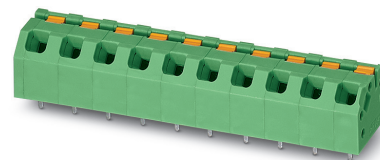


Order No.: 1862385

Type: SPTAF 1/13-5,0-IL

PCB terminal block, Wave soldering, Push-in spring connection



The figure shows a 10-position version of the product

## 1 Main features



- |                           |                           |                        |                     |
|---------------------------|---------------------------|------------------------|---------------------|
| • No. of pos.             | 13                        | • Nominal current      | 16 A                |
| • Conductor cross section | 1.5 mm <sup>2</sup>       | • Nominal voltage      | 320 V               |
| • Color                   | green (6021)              | • Connection direction | 45 °                |
| • Pitch                   | 5 mm                      | • Type of packaging    | packed in cardboard |
| • Connection method       | Push-in spring connection |                        |                     |

## 2 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
- ✓ Small component size for applications where space is at a premium
- ✓ Quick and convenient testing using integrated test option



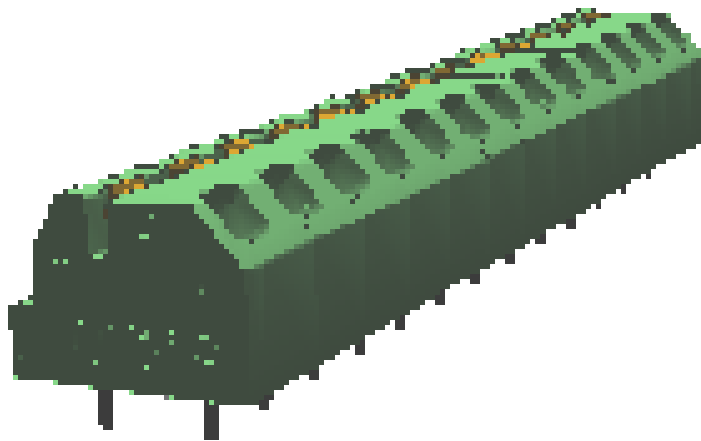
Make sure you always use the latest documentation.  
It can be downloaded at: [phoenixcontact.net/product/1862385](https://phoenixcontact.net/product/1862385)

**3 Table of contents**

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1862385 SPTAF 1/13-5,0-IL

4 3D model in PDF can be activated (Acrobat Reader only)



**1862385 SPTAF 1/13-5,0-IL****5 General Technical Data****5.1 item properties**

|                                                  |                           |
|--------------------------------------------------|---------------------------|
| Order No.                                        | 1862385                   |
| Type                                             | SPTAF 1/13-5,0-IL         |
| Product type                                     | PCB terminal block        |
| Range of articles                                | SPTAF 1/..-IL             |
| Pitch                                            | 5 mm                      |
| Range of positions                               | 2...16                    |
| Number of positions                              | 13                        |
| Number of levels                                 | 1                         |
| Number of connections                            | 13                        |
| Number of potentials                             | 13                        |
| Connection method                                | Push-in spring connection |
| Mounting type                                    | Wave soldering            |
| Connection direction of the conductor to the PCB | 45 °                      |
| Pin layout                                       | Linear double pinning     |
| Solder pins per potential                        | 2                         |

**5.2 Connection capacity**

|                                                                       |                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Conductor cross section, solid                                        | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (When connecting and possibly adjusting a solid conductor of 1.5 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> ... 1.5 mm <sup>2</sup>                                                                                                                                                                                                 |
| Conductor cross section flexible, with ferrule without plastic sleeve | 0.25 mm <sup>2</sup> ... 0.75 mm <sup>2</sup>                                                                                                                                                                                               |
| Conductor cross section flexible, with ferrule with plastic sleeve    | 0.25 mm <sup>2</sup> ... 0.75 mm <sup>2</sup>                                                                                                                                                                                               |
| Stripping length                                                      | 8 mm                                                                                                                                                                                                                                        |

**5.3 Connection capacity AWG**

|                             |           |
|-----------------------------|-----------|
| Conductor cross section AWG | 24 ... 16 |
|-----------------------------|-----------|

**6 Material properties****6.1 Material of metal parts**

|                         |                                                                         |  |
|-------------------------|-------------------------------------------------------------------------|--|
| Note                    | WEEE/RoHS-compliant, whisker-free acc. to IEC 60068-2-82/JEDEC JESD 201 |  |
| Contact material        | Cu alloy                                                                |  |
| Terminal point surface  | Tin (2 - 4 μm Sn)                                                       |  |
| Soldering area surface  | Tin (2 - 4 μm Sn)                                                       |  |
| Surface characteristics | hot-dip tin-plated                                                      |  |

