

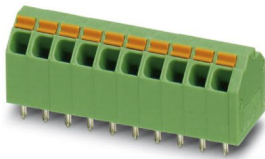
# PCB terminal block - SPTA 1,5/ 2-3,81



1751477

<https://www.phoenixcontact.com/in/products/1751477>

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PCB terminal block, nominal current: 9 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm<sup>2</sup>, number of potentials: 2, number of rows: 1, number of positions per row: 2, product range: SPTA 1,5/, pitch: 3.81 mm, connection method: Push-in spring connection, mounting: Wave soldering, conductor/PCB connection direction: 45 °, color: green, Pin layout: Linear double pinning, Solder pin [P]: 3.4 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
- Intuitive use through colour coded actuation lever
- Angled connection enables multi-row arrangement on the PCB
- Quick and convenient testing using integrated test option
- Two solder pins reduce the mechanical strain on the soldering spots

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## Commercial Data

Order Key	1751477
Packing unit	100 pc
Minimum order quantity	100 pc
Sales Key	AAA
Product Key	AALBFE
Catalog Page	Page 139 (C-1-2013)
GTIN	4046356318013
Weight per Piece (including packing)	1.771 g
Weight per Piece (excluding packing)	1.707 g
Customs tariff number	85369010
Country of origin	DE

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## Technical Data

### Product properties

Number of positions	2
Number of connections	2
Number of rows	1
Number of potentials	2
Pin layout	Linear double pinning

### Electrical properties

Maximum load current	9 A
Rated voltage (II/2)	320 V
Rated voltage (III/2)	160 V
Rated surge voltage (II/2)	2.5 kV
Rated surge voltage (III/2)	2.5 kV
Rated surge voltage (III/3)	2.5 kV
Nominal voltage $U_N$	160 V
Nominal current $I_N$	9 A
Nominal current $I_N$	9 A

### 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 solid	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	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Stripping length	10 mm

### 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

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Housing color	green (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

## Material data – actuating element

Color of the actuating lever	orange (2003)
Insulating material	POM
Insulating material group	I
CTI according to IEC 60112	600
Flammability rating according to UL 94	HB

## Dimensions

Dimensional drawing	
Width	9.12 mm
Height	15.4 mm
Installed height	12 mm
Length of the solder pin	3.4 mm
Length	12 mm
Length of the solder pin	3.4 mm
Pin dimensions	0.6 x 1 mm
Hole diameter	1.1 mm
Pitch	3.81 mm

## PCB design

Pin spacing	7 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
	0.2 mm <sup>2</sup> / solid / > 10 N

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Conductor cross section/conductor type/tractive force setpoint/actual value	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

## Electrical tests

### Electrical properties

Rated voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
Pollution degree	2

### 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 60947-1:2007-06 + A1:2010-12 + A2:2014-09
Insulating material group	I
Comparative tracking index (IEC 60112:2003-01)	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)	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)	1.5 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)	1.6 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 - 60.1 Hz)

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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
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

