

# SH-8ESS48A9LB3S - Coupler connector

1621546

<https://www.phoenixcontact.com/us/products/1621546>



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M23, Coupler connector, series: SH, straight long, shielded: yes, for standard and SPEEDCON interlock, No. of pos.: 8+4+PE, contact connection type: Socket, Crimp connection, cable diameter range: 9 mm ... 12 mm, this item is expected to be lead-free from Q1 2026 in accordance with RoHS II without exception 6c (Pb < 0.1%), a lead-free alternative is possible on request in advance

## Your advantages

- All housing can be fitted with pin or socket contacts
- A total of eight contacts are available for signal transmission
- Safe use in the field, thanks to high degree of protection
- Consistent EMC protection for reliable connection solutions in the industrial environment

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1621546                        |
| Packing unit                         | 1 pc                           |
| Minimum order quantity               | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | AB33                           |
| Product key                          | ABRCGD                         |
| GTIN                                 | 4046356936941                  |
| Weight per piece (including packing) | 118 g                          |
| Weight per piece (excluding packing) | 101.276 g                      |
| Customs tariff number                | 85366990                       |
| Country of origin                    | DE                             |

## Technical data

### Notes

| Order information: | Crimp contacts, 8 x Ø 1 mm, 5 x Ø 2 mm, order separately  |
|--------------------|---|
| <b>Safety note</b> |   |
| Safety note        | <p><b>WARNING:</b> 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"><li>• <b>WARNING:</b> Commission properly functioning products only. The products must be regularly inspected for damage. Decommission defective products immediately. Replace damaged products. Repairs are not possible.</li><li>• <b>WARNING:</b> 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.</li><li>• The products are suitable for applications in plant, controller, and electrical device engineering.</li><li>• When operating the connectors in outdoor applications, they must be separately protected against environmental influences.</li><li>• Assembled products may not be manipulated or improperly opened.</li><li>• 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 <a href="https://www.phoenixcontact.com/products">phoenixcontact.com/products</a>).</li><li>• When using the product in direct connection with third-party manufacturers, the user is responsible.</li><li>• For operating voltages &gt; 50 V AC, conductive connector housings must be grounded</li><li>• Ensure that the protective or functional ground has been properly connected.</li><li>• 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</li><li>• Only use tools recommended by Phoenix Contact</li><li>• The installation notes/Design In documents online on the download page at <a href="https://www.phoenixcontact.com/products">phoenixcontact.com/products</a> must be observed for this product.</li><li>• Operate the connector only when it is fully plugged in and interlocked.</li><li>• Ensure that when laying the cable, the tensile load on the connectors does not exceed the upper limit specified in the standards.</li><li>• Observe the minimum bending radius of the cable. Lay the cable without twisting it.</li><li>• 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</li></ul> |

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warnings (e.g. DIN EN ISO 13732-1:2008-12).

## Product properties

|              |                                 |
|--------------|---------------------------------|
| Product type | Circular connector (cable-side) |
| Application  | Hybrid                          |

## Connector

### Connection 1

|             |        |
|-------------|--------|
| Head design | Socket |
|-------------|--------|

