

# PCB terminal block - SPTAF 1/ 2-5,0-LL MCRD/BK - 1025909

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PCB terminal block, nominal current: 13.5 A, rated voltage (III/2): 320 V, nominal cross section: 1 mm<sup>2</sup>, pitch: 5 mm, number of positions: 2, connection method: Push-in spring connection, mounting: Wave soldering, conductor/PCB connection direction: 45 °, color: multi-color, Pin layout: Linear double pinning, Solder pin [P]: 2.6 mm




The figure shows a 10-position version of the product

## Your advantages

- Time saving push-in connection, tools not required
- Defined contact force ensures that contact remains stable over the long term
- Finger-operated and fixable release button for very convenient operation
- Small component size for applications where space is at a premium
- Quick and convenient testing using integrated test option



## Key Commercial Data

Packing unit	165 pc
Minimum order quantity	165 pc
GTIN	 4 055626 518152
GTIN	4055626518152

## Technical data

### Item properties

Brief article description	PCB terminal block
Range of articles	SPTAF 1/...-LL
Pitch	5 mm
Number of positions	2
Connection method	Push-in spring connection
Mounting type	Wave soldering
Pin layout	Linear double pinning
Number of levels	1
Number of connections	2

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## Technical data

### Item properties

Number of potentials	2
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### Electrical parameters

Nominal current	13.5 A
Nom. voltage	320 V
Rated voltage	250 V
Rated voltage (III/2)	320 V
Rated voltage (II/2)	630 V
Rated surge voltage (III/3)	4 kV
Rated surge voltage (III/2)	4 kV
Rated surge voltage (II/2)	4 kV

### Connection capacity

Connection method	Push-in spring connection
Conductor cross section solid	0.2 mm <sup>2</sup> ... 0.75 mm <sup>2</sup> (When connecting and possibly adjusting a solid conductor of 1 mm <sup>2</sup> , the mechanical lateral forces, which can affect the terminal block, have to be absorbed by lateral support.)
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 1 mm <sup>2</sup>
Conductor cross section AWG / kcmil	24 ... 18
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 0.5 mm <sup>2</sup>
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 0.5 mm <sup>2</sup>
Stripping length	8 mm

### 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 (2 - 4 µm Sn)
Metal surface soldering area (top layer)	Tin (2 - 4 µm Sn)

### Material data - housing

Housing color	multi-color
Insulating material	PA
Insulating material group	I
CTI according to IEC 60112	600
Flammability rating according to UL 94	V0

### Dimensions for the product

Length [ l ]	11 mm
Width [ w ]	10 mm
Height [ h ]	13.5 mm
Pitch	5 mm
Height (without solder pin)	10.9 mm

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## Technical data

### Dimensions for the product

Solder pin [P]	2.6 mm
Pin spacing	5 mm
Pin dimensions	0.75 x 0.3 mm

### Dimensions for PCB design

Hole diameter	1.1 mm
Pin spacing	5 mm

### Packaging information

Type of packaging	packed in cardboard
Pieces per package	165
Denomination packing units	Pcs.

### General product information

Type of note	Note on application
Note	Maximum permissible outer diameter of the wire insulation $\leq 3$ mm

### Ambient conditions

Ambient temperature (storage/transport)	-40 °C ... 70 °C
Ambient temperature (assembly)	-5 °C ... 100 °C
Ambient temperature (operation)	-40 °C ... 100 °C (dependent on the derating curve)

### Termination and connection method

Test for conductor damage and slackening	IEC 60999-1:1999-11
	Test passed

### Pull-out test

Pull-out test	IEC 60999-1:1999-11
	Test passed
Conductor cross section / conductor type / tensile force	0.2 mm <sup>2</sup> / solid / > 10 N
	0.25 mm <sup>2</sup> / flexible / > 10 N
	1 mm <sup>2</sup> / solid / > 35 N
	1 mm <sup>2</sup> / flexible / > 35 N

### Mechanical tests according to standard

Test specification	IEC 60947-7-4
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### Electrical tests

Rated current	13.5 A
Conductor cross section	1 mm <sup>2</sup>
Rated voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV

### Air clearances and creepage distances

Clearances and creepage distances	IEC 60947-1:2007-06 + A1:2010-12
Specification	IEC 60947-1:2007-06 + A1:2010-12

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## Technical data

### Air clearances and creepage distances

Minimum clearance - inhomogeneous field (III/3)	3 mm
Minimum clearance - inhomogeneous field (III/2)	3 mm
Minimum clearance - inhomogeneous field (II/2)	3 mm
Minimum creepage distance value (III/3)	3.2 mm
Minimum creepage distance value (III/2)	1.6 mm
Minimum creepage distance value (II/2)	3.2 mm

### Temperature-rise test

Specification	IEC 60947-7-4:2013-08
Result	Test passed
Requirement temperature-rise test	The sum of ambient temperature and temperature rise of the PCB terminal block shall not exceed the upper limiting temperature.

