

# SH-8ESS48A9LB1S - Coupler connector



1621548

<https://www.phoenixcontact.com/us/products/1621548>

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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: 15 mm ... 18 mm, coding: N, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1244444

## 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                          | 1621548                        |
| Packing unit                         | 1 pc                           |
| Minimum order quantity               | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | AB33                           |
| Product key                          | ABRCDG                         |
| Catalog page                         | Page 119 (C-2-2019)            |
| GTIN                                 | 4046356936965                  |
| Weight per piece (including packing) | 109.2 g                        |
| Weight per piece (excluding packing) | 109.2 g                        |
| Customs tariff number                | 85366990                       |
| Country of origin                    | DE                             |

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## Technical data

### Notes

#### 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.

- WARNING: Commission properly functioning products only. The products must be regularly inspected for damage. Decommission defective products immediately. Replace damaged products. Repairs are not possible.

- WARNING: 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.

- The products are suitable for applications in plant, controller, and electrical device engineering.

- When operating the connectors in outdoor applications, they must be separately protected against environmental influences.

- Assembled products may not be manipulated or improperly opened.

- 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 [phoenixcontact.com/products](https://www.phoenixcontact.com/products)).

- When using the product in direct connection with third-party manufacturers, the user is responsible.

- For operating voltages > 50 V AC, conductive connector housings must be grounded

- 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

- Only use tools recommended by Phoenix Contact

- The installation notes/Design In documents online on the download page at [phoenixcontact.com/products](https://www.phoenixcontact.com/products) must be observed for this product.

- Operate the connector only when it is fully plugged in and interlocked.

- Ensure that when laying the cable, the tensile load on the connectors does not exceed the upper limit specified in the standards.

- Observe the minimum bending radius of the cable. Lay the cable without twisting it.

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

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## Product properties

|                        |                                 |
|------------------------|---------------------------------|
| Product type           | Circular connector (cable-side) |
| Data management status |                                 |
| Article revision       | 13                              |

## 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                                                      |
| Coding                                              | N                                                                           |
| Insulation body material                            | 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                                                                      |
| Contact diameter <b>Power contacts</b>              | 2 mm                                                                        |
| Litz wire cross-section <b>Power contacts</b> min.  | 0.25 mm <sup>2</sup>                                                        |
| Litz wire cross-section <b>Power contacts</b> max.  | 4 mm <sup>2</sup>                                                           |
| Rated current <b>Power contacts</b>                 | 30 A                                                                        |
| Rated surge voltage                                 | 6 kV                                                                        |
| Rated voltage (II/3) power contact                  | 850 V DC                                                                    |
| Rated voltage (III/3) power contact                 | 630 V AC                                                                    |
| Contact diameter <b>Signal contacts</b>             | 1 mm                                                                        |
| Litz wire cross-section <b>Signal contacts</b> min. | 0.06 mm <sup>2</sup>                                                        |
| Litz wire cross-section <b>Signal contacts</b> max. | 1 mm <sup>2</sup>                                                           |
| Nominal current per signal contact                  | 8 A                                                                         |
| Note                                                | for max. connection cross section                                           |
| Rated surge voltage                                 | 1.5 kV                                                                      |
| Rated voltage (III/3) signal contact                | 50 V                                                                        |
| Installation height                                 | 2000 m                                                                      |

### Housing

|                  |                                                                                                    |
|------------------|----------------------------------------------------------------------------------------------------|
| Note             | The suitability for assembly must be checked when fully assigned with maximum wire cross sections. |
| Housing material | Turned parts: copper zinc alloy (CuZn), die-cast parts: zinc (GD-                                  |

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|                                   |                                     |
|-----------------------------------|-------------------------------------|
|                                   | Zn)                                 |
| Type of locking                   | for standard and SPEEDCON interlock |
| Pg screw connection               | none                                |
| Degree of protection (plugged in) | IP67                                |
|                                   | IP68                                |
| Thread type                       | M23                                 |

## Seal

|                         |                 |
|-------------------------|-----------------|
| External cable diameter | 15 mm ... 18 mm |
|-------------------------|-----------------|

## Environmental and real-life conditions

### Ambient conditions

|                                          |                                        |
|------------------------------------------|----------------------------------------|
| Ambient temperature (operation)          | -40 °C ... 115 °C (see derating curve) |
| Ambient temperature (storage/transport)  | 15 °C ... 25 °C                        |
| Permissible humidity (storage/transport) | 50 % ... 65 %                          |

