

# SH-8EPC58A9LB2SX - Coupler connector



1244448

<https://www.phoenixcontact.com/us/products/1244448>

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M23, Coupler connector, application: Hybrid, series: SH, straight long, shielded: yes, for standard and SPEEDCON interlock, No. of pos.: 4+4+4+PE / 3+N+PE, contact connection type: Pin, Crimp connection, cable diameter range: 11.7 mm . .. 15 mm, Item is lead-free in accordance with RoHS II without Exemption 6c (Pb < 0.1 %)

The figure shows the product with assembled crimp contacts. Please order crimp contacts separately.

## Your advantages

- Transmission of signals, data, and power in just a single connector
- CAT5 data interface for up to 100 Mbps
- 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                          | 1244448       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Product key                          | ABRCDG        |
| GTIN                                 | 4063151409906 |
| Weight per piece (including packing) | 108.933 g     |
| Weight per piece (excluding packing) | 101.882 g     |
| Country of origin                    | DE            |

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## Technical data

### Notes

|                    |                                                                                                                                                                                                                                                                                                                                                        |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Order information: | Crimp contacts, 4x Ø 0.8 mm, 4x Ø 1 mm, 5x Ø 2 mm, order separately                                                                                                                                                                                                                                                                                    |
| Order information: | <p>Recommended hybrid cable:<br/>(5 x 2.5 mm<sup>2</sup> + 2 x (2 x 0.5 mm<sup>2</sup>) + (4 x 0.34 mm<sup>2</sup>) C) C<br/>Lynxco, order number 10572415</p> <p>Recommended hybrid cable:<br/>(4 x 1.5 mm<sup>2</sup> + (4 x 0.34 mm<sup>2</sup> C) + (2 x 0.75 mm<sup>2</sup>) + (2 x 0.50 mm<sup>2</sup>)) C<br/>Lynxco, order number 10580074</p> |

### Safety note

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Safety note | <p>WARNING: 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>• 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.</li><li>• 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.</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></ul> |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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- 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).

## Product properties

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

## Connector

### Connection 1

|             |     |
|-------------|-----|
| Head design | Pin |
|-------------|-----|

### Insulating body

|                                                      |                                                                                        |
|------------------------------------------------------|----------------------------------------------------------------------------------------|
| Note                                                 | Order information: Crimp contacts, 4x Ø 0.8 mm, 4x Ø 1 mm, 5x Ø 2 mm, order separately |
| Protection against electric shock                    | IEC 61984 and VDE 0623                                                                 |
| Data rate                                            | 100 Mbps                                                                               |
| Material (Insulating body)                           | PA 6.6                                                                                 |
| Flammability rating according to UL 94               | V0                                                                                     |
| Insertion/withdrawal cycles                          | 100                                                                                    |
| Connection method                                    | Crimp connection                                                                       |
| Contact switching type                               | Pin                                                                                    |
| Application                                          | Hybrid                                                                                 |
| Number of positions                                  | 13                                                                                     |
| Connection profile                                   | 4+4+4+PE / 3+N+PE                                                                      |
| Installation height                                  | 2000 m (4000 m at 300 V system voltage in accordance with DIN EN 60664-1)              |
| Number (Power contacts)                              | 5                                                                                      |
| Diameter (Litz wire outer diameter / Power contacts) | max. 4.15 mm (Outer cable sheath)                                                      |
| Contact diameter (Power contacts)                    | 2 mm                                                                                   |
| Litz wires Min. cross section (Power contacts)       | 0.25 mm <sup>2</sup>                                                                   |
| Litz wires Max. cross section (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                                                                                   |
| Degree of pollution                                  | 3                                                                                      |
| Number (Data contacts)                               | 4                                                                                      |
| Diameter (External cable diameter / Data contacts)   | max. 1.55 mm (Outer cable sheath)                                                      |
| Contact diameter (Data contacts)                     | 0.8 mm                                                                                 |
| Litz wires Max. cross section (Data contacts)        | 0.5 mm <sup>2</sup>                                                                    |

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|                                                      |                                           |
|------------------------------------------------------|-------------------------------------------|
| Rated current Contact (Data contacts)                | 3.6 A (for max. connection cross section) |
| Rated voltage Contact (Data contacts)                | 50 V AC/DC (Contact 5 ... 8)              |
| Rated surge voltage                                  | 1.5 kV                                    |
| Overvoltage category                                 | II, III                                   |
| Degree of pollution                                  | 3                                         |
| Number (Signal contacts)                             | 4                                         |
| Diameter (External cable diameter / Signal contacts) | max. 2.1 mm (Outer cable sheath)          |
| Contact diameter (Signal contacts)                   | 1 mm                                      |
| Litz wires Max. cross section (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 AC/DC (Contact 1 ... 4)              |
| 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. |
| 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<br>IP68                                                                                       |

## Seal

|                         |                   |
|-------------------------|-------------------|
| External cable diameter | 11.7 mm ... 15 mm |
|-------------------------|-------------------|