Type of packaging	packed in cardboard
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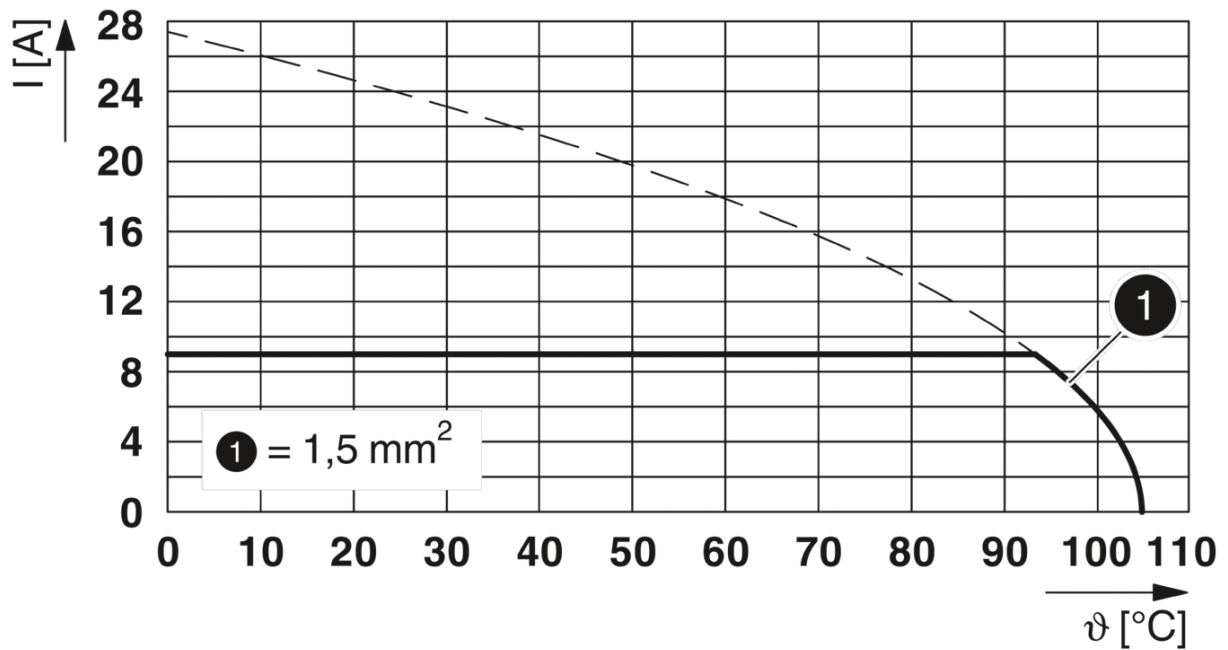
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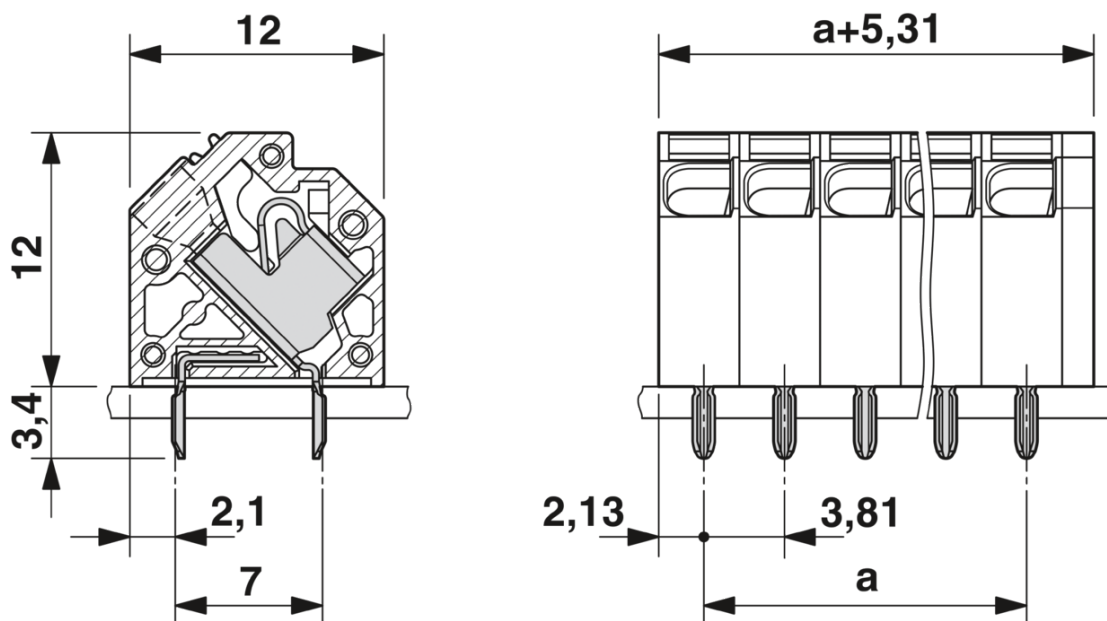
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## Drawings

Diagram



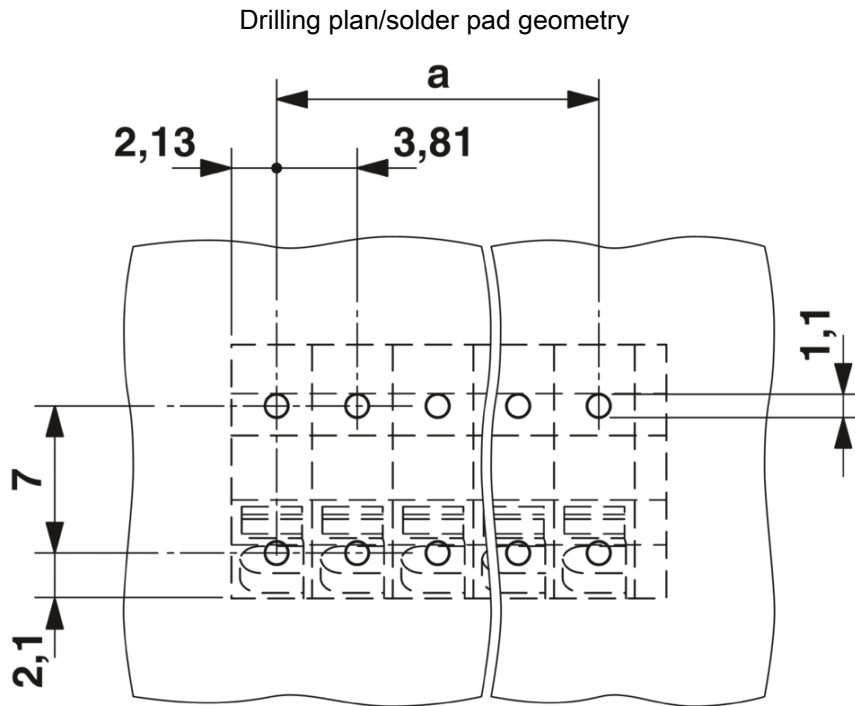
Dimensional drawing



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The front solder pin is for additional mechanical stability only; it does not have any electrical properties




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## Approvals

IECEE CB Scheme  


EAC 

cULus Recognized 	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $mm^2$
Use group B				
	300 V	10 A	26 - 16	-

VDE Gutachten mit Fertigungsüberwachung 	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $mm^2$
	130 V	9 A	-	0.2 - 1.5

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## Classifications

### ECLASS

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

### ETIM

ETIM 6.0	EC002643
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### UNSPSC

UNSPSC 19.0	39121432
UNSPSC 20.0	39121432
UNSPSC 21.0	39121432

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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 - SZS 0,4X2,5 VDE - 1205037



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

### Crimping pliers

Crimping pliers - CRIMPFOX 6 - 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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