### Insulating body

|  |   |
|--|---|
| Note   | Order information: Crimp contacts, 8 x Ø 1 mm, 5 x Ø 2 mm, order separately   |
| Protection against electric shock                      | IEC 61984 and VDE 0623  |
| Material (Insulating body)                             | PA 6.6  |
| Insertion/withdrawal cycles                            | 100   |
| Connection method                                      | Crimp connection  |
| Contact switching type                                 | Socket  |
| Application  | Hybrid  |
| Number of positions                                    | 13  |
| Connection profile                                     | 8+4+PE  |
| Installation height                                    | 2000 m  |
| Number Contact (Power contacts)                        | 5   |
| Diameter Contact (Power contacts)                      | 2 mm  |
| Litz wire cross-section min. Contact (Power contacts)  | 0.25 mm <sup>2</sup>  |
| Litz wire cross-section max. Contact (Power contacts)  | 4 mm <sup>2</sup>   |
| Rated current Contact (Power contacts)                 | 30 A (for max. connection cross section)                                      |
| Rated voltage Contact (Power contacts)                 | 630 V AC (Overvoltage category III/3)<br>850 V DC (Overvoltage category II/3) |
| Rated surge voltage                                    | 6 kV  |
| Overvoltage category                                   | III   |
| Degree of pollution                                    | 3   |
| Number Contact (Signal contacts)                       | 8   |
| Diameter Contact (Signal contacts)                     | 1 mm  |
| Litz wire cross-section min. Contact (Signal contacts) | 0.06 mm <sup>2</sup>  |
| Litz wire cross-section max. Contact (Signal contacts) | 1 mm <sup>2</sup>   |
| Rated current Contact (Signal contacts)                | 8 A (for max. connection cross section)                                       |
| Rated voltage Contact (Signal contacts)                | 50 V (Contact 1 ... 8)  |
| Rated surge voltage                                    | 1.5 kV  |
| Overvoltage category                                   | III   |
| Degree of pollution                                    | 3   |

### Housing

|      |  |
|------|--|
| Note | The suitability for assembly must be checked when fully assigned with maximum wire cross sections. |
|------|--|

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|                                   |  |
|-----------------------------------|--|
| Type                              | Coupling housing   |
| Thread type                       | M23  |
| Design                            | straight long  |
| Type of locking                   | for standard and SPEEDCON interlock                                  |
| Pg screw connection               | none   |
| Housing material                  | Turned parts: copper zinc alloy (CuZn), die-cast parts: zinc (GD-Zn) |
| Material for screw connection     | CuZn   |
| Degree of protection (plugged in) | IP67   |
|                                   | IP68   |

Seal

|                         |                |
|-------------------------|----------------|
| External cable diameter | 9 mm ... 12 mm |
|-------------------------|----------------|

## Environmental and real-life conditions

Ambient conditions

|  |  |
|--|--|
| Ambient temperature (operation)          | -40 °C ... 115 °C (see derating curve) |
| Permissible humidity (storage/transport) | 50 % ... 65 %                          |