**6.2 Material of plastic parts**

|                     |              |                   |
|---------------------|--------------|-------------------|
|                     | Housing      | Actuation element |
| Color               | green (6021) |                   |
| Insulating material | PA           | PBT               |

**1862385 SPTAF 1/13-5,0-IL**

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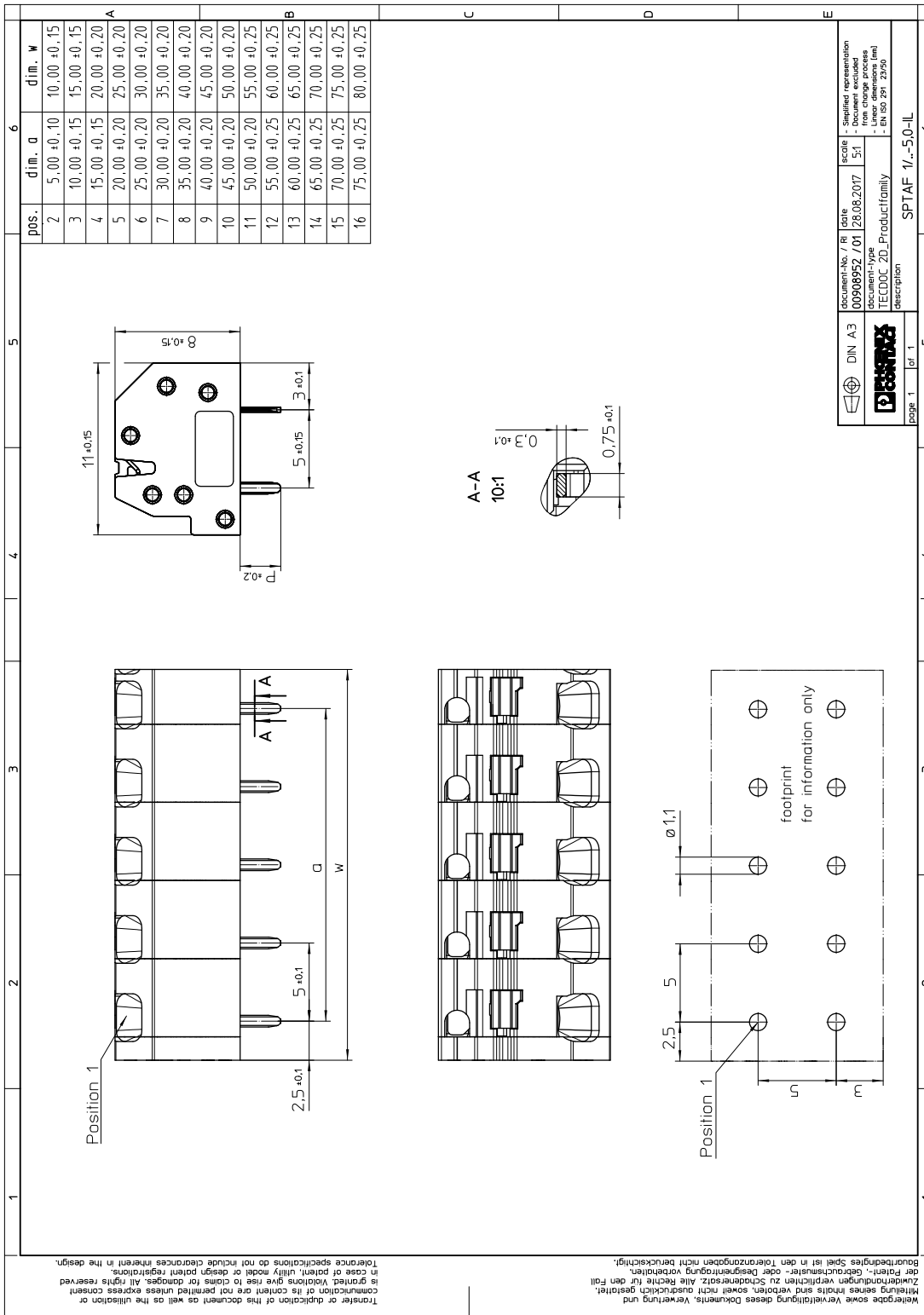
|                                        | Housing | Actuation element |
|----------------------------------------|---------|-------------------|
| Insulating material group              | I       | IIIa              |
| CTI according to IEC 60112             | 600     | 275               |
| Flammability rating according to UL 94 | V0      | V0                |

