

# SB-8EP8D8A9L33S - Coupler connector



1623714

<https://www.phoenixcontact.com/us/products/1623714>

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M40, Coupler connector, series: SB, straight long, shielded: yes, for standard and SPEEDCON interlock, 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.: 1244959

## Your advantages

- All housing can be fitted with pin or socket contacts
- A total of eight contacts are available for signal transmission
- 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	1623714
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to order (non-returnable)
Sales key	AB33
Product key	ABRCEG
Catalog page	Page 127 (C-2-2019)
GTIN	4055626194776
Weight per piece (including packing)	22.22 g
Weight per piece (excluding packing)	22.22 g
Customs tariff number	85366990
Country of origin	DE

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## Technical data

### Notes

Order information:	Crimp contacts, 8 x Ø 1 mm, 5 x Ø 3.6 mm, order separately
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>• 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>o On the product</li><li>o On the packing label</li><li>o In the supplied documentation</li><li>o 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.

- 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

### 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
Overvoltage 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 <b>Data contacts</b>	1 mm
Litz wire cross-section <b>Data contacts</b> min.	0.06 mm <sup>2</sup>
Litz wire cross-section <b>Data contacts</b> 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	for standard and SPEEDCON interlock
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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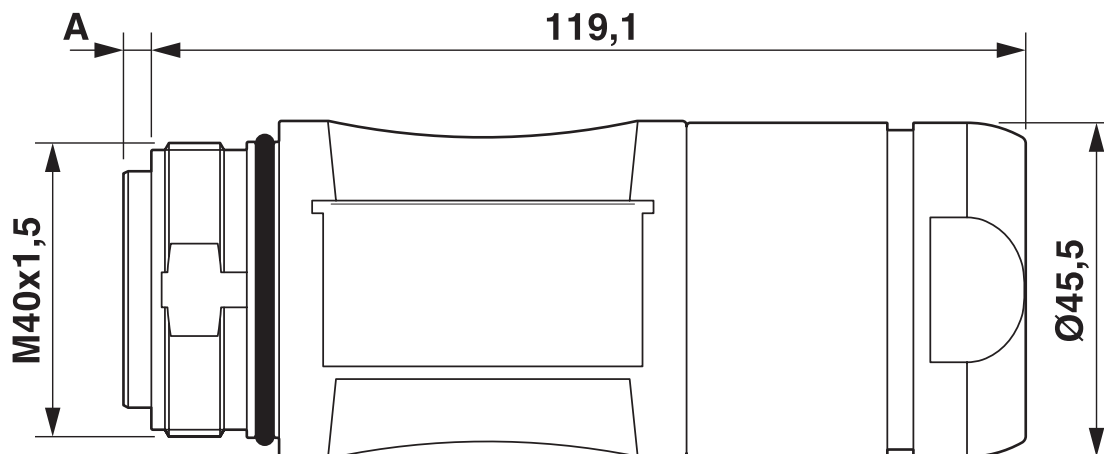


