

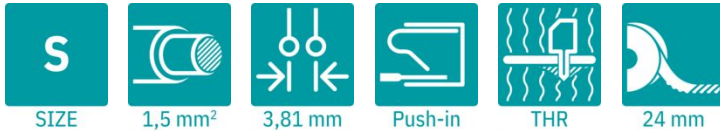
# SPT-THR 1,5/ 3-V-3,81 P20 R24 - PCB terminal block



1823311

<https://www.phoenixcontact.com/us/products/1823311>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



PCB terminal block, nominal current: 17.5 A, rated voltage (III/2): 160 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/...-V-THR, pitch: 3.81 mm, connection method: Push-in spring connection, mounting: THR soldering / wave soldering, conductor/PCB connection direction: 90 °, color: black, Pin layout: Linear pinning, Solder pin [P]: 2 mm, number of solder pins per potential: 2, type of packaging: 24 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
- Operation and conductor connection from one direction enable integration into front of device
- Quick and convenient testing using integrated test option
- Two solder pins reduce the mechanical strain on the soldering spots

## Commercial data

Item number	1823311
Packing unit	200 pc
Minimum order quantity	200 pc
Note	Made to order (non-returnable)
Sales key	AA12
Product key	AALCCH
GTIN	4046356815130
Weight per piece (including packing)	3.4 g
Weight per piece (excluding packing)	3.4 g
Customs tariff number	85369010
Country of origin	PL

1823311

<https://www.phoenixcontact.com/us/products/1823311>

## Technical data

### Product properties

Product type	PCB terminal block
Product family	SPT 1,5/...-V-THR
Product line	COMBICON Terminals S
Number of positions	3
Pitch	3.81 mm
Number of connections	3
Number of rows	1
Number of potentials	3
Pin layout	Linear pinning
Solder pins per potential	2

### Electrical properties

#### Properties

Nominal current $I_N$	17.5 A
Nominal voltage $U_N$	160 V
Rated voltage (III/3)	160 V
Rated surge voltage (III/3)	2.5 kV
Rated voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
Rated voltage (II/2)	320 V
Rated surge voltage (II/2)	2.5 kV

### Connection data

#### Connection technology

Nominal cross section	1.5 mm <sup>2</sup>
-----------------------	---------------------

#### 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	THR soldering / wave soldering
Pin layout	Linear pinning

#### Processing notes

# SPT-THR 1,5/ 3-V-3,81 P20 R24 - PCB terminal block



1823311

<https://www.phoenixcontact.com/us/products/1823311>

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 $\mu$ m - 8 $\mu$ m Sn)
Metal surface soldering area (top layer)	Tin (4 $\mu$ m - 8 $\mu$ 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

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

## Dimensions

Dimensional drawing	
Pitch	3.81 mm
Width [w]	11.62 mm
Height [h]	15.6 mm
Length [l]	7.7 mm
Installed height	13.6 mm
Solder pin length [P]	2 mm
Pin dimensions	0.7 x 0.3 mm

# SPT-THR 1,5/ 3-V-3,81 P20 R24 - PCB terminal block



1823311

<https://www.phoenixcontact.com/us/products/1823311>

## PCB design

Pin spacing	5.5 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 slacking

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 60947-7-4:2013-08
Insulating material group	IIIa
Comparative tracking index (IEC 60112)	CTI 175
Rated insulation voltage (III/3)	160 V
Rated surge voltage (III/3)	2.5 kV
minimum clearance value - non-homogenous field (III/3)	1.5 mm
minimum creepage distance (III/3)	2.5 mm
Rated insulation voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
minimum clearance value - non-homogenous field (III/2)	1.5 mm

# SPT-THR 1,5/ 3-V-3,81 P20 R24 - PCB terminal block



1823311

<https://www.phoenixcontact.com/us/products/1823311>

minimum creepage distance (III/2)	1.6 mm
Rated insulation voltage (II/2)	320 V
Rated surge voltage (II/2)	2.5 kV
minimum clearance value - non-homogenous field (II/2)	1.5 mm
minimum creepage distance (II/2)	3.2 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
Test directions	X-, Y- and Z-axis

