

PCB terminal block - SPT 1,5/ 3-V-3,5



1990863

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PCB terminal block, nominal current: 17.5 A, rated voltage (III/2): 200 V, nominal cross section: 1.5 mm², number of potentials: 3, number of rows: 1, number of positions per row: 3, product range: SPT 1,5/-V, pitch: 3.5 mm, connection method: Push-in spring connection, mounting: Wave soldering, conductor/PCB connection direction: 90 °, color: green, Pin layout: Linear pinning, Solder pin [P]: 2.5 mm, number of solder pins per potential: 2, type of packaging: packed in cardboard

Your advantages

- Time saving push-in connection, tools not required
- Defined contact force ensures that contact remains stable over the long term
- Clamping space opened by means of fixed screwdriver enables convenient conductor connection
- 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	1990863
Packing unit	1 pc
Minimum order quantity	240 pc
Note	Made to Order (non-returnable)
Sales Key	A01
Product Key	AALBFC
Catalog Page	Page 141 (C-1-2013)
GTIN	4046356104494
Weight per Piece (including packing)	2.943 g
Weight per Piece (excluding packing)	2.7 g
Customs tariff number	85369010
Country of origin	PL

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Technical Data

Product properties

Product line	COMBICON Terminals S
Product type	Printed circuit board terminal
Number of positions	3
Pitch	3.5 mm
Number of connections	3
Number of rows	1
Number of potentials	3
Pin layout	Linear pinning
Solder pins per potential	2

Electrical properties

Nominal current I_N	17.5 A
Nominal voltage U_N	200 V
Degree of pollution	3
Rated voltage (III/3)	160 V
Rated surge voltage (III/3)	2.5 kV
Rated voltage (III/2)	200 V
Rated surge voltage (III/2)	2.5 kV

Connection data

Connection technology

Nominal cross section	1.5 mm ²
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Conductor connection

Connection method	Push-in spring connection
Conductor cross section solid	0.2 mm ² ... 1.5 mm ² (Conductor connection with open terminal point)
	0.34 mm ² ... 1.5 mm ² (Push-in connection)
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	0.25 mm ² ... 1.5 mm ² (Stripping length 8 mm)
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 0.75 mm ² (Stripping length 8 mm)
Stripping length	10 mm

Mounting

Mounting type	Wave soldering
Pin layout	Linear pinning

Material specifications

Material data - contact

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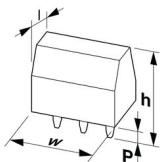
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Note	WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/JEDEC JESD 201
Contact material	Cu alloy
Surface characteristics	hot-dip tin-plated
Metal surface terminal point (top layer)	Tin (4 - 8 µm Sn)
Metal surface soldering area (top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

Material data - housing

Housing color	green (RAL 6021)
Insulating material	PA
Insulating material group	I
CTI according to IEC 60112	600
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	125 °C

Dimensions

Dimensional drawing	
Pitch	3.5 mm
Width [w]	11.9 mm
Height [h]	16.9 mm
Length [l]	13.5 mm
Installed height	14.4 mm
Solder pin length [P]	2.5 mm

PCB design

Pin spacing	8.2 mm
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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 mm² / solid / > 10 N
	0.2 mm² / flexible / > 10 N
	1.5 mm² / solid / > 40 N

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	1.5 mm ² / flexible / > 40 N
	0.34 mm ² / solid / > 15 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	I
Comparative tracking index (IEC 60112)	CTI 600
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 mm
Rated insulation voltage (III/2)	200 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)	1.5 mm
Rated insulation voltage (II/2)	400 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)	2 mm

Environmental and real-life conditions

Vibration test

Specification	IEC 60068-2-6:1995-03
Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 Hz ... 60.1 Hz)
Sweep speed	5g (60.1 - 150 Hz)
Test duration per axis	2.5 h

Glow-wire test

Specification	IEC 60695-2-10:2013-04
Temperature	850 °C

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Time of exposure	5 s
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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

