

# SPT-THR 2,5/ 8-H-5,0 P20 R72 - PCB terminal block



1135287

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Printed circuit board terminal, nominal current: 32 A, rated voltage (III/2): 400 V, nominal cross section: 4 mm<sup>2</sup>, number of potentials: 8, number of rows: 1, number of positions per row: 8, product range: SPT 2,5/..-H-THR, pitch: 5 mm, connection method: Push-in spring connection, mounting: THR soldering / wave soldering, conductor/PCB connection direction: 0 °, color: black, Pin layout: Linear pinning, Solder pin [P]: 2 mm, number of solder pins per potential: 2, type of packaging: 72 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
- Operation and conductor connection from one direction enable integration into front of device
- Designed for integration into the SMT soldering process

## Commercial data

Item number	1135287
Packing unit	125 pc
Minimum order quantity	125 pc
Note	Made to order (non-returnable)
Sales key	AA13
Product key	AAMCAA
GTIN	4063151068769
Weight per piece (including packing)	17.8 g
Weight per piece (excluding packing)	12.39 g
Customs tariff number	85369010
Country of origin	PL

## Technical data

### Product properties

Product type	Printed circuit board terminal
Product family	SPT 2,5/..-H-THR
Product line	COMBICON Terminals M
Number of positions	8
Pitch	5 mm
Number of connections	8
Number of rows	1
Number of potentials	8
Pin layout	Linear pinning
Solder pins per potential	2

### Electrical properties

#### Properties

Nominal current $I_N$	32 A
Nominal voltage $U_N$	400 V
Rated voltage (III/3)	320 V
Rated surge voltage (III/3)	4 kV
Rated voltage (III/2)	400 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	4 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> ... 4 mm <sup>2</sup> (Conductor connection with open terminal point)
	0.5 mm <sup>2</sup> ... 4 mm <sup>2</sup> (Push-in connection)
Conductor cross-section flexible	0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Conductor cross-section AWG	24 ... 12
Conductor cross-section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm <sup>2</sup> ... 0.5 mm <sup>2</sup>
Stripping length	10 mm

### Mounting

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Mounting type	THR soldering / wave soldering
Pin layout	Linear pinning

## Processing notes

Process	Reflow/wave soldering
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 µm Sn)
Metal surface soldering area (top layer)	Tin (4 - 8 µm 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
Glow wire flammability index GWFI according to EN 60695-2-12	850
Glow wire ignition temperature GWIT according to EN 60695-2-13	775
Temperature for the ball pressure test according to EN 60695-10-2	200 °C

### 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

Assembly note	This item is not suitable for PCB cleaning with liquids.
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## Dimensions

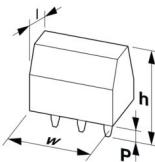
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## Dimensional drawing



Pitch

5 mm

Width [w]

40.8 mm

Height [h]

14.8 mm

Length [l]

19.15 mm

Installed height

12.8 mm

Solder pin length [P]

2 mm

## PCB design

Hole diameter

1.2 mm

## Mechanical tests

### Test for conductor damage and slackening

Specification	IEC 60999-1:1999-11
Result	Test passed

### Pull-out test

Specification	IEC 60999-1:1999-11
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
	4 mm <sup>2</sup> / solid / > 60 N
	4 mm <sup>2</sup> / flexible / > 60 N
	0.5 mm <sup>2</sup> / solid / > 20 N

## 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.

### Short-time withstand current

Specification	IEC 60947-7-4:2019-01
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### Insulation resistance

Specification	IEC 60512-3-1:2002-02
Insulation resistance, neighboring positions	> 5 MΩ

