

# SPT-SMD 1,5/ 8-V-5,0 R88 - PCB terminal block



1824365

<https://www.phoenixcontact.com/us/products/1824365>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



PCB terminal block, nominal current: 17.5 A, rated voltage (III/2): 320 V, nominal cross section: 1.5 mm<sup>2</sup>, number of potentials: 8, number of rows: 1, number of positions per row: 8, product range: SPT 1,5/..-V-SMD, pitch: 5 mm, connection method: Push-in spring connection, mounting: SMD soldering, conductor/PCB connection direction: 90 °, color: black, Pin layout: Linear pad geometry, number of solder pins per potential: 2, type of packaging: 88 mm wide tape

## Your advantages

- Time saving push-in connection, tools not required
- Defined contact force ensures that contact remains stable over the long term
- Intuitive operation due to color-coded actuating push button
- Designed for integration into the SMT soldering process
- Operation and conductor connection from one direction enable integration into front of device
- Quick and convenient testing using integrated test option
- Two soldering spots per position reduce the mechanical strain on the soldering spots

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1824365                        |
| Packing unit                         | 200 pc                         |
| Minimum order quantity               | 200 pc                         |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | AA12                           |
| Product key                          | AALDAG                         |
| Catalog page                         | Page 9 (NTK-2014)              |
| GTIN                                 | 4046356816465                  |
| Weight per piece (including packing) | 7.75 g                         |
| Weight per piece (excluding packing) | 7.75 g                         |
| Customs tariff number                | 85369010                       |
| Country of origin                    | PL                             |

# SPT-SMD 1,5/ 8-V-5,0 R88 - PCB terminal block



1824365

<https://www.phoenixcontact.com/us/products/1824365>

## Technical data

### Product properties

|                           |                                |
|---------------------------|--------------------------------|
| Product type              | Printed circuit board terminal |
| Product family            | SPT 1,5/...-V-SMD              |
| Product line              | COMBICON Terminals S           |
| Number of positions       | 8                              |
| Pitch                     | 5 mm                           |
| Number of connections     | 8                              |
| Number of rows            | 1                              |
| Number of potentials      | 8                              |
| Pin layout                | Linear pad geometry            |
| Solder pins per potential | 2                              |

### Electrical properties

|                             |        |
|-----------------------------|--------|
| Nominal current $I_N$       | 17.5 A |
| Nominal voltage $U_N$       | 320 V  |
| Degree of pollution         | 3      |
| Rated voltage (III/3)       | 250 V  |
| Rated surge voltage (III/3) | 4 kV   |
| Rated voltage (III/2)       | 320 V  |
| Rated surge voltage (III/2) | 4 kV   |
| Rated voltage (II/2)        | 500 V  |
| Rated surge voltage (II/2)  | 4 kV   |

### Connection data

#### Connection technology

|                       |                     |
|-----------------------|---------------------|
| Nominal cross section | 1.5 mm <sup>2</sup> |
|-----------------------|---------------------|

#### Conductor connection

|                                                                       |                                              |
|-----------------------------------------------------------------------|----------------------------------------------|
| Connection method                                                     | Push-in spring connection                    |
| Conductor cross section rigid                                         | 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 | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>  |
| Conductor cross section, flexible, with ferrule, with plastic sleeve  | 0.2 mm <sup>2</sup> ... 0.75 mm <sup>2</sup> |
| Stripping length                                                      | 8 mm                                         |

### Mounting

|               |                     |
|---------------|---------------------|
| Mounting type | SMD soldering       |
| Pin layout    | Linear pad geometry |

#### Processing notes

# SPT-SMD 1,5/ 8-V-5,0 R88 - PCB terminal block



1824365

<https://www.phoenixcontact.com/us/products/1824365>

|                                           |                  |
|-------------------------------------------|------------------|
| Process                                   | Reflow soldering |
| Moisture Sensitive Level                  | MSL 1            |
| Classification temperature T <sub>c</sub> | 260 °C           |
| Solder cycles in the reflow               | 3                |

## 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

|                                        |              |
|----------------------------------------|--------------|
| Color (Housing)                        | black (9005) |
| Insulating material                    | LCP          |
| Insulating material group              | IIIa         |
| CTI according to IEC 60112             | 175          |
| Flammability rating according to UL 94 | V0           |

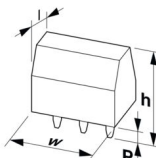
### Material data – actuating element

|                                        |              |
|----------------------------------------|--------------|
| Color (Actuating element)              | white (9010) |
| Insulating material                    | PA GF        |
| Insulating material group              | I            |
| CTI according to IEC 60112             | 600          |
| Flammability rating according to UL 94 | V0           |