### Glow-wire test

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

### Ambient conditions

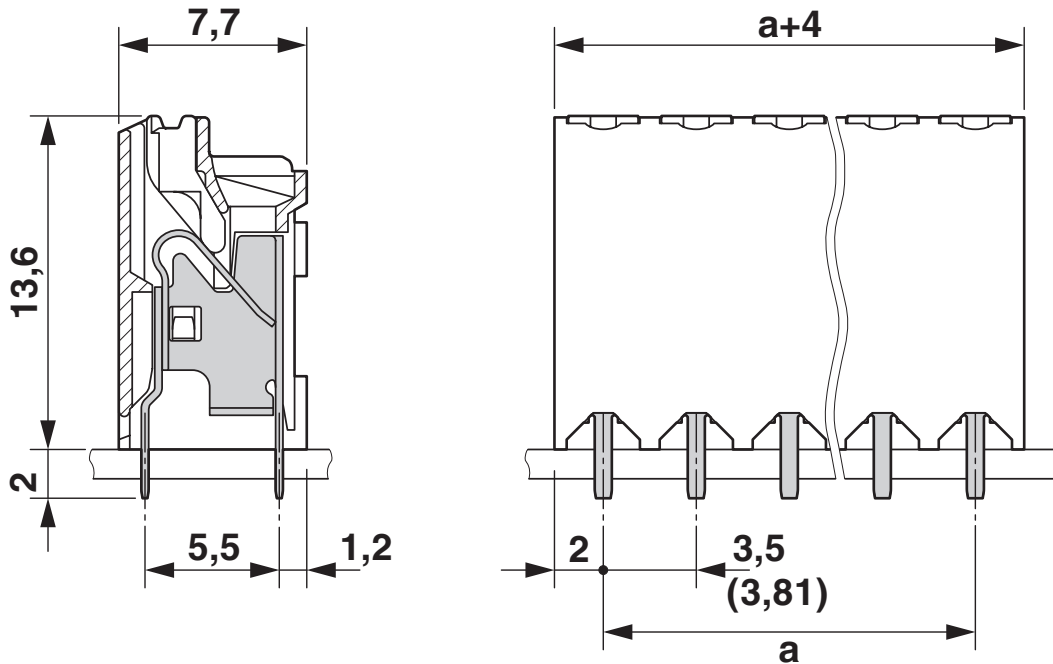
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C
Ambient temperature (operation)	-40 °C ... 105 °C (Depending on the current carrying capacity/derating curve)

## Packaging specifications

Dimensional drawing	
Type of packaging	24 mm wide tape
[W] tape width	24 mm
[W2] coil overall dimension	≤ 30.4 mm
[A] coil diameter	≤ 330 mm
Outer packaging type	Transparent-Bag

Drawings

Dimensional drawing



Diagram



Type: SPT-THR 1,5/...-V-3,81 P...

# SPT-THR 1,5/ 3-V-3,81 P20 R24 - PCB terminal block



1823311

<https://www.phoenixcontact.com/us/products/1823311>



# SPT-THR 1,5/ 3-V-3,81 P20 R24 - PCB terminal block



1823311

<https://www.phoenixcontact.com/us/products/1823311>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1823311>

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

 <b>VDE approval of drawings</b> Approval ID: 40046113				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
keine	160 V	17.5 A	-	0.2 - 1.5

# SPT-THR 1,5/ 3-V-3,81 P20 R24 - PCB terminal block



1823311

<https://www.phoenixcontact.com/us/products/1823311>

## Classifications

### ECLASS

ECLASS-13.0	27460101
ECLASS-15.0	27460101

### ETIM

ETIM 10.0	EC002643
-----------	----------

### UNSPSC

UNSPSC 21.0	39121400
-------------	----------

# SPT-THR 1,5/ 3-V-3,81 P20 R24 - PCB terminal block



1823311

<https://www.phoenixcontact.com/us/products/1823311>

## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
---	--------------------

### 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%
-------------------------------------	----------------------------

Phoenix Contact 2026 © - all rights reserved  
<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)