

# SM-7ES1N8A8S24 - Cable connector



1613530

<https://www.phoenixcontact.com/us/products/1613530>

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

Cable connector, application: Power, straight long, Screw locking mechanism, M40, number of positions: 4+3+PE, contact connection type: Socket, shielded: yes, degree of protection: IP67, cable diameter range: 20.5 mm ... 26.5 mm, number of positions: 8, connection method: Crimp connection, series: SM, this item is expected to be lead-free from Q3 2026 in accordance with RoHS II without exception 6c (Pb < 0.1%), a lead-free alternative is possible on request in advance Alternative products: 1628664

## Your advantages

- Consistent EMC protection for reliable connection solutions in the industrial environment
- Crimping connection: vibration- and temperature-resistant assembly
- Flexible use: reliably connect various cable diameters
- Molded designs with preassembled cables on one or both sides

## Commercial data

Item number	1613530
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to order (non-returnable)
Sales key	AB32
Product key	ABRBGA
GTIN	4046356400886
Weight per piece (including packing)	433.5 g
Weight per piece (excluding packing)	373.201 g
Customs tariff number	85366990
Country of origin	DE

## Technical data

### Notes

Order information:	Order crimp contacts 4 x Ø 2 mm, 4 x Ø 3.6 mm 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>• Ensure that the protective or functional ground has been properly connected.</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>• 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>• 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 standards.</li> </ul>	
<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</li> </ul>	

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warnings (e.g. DIN EN ISO 13732-1:2008-12).

## Product properties

Product type	Circular connector (cable-side)
Series	SM
Application	Power
Number of positions	8
Connection profile	4+3+PE
Shielded	yes
Coding	N
Thread type	M40

## Material specifications

Material Housing	GD-Zn
Material Housing surface	Ni
Material Insulating body	PA 6.6
Material Seal	FPM
Housing material	Turned parts: copper zinc alloy (CuZn), aluminum (Al), die-cast parts: zinc (GD-Zn)

## Connection data

Conductor connection

Connection method	Crimp connection
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## Electrical properties

Contact: Contact group 1

Contact diameter	3.6 mm
Nominal current $I_N$	70 A
Nominal voltage $U_N$	630 V
Overvoltage category	III
Degree of pollution	3
Rated surge voltage	6 kV

Contact: Contact group 2

Contact diameter	2 mm
Nominal current $I_N$	30 A
Nominal voltage $U_N$	250 V
Overvoltage category	III
Degree of pollution	3
Rated surge voltage	4 kV

## Connector

Type	straight long
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Connection 1

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Head design	Socket
Head cable outlet	straight, long
Head thread type	M40

## Cable/line

External cable diameter	20.5 mm ... 26.5 mm
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## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP67
Ambient temperature (operation)	-40 °C ... 125 °C
Altitude	3000 m

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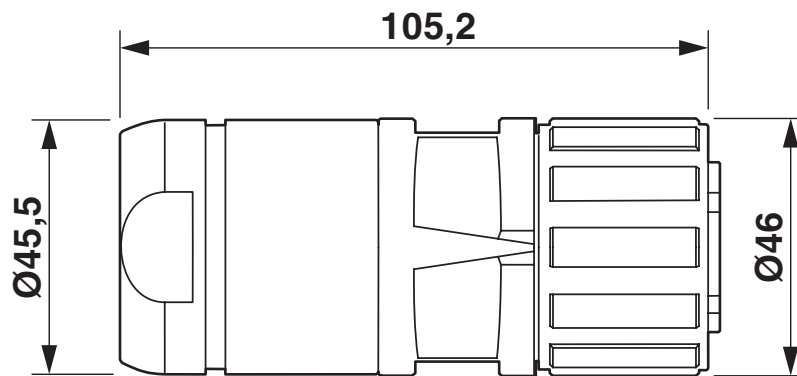
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## Drawings

Dimensional drawing



Dimensional drawing

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Schematic diagram



Connector pin assignment

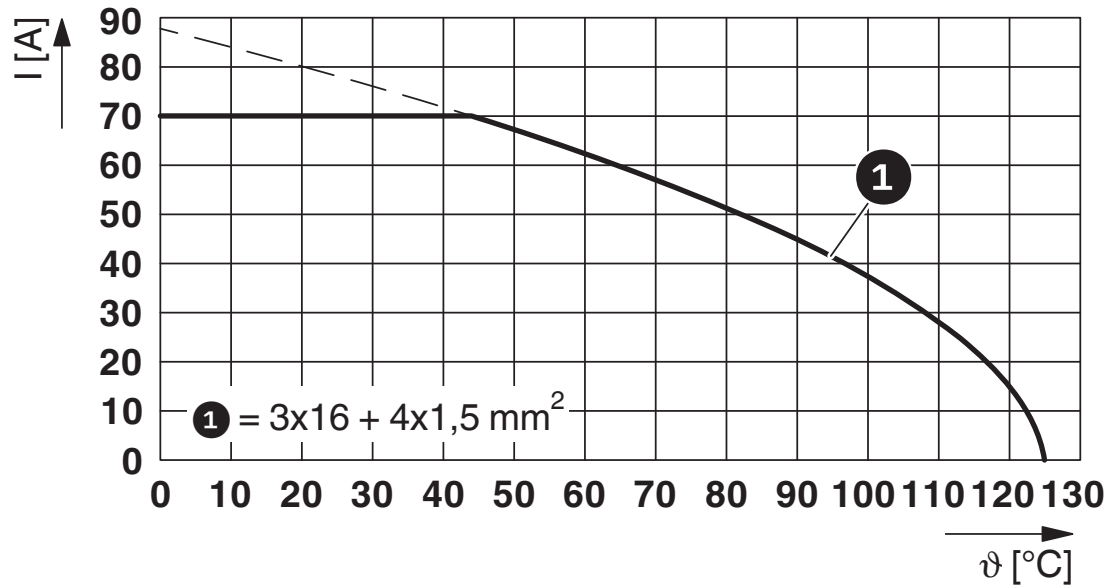
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Diagram



$I$  = current strength,  $T$  = ambient temperature

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1613530>

 <b>cUL Recognized</b> Approval ID: E153698-20150903				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
keine				
Power	600 V	40 A	-	-
Signal	600 V	20 A	-	-

 <b>UL Recognized</b> Approval ID: E153698-20150903				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
keine				
Power	600 V	65 A	-	-
Signal	600 V	30 A	-	-

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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), 6(c)

### 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	cbced90d-6f8a-4889-be7f-25d841154746

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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)