

# SB-8EPSD8A8L33S - Cable connector

1623696

<https://www.phoenixcontact.com/us/products/1623696>



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M40, Cable connector, series: SB, straight long, shielded: yes, SPEEDCON, No. of pos.: 8+4+PE, Direction of rotation: Standard, contact connection type: Pin, Crimp connection, cable diameter range: 14 mm ... 20.5 mm, coding: Signal, coding 2, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1244947

## Your advantages

- All housing can be fitted with pin or socket contacts
- A total of eight contacts are available for signal transmission
- Reduced connection time with SPEEDCON fast locking system
- Mechanical coding reliably prevents incorrect connections
- 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                          | 1623696                        |
| Packing unit                         | 1 pc                           |
| Minimum order quantity               | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | AB33                           |
| Product key                          | ABRCEB                         |
| Catalog page                         | Page 126 (C-2-2019)            |
| GTIN                                 | 4055626194370                  |
| Weight per piece (including packing) | 447.2 g                        |
| Weight per piece (excluding packing) | 447 g                          |
| Customs tariff number                | 85366990                       |
| Country of origin                    | DE                             |

## Technical data

### Notes

| Order information:        | Crimp contacts, 8 x Ø 1 mm, 5 x Ø 3.6 mm, order separately  |
|---------------------------|---|
| <p><b>Safety note</b></p> |   |
| 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>• 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>• Observe the corresponding technical data. You will find information:<ul style="list-style-type: none"><li>◦ On the product</li><li>◦ On the packing label</li><li>◦ In the supplied documentation</li><li>◦ Online at <a href="https://www.phoenixcontact.com/products">phoenixcontact.com/products</a> under the product</li></ul></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>• Use a protective cap to protect connectors that are not in use. The suitable accessories are available online in the accessory section of the product at <a href="https://www.phoenixcontact.com/products">phoenixcontact.com/products</a></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</li></ul> |

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|  |  |
|--|--|
|  | standards.   |
|  | <ul style="list-style-type: none"><li>• Observe the minimum bending radius of the cable. Lay the cable without twisting it.</li></ul>  |
|  | <ul style="list-style-type: none"><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 warnings (e.g. DIN EN ISO 13732-1:2008-12).</li></ul> |

## Product properties

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

## Connector

### Insulating body

|   |                                   |
|---|-----------------------------------|
| Coding  | Signal, coding 2                  |
| Connection method                                   | Crimp connection                  |
| Contact switching type                              | Pin                               |
| Application   | Hybrid                            |
| Number of positions                                 | 13                                |
| Direction of rotation                               | Standard                          |
| Connection profile                                  | 8+4+PE                            |
| Contact diameter <b>Power contacts</b>              | 3.6 mm                            |
| Litz wire cross-section <b>Power contacts</b> min.  | 2.5 mm <sup>2</sup>               |
| Litz wire cross-section <b>Power contacts</b> max.  | 16 mm <sup>2</sup>                |
| Rated current <b>Power contacts</b>                 | 70 A                              |
| Note  | for max. connection cross section |
| Rated voltage                                       | 630 V AC                          |
| Rated surge voltage                                 | 6 kV                              |
| Overshoot category                                  | III                               |
| Degree of pollution                                 | 3                                 |
| 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. | 1.5 mm <sup>2</sup>               |
| Nominal current per signal contact                  | 8 A                               |
| Note  | for max. connection cross section |
| Rated surge voltage                                 | 6 kV                              |
| Rated voltage (III/3) signal contact                | 500 V                             |
| Contact diameter Data contacts                      | 1 mm                              |
| Litz wire cross-section Data contacts min.          | 0.06 mm <sup>2</sup>              |
| Litz wire cross-section Data contacts max.          | 1.5 mm <sup>2</sup>               |
| Rated current per data contact at 25°C              | 8 A                               |

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|                             |                                   |
|-----------------------------|-----------------------------------|
| Note                        | for max. connection cross section |
| Rated voltage Data contacts | 50 V                              |
| Rated surge voltage         | 1.5 kV                            |
| Installation height         | 2000 m                            |

