

# SH-8ESC58A9LB2S - Coupler connector



1621542

<https://www.phoenixcontact.com/us/products/1621542>

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M23, Coupler connector, series: SH, straight long, shielded: yes, for standard and SPEEDCON interlock, No. of pos.: 4+4+4+PE / 3+N+PE, Direction of rotation: Standard, contact connection type: Socket, Crimp connection, cable diameter range: 12 mm ... 15 mm, coding: N, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1244438

## 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                          | 1621542             |
| Packing unit                         | 1 pc                |
| Minimum order quantity               | 1 pc                |
| Sales key                            | AB33                |
| Product key                          | ABRCDG              |
| Catalog page                         | Page 119 (C-2-2019) |
| GTIN                                 | 4046356936903       |
| Weight per piece (including packing) | 118.7 g             |
| Weight per piece (excluding packing) | 104 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) |
|--------------|---------------------------------|

## Connector

### Connection 1

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

### 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                                                                               |
| 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                                                                                     |
| Direction of rotation                               | Standard                                                                               |
| Connection profile                                  | 4+4+4+PE / 3+N+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                                                                                   |
| Note                                                | for max. connection cross section                                                      |
| 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                                                                                   |
| Contact diameter <b>Data contacts</b>               | 0.8 mm                                                                                 |
| Litz wire cross-section <b>Data contacts</b> min.   | 0.08 mm <sup>2</sup>                                                                   |
| Litz wire cross-section <b>Data contacts</b> max.   | 0.5 mm <sup>2</sup>                                                                    |
| Rated current per data contact at 25°C              | 3.6 A                                                                                  |
| Note                                                | for max. connection cross section                                                      |

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|                             |        |
|-----------------------------|--------|
| Rated voltage Data contacts | 50 V   |
| Rated surge voltage         | 1.5 kV |
| 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-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 | 12 mm ... 15 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 %                          |