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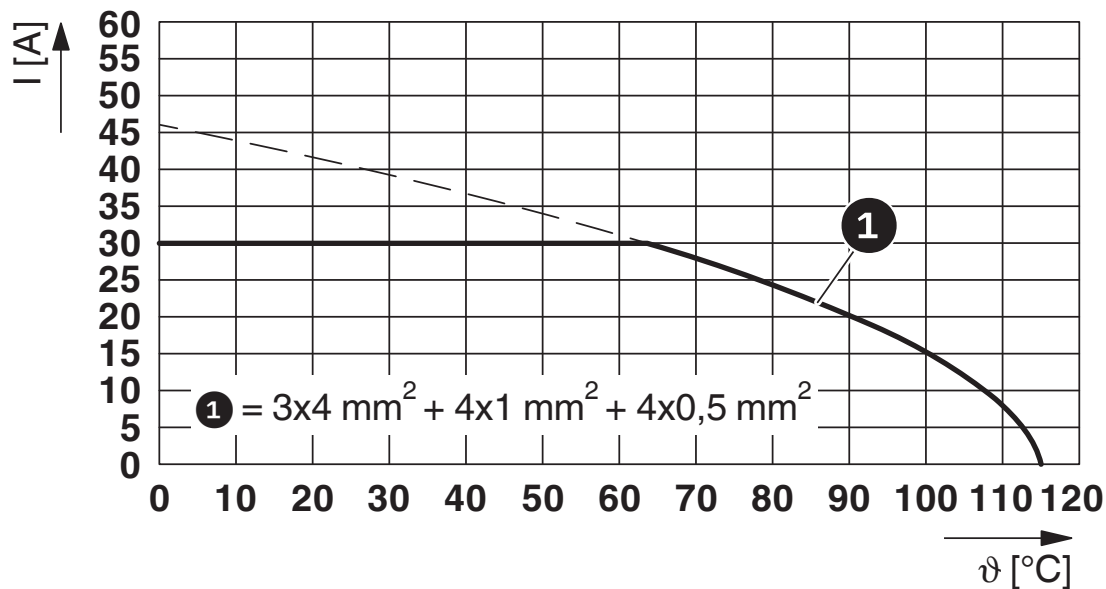


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## Drawings

Diagram



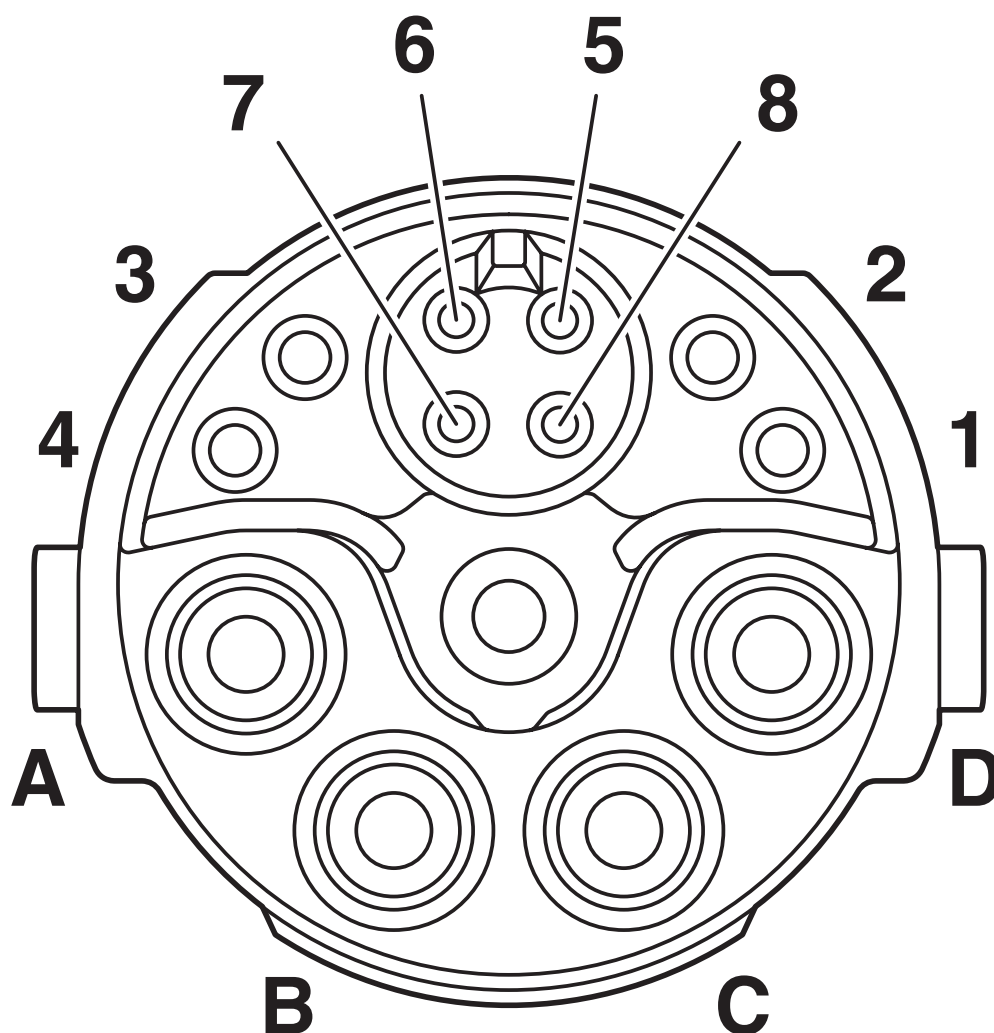
$I$  = current strength,  $\vartheta$  = ambient temperature, power contacts A-C: 3 x up to 30 A, signal contacts: 4 x 2 A constant, data contacts: 4 x 1 A constant