## Housing

|                                   |  |
|-----------------------------------|--|
| Housing material                  | Turned parts: copper zinc alloy (CuZn), die-cast parts: zinc (GD-Zn) |
| Type of locking                   | SPEEDCON   |
| Pg screw connection               | none   |
| Degree of protection (plugged in) | IP68/IP69K   |
| Thread type                       | M40  |

## Seal

|                         |                   |
|-------------------------|-------------------|
| External cable diameter | 14 mm ... 20.5 mm |
| Seal material           | FKM               |

## Environmental and real-life conditions

### Ambient conditions

|                                 |  |
|---------------------------------|--|
| Ambient temperature (operation) | -40 °C ... 115 °C (see derating curve) |
|---------------------------------|--|

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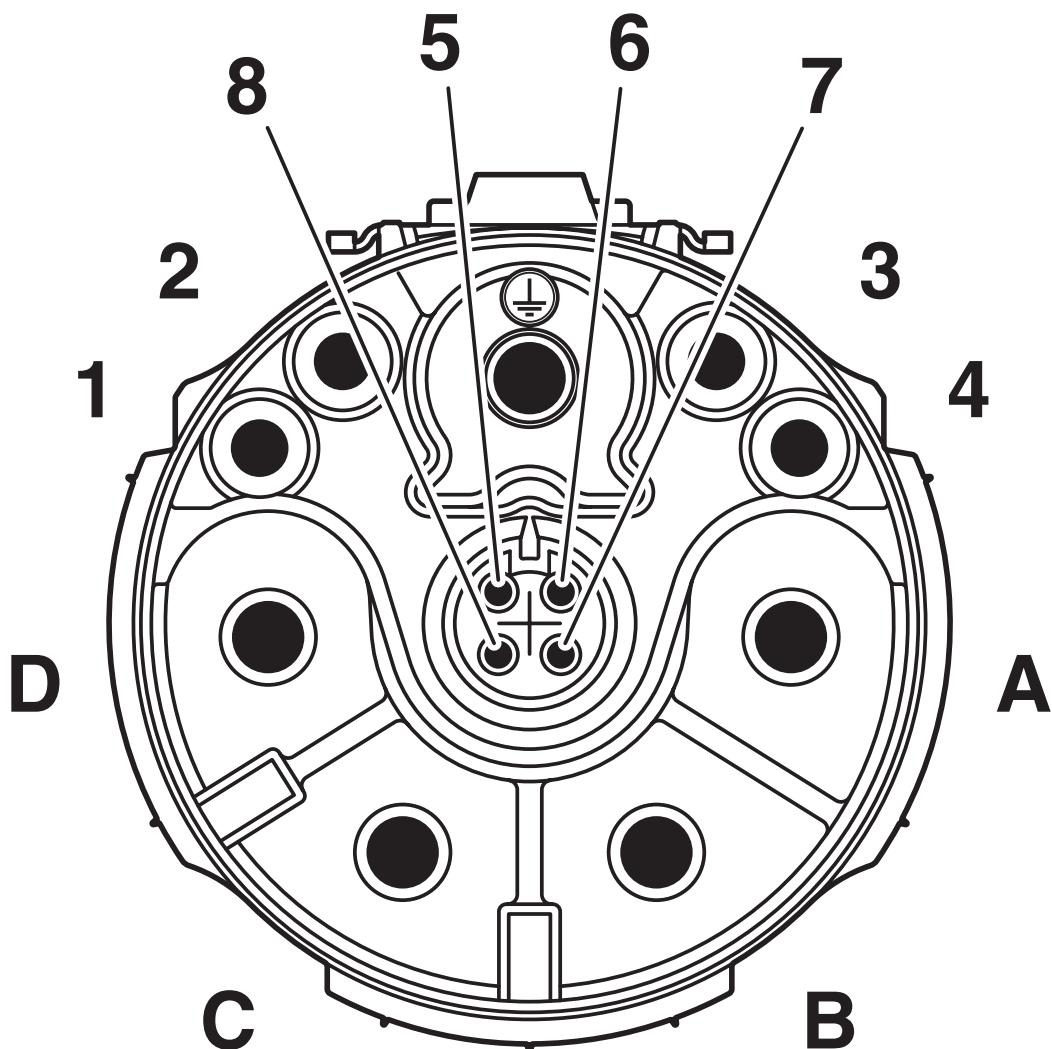
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## Drawings

