

# SACC-E-M12FS-12CON-M16/0,5 VA - Device connector front mounting



1405242

<https://www.phoenixcontact.com/in/products/1405242>

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Device connector front mounting, Universal, 12-position, Socket, straight, M12-Standard, coding: A, on free cable end, Front mounting, M16 x 1.5, Individual wires, cable length: 0.5 m, 0.14 mm<sup>2</sup>, TPE litz wire, potted, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1238715

## 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

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1405242       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | ABQ           |
| Product key                          | ABQCVB        |
| GTIN                                 | 4046356748124 |
| Weight per piece (including packing) | 29.3 g        |
| Weight per piece (excluding packing) | 29.3 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                                                                                                                                                                                                                                                                                                        |

### Mounting

|               |                          |
|---------------|--------------------------|
| Mounting type | Front mounting M16 x 1.5 |
|---------------|--------------------------|

### Product properties

|                      |                                   |
|----------------------|-----------------------------------|
| Product type         | Circular connectors (device side) |
| Application          | Signal                            |
| Sensor type          | Universal                         |
| Number of positions  | 12                                |
| 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)             |
| Flammability rating according to UL 94 | V0                       |
| Seal material                          | FKM                      |
| Contact material                       | CuZn                     |
| Contact surface material               | Ni/Au                    |
| Contact carrier material               | PA 6.6                   |
| Material for screw connection          | Stainless steel          |
| Conductor material                     | Tin-plated Cu litz wires |

### Electrical properties

|                                |                        |
|--------------------------------|------------------------|
| Rated surge voltage            | 0.8 kV                 |
| Contact resistance             | ≤ 3 mΩ                 |
| Insulation resistance          | ≥ 100 MΩ               |
| Nominal voltage U <sub>N</sub> | 30 V (AC)<br>30 V (DC) |

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|                           |                  |
|---------------------------|------------------|
| Nominal current $I_N$     | 1.5 A            |
| Max. conductor resistance | 142 $\Omega$ /km |

## Connection data

### Conductor connection

|                         |                                   |
|-------------------------|-----------------------------------|
| Connection method       | Individual wires                  |
| Contact connection type | Socket                            |
| Conductor cross section | 0.14 mm <sup>2</sup>              |
| Tightening torque       | 3 Nm ... 4 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  | 1.1 mm $\pm$ 0.05 mm                                                                   |
| Single wire, color              | brown, blue, white, green, pink, yellow, black, gray, red, violet, gray/pink, red/blue |
| Cable cross section             | 0.14 mm <sup>2</sup>                                                                   |
| Conductor material              | Tin-plated Cu litz wires                                                               |
| Conductor structure signal line | 7x 0.16 mm                                                                             |
| AWG signal line                 | 26                                                                                     |
| Material wire insulation        | TPE                                                                                    |
| Thickness, insulation           | 0.21 mm (Core insulation)                                                              |
| Nominal voltage, cable          | 300 V                                                                                  |
| Test voltage, cable             | 2000 V AC                                                                              |
| Cable resistance                | $\leq$ 142 $\Omega$ /km                                                                |
| Cable insulation resistance     | $\geq$ 20 M $\Omega$ *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            | IP65/IP67/IP69/IP69K                            |
|                                 | IP65/IP67/IP69K                                 |
| 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)    |
| UL Type Rating                  | Type 4 (indoor use only)                        |

## Standards and regulations

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

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## Drawings

Schematic diagram



Pin assignment M12, 12-pos., female side view

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/in/products/1405242>

|  <b>cULus Recognized</b><br>Approval ID: E221474-20140616 |                       |                       |                   |                             |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                            | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|                                                                                                                                            | 30 V                  | 1.5 A                 | 26                | -                           |

|  <b>UL Recognized</b><br>Approval ID: E118976-20100522 |                       |                       |                   |                             |
|-----------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                         | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|                                                                                                                                         | 30 V                  | 1.5 A                 | 26                | -                           |

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## Classifications

### ECLASS

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

### 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                                | 1ca0a32f-0fa1-47c3-9bd2-1a5cef7c0313 |

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## Accessories

### SACC-M16-SEAL CLM - Flat gasket

1430394

<https://www.phoenixcontact.com/in/products/1430394>

M16 flat gasket for M12 flush-type connectors with M16 fastening thread



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### PROT-M12 - Screw plug

1680539

<https://www.phoenixcontact.com/in/products/1680539>

An M12 screw plug for the unoccupied M12 sockets of the sensor/actuator cable, boxes and flush-type connectors



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## PROT-M12 SH - Screw plug

1503302

<https://www.phoenixcontact.com/in/products/1503302>



An M12 screw plug for the unoccupied M12 sockets of the shielded sensor/actuator cable, boxes and flush-type connectors

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## PROT-M12 FB - Screw plug

1555538

<https://www.phoenixcontact.com/in/products/1555538>



M12 high-grade steel screw plug, for unoccupied M12 sockets of the sensor/actuator cables, boxes and flush-type connectors for the food industry

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## SACC-M16-NUT-VA - Flat nut

1404983

<https://www.phoenixcontact.com/in/products/1404983>

Flat nut with M16 thread



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