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Schematic diagram



Socket pin assignment, signal

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1621548>



**cUL Recognized**  
Approval ID: E153698-20181206



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**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

|                                         |                                                                                                                                                                                                                                   |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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                                    | 3a1975dc-9595-4869-9c1d-bc71b1654f16                                                                                                                                                                                              |

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## Accessories

### SF-Z0068 - Square mounting flange

1620927

<https://www.phoenixcontact.com/us/products/1620927>



Square mounting flange, 4xM3, flange dimensions: 38 mm x 38 mm, series: SF, SH, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1244326

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### SH-Z2304 - Protective cap

1622137

<https://www.phoenixcontact.com/us/products/1622137>



Plastic protection cap for M23 hybrid connectors with external thread

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## SH-Z2303 - Metal protective cap

1622138

<https://www.phoenixcontact.com/us/products/1622138>



Metal protective cap, Screw locking mechanism, M23, degree of protection: IP67/68/69K, series: SH

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## SH-Z2302 - Metal protective cap

1622139

<https://www.phoenixcontact.com/us/products/1622139>



Metal protective cap, Screw locking mechanism, M23, degree of protection: IP67/68/69K, series: SH, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1244540

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## PROT-M23PRO-OT-IP20 - Plastic protective cap

1055753

<https://www.phoenixcontact.com/us/products/1055753>

Plastic protective cap, M23, degree of protection: IP20, series: M23 PRO



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## ST-10KS010 - Crimp contact

1618239

<https://www.phoenixcontact.com/us/products/1618239>



Crimp contact, Socket, turned, Single contact, contact diameter: 1 mm, crimp range: 0.06 mm<sup>2</sup> ... 0.25 mm<sup>2</sup>, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1243216

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## ST-10KS035 - Crimp contact

1618464

<https://www.phoenixcontact.com/us/products/1618464>



Crimp contact, Socket, turned, contact diameter: 1 mm, crimp range: 0.25 mm<sup>2</sup> .. 1 mm<sup>2</sup>, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1243216

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## SF-20KS021 - Crimp contact

1621576

<https://www.phoenixcontact.com/us/products/1621576>



Crimp contact, Socket, turned, contact diameter: 2 mm, crimp range: 0.25 mm<sup>2</sup> .. 1 mm<sup>2</sup>, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1244461

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## SF-20KS022 - Crimp contact

1621577

<https://www.phoenixcontact.com/us/products/1621577>



Crimp contact, Socket, turned, contact diameter: 2 mm, crimp range: 1.5 mm<sup>2</sup> ... 2.5 mm<sup>2</sup>, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1244461

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## SF-20KS023 - Crimp contact

1621578

<https://www.phoenixcontact.com/us/products/1621578>



Crimp contact, Socket, turned, contact diameter: 2 mm, crimp range: 2.5 mm<sup>2</sup> ... 4 mm<sup>2</sup>, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1244462

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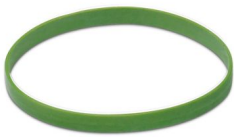


## SF-Z0064 - Color coding

1620585

<https://www.phoenixcontact.com/us/products/1620585>

Color coding, color: green



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## SF-Z0065 - Color coding

1620586

<https://www.phoenixcontact.com/us/products/1620586>

Color coding, color: orange



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## SF-Z0066 - Color coding

1620587

<https://www.phoenixcontact.com/us/products/1620587>

Color coding, color: black



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