**1862385 SPTAF 1/13-5,0-IL****7 Dimensions****7.1 Dimensions for the product**

|                             |         |
|-----------------------------|---------|
| Length                      | 11 mm   |
| Width                       | 65 mm   |
| Height (without solder pin) | 8 mm    |
| Total height                | 10.6 mm |
| Solder pin [P]              | 2.6 mm  |
| Dimension a                 | 60 mm   |

1862385 SPTAF 1/13-5,0-IL

8 Series drawing



**1862385 SPTAF 1/13-5,0-IL****8.1 Dimensions for PCB design**

|                |               |
|----------------|---------------|
| Hole diameter  | 1.1 mm        |
| Pin dimensions | 0.75 x 0.3 mm |
| Pin spacing    | 5 mm          |

**9 Application****9.1 General information**

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

**10 Packaging information**

|                    |                     |
|--------------------|---------------------|
| Type of packaging  | packed in cardboard |
| Pieces per package | 50                  |

**10.1 Processing notes**

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

**10.2 Temperature limit values**

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| 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) |



**1862385 SPTAF 1/13-5,0-IL****11 Mechanical tests****11.1 Pull-out test**

|                                                                    |                                          |
|--------------------------------------------------------------------|------------------------------------------|
| Specification                                                      | IEC 60999-1:1999-11                      |
| Result                                                             | Test passed                              |
| Conductor cross section/conductor type/tractive force actual value | 0.2 mm <sup>2</sup> / solid / > 10 N     |
| Conductor cross section/conductor type/tractive force actual value | 0.25 mm <sup>2</sup> / flexible / > 10 N |
| Conductor cross section/conductor type/tractive force actual value | 1.5 mm <sup>2</sup> / solid / > 40 N     |
| Conductor cross section/conductor type/tractive force actual value | 1.5 mm <sup>2</sup> / flexible / > 40 N  |

**11.2 Check for damage to conductor or loosening**

|               |                     |
|---------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
| Result        | Test passed         |

**1862385 SPTAF 1/13-5,0-IL****12 Electrical tests****12.1 Electrical data**

|                                         |                            |
|-----------------------------------------|----------------------------|
| Rated current / conductor cross section | 16 A / 1.5 mm <sup>2</sup> |
| Rated insulation voltage (III/2)        | 320 V                      |
| Rated surge voltage (III/2)             | 4 kV                       |
| Contact resistance                      |                            |
| Degree of pollution                     | 2                          |

**12.2 Air and creepage distances**

|                                                                   |                                  |        |        |
|-------------------------------------------------------------------|----------------------------------|--------|--------|
| Component                                                         | PCB terminal block               |        |        |
| Specification                                                     | IEC 60947-1:2007-06 + A1:2010-12 |        |        |
| Mains type                                                        | unearthed mains                  |        |        |
| Insulating material group                                         | I                                |        |        |
| Comparative tracking index (IEC 60112:2003-01)                    | CTI 600                          |        |        |
| Rated insulation voltage                                          | 250 V                            | 320 V  | 630 V  |
| Rated surge voltage                                               | 4 kV                             | 4 kV   | 4 kV   |
| Degree of pollution                                               | 3                                | 2      | 2      |
| Overvoltage category                                              | III                              | III    | II     |
| Minimum clearance case A (inhomogeneous field)                    | 3 mm                             | 3 mm   | 3 mm   |
| Minimum value of the creepage path requirement in acc. with table | 3.2 mm                           | 1.6 mm | 3.2 mm |

**12.3 Short-time withstand current test**

|                                            |                              |
|--------------------------------------------|------------------------------|
| Specification                              | IEC 60947-7-4:2013-08        |
| Result                                     | Test passed                  |
| Conductor cross section/short-time current | 1.5 mm <sup>2</sup> / 50.4 A |

**12.4 Aging test (climatic impact and corrosion testing)**

|                                                                      |                              |
|----------------------------------------------------------------------|------------------------------|
| Specification                                                        | IEC 60947-7-4:2013-08        |
| Result                                                               | Test passed                  |
| Contact resistance R <sub>1</sub>                                    | 0.8 mΩ / 1.5 mm <sup>2</sup> |
| Test sequence 1: low temperature storage                             | -40 °C / 2 h                 |
| Test sequence 2: heat storage                                        | 168 h/100°C                  |
| Test sequence 3: noxious gas storage (ISO 6988)                      | KFW 0.2 S/1 cycle            |
| Contact resistance R <sub>2</sub>                                    | 0.9 mΩ / 1.5 mm <sup>2</sup> |
| Rated impulse voltage at sea level<br>Voltage waveform ≥ (1.2/50 μs) | 4.8 kV                       |
| Power-frequency withstand voltage<br>Voltage waveform ≥ (50/60 Hz)   | 2.2 kV                       |

