

# SACC-SQ-M12MS-12CON-20/0,5 - Device connector front mounting



1441707

<https://www.phoenixcontact.com/us/products/1441707>

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Device connector front mounting, Universal, 12-position, Pin, straight, M12-SPEEDCON, A-coding, on free cable end, Individual wires, cable length: 0.5 m, 0.14 mm<sup>2</sup>, TPE litz wire, potted, this item is expected to be lead-free from Q2 2026 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
- 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                          | 1441707       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | AB24          |
| Product key                          | ABQCED        |
| GTIN                                 | 4046356533041 |
| Weight per piece (including packing) | 25.2 g        |
| Weight per piece (excluding packing) | 25.2 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/square flange (20 mm side length) |
| Tightening torque | 3 Nm ... 4 Nm (Installation-side)                |

### Product properties

|                      |                                   |
|----------------------|-----------------------------------|
| Product type         | Circular connectors (device side) |
| Application          | Signal                            |
| 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                          |
| 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     |

### Electrical properties

|                       |          |
|-----------------------|----------|
| Rated surge voltage   | 0.8 kV   |
| Contact resistance    | ≤ 3 mΩ   |
| Insulation resistance | ≥ 100 MΩ |
| Nominal voltage $U_N$ | 30 V     |

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|                           |                    |
|---------------------------|--------------------|
| Nominal current $I_N$     | 1.5 A              |
| Max. conductor resistance | 57.6 m $\Omega$ /m |

## Connection data

### Conductor connection

|                         |                                   |
|-------------------------|-----------------------------------|
| Connection method       | Individual wires                  |
| Contact connection type | Pin                               |
| 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       | Pin      |
| Head cable outlet | straight |
| Head thread type  | M12      |
| Head locking type | SPEEDCON |
| 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  |
| Nominal voltage, cable          | 300 V  |
| Test voltage, cable             | 2000 V AC  |
| Cable resistance                | $\leq$ 57.6 m $\Omega$ /m  |
| 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  | 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 male connector, 12-pos., male side view

Circuit diagram



Contact assignment of the M12 plug

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## Approvals

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

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## Classifications

### ECLASS

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

### ETIM

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

### UNSPSC

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

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## 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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