

# SPT-SMD 1,5/ 3-H-5,0 R32 - PCB terminal block



1824750

<https://www.phoenixcontact.com/us/products/1824750>

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PCB terminal block, nominal current: 17.5 A, rated voltage (III/2): 320 V, nominal cross section: 1.5 mm<sup>2</sup>, number of potentials: 3, number of rows: 1, number of positions per row: 3, product range: SPT 1,5/..-H-SMD, pitch: 5 mm, connection method: Push-in spring connection, mounting: SMD soldering, conductor/PCB connection direction: 0 °, color: black, Pin layout: Linear pad geometry, number of solder pins per potential: 1, type of packaging: 32 mm wide tape



## Your advantages

- Time saving push-in connection, tools not required
- Defined contact force ensures that contact remains stable over the long term
- Intuitive operation due to color-coded actuating push button
- Designed for integration into the SMT soldering process
- Quick and convenient testing using integrated test option
- Operation and conductor connection from one direction enable integration into front of device

## Commercial data

Item number	1824750
Packing unit	300 pc
Minimum order quantity	300 pc
Sales key	AA12
Product key	AALDAA
Catalog page	Page 9 (NTK-2014)
GTIN	4046356816953
Weight per piece (including packing)	3.002 g
Weight per piece (excluding packing)	3 g
Customs tariff number	85369010
Country of origin	PL

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## Technical data

### Product properties

Product type	Printed circuit board terminal
Product family	SPT 1,5/..-H-SMD
Product line	COMBICON Terminals S
Number of positions	3
Pitch	5 mm
Number of connections	3
Number of rows	1
Number of potentials	3
Pin layout	Linear pad geometry
Solder pins per potential	1

### Electrical properties

Nominal current $I_N$	17.5 A
Nominal voltage $U_N$	320 V
Rated voltage (III/3)	250 V
Rated surge voltage (III/3)	4 kV
Rated voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV
Rated voltage (II/2)	500 V
Rated surge voltage (II/2)	4 kV

### Connection data

#### Connection technology

Nominal cross section	1.5 mm <sup>2</sup>
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#### Conductor connection

Connection method	Push-in spring connection
Conductor cross section rigid	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 16
Conductor cross section flexible, with ferrule without plastic sleeve	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.2 mm <sup>2</sup> ... 0.75 mm <sup>2</sup>
Stripping length	8 mm

### Mounting

Mounting type	SMD soldering
Pin layout	Linear pad geometry

#### Processing notes

Process	Reflow soldering
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Moisture Sensitive Level	MSL 1
Classification temperature $T_c$	260 °C
Solder cycles in the reflow	3

## Material specifications

### Material data - contact

Note	WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/JEDEC JESD 201
Contact material	Cu alloy
Surface characteristics	hot-dip tin-plated
Metal surface terminal point (top layer)	Tin (4 - 8 $\mu\text{m}$ Sn)
Metal surface soldering area (top layer)	Tin (4 - 8 $\mu\text{m}$ Sn)

### Material data - housing

Color (Housing)	black (9005)
Insulating material	LCP
Insulating material group	IIIa
CTI according to IEC 60112	175
Flammability rating according to UL 94	V0

### Material data – actuating element

Color (Actuating element)	white (9010)
Insulating material	PA GF
Insulating material group	I
CTI according to IEC 60112	600
Flammability rating according to UL 94	V0

## Notes

Notes on operation	The solder anchors on the outer poles reduce the mechanical strain on the SMD soldering spots.
Assembly note	This item is not suitable for PCB cleaning with liquids.

## Dimensions

Dimensional drawing	
Pitch	5 mm
Width [w]	14 mm
Height [h]	9.7 mm
Length [l]	13.6 mm
Installed height	7.7 mm
Pin dimensions	0.7 x 0.3 mm

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## PCB design

Pad geometry	1.6 x 4 mm
Pin spacing	7 mm
Hole diameter	1.1 mm

## Mechanical tests

### Connection test

Specification	IEC 60998-2-2:2002-12
Result	Test passed

### Test for conductor damage and slackening

Specification	IEC 60998-2-2:2002-12
Result	Test passed

### Pull-out test

Specification	IEC 60998-2-2:2002-12
Conductor cross section/conductor type/tractive force setpoint/actual value	0.2 mm <sup>2</sup> / solid / > 10 N
	0.2 mm <sup>2</sup> / flexible / > 10 N
	1.5 mm <sup>2</sup> / solid / > 40 N
	1.5 mm <sup>2</sup> / flexible / > 40 N

### Flexion test

Specification	IEC 60998-2-2:2002-12
Result	Test passed

## Electrical tests

### Temperature-rise test

Specification	IEC 60947-7-4:2019-01
Requirement temperature-rise test	The sum of ambient temperature and temperature rise of the PCB terminal block shall not exceed the upper limiting temperature.