Type of packaging	packed in cardboard
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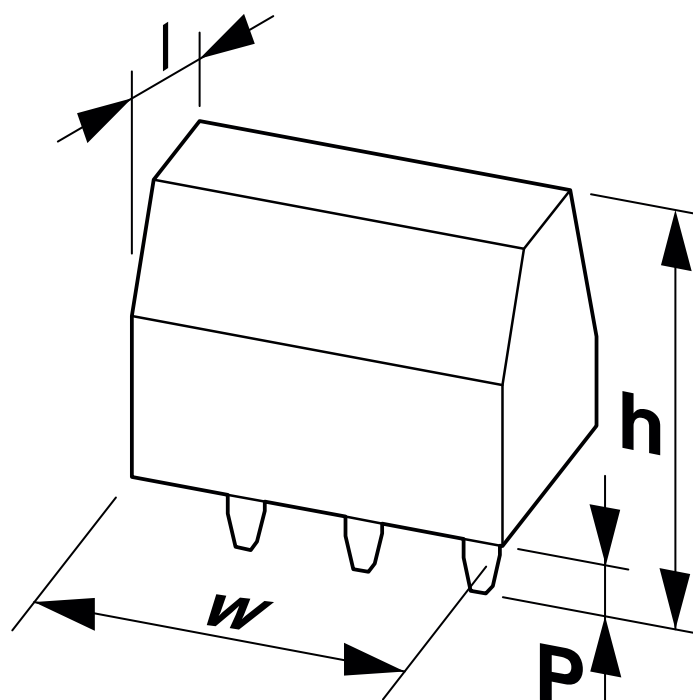
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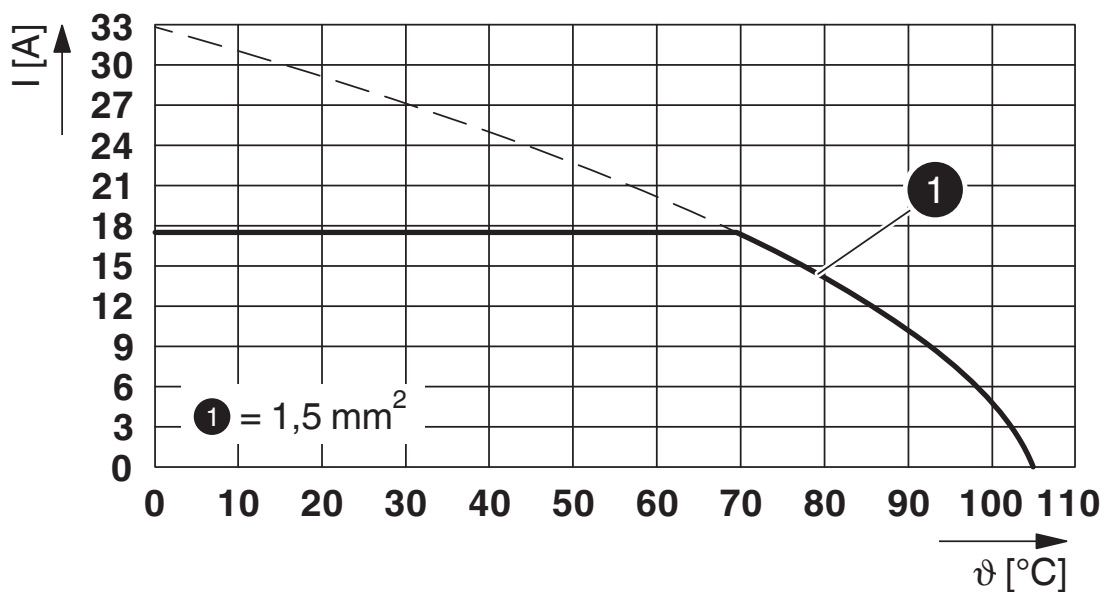
Drawings

Dimensional drawing



Schematic representation – for additional information, see product range drawing in the Download Center

Diagram



Type: SPT 1,5/...-V-3,5

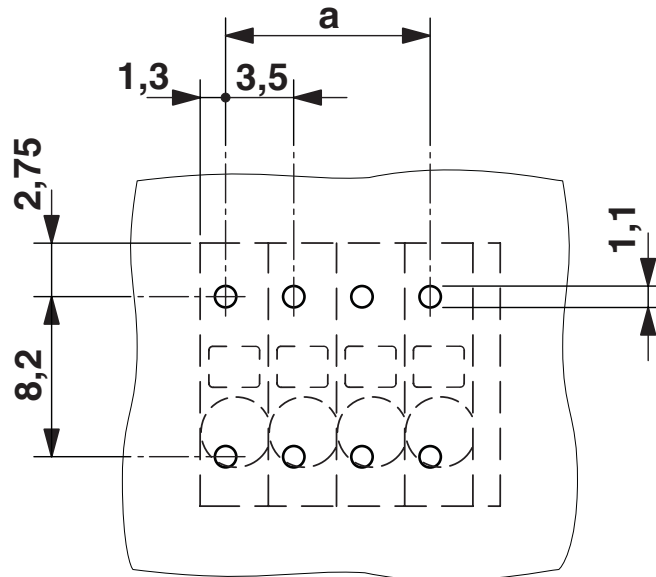
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Drilling plan/solder pad geometry



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Approvals

	 VDE Zeichengenehmigung Approval ID: 40042909			
	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	200 V	17.5 A	-	0.2 - 1.5

 EAC Approval ID: B.01687
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	 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	-

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Classifications

ECLASS

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

ETIM

ETIM 8.0	EC002643
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UNSPSC

UNSPSC 21.0	39121400
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Environmental Product Compliance

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

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Accessories

Screwdriver

Screwdriver - SZF 0-0,4X2,5 - 1204504

<https://www.phoenixcontact.com/us/products/1204504>



Actuation tool, for ST terminal blocks, also suitable for use as a bladed screwdriver, size: 0.4 x 2.5 x 75 mm, 2-component grip, with non-slip grip

Crimping pliers

Crimping pliers - CRIMPFOX 6 - 1212034

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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

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