### Air clearances and creepage distances |

Specification	IEC 60947-7-4:2019-01
Insulating material group	IIIa

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Comparative tracking index (IEC 60112)	CTI 175
Rated insulation voltage (III/3)	320 V
Rated surge voltage (III/3)	4 kV
minimum clearance value - non-homogenous field (III/3)	3 mm
minimum creepage distance (III/3)	5 mm
Rated insulation voltage (III/2)	400 V
Rated surge voltage (III/2)	4 kV
minimum clearance value - non-homogenous field (III/2)	3 mm
minimum creepage distance (III/2)	4 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	50 m/s <sup>2</sup> (60.1 Hz ... 150 Hz)
Test duration per axis	2.5 h
Test directions	X-, Y- and Z-axis

### Glow-wire test

Specification	IEC 60695-2-10:2013-04
Temperature	850 °C
Time of exposure	5 s

### Aging

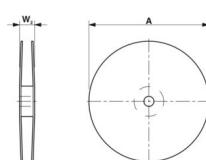
Specification	IEC 60947-7-4:2019-01
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### Ambient conditions

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



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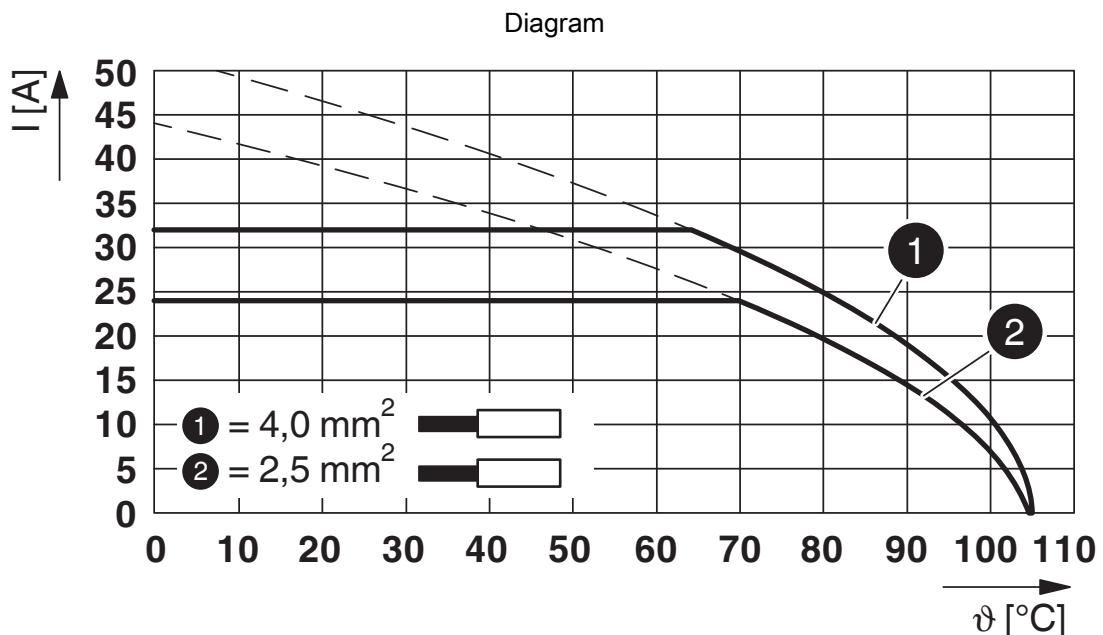
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Type of packaging	72 mm wide tape
[W] tape width	72 mm
[W2] coil overall dimension	≤ 78.4 mm
[A] coil diameter	≤ 330 mm
Outer packaging type	Transparent-Bag

## Drawings



Type: SPT-THR 2,5/...-H-5,0 P...

## Approvals

ⓘ To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1135287>

VDE approval of drawings				
	Approval ID: 40046113			
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
keine	400 V	32 A	-	0.2 - 4

cULus Recognized				
	Approval ID: E60425-20061129			
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
B				
Standard	300 V	20 A	24 - 12	-
F				
USR application only	300 V	20 A	24 - 12	-
D				
Alternative 1	300 V	10 A	24 - 12	-

## Classifications

### ECLASS

ECLASS-13.0	27460101
ECLASS-15.0	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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