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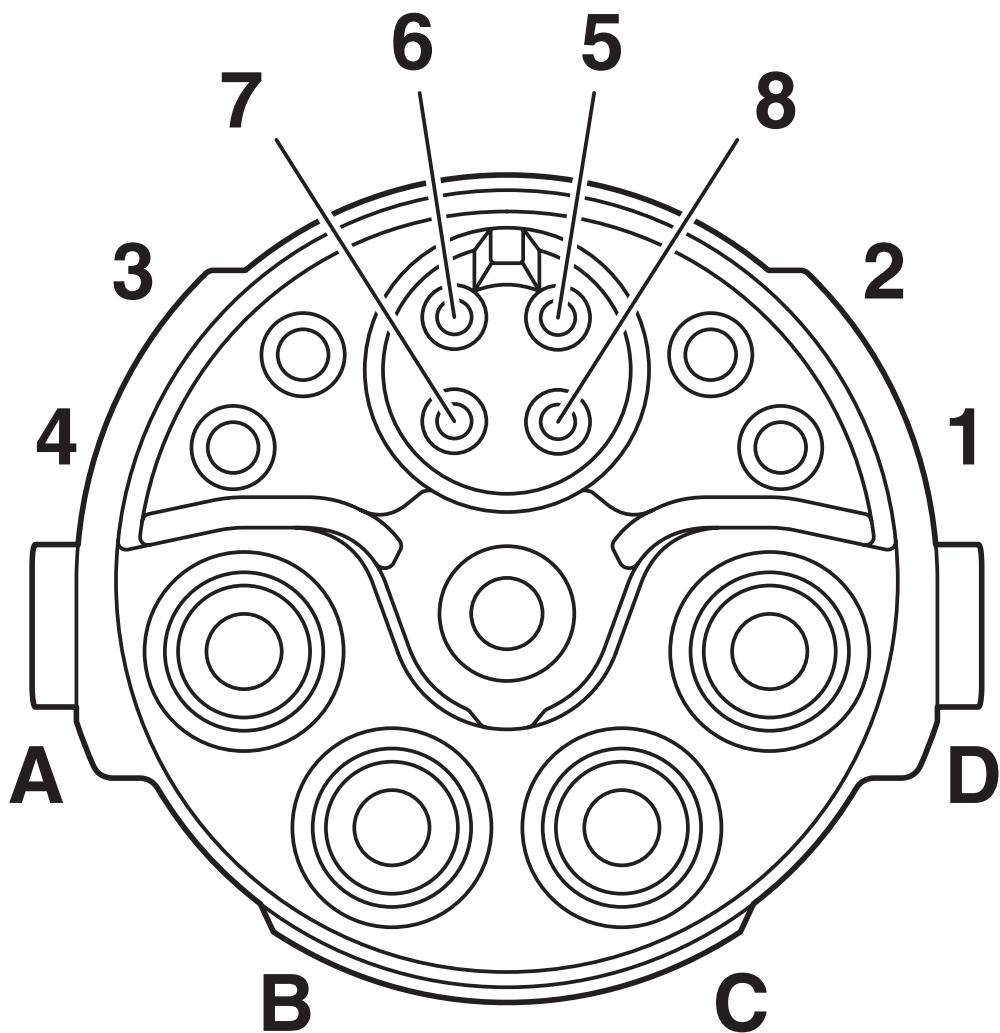
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## Drawings

Schematic diagram



Socket pin assignment, signal

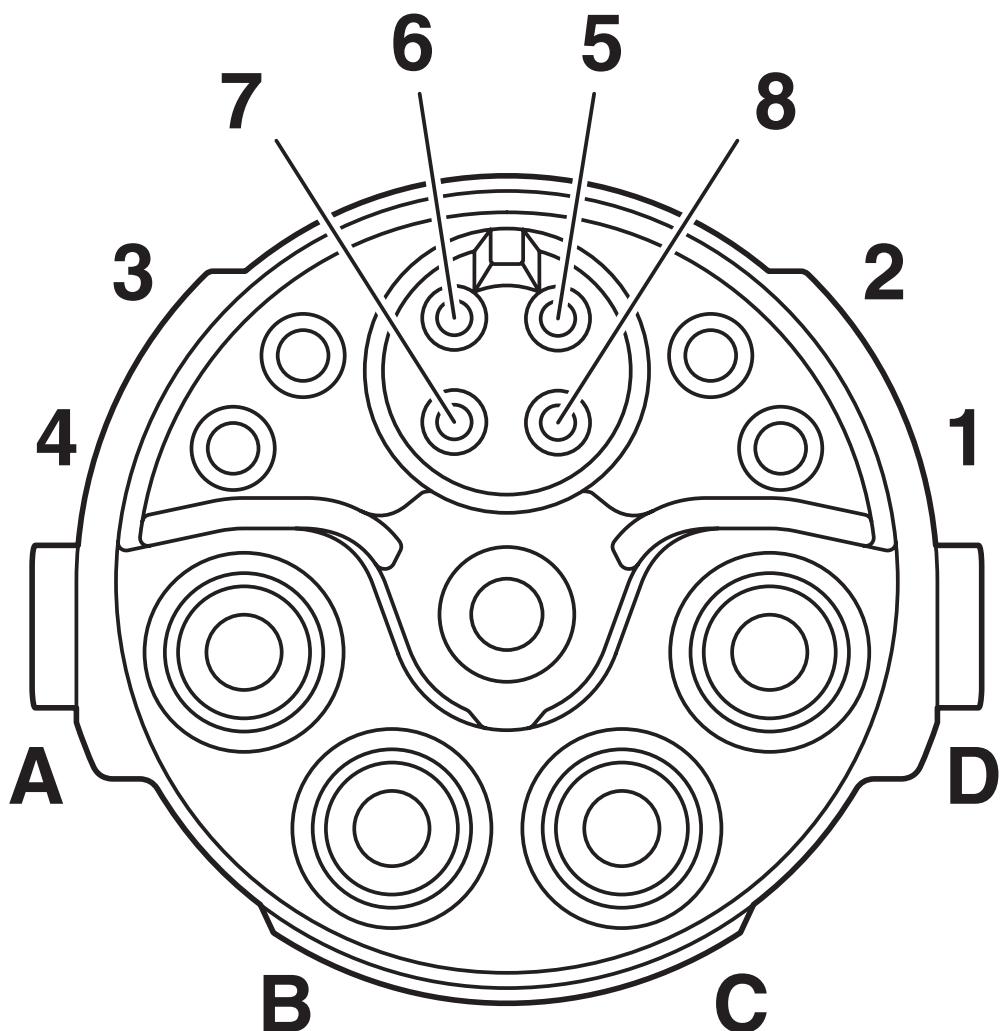
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Schematic diagram