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## Drawings

Dimensional drawing



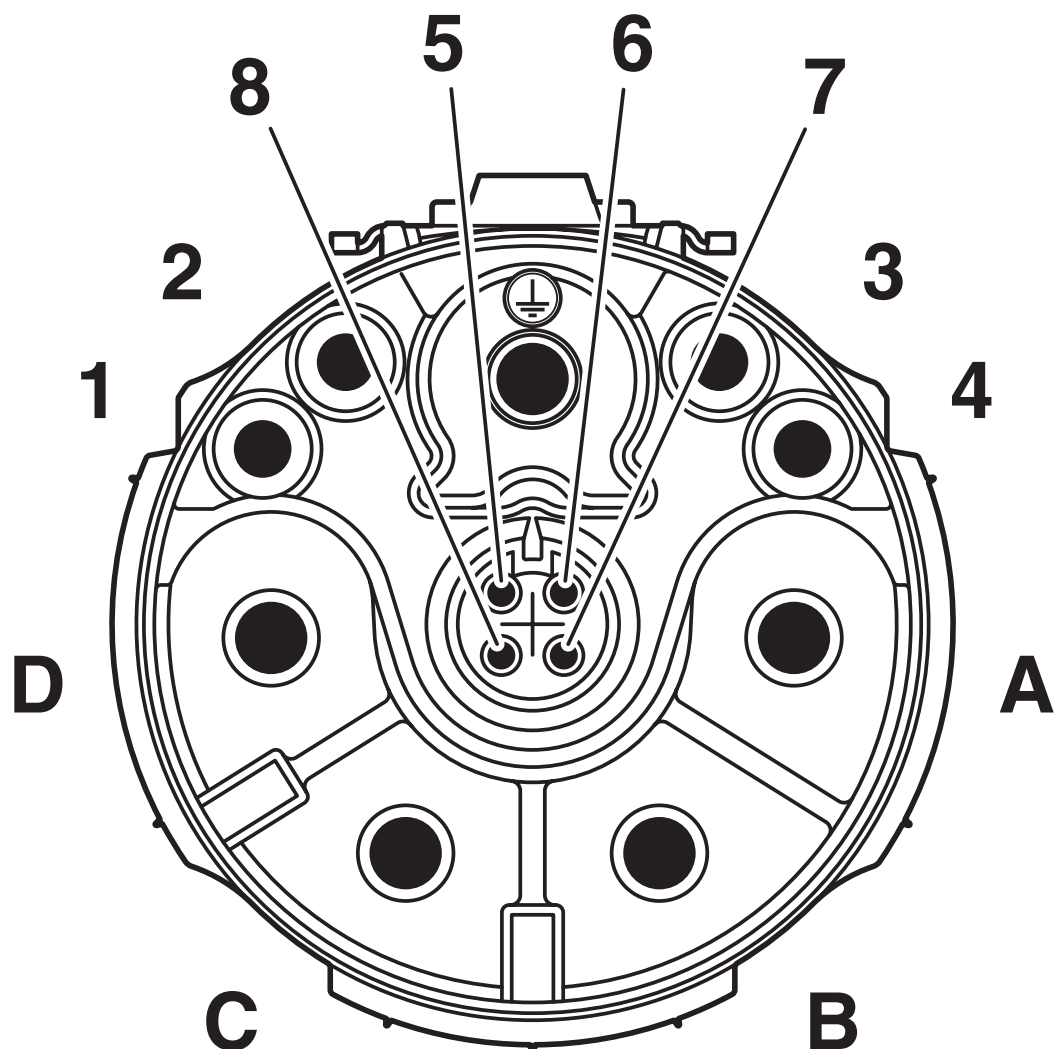
Pin version: dimension A = 3.8 mm, socket version: dimension A = 0.15 mm

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Schematic diagram



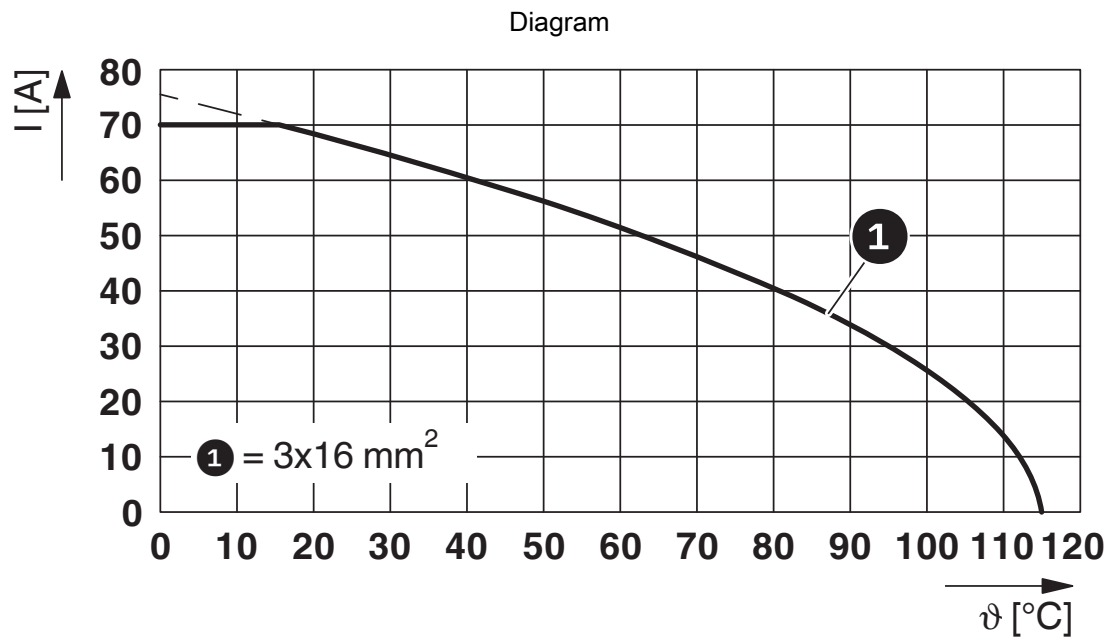
Pin assignment of pin signal, coding 2

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$I$  = 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/1623714>

cUL Recognized Approval ID: E153698-20190718				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
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	-

