

## PCB terminal block - SPTAF 1/ 4-3,5-LL - 1864309

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PCB terminal block, nominal current: 13.5 A, rated voltage (III/2): 160 V, nominal cross section: 1 mm<sup>2</sup>, pitch: 3.5 mm, number of positions: 4, connection method: Push-in spring connection, mounting: Wave soldering, conductor/PCB connection direction: 45 °, color: green, 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	100 pc
GTIN	
GTIN	4055626246284

### Technical data

#### Item properties

Brief article description	PCB terminal block
Range of articles	SPTAF 1/..-LL
Pitch	3.5 mm
Number of positions	4
Connection method	Push-in spring connection
Mounting type	Wave soldering
Pin layout	Linear double pinning
Number of levels	1
Number of connections	4
Number of potentials	4

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## Technical data

### Electrical parameters

Nominal current	13.5 A
Nom. voltage	160 V
Rated voltage	160 V
Rated voltage (III/2)	160 V
Rated voltage (II/2)	320 V
Rated surge voltage (III/3)	2.5 kV
Rated surge voltage (III/2)	2.5 kV
Rated surge voltage (II/2)	2.5 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	green (6021)
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 ]	15.5 mm
Height [ h ]	13.5 mm
Pitch	3.5 mm
Height (without solder pin)	10.9 mm
Solder pin [P]	2.6 mm
Pin spacing	5 mm
Pin dimensions	0.75 x 0.3 mm

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## Technical data

### Dimensions for PCB design

Hole diameter	1.1 mm
Pin spacing	5 mm

### Packaging information

Type of packaging	packed in cardboard
Pieces per package	100
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

### Processing notes

Process	Wave soldering
Specification	Following IEC 61760-1:2006-04
	Following IEC 60068-2-54:2006-04

### 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 – repeated connection and release	IEC 60999-1:1999-11
	Test passed
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
	1.5 mm <sup>2</sup> / solid / > 40 N
	1.5 mm <sup>2</sup> / flexible / > 40 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)	160 V
Rated surge voltage (III/2)	2.5 kV

### Air clearances and creepage distances

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## Technical data

### 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
Minimum clearance - inhomogeneous field (III/3)	1.5 mm
Minimum clearance - inhomogeneous field (III/2)	1.5 mm
Minimum clearance - inhomogeneous field (II/2)	1.5 mm
Minimum creepage distance value (III/3)	2 mm
Minimum creepage distance value (III/2)	0.8 mm
Minimum creepage distance value (II/2)	1.6 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/...-3,5-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	> 0.5 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
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## Technical data

### Alternating climate test

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

### Standards and Regulations

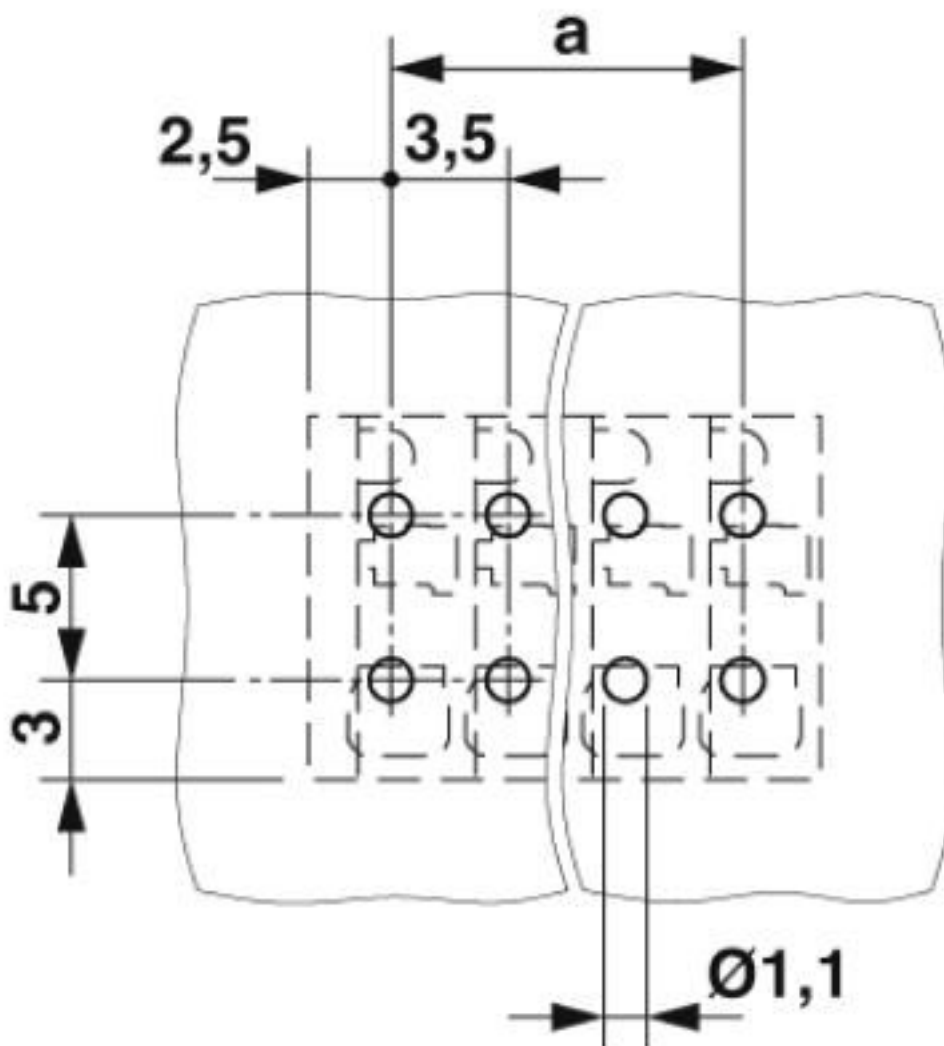
Connection in acc. with standard	EN-VDE
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### Environmental Product Compliance

