

# Cable connector - SM-5ES1N8A8S22

1613518

<https://www.phoenixcontact.com/pc/products/1613518>

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Cable connector, straight long, Screw locking, M40, number of positions: 2+3+PE, type of contact: Socket, shielded: yes, degree of protection: IP67, cable diameter range: 9 mm ... 14 mm, number of positions: 6, connection method: Crimp connection, series: SM

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## 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 pre-assembled cables on one or both sides

# Cable connector - SM-5ES1N8A8S22



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## Commercial Data

Item number	1613518
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to Order (non-returnable)
Product Key	ABRCCA
Catalog Page	Page 166 (C-2-2019)
GTIN	4046356400794
Weight per Piece (including packing)	438.8 g
Weight per Piece (excluding packing)	438.8 g
Customs tariff number	85366990
Country of origin	DE

## Technical Data

### Notes

Order information:	Order crimp contacts 2 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)
Number of positions	6
Connection profile	2+3+PE
Application	Power
Locking type	Screw locking
Series	SM
Shielded	yes
Coding	N
Thread type	M40

## Ambient conditions

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

## Connector

Type	straight long
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## Electrical properties

### Contact

Contact diameter	3.6 mm
Max. current	70 A
Nominal voltage $U_N$	630 V
Overvoltage category	III
Rated surge voltage	6 kV

### Contact

Contact diameter	2 mm
Max. current	30 A
Nominal voltage $U_N$	250 V
Overvoltage category	III
Rated surge voltage	4 kV

## Material specifications

Seal material	FPM
Housing material	Turned parts: copper zinc alloy (CuZn), aluminum (Al), die-cast parts: zinc (GD-Zn)
Insulator material	PA 6.6
Gasket and O-ring material	FPM
Housing material	Metal

## Connection data

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## Conductor connection

Connection method	Crimp connection
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## Cable / line

### Cable structure

External cable diameter	9 mm ... 14 mm
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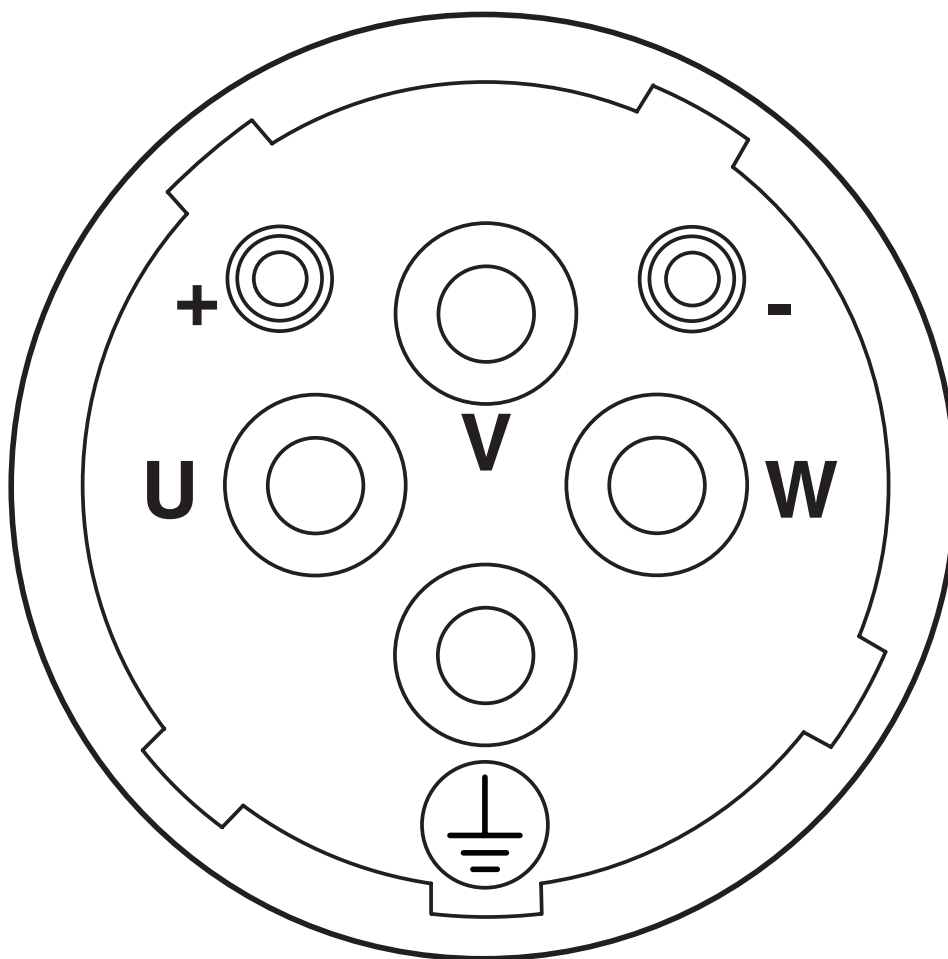
# Cable connector - SM-5ES1N8A8S22