### Current carrying capacity / derating curves

Caption	Type: SPTAF 1/...-5,0-LL
Specification	IEC 60947-7-4:2013-08
Number of positions	4
Reduction factor	1
Note	Representation based on IEC 60512-5-2:2002-02

### Vibration test

Specification	IEC 60068-2-6:2007-12
Result	Test passed
Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 - 60.1 Hz)
Acceleration	5 g (60.1 - 150 Hz)
Test duration per axis	2.5 h

### Insulation resistance

Specification	IEC 60512-3-1:2002-02
Result	Test passed
Insulation resistance, neighboring positions	> 0,4 TΩ

### Glow-wire test

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

### Alternating climate test

Result	Test passed
Specification	ISO 6988:1985-02
Corrosive stress	KFW 0.2 S/1 cycle

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## Technical data

### Standards and Regulations

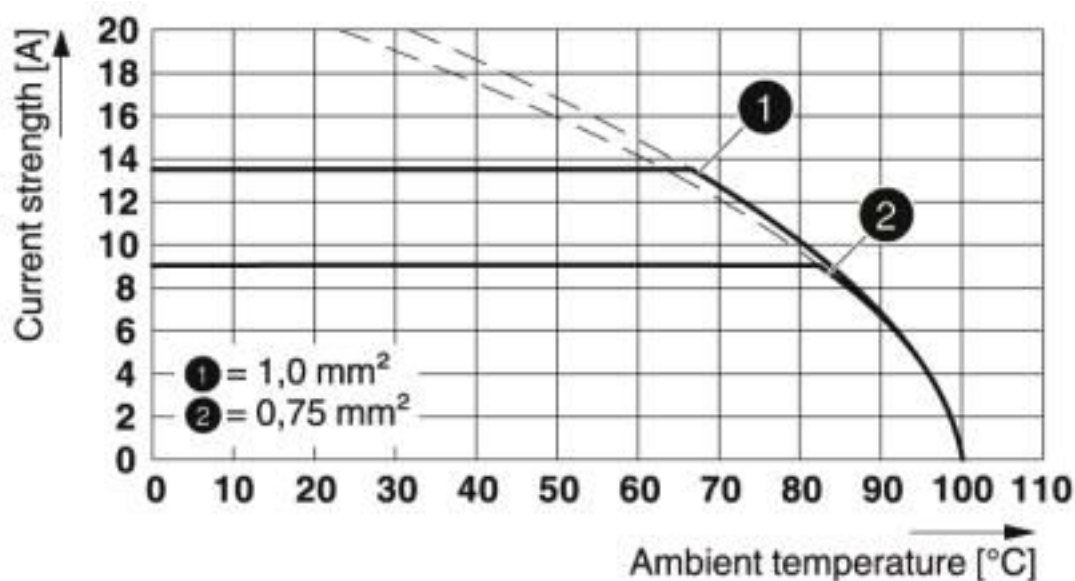
Connection in acc. with standard	EN-VDE
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### Environmental Product Compliance

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

## Drawings

Diagram



Type: SPTAF 1/...-5,0-LL

## Classifications

### eCl@ss

eCl@ss 10.0.1	27440401
eCl@ss 5.1	27261100
eCl@ss 6.0	27261100
eCl@ss 7.0	27440401
eCl@ss 8.0	27440401
eCl@ss 9.0	27440401

### ETIM

ETIM 5.0	EC002643
ETIM 6.0	EC002643
ETIM 7.0	EC002643

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## Approvals

### Approvals

#### Approvals

IECEE CB Scheme / VDE Zeichengenehmigung / cULus Recognized / EAC

#### Ex Approvals

### Approval details

IECEE CB Scheme		<a href="http://www.iecee.org/">http://www.iecee.org/</a>	DE1-61914
Nominal voltage UN	320 V		
Nominal current IN	13.5 A		
mm <sup>2</sup> /AWG/kcmil	0.2-1		

VDE Zeichengenehmigung		<a href="http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx">http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx</a>	40047107
Nominal voltage UN	320 V		
Nominal current IN	13.5 A		
mm <sup>2</sup> /AWG/kcmil	0.2-1		

cULus Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	E60425-20061129
	B	D	
Nominal voltage UN	300 V	300 V	
Nominal current IN	7 A	7 A	
mm <sup>2</sup> /AWG/kcmil	24-18	24-18	

EAC		B.01687
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## Accessories

### Accessories

Crimping tool

## PCB terminal block - SPTAF 1/ 2-5,0-LL MCRD/BK - 1025909

### Accessories

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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