### Insulation resistance

Specification	IEC 60998-1:2002-12
Insulation resistance, neighboring positions	> 5 MΩ

### Air clearances and creepage distances |

Specification	IEC 60664-1:2007-04
Insulating material group	IIIa
Comparative tracking index (IEC 60112)	CTI 175
Rated insulation voltage (III/3)	250 V
Rated surge voltage (III/3)	4 kV
minimum clearance value - non-homogenous field (III/3)	3 mm
minimum creepage distance (III/3)	4 mm
Rated insulation voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV

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minimum clearance value - non-homogenous field (III/2)	3 mm
minimum creepage distance (III/2)	3.2 mm
Rated insulation voltage (II/2)	500 V
Rated surge voltage (II/2)	4 kV
minimum clearance value - non-homogenous field (II/2)	3 mm
minimum creepage distance (II/2)	5 mm

## Environmental and real-life conditions

### Vibration test

Specification	IEC 60068-2-6:2007-12
Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 Hz ... 60.1 Hz)
Acceleration	5g (60.1 Hz ... 150 Hz)
Test duration per axis	2.5 h

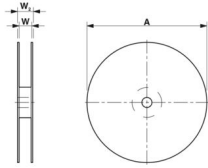
### Glow-wire test

Specification	IEC 60998-1:2002-12
Temperature	850 °C
Time of exposure	5 s

### Ambient conditions

Ambient temperature (operation)	-40 °C ... 105 °C (Depending on the current carrying capacity/derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

## Packaging specifications

Dimensional drawing	
Type of packaging	32 mm wide tape
[W] tape width	32 mm
[W2] coil overall dimension	38.4 mm
[A] coil diameter	330 mm
Outer packaging type	Transparent-Bag
ESD level	(D) electrostatically conductive
Specification	DIN EN 61340-5-1 (VDE 0300-5-1): 2008-07

# SPT-SMD 1,5/ 3-H-5,0 R32 - PCB terminal block

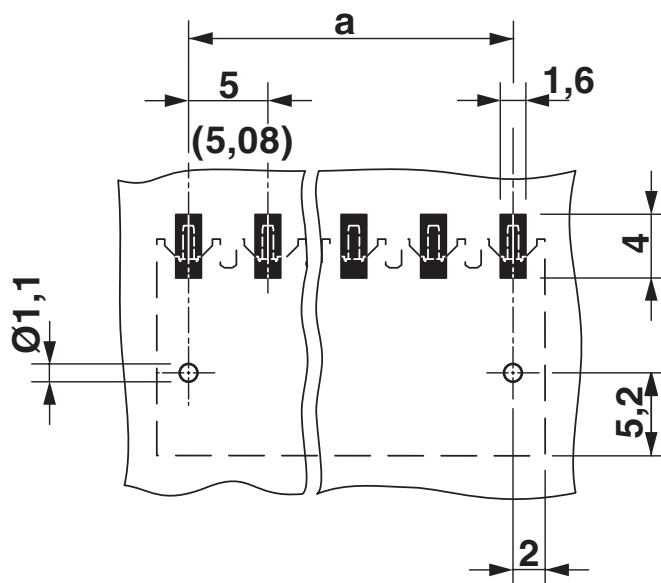


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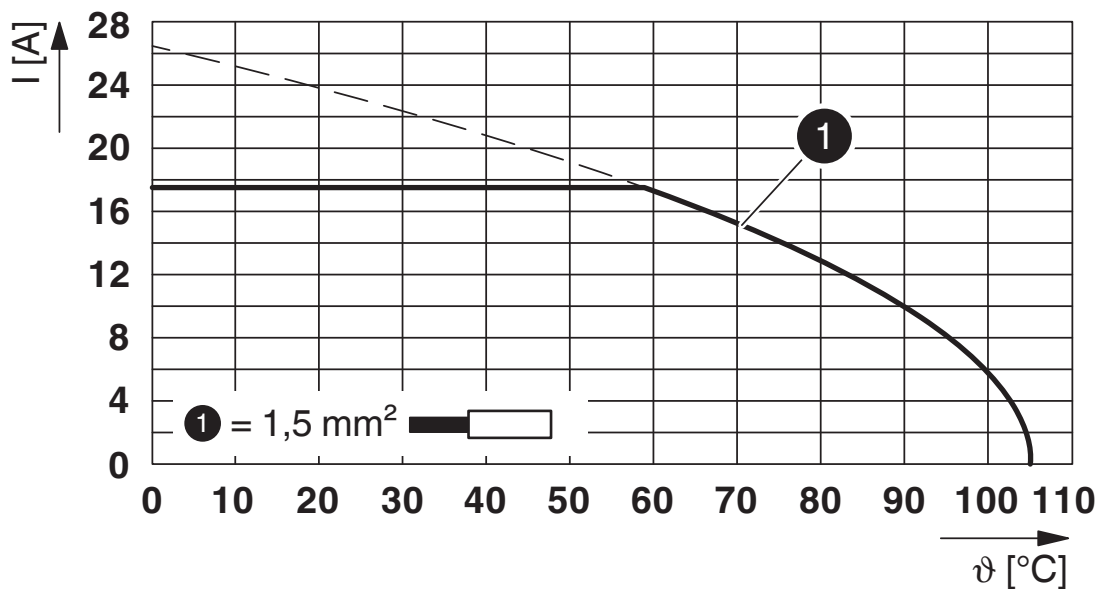
<https://www.phoenixcontact.com/us/products/1824750>

## Drawings

Drilling plan/solder pad geometry



Diagram



Type: SPT-SMD 1,5/...-H-5,0 R...

