

# SACC-SQ-M12FSD-4CON-20-L180 - Device connector front mounting



1456404

<https://www.phoenixcontact.com/us/products/1456404>

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Device connector front mounting, Universal, 4-position, Socket, straight, M12-SPEEDCON, D-coding, Wave soldering, 0.34 mm<sup>2</sup>, 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

- Easy PCB assembly: one-piece connectors for wave soldering
- Standard pin assignments for signal and power transmission with a uniform design-in design
- SPEEDCON fast locking system reduces cabling times

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1456404       |
| Packing unit                         | 10 pc         |
| Minimum order quantity               | 10 pc         |
| Sales key                            | AB24          |
| Product key                          | ABQEFK        |
| GTIN                                 | 4046356617017 |
| Weight per piece (including packing) | 12.75 g       |
| Weight per piece (excluding packing) | 9.689 g       |
| Customs tariff number                | 85366990      |
| 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. |
|--------------------|--|

### 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          | Data                              |
|                      | Signal                            |
| Sensor type          | Universal                         |
| Number of positions  | 4                                 |
| No. of cable outlets | 1                                 |
| Shielded             | no                                |
| Coding               | D                                 |
| Thread type          | M12                               |

### Insulation characteristics

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

### Material specifications

|  |        |
|--|--------|
| Material Housing                       | GD-Zn  |
| Material Housing surface               | Ni     |
| Material Contact carrier               | PA 6.6 |
| Material Contact                       | CuZn   |
| Material Contact surface               | Au     |
| Material Seal                          | FKM    |
| Flammability rating according to UL 94 | V0     |

### Electrical properties

|                       |          |
|-----------------------|----------|
| Rated surge voltage   | 2.5 kV   |
| Contact resistance    | ≤ 3 mΩ   |
| Insulation resistance | ≥ 100 MΩ |
| Nominal voltage $U_N$ | 250 V    |
| Nominal current $I_N$ | 4 A      |

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|                           |           |
|---------------------------|-----------|
| Max. conductor resistance | 57.6 mΩ/m |
|---------------------------|-----------|

## Connection data

### Conductor connection

|                         |                                   |
|-------------------------|-----------------------------------|
| Connection method       | Wave soldering                    |
| Contact connection type | Socket                            |
| Conductor cross-section | 0.34 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 | SPEEDCON |
| Coding            | D        |

## Cable/line

|                                 |                      |
|---------------------------------|----------------------|
| Signal type/category            | Universal            |
| Wire diameter incl. insulation  | 1.2 mm ±0.07 mm      |
| Cable cross section             | 0.34 mm <sup>2</sup> |
| Conductor structure signal line | 7x 0.25 mm           |
| 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           |

## Environmental and real-life conditions

### Ambient conditions

|   |   |
|---|---|
| Degree of protection  | IP20  |
| Ambient temperature (operation) (male connector/female connector) | -25 °C ... 85 °C<br>-40 °C ... 85 °C (without mechanical actuation) |
| UL Type Rating  | Type 4 (indoor use only)  |

## Standards and regulations

|                      |                        |
|----------------------|------------------------|
| Standard designation | M12 circular connector |
|----------------------|------------------------|

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Standards/specifications

according to IEC 61076-2-101

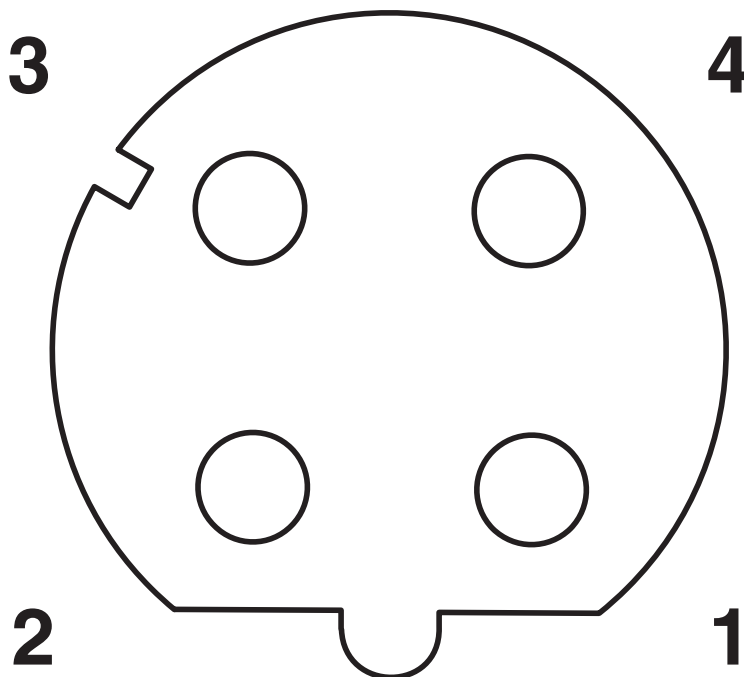
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## Drawings

Schematic diagram



Pin assignment M12 socket, 4-pos., D-coded, female side

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## Approvals

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|  <b>cUL Recognized</b><br>Approval ID: E118976-20100522 |                       |                       |                   |                             |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine  |                       |                       |                   |                             |
|  | 250 V                 | 4 A                   | 22                | -                           |

|  <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   |                       |                       |                   |                             |
|   | 250 V                 | 4 A                   | 22                | -                           |

|  <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  |                       |                       |                   |                             |
|  | 250 V                 | 4 A                   | -                 | -                           |

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27440110 |
| ECLASS-15.0 | 27440110 |

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | EC003568 |
|-----------|----------|

### 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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