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## Drawings

Schematic diagram



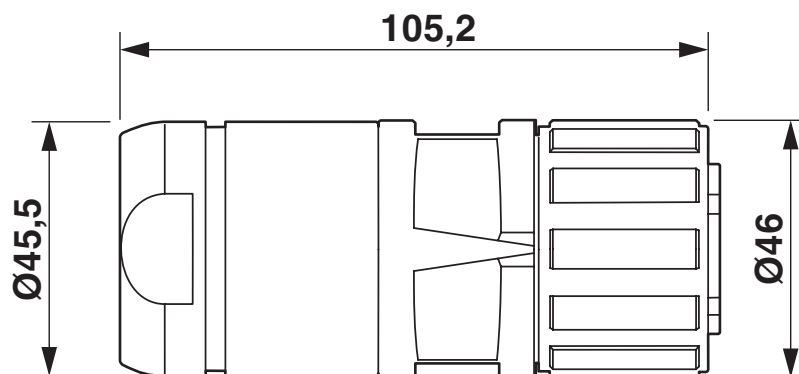
Connector pin assignment

# Cable connector - SM-5ES1N8A8S22

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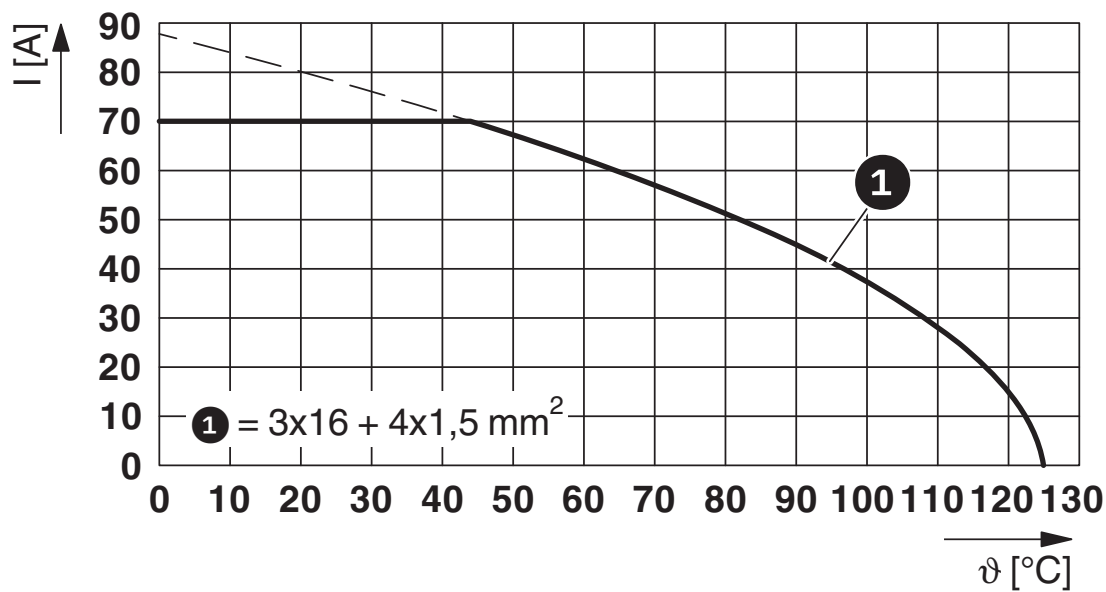
<https://www.phoenixcontact.com/pc/products/1613518>