Schematic diagram



Pin assignment of pin signal, coding 2

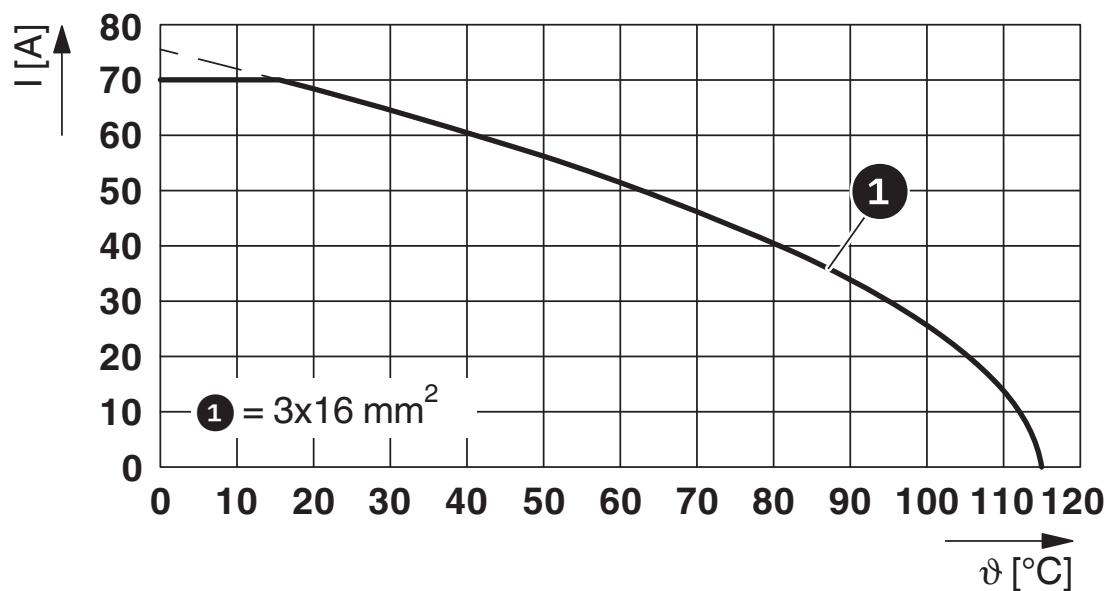
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Diagram



$I$  = current strength,  $\vartheta$  = ambient temperature, power contacts A–C: 3x up to 70 A, signal contacts: 4x 2 A constant, data contacts: no load

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## Approvals

ⓘ To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1623696>

| <b>cUL Recognized</b><br>Approval ID: E153698-20190718 |                       |                       |                   |                      |
|--|-----------------------|-----------------------|-------------------|----------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
| Power  | 600 V                 | 24 A                  | 6 - 16            | -                    |
| Signal   | 500 V                 | 4 A                   | 1,5 - 1,5         | -                    |
| Data   | 50 V                  | 1 A                   | 0,34 - 0,34       | -                    |

| <b>UL Recognized</b><br>Approval ID: E153698-20190718 |                       |                       |                   |                      |
|---|-----------------------|-----------------------|-------------------|----------------------|
|   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
| Power   | 600 V                 | 32 A                  | 6 - 16            | -                    |
| Signal  | 500 V                 | 4 A                   | 1,5 - 1,5         | -                    |
| Data  | 50 V                  | 1 A                   | 0,34 - 0,34       | -                    |

**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(b), 6(b)-II |

### 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                                | f5628977-17fe-4616-8c9f-c12e2c4b26e6 |

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### Phoenix Contact USA

586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)