

PCB terminal block - SPT-THR 1,5/ 2-H-3,81 P20 R24



1823748

<https://www.phoenixcontact.com/pc/products/1823748>

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: 13.5 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm², number of potentials: 2, number of rows: 1, number of positions per row: 2, product range: SPT 1,5/..-H-THR, pitch: 3.81 mm, connection method: Push-in spring connection, mounting: THR 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: 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 use through colour coded actuation lever
- 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
- Two solder pins reduce the mechanical strain on the soldering spots

Commercial Data

Item number	1823748
Packing unit	250 pc
Minimum order quantity	250 pc
Note	Made to Order (non-returnable)
Product Key	AALCCD
Catalog Page	Page 11 (NTK-2014)
GTIN	4046356814393
Weight per Piece (including packing)	2.5 g
Weight per Piece (excluding packing)	2.5 g
Customs tariff number	85369010
Country of origin	PL

1823748

<https://www.phoenixcontact.com/pc/products/1823748>

Technical Data

Product properties

Product line	COMBICON Terminals S
Product type	Printed circuit board terminal
Number of positions	2
Pitch	3.81 mm
Number of connections	2
Number of rows	1
Number of potentials	2
Pin layout	Linear pinning
Solder pins per potential	2

Electrical properties

Nominal current I_N	13.5 A
Nominal voltage U_N	160 V
Degree of pollution	3
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

Connection data

Connection technology

Nominal cross section	1.5 mm ²
-----------------------	---------------------

Conductor connection

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

Mounting

Mounting type	THR soldering
Pin layout	Linear pinning

Processing notes

Process	Reflow/wave soldering
Moisture Sensitive Level	MSL 1
Classification temperature T_c	260 °C

PCB terminal block - SPT-THR 1,5/ 2-H-3,81 P20 R24



1823748

<https://www.phoenixcontact.com/pc/products/1823748>

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

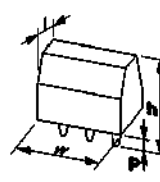
Material data – actuating element

Color ()	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 instruction:	This item is not suitable for PCB cleaning with liquids.
-----------------------	--

Dimensions

Dimensional drawing	
Pitch	3.81 mm
Width [w]	7.81 mm
Height [h]	9.7 mm
Length [l]	13.6 mm
Installed height	7.7 mm
Solder pin length [P]	2 mm

PCB design

Pin spacing	7 mm
-------------	------

Mechanical tests

PCB terminal block - SPT-THR 1,5/ 2-H-3,81 P20 R24



1823748

<https://www.phoenixcontact.com/pc/products/1823748>

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 ² / solid / > 10 N
	0.2 mm ² / flexible / > 10 N
	1.5 mm ² / solid / > 40 N
	1.5 mm ² / flexible / > 40 N

Flexion test

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

Electrical tests

Temperature-rise test

Specification	IEC 60998-2-1:2002-12
Requirement temperature-rise test	Increase in temperature ≤ 45 K

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
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

1823748

<https://www.phoenixcontact.com/pc/products/1823748>

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)
Sweep speed	5g (60.1 Hz ... 150 Hz)
Test duration per axis	2.5 h

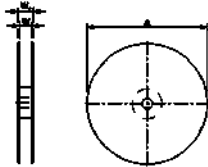
Glow-wire test

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

Ambient conditions

Ambient temperature (operation)	-40 °C ... 100 °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

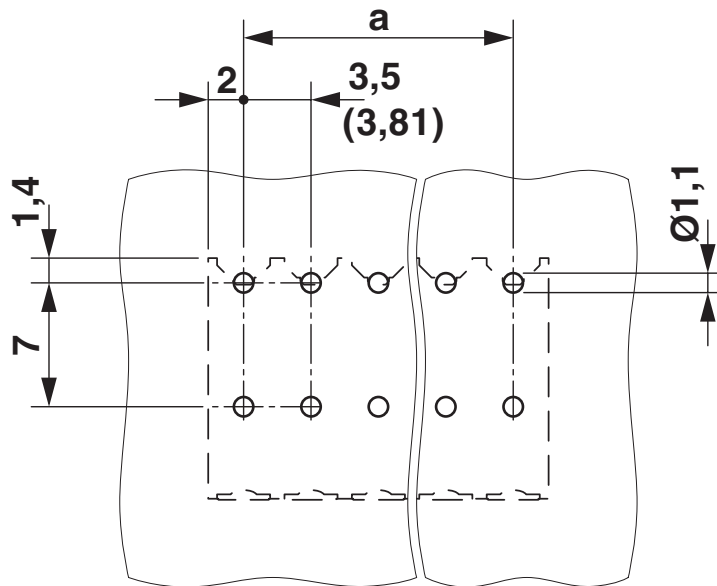
Dimensional drawing	
Type of packaging	24 mm wide tape
[W] tape width	24 mm
[W2] coil overall dimension	30.4 mm
[A] coil diameter	330 mm
Outer packaging type	Transparent-Bag
ESD level	(D) electrostatically conductive
Specification	DIN EN 61340-5-1 (VDE 0300-5-1): 2008-07