Dimensional drawing



Dimensional drawing

Diagram



I = current strength, T = ambient temperature

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## Approvals



**EAC**

Approval ID: B.01687



**cUL Recognized**

Approval ID: E153698-20150903

	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
Power	600 V	40 A	-	-
Signal	600 V	20 A	-	-



**UL Recognized**

Approval ID: E153698-20150903

	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
Power	600 V	65 A	-	-
Signal	600 V	30 A	-	-

**cULus Recognized**

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## Classifications

### ECLASS

ECLASS-9.0	27440102
ECLASS-10.0.1	27440102
ECLASS-11.0	27440102

### ETIM

ETIM 8.0	EC002635
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### 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

### Crimp contact

Crimp contact - SM-36KS001 - 1605756

<https://www.phoenixcontact.com/pc/products/1605756>



Crimp contact, turned, Single contact, contact diameter: 3.6 mm, crimp range: 1 mm<sup>2</sup> ... 2.5 mm<sup>2</sup>

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### Crimp contact

Crimp contact - SM-36KS002 - 1605758

<https://www.phoenixcontact.com/pc/products/1605758>



Crimp contact, turned, Single contact, contact diameter: 3.6 mm, crimp range: 2.5 mm<sup>2</sup> ... 4 mm<sup>2</sup>

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## Crimp contact

Crimp contact - SM-36KS003 - 1605760

<https://www.phoenixcontact.com/pc/products/1605760>



Crimp contact, turned, Single contact, contact diameter: 3.6 mm, crimp range: 4 mm<sup>2</sup> ... 6 mm<sup>2</sup>

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## Crimp contact

Crimp contact - SM-36KS004 - 1605762

<https://www.phoenixcontact.com/pc/products/1605762>



Crimp contact, turned, Single contact, contact diameter: 3.6 mm, crimp range: 6 mm<sup>2</sup> ... 10 mm<sup>2</sup>

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## Crimp contact

Crimp contact - SF-7PS2000 - 1605636

<https://www.phoenixcontact.com/pc/products/1605636>



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

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## Crimp contact

Crimp contact - SF-7NS2000 - 1605631

<https://www.phoenixcontact.com/pc/products/1605631>



Crimp contact, turned, Single contact, contact diameter: 2 mm, crimp range: 0.75 mm<sup>2</sup> ... 1.5 mm<sup>2</sup>

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## Crimp contact

Crimp contact - SF-7QS2000 - 1605643

<https://www.phoenixcontact.com/pc/products/1605643>



Crimp contact, turned, Single contact, contact diameter: 2 mm, crimp range: 1 mm<sup>2</sup> ... 2.5 mm<sup>2</sup>

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## Crimp contact

Crimp contact - SF-7MS2000 - 1605628

<https://www.phoenixcontact.com/pc/products/1605628>



Crimp contact, turned, Single contact, contact diameter: 2 mm, crimp range: 4 mm<sup>2</sup> ... 4 mm<sup>2</sup>

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## Color-coding

Color-coding - SM-Z0025 - 1620558

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

Color-coding, color: green



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## Color-coding

Color-coding - SM-Z0026 - 1620559

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

Color-coding, color: orange



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## Color-coding

Color-coding - SM-Z0027 - 1620560

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

Color-coding, color: black



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## Protective cap

Protective cap - SM-Z0031 - 1624199

<https://www.phoenixcontact.com/pc/products/1624199>

Plastic protection cap for connectors with M40 SPEEDCON knurled nut



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## Metal protective cap

Metal protective cap - SM-Z0077 - 1627218

<https://www.phoenixcontact.com/pc/products/1627218>



Metal protection cap with steel wire and loop for M40 connectors with knurled nut for fastening to the cable

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## Square mounting flange with O-ring

Square mounting flange with O-ring - SM-Z0003 - 1607935

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



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

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## Square mounting flange

Square mounting flange - SM-Z0004 - 1607937

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



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

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