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

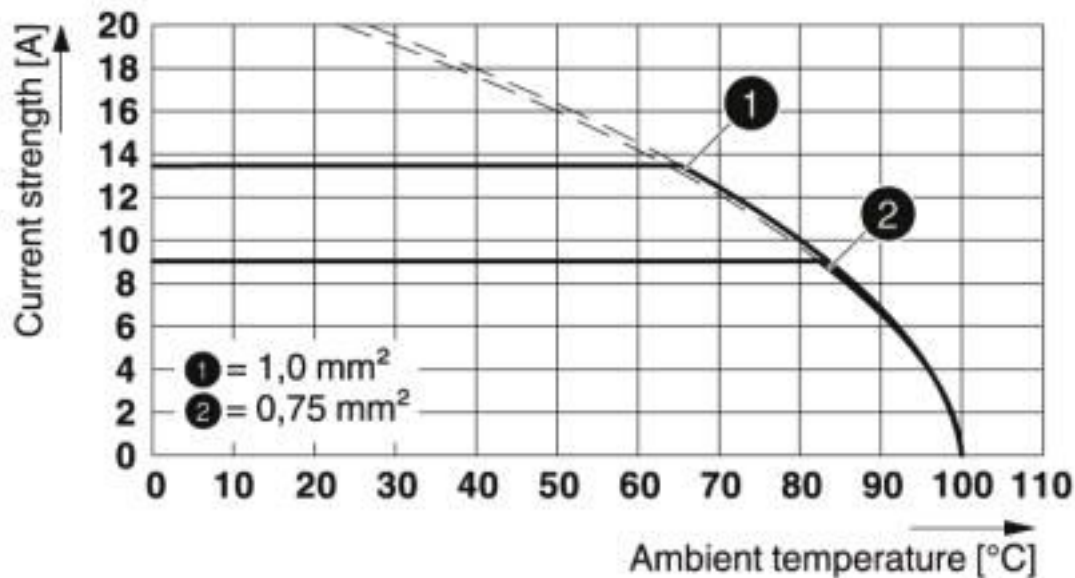
## Drawings

Drilling diagram



## PCB terminal block - SPTAF 1/ 4-3,5-LL - 1864309

Diagram



Type: SPTAF 1/...-3,5-LL

### Classifications

eCl@ss

eCl@ss 10.0.1	27440401
eCl@ss 5.0	27260701
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

### UNSPSC

UNSPSC 13.2	39121432
UNSPSC 18.0	39121432
UNSPSC 19.0	39121432
UNSPSC 20.0	39121432
UNSPSC 21.0	39121432

### Approvals

Approvals

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## 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		160 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		160 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

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### 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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### Screwdriver tools

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

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