1823748

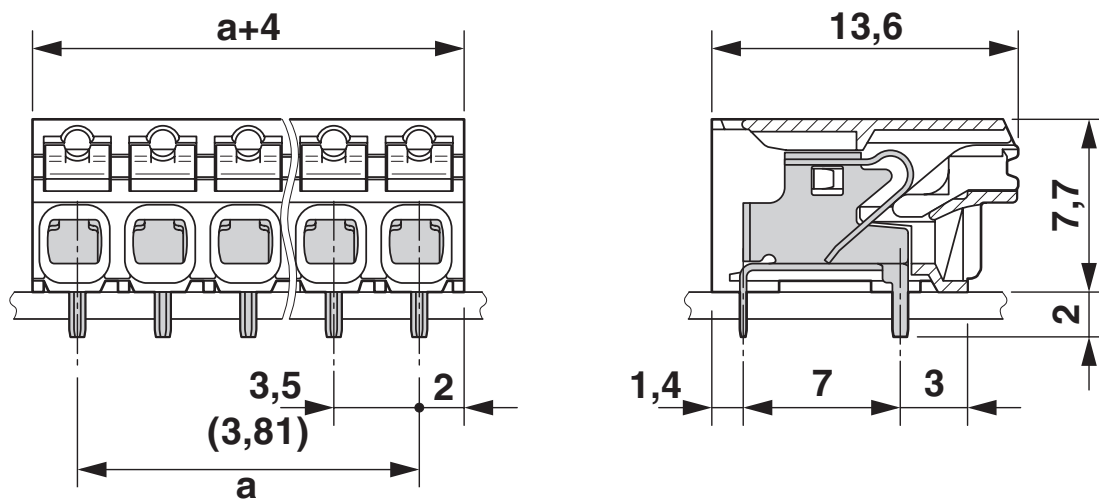
<https://www.phoenixcontact.com/pc/products/1823748>

Drawings

Drilling plan/solder pad geometry

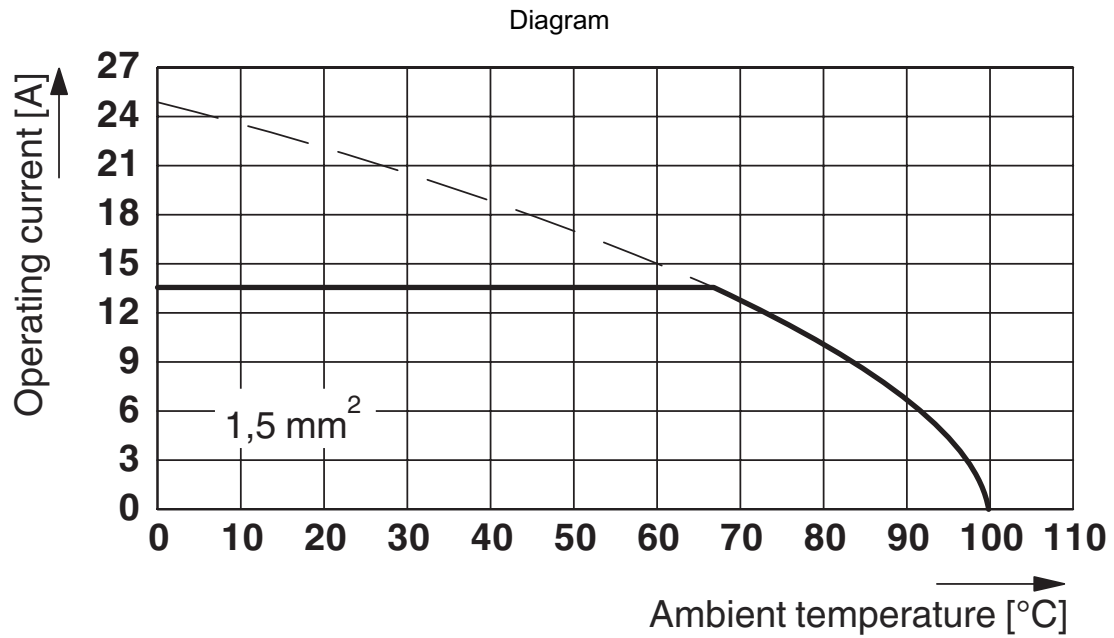


Dimensional drawing



1823748

<https://www.phoenixcontact.com/pc/products/1823748>



Type: SPT-THR 1,5/ 5-H-3,5(3,81) P26

Tested according to DIN EN 60512-5-2:2003-01

Reduction factor = 1

Number of positions: 5

PCB terminal block - SPT-THR 1,5/ 2-H-3,81 P20 R24



1823748

<https://www.phoenixcontact.com/pc/products/1823748>

Approvals



EAC

Approval ID: B.01687



cULus Recognized

Approval ID: E60425-20061129

	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
Use group B				
	300 V	10 A	24 - 16	-
Use group D				
	300 V	10 A	24 - 16	-