UL Recognized Approval ID: E153698-20190718				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
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
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### 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	6afa7cdb-9abd-4acc-a0d1-32f472da8600

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## Accessories

### SB-Z0001 - Metal protective cap

1623827

<https://www.phoenixcontact.com/us/products/1623827>



Metal protective cap, Screw locking mechanism, M40, degree of protection: IP67/68/69K, series: SM, SB, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1244989

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### ST-10KP010 - Crimp contact

1618255

<https://www.phoenixcontact.com/us/products/1618255>



Crimp contact, Pin, 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.: 1243215

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## ST-10KP035 - Crimp contact

1618458

<https://www.phoenixcontact.com/us/products/1618458>



Crimp contact, Pin, 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.: 1243215

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## SM-Z0003 - Square mounting flange with O-ring

1607935

<https://www.phoenixcontact.com/us/products/1607935>



Square mounting flange with O-ring, Axial O-ring, 4x Ø4,2, series: SM

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## SM-Z0004 - Square mounting flange

1607937

<https://www.phoenixcontact.com/us/products/1607937>



Square mounting flange, 4x Ø4,2, series: SM

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## PROT-M40-PW-OT-IP20 - Plastic protective cap

1577212

<https://www.phoenixcontact.com/us/products/1577212>



Plastic protective cap, M40, degree of protection: IP20, series: SM, SB

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<https://www.phoenixcontact.com/us/products/1623714>

## SB-10KP001 - Crimp contact

1623607

<https://www.phoenixcontact.com/us/products/1623607>



Crimp contact, Pin, turned, contact diameter: 1 mm, crimp range: 0.06 mm<sup>2</sup> ... 0.25 mm<sup>2</sup>

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## SB-10KP002 - Crimp contact

1623611

<https://www.phoenixcontact.com/us/products/1623611>



Crimp contact, Pin, turned, contact diameter: 1 mm, crimp range: 0.34 mm<sup>2</sup> ... 0.5 mm<sup>2</sup>

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### SB-10KP003 - Crimp contact

1623612

<https://www.phoenixcontact.com/us/products/1623612>



Crimp contact, Pin, turned, Single contact, contact diameter: 1 mm, crimp range: 0.5 mm<sup>2</sup> ... 1 mm<sup>2</sup>

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### SB-10KP004 - Crimp contact

1623613

<https://www.phoenixcontact.com/us/products/1623613>



Crimp contact, Pin, turned, Single contact, contact diameter: 1 mm, crimp range: 1 mm<sup>2</sup> ... 1.5 mm<sup>2</sup>, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1244925

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<https://www.phoenixcontact.com/us/products/1623714>

## SB-36KP002 - Crimp contact

1623383

<https://www.phoenixcontact.com/us/products/1623383>



Crimp contact, Pin, turned, contact diameter: 3.6 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.: 1244894

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## SB-36KP003 - Crimp contact

1623384

<https://www.phoenixcontact.com/us/products/1623384>



Crimp contact, Pin, turned, Single contact, contact diameter: 3.6 mm, crimp range: 4 mm<sup>2</sup> ... 6 mm<sup>2</sup>, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1244894



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## SB-36KP004 - Crimp contact

1623385

<https://www.phoenixcontact.com/us/products/1623385>



Crimp contact, Pin, turned, Single contact, contact diameter: 3.6 mm, crimp range: 10 mm<sup>2</sup> ... 10 mm<sup>2</sup>, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1244895

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## SB-36KP005 - Crimp contact

1623386

<https://www.phoenixcontact.com/us/products/1623386>



Crimp contact, Pin, turned, Single contact, contact diameter: 3.6 mm, crimp range: 16 mm<sup>2</sup> ... 16 mm<sup>2</sup>, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1244896

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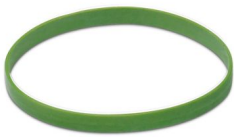
<https://www.phoenixcontact.com/us/products/1623714>

## SM-Z0025 - Color coding

1620558

<https://www.phoenixcontact.com/us/products/1620558>

Color coding, color: green



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## SM-Z0026 - Color coding

1620559

<https://www.phoenixcontact.com/us/products/1620559>

Color coding, color: orange



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<https://www.phoenixcontact.com/us/products/1623714>

## SM-Z0027 - Color coding

1620560

<https://www.phoenixcontact.com/us/products/1620560>

Color coding, color: black



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