# SH-8ESC58A9LB2S - Coupler connector

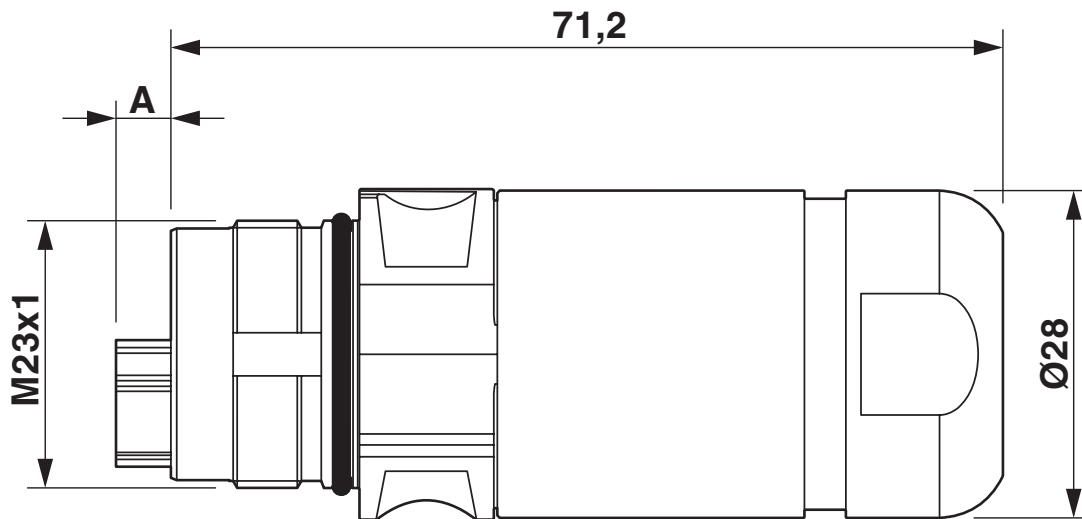


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## Drawings

Dimensional drawing



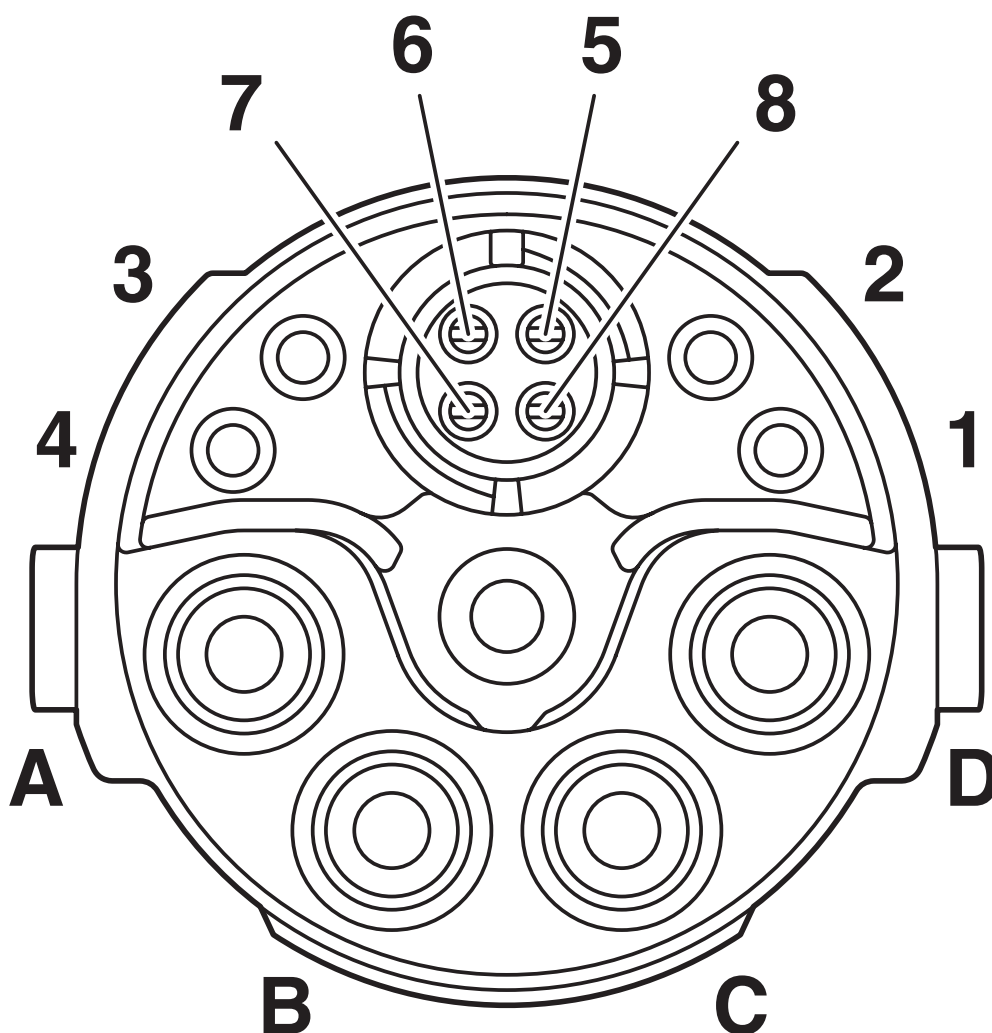
Pin version: dimension A = 4.7 mm, socket version: dimension A = 0 mm

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Schematic diagram



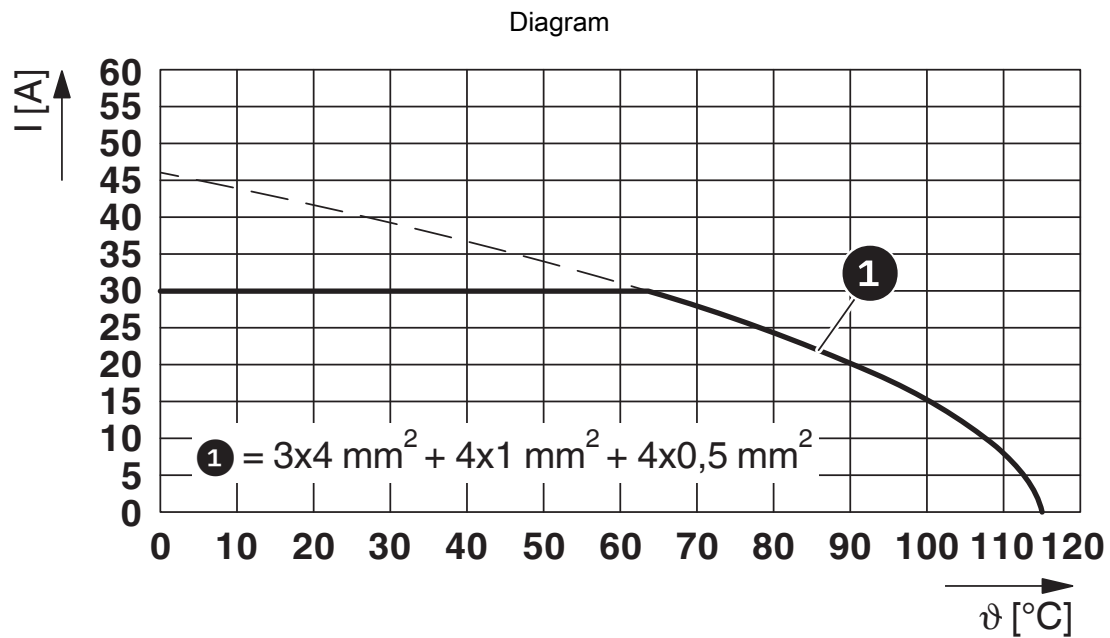
Socket pin assignment, CAT5

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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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1621542