VDE Zeichengenehmigung

Approval ID: 40046113

	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	160 V	13.5 A	-	0.2 - 1.5

PCB terminal block - SPT-THR 1,5/ 2-H-3,81 P20 R24



1823748

<https://www.phoenixcontact.com/pc/products/1823748>

Classifications

ECLASS

ECLASS-9.0	27440401
ECLASS-10.0.1	27440401
ECLASS-11.0	27460101

ETIM

ETIM 8.0	EC002643
----------	----------

UNSPSC

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

PCB terminal block - SPT-THR 1,5/ 2-H-3,81 P20 R24



1823748

<https://www.phoenixcontact.com/pc/products/1823748>

Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

PCB terminal block - SPT-THR 1,5/ 2-H-3,81 P20 R24



1823748

<https://www.phoenixcontact.com/pc/products/1823748>

Accessories

Screwdriver

Screwdriver - SZS 0,4X2,5 VDE - 1205037

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



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

Ferrule

Ferrule - A 0,5 - 8 - 3202481

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



Ferrule, length: 8 mm, color: silver

PCB terminal block - SPT-THR 1,5/ 2-H-3,81 P20 R24



1823748

<https://www.phoenixcontact.com/pc/products/1823748>

Ferrule

Ferrule - A 0,75- 8 - 3202504

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



Ferrule, length: 8 mm, color: silver

Ferrule

Ferrule - A 1 - 8 - 3202517

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



Ferrule, length: 8 mm, color: silver

PCB terminal block - SPT-THR 1,5/ 2-H-3,81 P20 R24



1823748

<https://www.phoenixcontact.com/pc/products/1823748>

Ferrule

Ferrule - AI 0,25- 8 YE - 3203037

<https://www.phoenixcontact.com/pc/products/3203037>



Ferrule, sleeve length: 8 mm, length: 12.5 mm, color: yellow

Ferrule

Ferrule - AI 0,5 - 8 WH - 3200014

<https://www.phoenixcontact.com/pc/products/3200014>



Ferrule, sleeve length: 8 mm, length: 14 mm, color: white

PCB terminal block - SPT-THR 1,5/ 2-H-3,81 P20 R24



1823748

<https://www.phoenixcontact.com/pc/products/1823748>

Ferrule

Ferrule - AI 0,5 - 8 WH -1000 - 3200881

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



Ferrule, sleeve length: 8 mm, length: 14 mm, color: white

Ferrule

Ferrule - AI 0,75- 8 GY - 3200519

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



Ferrule, sleeve length: 8 mm, length: 14 mm, color: gray

PCB terminal block - SPT-THR 1,5/ 2-H-3,81 P20 R24

1823748

<https://www.phoenixcontact.com/pc/products/1823748>

Ferrule

Ferrule - Al 0,75- 8 GY -1000 - 3200894

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



Ferrule, sleeve length: 8 mm, length: 14 mm, color: gray

Crimping pliers

Crimping pliers - CRIMPFOX 6 - 1212034

<https://www.phoenixcontact.com/pc/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 mm² ... 6.0 mm², lateral entry, trapezoidal crimp

PCB terminal block - SPT-THR 1,5/ 2-H-3,81 P20 R24



1823748

<https://www.phoenixcontact.com/pc/products/1823748>

PCB terminal block

PCB terminal block - SAMPLE SPT-THR 1,5/ 2-H-3,81 - 1843265

<https://www.phoenixcontact.com/pc/products/1843265>



PCB terminal block, nominal current: 13.5 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm², number of potentials: 2, number of rows: 1, number of positions per row: 2, product range: SPT 1,5/..-H-THR, pitch: 3.81 mm, connection method: Push-in spring connection, mounting: THR soldering, conductor/PCB connection direction: 0 °, color: black, Pin layout: Linear double pinning, Solder pin [P]: 2 mm, number of solder pins per potential: 2, type of packaging: packed in cardboard. SAMPLE set with 5 items in belt section. When used as part of soldering process, please use items without SAMPLE marking

Phoenix Contact 2023 © - all rights reserved

<https://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG

Flachsmarktstraße 8

D-32825 Blomberg

+49 (0) 5235-3 00

info@phoenixcontact.com