## Environmental and real-life conditions

### Ambient conditions

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

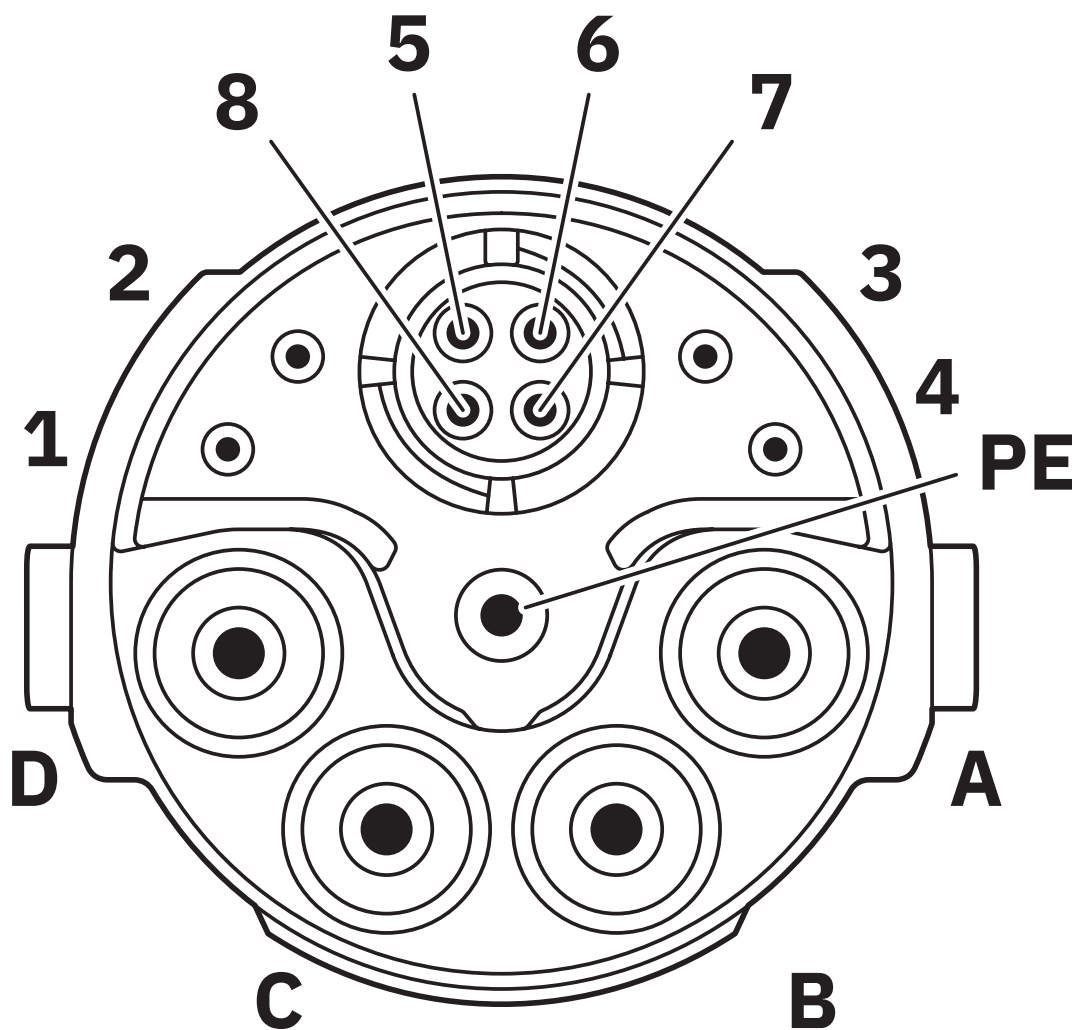
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## Drawings