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1621542>

| cUL Recognized<br>Approval ID: E153698-20181206 |                       |                       |                   |                             |
|-------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                 | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Power                                           | 600 V                 | 21.4 A                | - 12              | -                           |
| Control                                         | 50 V                  | 4 A                   | - 18              | -                           |

| UL Recognized<br>Approval ID: E153698-20181206 |                       |                       |                   |                             |
|------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Power                                          | 600 V                 | 24 A                  | - 12              | -                           |
| Control                                        | 50 V                  | 4 A                   | - 18              | -                           |

| cULus Recognized<br>Approval ID: E468743-20150928 |                       |                       |                   |                             |
|---------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Power                                             | 600 V                 | 16 A                  | -                 | -                           |
| Signal                                            | 50 V                  | 4 A                   | -                 | -                           |
| Data                                              | 30 V                  | 1 A                   | -                 | -                           |

| 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

|            |                                                                                                              |
|------------|--------------------------------------------------------------------------------------------------------------|
| REACH SVHC | Lead 7439-92-1                                                                                               |
| China RoHS | Environmentally Friendly Use Period = 50 years                                                               |
|            | For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads" |

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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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### KC-88014311/1,00 - Hybrid cable

1623127

<https://www.phoenixcontact.com/us/products/1623127>



Hybrid cable, series: KSH, M23-Socket, angled, rotatable, -120° left/120° right, number of positions: 4+4+4+PE, type of locking: SPEEDCON, cable length: 1 m, shielded: yes, color of outer sheath: orange RAL 2003

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<https://www.phoenixcontact.com/us/products/1621542>

## KC-88014311/100,00 - Hybrid cable

1623039

<https://www.phoenixcontact.com/us/products/1623039>



Hybrid cable, series: KSH, M23-Socket, angled, rotatable, -120° left/120° right, number of positions: 4+4+4+PE, type of locking: SPEEDCON, cable length: 100 m, shielded: yes, color of outer sheath: orange RAL 2003

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## KC-88014311/20,00 - Hybrid cable

1622080

<https://www.phoenixcontact.com/us/products/1622080>



Hybrid cable, series: KSH, M23-Socket, Straight, plastic molded, number of positions: 4+4+4+PE, type of locking: SPEEDCON, cable length: 20 m, shielded: yes, color of outer sheath: orange RAL 2003

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<https://www.phoenixcontact.com/us/products/1621542>



## 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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## M23 HYBRID\_CONTACT-SAMPLE-SET - Sample set

1623252

<https://www.phoenixcontact.com/us/products/1623252>



Sample set consisting of 4x Ø 1.0 mm, 4x Ø 0.8 mm, 5x Ø 2.0 mm socket and pin contacts for M23 hybrid connectors. Contacts included: 1621573, 1618464, 1621577, 1621575, 1618458, 1621580

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1621542

<https://www.phoenixcontact.com/us/products/1621542>



## 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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## SF-08KS010 - Crimp contact

1621571

<https://www.phoenixcontact.com/us/products/1621571>



Crimp contact, Socket, turned, contact diameter: 0.8 mm, crimp range: 0.08 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.: 1244455

# SH-8ESC58A9LB2S - Coupler connector



1621542

<https://www.phoenixcontact.com/us/products/1621542>

## SF-08KS020 - Crimp contact

1621573

<https://www.phoenixcontact.com/us/products/1621573>



Crimp contact, Socket, turned, contact diameter: 0.8 mm, crimp range: 0.34 mm<sup>2</sup> ... 0.5 mm<sup>2</sup>, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1244457

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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

# SH-8ESC58A9LB2S - Coupler connector



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<https://www.phoenixcontact.com/us/products/1621542>

## 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

# SH-8ESC58A9LB2S - Coupler connector



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<https://www.phoenixcontact.com/us/products/1621542>

## 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

# SH-8ESC58A9LB2S - Coupler connector



1621542

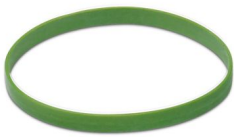
<https://www.phoenixcontact.com/us/products/1621542>

## 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



# SH-8ESC58A9LB2S - Coupler connector

1621542

<https://www.phoenixcontact.com/us/products/1621542>



## SF-Z0066 - Color coding

1620587

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

Color coding, color: black



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