Socket pin assignment, signal

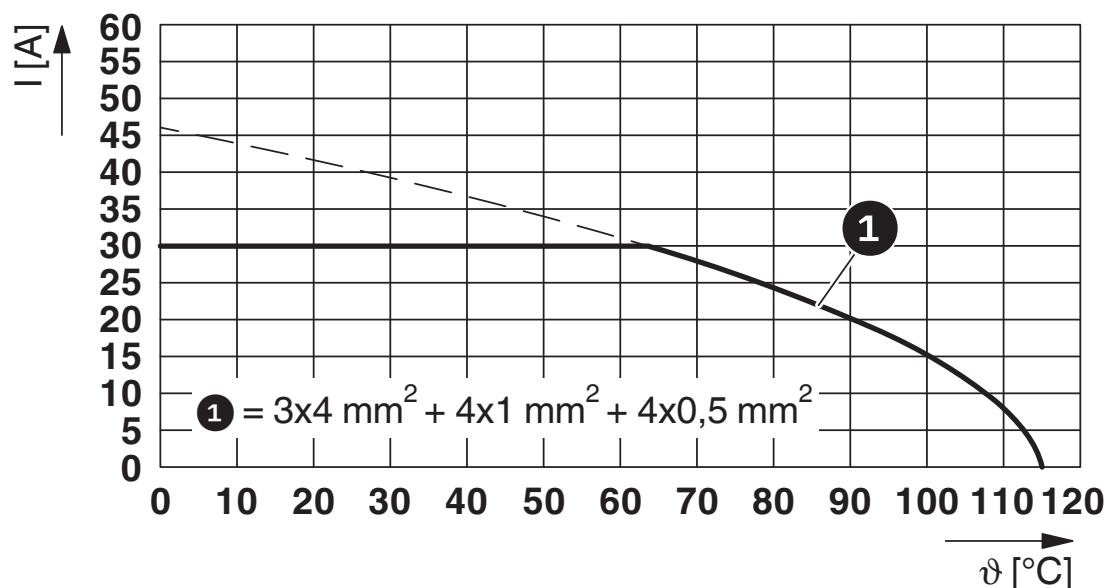
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Diagram



$I$  = current strength,  $\vartheta$  = ambient temperature, power contacts A-C: 3 x up to 30 A, signal contacts: 4 x 2 A constant, data contacts: 4 x 1 A constant

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## Approvals

ⓘ To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1621546>



**cUL Recognized**

Approval ID: E153698-20181206



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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27440116 |
| ECLASS-15.0 | 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                                | 2faffc90-06d0-4e90-acd0-e83c03fb51e3 |

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