

# SB-8ESSD8A9L33S - Coupler connector



1623705

<https://www.phoenixcontact.com/us/products/1623705>

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

M40, Coupler connector, application: Hybrid, series: SB, straight long, shielded: yes, for standard and SPEEDCON interlock, No. of pos.: 8+4+PE, contact connection type: Socket, Crimp connection, cable diameter range: 14 mm ... 20.5 mm, coding: Signal, coding 2, this item is expected to be lead-free from Q2 2026 in accordance with RoHS II without exception 6c (Pb < 0.1%), a lead-free alternative is possible on request in advance

## 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	1623705
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to order (non-returnable)
Sales key	AB33
Product key	ABRCEG
GTIN	4055626195087
Weight per piece (including packing)	481.1 g
Weight per piece (excluding packing)	401.247 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
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### 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> </ul>
	<ul style="list-style-type: none"> <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> </ul>
	<ul style="list-style-type: none"> <li>• The products are suitable for applications in plant, controller, and electrical device engineering.</li> </ul>
	<ul style="list-style-type: none"> <li>• When operating the connectors in outdoor applications, they must be separately protected against environmental influences.</li> </ul>
	<ul style="list-style-type: none"> <li>• Assembled products may not be manipulated or improperly opened.</li> </ul>
	<ul style="list-style-type: none"> <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> </ul>
	<ul style="list-style-type: none"> <li>• When using the product in direct connection with third-party manufacturers, the user is responsible.</li> </ul>
	<ul style="list-style-type: none"> <li>• For operating voltages &gt; 50 V AC, conductive connector housings must be grounded</li> </ul>
	<ul style="list-style-type: none"> <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> </ul>
	<ul style="list-style-type: none"> <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> </ul>
	<ul style="list-style-type: none"> <li>• Only use tools recommended by Phoenix Contact</li> </ul>
	<ul style="list-style-type: none"> <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> </ul>
<ul style="list-style-type: none"> <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> </ul>	
<ul style="list-style-type: none"> <li>• Operate the connector only when it is fully plugged in and interlocked.</li> </ul>	
<ul style="list-style-type: none"> <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)
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## Connector

### Connection 1

Head design	Socket
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### Insulating body

Protection against electric shock	IEC 61984
Coding	Signal, coding 2
Connection method	Crimp connection
Contact switching type	Socket
Application	Hybrid
Number of positions	13
Connection profile	8+4+PE
Installation height	2000 m (4000 m at 300 V system voltage in accordance with DIN EN 60664-1)
Number (Contact group 1)	5
Contact diameter (Contact group 1)	3.6 mm
Litz wires Min. cross section (Contact group 1)	2.5 mm <sup>2</sup>
Litz wires Max. cross section (Contact group 1)	16 mm <sup>2</sup>
Rated current Contact (Contact group 1)	70 A (for max. connection cross section)
Rated voltage Contact (Contact group 1)	630 V AC (Overvoltage category III/3) 850 V DC (Overvoltage category II/3)
Rated surge voltage	6 kV
Overvoltage category	III
Degree of pollution	3
Number (Contact group 2)	4
Contact diameter (Contact group 2)	0.8 mm
Litz wires Max. cross section (Contact group 2)	0.5 mm <sup>2</sup>
Rated current Contact (Contact group 2)	8 A (for max. connection cross section)
Rated voltage Contact (Contact group 2)	50 V AC/DC (Contact 5 ... 8)
Rated surge voltage	1.5 kV
Overvoltage category	II, III
Degree of pollution	3
Number (Contact group 3)	4
Contact diameter (Contact group 3)	1 mm
Litz wires Max. cross section (Contact group 3)	1.5 mm <sup>2</sup>

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Rated current Contact (Contact group 3)	8 A (for max. connection cross section)
Rated voltage Contact (Contact group 3)	500 V AC/DC (Contact 1 ... 4)
Rated surge voltage	6 kV
Overvoltage category	III
Degree of pollution	3

## Housing

Type	Coupling housing
Thread type	M40
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)	IP68/IP69K

## 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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## Drawings

Schematic diagram



Pin assignment of socket signal, DC coding

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

Diagram



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Diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1623705>

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

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

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## Classifications

### ECLASS

ECLASS-13.0	27440116
ECLASS-15.0	27440116

### ETIM

ETIM 10.0	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)

### 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	3d0ee2ed-cde7-4eda-81db-033944cffad3

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