1 |
| Shielded | no |
| Coding | A |
| Thread type | M12 |

Insulation characteristics

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

### Material specifications

| | |
|---|---|
| Material Housing | CuZn |
| Material Housing surface | Ni |
| Material Insulating body | PA 6.6 |
| Material Contact | CuZn |
| Material Contact surface | Au |
| Material Molding compound | PUR (potted) |
| Flammability rating according to UL 94 | V0 |
| Material grommet GRP | NBR |
| Conductor material | Tin-plated Cu litz wires |

### Electrical properties

| | |
|---|---|
| Rated surge voltage | 1.5 kV |
| Contact resistance | ≤ 3 mΩ |
| Insulation resistance | ≥ 100 MΩ |
| Nominal voltage $U_N$ | 60 V |
| Nominal current $I_N$ | 4 A |
| Transmission medium | Copper |
| Max. conductor resistance | 57.6 mΩ/m |

## Connection data

Conductor connection

| | |
|---|---|
| Connection method | Individual wires |
| Contact connection type | Pin |
| Conductor cross-section | 0.34 mm² |
| Tightening torque | 3 Nm ... 4 Nm (Installation-side) |

## Mechanical properties

Mechanical data

| | |
|---|---|
| Insertion/withdrawal cycles | > 100 |

## Interfaces

| | |
|---|---|
| Signal type/category | Universal |

## Connector

Connection 1

| | |
|---|---|
| Head design | Pin |
| Head cable outlet | straight |
| Head thread type | M12 |
| Coding | A |

Connection 2

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

## Cable/line

| | |
|---|---|
| Cable length | 0.5 m |
| Cable type | TPE litz wire |
| Wire diameter incl. insulation | 1.2 mm ±0.07 mm |
| Single wire, color | brown, white, blue, black, gray |
| 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 |
| Nominal voltage, cable | 300 V |
| Test voltage, cable | 2000 V AC |
| Cable resistance | ≤ 57.6 mΩ/m |
| Cable insulation resistance | ≥ 20 MΩ*km |
| Ambient temperature (operation) | -40 °C ... 85 °C (cable, fixed installation) |
| | -25 °C ... 85 °C (Cable, flexible installation) |

## Environmental and real-life conditions

### Ambient conditions

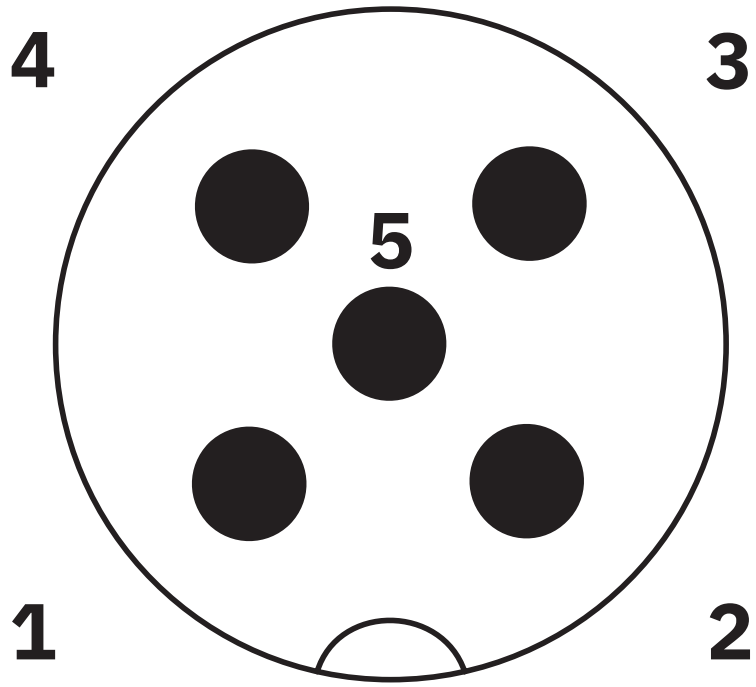
| | |
|---|---|
| Degree of protection | IP67 |
| | IP69K |
| Ambient temperature (operation) (male connector/female connector) | -25 °C ... 85 °C (Plug / socket) |
| | -40 °C ... 85 °C (without mechanical actuation) |
| Ambient temperature (operation) (Cable, flexible installation) | -25 °C ... 85 °C (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 |