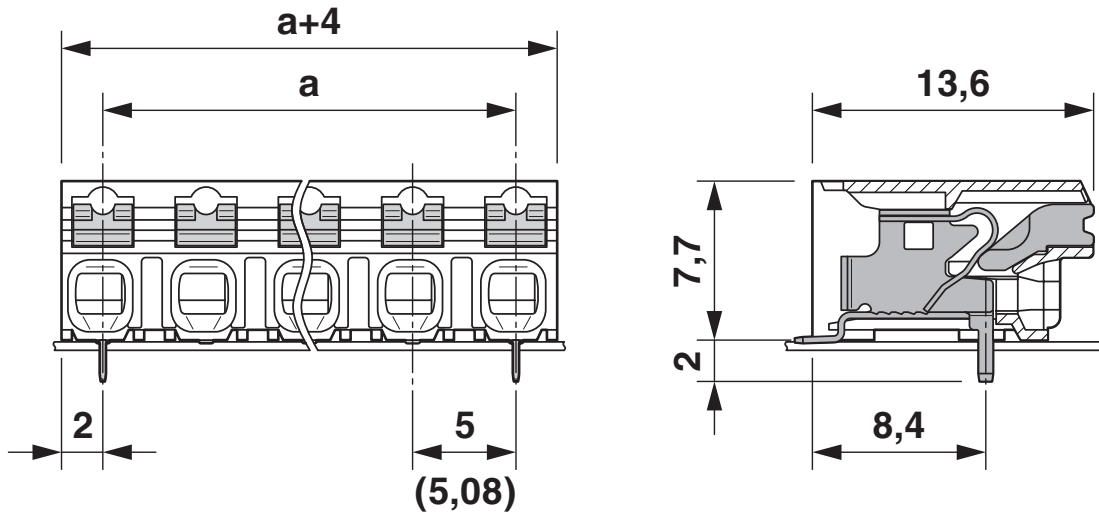
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Dimensional drawing



# SPT-SMD 1,5/ 3-H-5,0 R32 - PCB terminal block





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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1824750>

 <b>cULus Recognized</b> Approval ID: E60425-20061129				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
Use group B	300 V	10 A	24 - 16	-
Use group D	300 V	10 A	24 - 16	-

 <b>VDE Zeichengenehmigung</b> Approval ID: 40046113				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
	320 V	17.5 A	-	0.2 - 1.5

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## Classifications

### ECLASS

ECLASS-11.0	27460101
ECLASS-12.0	27460101
ECLASS-13.0	27460101

### ETIM

ETIM 9.0	EC002643
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### UNSPSC

UNSPSC 21.0	39121400
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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### China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

### EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
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## Accessories

### SZS 0,4X2,5 VDE - Screwdriver

1205037

<https://www.phoenixcontact.com/us/products/1205037>



Screwdriver, slot-headed, VDE insulated, size: 0.4 x 2.5 x 80 mm, 2-component grip, with non-slip grip

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### A 0,5 - 8 - Ferrule

3202481

<https://www.phoenixcontact.com/us/products/3202481>



Ferrule, color: silver

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## A 0,75- 8 - Ferrule

3202504

<https://www.phoenixcontact.com/us/products/3202504>

Ferrule, color: silver



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## A 1 - 8 - Ferrule

3202517

<https://www.phoenixcontact.com/us/products/3202517>

Ferrule, sleeve length: 8 mm, color: silver



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## AI 0,25- 8 YE - Ferrule

3203037

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Ferrule, sleeve length: 8 mm, color: yellow

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## AI 0,5 - 8 WH - Ferrule

3200014

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Ferrule, sleeve length: 8 mm, color: white

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## AI 0,5 - 8 WH -1000 - Ferrule

3200881

<https://www.phoenixcontact.com/us/products/3200881>



Ferrule, sleeve length: 8 mm, color: white

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## AI 0,75- 8 GY - Ferrule

3200519

<https://www.phoenixcontact.com/us/products/3200519>



Ferrule, sleeve length: 8 mm, color: gray

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## AI 0,75- 8 GY -1000 - Ferrule

3200894

<https://www.phoenixcontact.com/us/products/3200894>

Ferrule, sleeve length: 8 mm, color: gray



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## CRIMPFOX 6 - Crimping pliers

1212034

<https://www.phoenixcontact.com/us/products/1212034>



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm<sup>2</sup> ... 6.0 mm<sup>2</sup>, lateral entry, trapezoidal crimp

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