

1440986

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Device connector front mounting, 5-position, Socket, straight, M12, coding: A, on free cable end, Front mounting, Square flange, Individual wires, cable length: 0.5 m, 0.34 mm<sup>2</sup>, TPE litz wire, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1239717

### 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
- All standard pin assignments and codings for signal, data, and power transmission with a uniform design-in design
- · For high transmission safety: shield connection to the housing with optional EMC nut
- · SPEEDCON fast locking system reduces cabling times

#### Commercial data

| Item number                          | 1440986            |  |
|--------------------------------------|--------------------|--|
| Packing unit                         | 1 pc               |  |
| Minimum order quantity               | 1 pc               |  |
| Product key                          | ABQCFD             |  |
| Catalog page                         | Page 43 (C-2-2019) |  |
| GTIN                                 | 4046356533843      |  |
| Weight per piece (including packing) | 37.1 g             |  |
| Weight per piece (excluding packing) | 26.8 g             |  |
| Customs tariff number                | 85444290           |  |
| Country of origin                    | DE                 |  |



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### Technical data

#### Notes

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



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|  | 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   |
|  | <ul> <li>The connector warms up in normal operation. Depending on the<br/>ambient conditions, the surface of the connector can continue to<br/>warm up. In this case, the user is responsible for posting<br/>warnings (e.g. DIN EN ISO 13732-1:2008-12).</li> </ul> |
| ounting  |  |
| Mounting type  | Front mounting Square flange   |
| oduct properties   |  |
| Product type   | Circular connectors (device side)  |
| Application  | Signal   |
| Number of positions  | 5  |
| Shielded   | no   |
| Coding   | A  |
| Thread type  | M12  |
| Insulation characteristics   |  |
| Overvoltage category   | II   |
| Degree of pollution  | 3  |
| aterial specifications   |  |
| Flammability rating according to UL 94   | V0   |
| Seal material  | FKM  |
| Material of grip body  | Zinc die-cast, nickel-plated   |
| Contact material   | CuZn   |
| Contact surface material   | Ni/Au  |
| Contact carrier material   | PA 6.6   |
| Material for screw connection  | Zinc die-cast, nickel-plated   |
| Conductor material   | Tin-plated Cu litz wires   |
| ectrical properties  |  |
| Rated surge voltage  | 1.5 kV   |
| Contact resistance   | ≤ 3 mΩ   |
| Insulation resistance  | ≥ 100 MΩ   |
| Nominal voltage U <sub>N</sub>   | 60 V   |
| The state of the s | 4 A  |
| Nominal current I <sub>N</sub>   | 173  |

### Connection data



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#### Conductor connection

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

### Mechanical properties

#### Mechanical data

| Industrian (with drawal avalog | > 100 |
|--------------------------------|-------|
| Insertion/withdrawal cycles    | > 100 |

### Connector

#### Connection 1

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

#### Connection 2

| Head design free | e 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 (Core insulation)                   |  |
| 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 |
|----------------------|------|
|----------------------|------|



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|                                 | 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

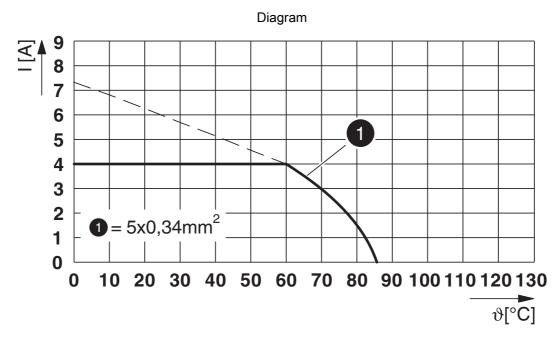
| Standard designation     | M12 connector   |
|--------------------------|-----------------|
| Standards/specifications | IEC 61076-2-101 |



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## Drawings



I = current strength, T = ambient temperature

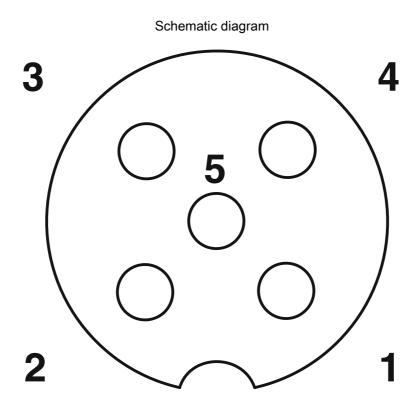
### Circuit diagram





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



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## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/pc/products/1440986

| .71 | <b>cUL Recognized</b> Approval ID: E118976-20100522 |                                |                   |                               |
|-----|---|--------------------------------|-------------------|-------------------------------|
|     | Nominal voltage $\mathbf{U}_{N}$                    | Nominal current I <sub>N</sub> | Cross section AWG | Cross section mm <sup>2</sup> |
|     | 60 V  | 4 A                            | 22 - 22           | -                             |

| <b>71</b> | UL Recognized Approval ID: E118976-20100522 |                       |                                |                   |                               |  |
|-----------|---|-----------------------|--------------------------------|-------------------|-------------------------------|--|
|           |   | Nominal voltage $U_N$ | Nominal current I <sub>N</sub> | Cross section AWG | Cross section mm <sup>2</sup> |  |
|           |   | 60 V                  | 4 A                            | 22 - 22           | -                             |  |

| c <b>711</b> us | cULus Recognized Approval ID: E221474-20140616 |                                |                                |                   |                               |  |
|-----------------|--|--------------------------------|--------------------------------|-------------------|-------------------------------|--|
|                 |  | Nominal voltage U <sub>N</sub> | Nominal current I <sub>N</sub> | Cross section AWG | Cross section mm <sup>2</sup> |  |
|                 |  | 60 V                           | 4 A                            | 22 - 20           | -                             |  |

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

| REACh SVHC | Lead 7439-92-1   |
|------------|--|
|            |  |
| China RoHS | Environmentally Friendly Use Period = 50 years   |
|            | For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads" |

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