**12.5 Mechanical connection test for the PCB terminal block**

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60947-7-4:2013-08 |
| Result        | Test passed           |

**1862385 SPTAF 1/13-5,0-IL****12.6 Temperature rise test**

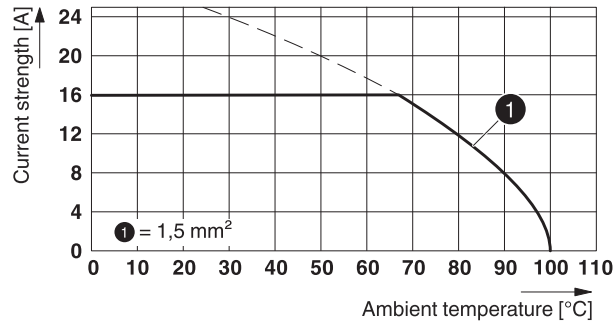
|                                                       |                                                                                                                                |
|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| 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. |
| Conductor cross section/test current/temperature rise | 1.5 mm <sup>2</sup> / 16 A / 33.5 K                                                                                            |

## 1862385 SPTAF 1/13-5,0-IL

## 13 Current carrying capacity/derating curves

|                         |                                               |
|-------------------------|-----------------------------------------------|
| Specification           | IEC 60947-7-4:2013-08                         |
| Note                    | Representation based on IEC 60512-5-2:2002-02 |
| Reduction factor        | 1                                             |
| Number of positions     | 4                                             |
| Conductor cross section | 1.5 mm <sup>2</sup>                           |

## Type: SPTAF 1/...-5,0-IL(EL)



**1862385 SPTAF 1/13-5,0-IL****14 Environmental and durability tests****14.1 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)                                                                       |
| Test duration per axis | 2.5 h                                                                                        |
| Test directions        | X-, Y- and Z-axis                                                                            |
| Note                   | The connected conductor loops were guided to the test sample at a distance of approx. 10 cm. |

**14.2 Assessment of fire risk (glow wire test)**





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

**14.3 Shock protection**

|                                                     |                                                                                                                                           |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Specification                                       | IEC 60529:1989-11 + AMD 1:1999-11 + AMD 2:2013-08                                                                                         |
| Back of the hand protection (Ball $\varnothing$ 50) | guaranteed                                                                                                                                |
| Finger protection (movable test finger)             | guaranteed                                                                                                                                |
| Note                                                | unenclosed basic insulation - protected against finger contact with IP20 test finger in acc. with IEC 60529 when connected, above the PCB |

## 1862385 SPTAF 1/13-5,0-IL

## 15 Approvals / Certificates

|                                                                                                          |             |             |                     |                                  |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|---------------------|----------------------------------|
| IECEE CB Scheme         | Voltage [V] | Current [A] | Cross section [AWG] | Cross section [mm <sup>2</sup> ] |
|                                                                                                          | 320 V       | 16 A        | -                   | 0.2 - 1.5                        |
| VDE Zeichengenehmigung  | Voltage [V] | Current [A] | Cross section [AWG] | Cross section [mm <sup>2</sup> ] |
|                                                                                                          | 320 V       | 16 A        | -                   | 0.2 - 1.5                        |
| cULus Recognized        | Voltage [V] | Current [A] | Cross section [AWG] | Cross section [mm <sup>2</sup> ] |
| <b>Usegroup B</b>                                                                                        |             |             |                     |                                  |
|                                                                                                          | 300 V       | 8 A         | 24 - 16             | -                                |
| <b>Usegroup D</b>                                                                                        |             |             |                     |                                  |
|                                                                                                          | 300 V       | 8 A         | 24 - 16             | -                                |
| EAC                     |             |             |                     |                                  |

**1862385 SPTAF 1/13-5,0-IL****16 Commercial Data**

|                    |                                                      |
|--------------------|------------------------------------------------------|
| Order No.          | 1862385                                              |
| Type               | SPTAF 1/13-5,0-IL                                    |
| Pieces per package | 50                                                   |
| Net weight         | 7.538 g                                              |
| GTIN               | 4055626137704                                        |
|                    | Information that applies locally, see link on page 1 |
| Country of origin  | Information that applies locally, see link on page 1 |

**17 Accessories**

| Description                                                                                                                                           | Order No. | Type          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---------------|
| 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  | 1204504   | SZF 0-0,4X2,5 |
| Actuation tool, for ST terminal blocks, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip | 1204517   | SZF 1-0,6X3,5 |