

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, coding: A, on free cable end, Front mounting, M20 x 1,5, Individual wires, cable length: 0.5 m, 0.34 mm², TPE litz wire, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1238773

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 |
| Catalog page | Page 40 (C-2-2019) |
| GTIN | 4046356828529 |
| Weight per piece (including packing) | 46.7 g |
| Weight per piece (excluding packing) | 36.1 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. |
| General | Contact connection method: Crimp connection |

Safety note

| | |
|-------------|--|
| Safety note | <p>WARNING: The connectors may not be plugged in or disconnected under load. Ignoring the warning or improper use may damage persons and/or property.</p> <ul style="list-style-type: none">• 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:<ul style="list-style-type: none">o On the producto On the packing labelo In the supplied documentationo 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. The suitable accessories are available online in the accessory |
|-------------|--|

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section of the product at [phoenixcontact.com/products](https://www.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 M20 x 1,5

Product properties

Product type

Circular connectors (device side)

Application

Signal

Sensor type

Universal

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

Flammability rating according to UL 94

V0

Seal material

NBR

Contact material

CuZn

Contact surface material

Au

Contact carrier material

PA 6.6

Material for screw connection

CuZn alloy, nickel-plated

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

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Connection data

Conductor connection

| | |
|-------------------------|-----------------------------------|
| Connection method | Individual wires |
| Contact connection type | Pin |
| Conductor cross section | 0.34 mm ² |
| Tightening torque | 3 Nm ... 4 Nm (Installation-side) |

Mechanical properties

Mechanical data

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

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 |
| Signal type/category | Universal |
| Wire diameter incl. insulation | 1.2 mm ±0.07 mm |
| Single wire, color | brown, white, blue, black, gray |
| Cable cross section | 0.34 mm ² |
| 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

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Ambient conditions

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

Standards and regulations

M12

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

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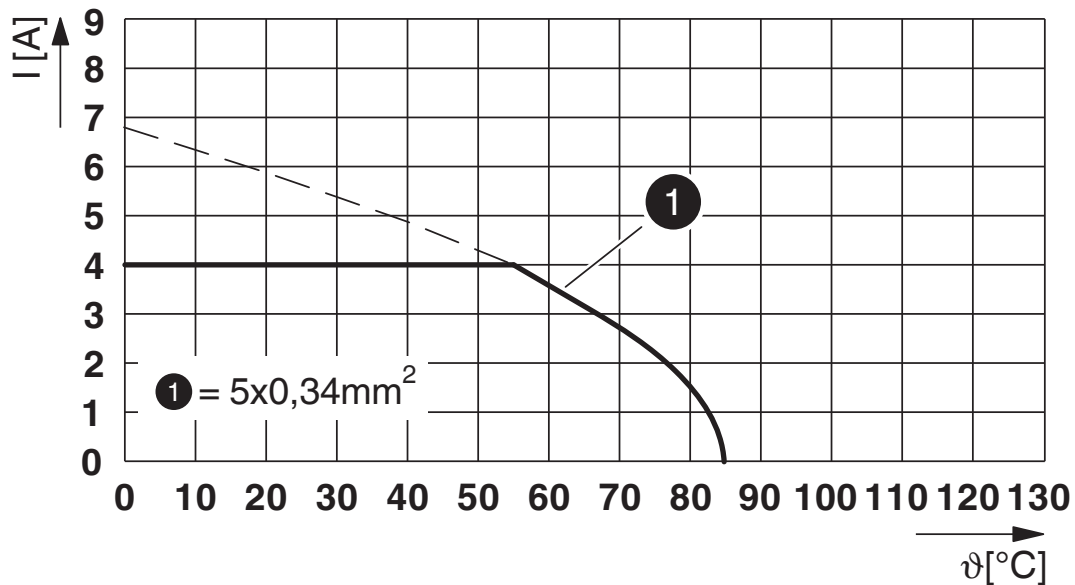
<https://www.phoenixcontact.com/us/products/1408446>

Drawings

Circuit diagram



Diagram



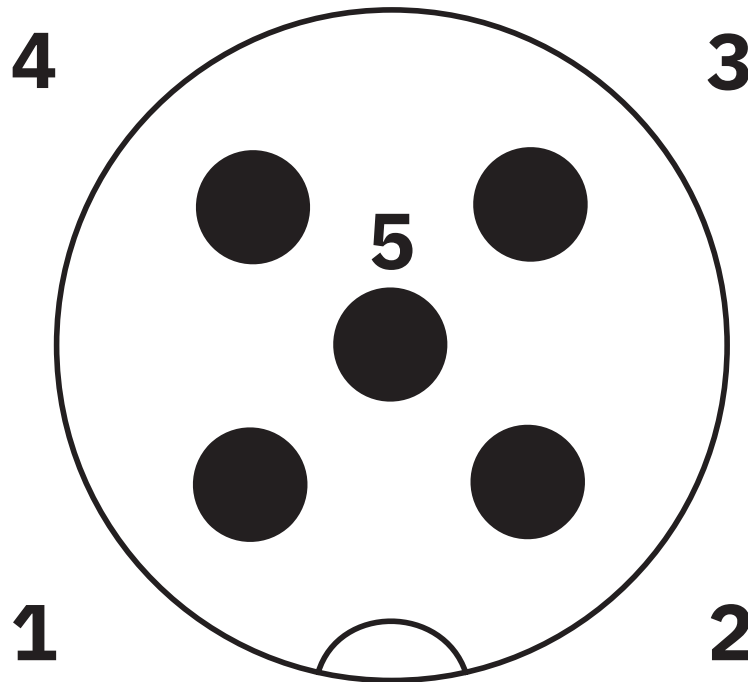
I = current strength, T = ambient temperature

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Schematic diagram





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


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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1408446>

| | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| <div> cULus Recognized Approval ID: E221474-20140616</div> | | | | |
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| | 60 V | 4 A | 22 - 20 | - |

| | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| <div> cUL Recognized Approval ID: E118976-20100522</div> | | | | |
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| | 60 V | 4 A | 22 - 22 | - |

| | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| <div> UL Recognized Approval ID: E118976-20100522</div> | | | | |
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| | 60 V | 4 A | 22 - 22 | - |

| | | | | |
|------------------|--|--|--|--|
| cULus Recognized | | | | |
|------------------|--|--|--|--|

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-11.0 | 27440102 |
| ECLASS-12.0 | 27440116 |
| ECLASS-13.0 | 27440116 |

ETIM

| | |
|----------|----------|
| ETIM 9.0 | EC002635 |
|----------|----------|

UNSPSC

| | |
|-------------|----------|
| 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 | e3939b9e-adb7-4c9a-811b-de742c53611f |

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Accessories

PROT-M12 FS - Sealing cap

1560251

<https://www.phoenixcontact.com/us/products/1560251>



M12 sealing cap for unoccupied M12 plugs of the sensor/actuator cable, flush-type plugs and I/O devices in the field

PROT-M12 FS-M - Sealing cap

1430488

<https://www.phoenixcontact.com/us/products/1430488>



M12 metal sealing cap for unoccupied M12 plugs of the sensor/actuator cable, flush-type plugs and I/O devices in the field

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PROT-M12 FS-M-CHAIN - Sealing cap

1430491

<https://www.phoenixcontact.com/us/products/1430491>

Sealing cap, Alternative product in accordance with RoHS II without
Exemption 6c (Pb < 0.1 %) item no.: 1239603



A-INL-M20-N-S - Counter nut

1411242

<https://www.phoenixcontact.com/us/products/1411242>

Counter nut, for threads M20 x 1.5, color: silver



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