Schematic diagram



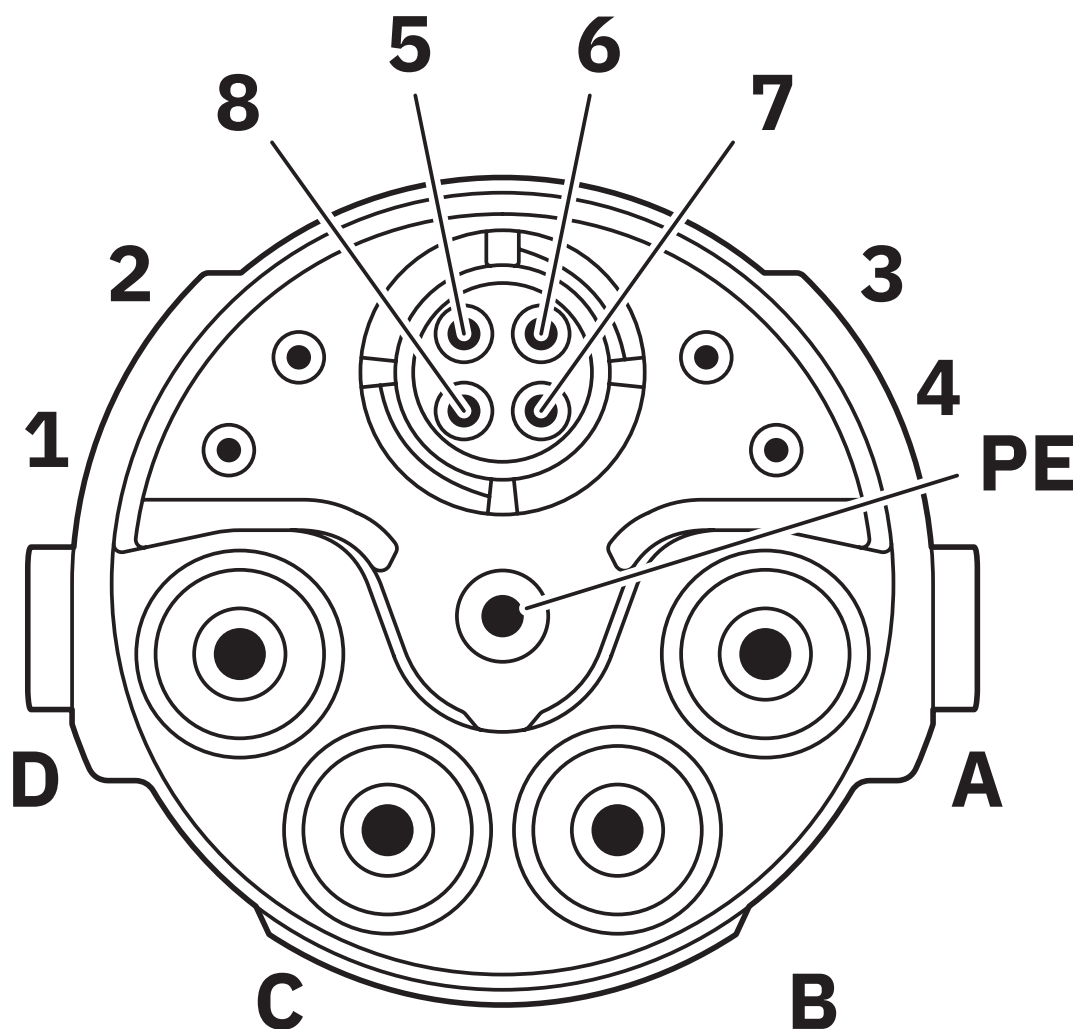
Pin assignment of pin, CAT5

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Schematic diagram



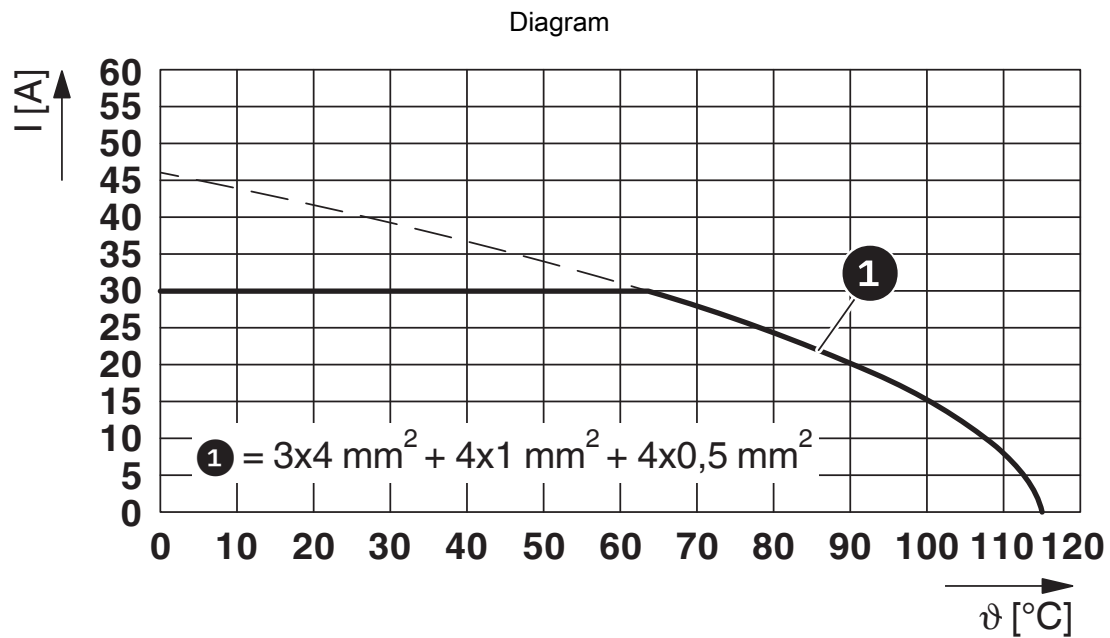
Pin assignment of pin, CAT5

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$I$  = 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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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27440116 |
|-------------|----------|

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC002635 |
|----------|----------|



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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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