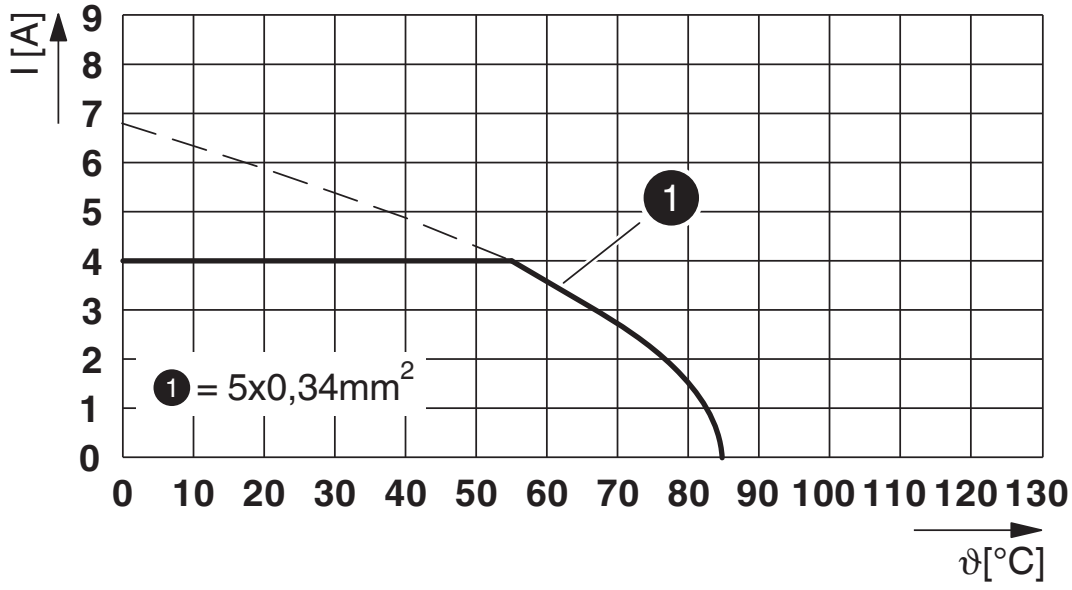
## Drawings

Schematic diagram



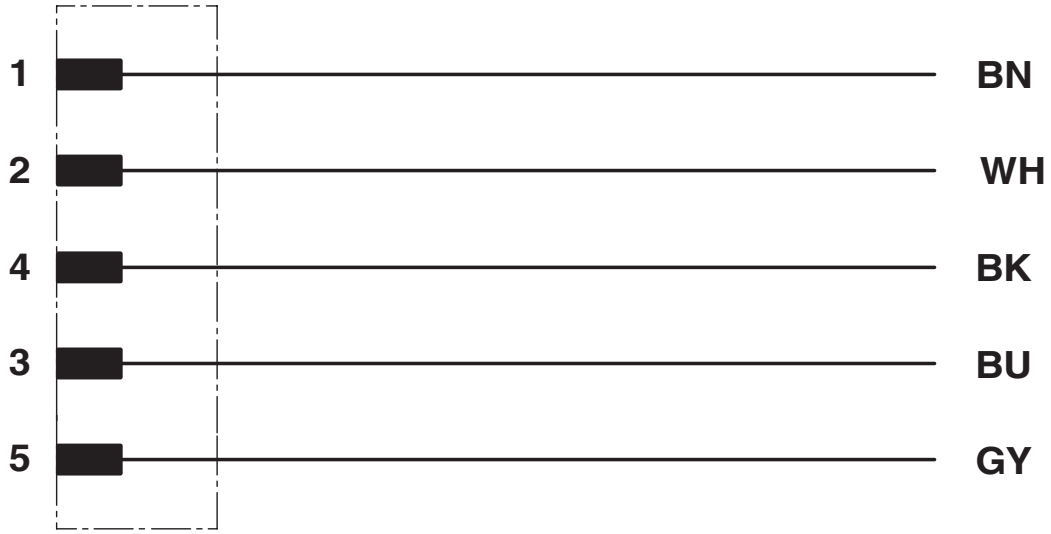

Pin assignment M12 male connector, 5-pos., A-coded, male side

Diagram




I = current strength, T = ambient temperature

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/1408446

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

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| keine | | | | |
| | 60 V | 4 A | 22 - 20 | - |

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

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| keine | | | | |
| | 60 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 | | | | |
| | 60 V | 4 A | 22 | - |

## Classifications

### ECLASS

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

### ETIM

| | |
|---|---|
| ETIM 10.0 | EC003570 |

### UNSPSC

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

## 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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