## Notes

|                       |                                                          |
|-----------------------|----------------------------------------------------------|
| Assembly instruction: | This item is not suitable for PCB cleaning with liquids. |
|-----------------------|----------------------------------------------------------|

## Dimensions

|                     |                                                                                      |
|---------------------|--------------------------------------------------------------------------------------|
| Dimensional drawing |  |
| Pitch               | 5 mm                                                                                 |
| Width [w]           | 39 mm                                                                                |
| Height [h]          | 13.6 mm                                                                              |
| Length [l]          | 7.7 mm                                                                               |
| Installed height    | 13.6 mm                                                                              |
| Pin dimensions      | 0.7 x 0.3 mm                                                                         |

## PCB design

# SPT-SMD 1,5/ 8-V-5,0 R88 - PCB terminal block



1824365

<https://www.phoenixcontact.com/us/products/1824365>

|               |            |
|---------------|------------|
| Pad geometry  | 1.6 x 4 mm |
| Pin spacing   | 7 mm       |
| Hole diameter | 1.1 mm     |

## Mechanical tests

### Connection test

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60998-2-2:2002-12 |
| Result        | Test passed           |

### Test for conductor damage and slackening

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60998-2-2:2002-12 |
| Result        | Test passed           |

### Pull-out test

|                                                                             |                                         |
|-----------------------------------------------------------------------------|-----------------------------------------|
| Specification                                                               | IEC 60998-2-2:2002-12                   |
| Conductor cross section/conductor type/tractive force setpoint/actual value | 0.2 mm <sup>2</sup> / solid / > 10 N    |
|                                                                             | 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 |

### Flexion test

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60998-2-2:2002-12 |
| Result        | Test passed           |

### Insulation holder for crimp connections

|        |             |
|--------|-------------|
| Result | Test passed |
|--------|-------------|

## 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. |

### Insulation resistance

|                                              |                     |
|----------------------------------------------|---------------------|
| Specification                                | IEC 60998-1:2002-12 |
| Insulation resistance, neighboring positions | > 5 MΩ              |

### Air clearances and creepage distances |

|                                                        |                     |
|--------------------------------------------------------|---------------------|
| Specification                                          | IEC 60664-1:2007-04 |
| Insulating material group                              | IIIa                |
| Comparative tracking index (IEC 60112)                 | CTI 175             |
| Rated insulation voltage (III/3)                       | 250 V               |
| Rated surge voltage (III/3)                            | 4 kV                |
| minimum clearance value - non-homogenous field (III/3) | 3 mm                |
| minimum creepage distance (III/3)                      | 4 mm                |
| Rated insulation voltage (III/2)                       | 320 V               |

# SPT-SMD 1,5/ 8-V-5,0 R88 - PCB terminal block



1824365

<https://www.phoenixcontact.com/us/products/1824365>

|                                                        |        |
|--------------------------------------------------------|--------|
| Rated surge voltage (III/2)                            | 4 kV   |
| minimum clearance value - non-homogenous field (III/2) | 3 mm   |
| minimum creepage distance (III/2)                      | 3.2 mm |
| Rated insulation voltage (II/2)                        | 500 V  |
| Rated surge voltage (II/2)                             | 4 kV   |
| minimum clearance value - non-homogenous field (II/2)  | 3 mm   |
| minimum creepage distance (II/2)                       | 5 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 Hz ... 60.1 Hz) |
| Acceleration           | 5g (60.1 Hz ... 150 Hz)     |
| Test duration per axis | 2.5 h                       |

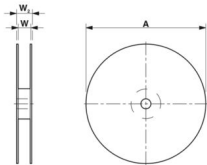
### Glow-wire test

|                  |                     |
|------------------|---------------------|
| Specification    | IEC 60998-1:2002-12 |
| Temperature      | 850 °C              |
| Time of exposure | 5 s                 |

### 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

|                             |                                                                                      |
|-----------------------------|--------------------------------------------------------------------------------------|
| Dimensional drawing         |  |
| Type of packaging           | 88 mm wide tape                                                                      |
| [W] tape width              | 88 mm                                                                                |
| [W2] coil overall dimension | 94.4 mm                                                                              |
| [A] coil diameter           | 330 mm                                                                               |
| Outer packaging type        | Transparent-Bag                                                                      |
| ESD level                   | (D) electrostatically conductive                                                     |
| Specification               | DIN EN 61340-5-1 (VDE 0300-5-1): 2008-07                                             |

# SPT-SMD 1,5/ 8-V-5,0 R88 - PCB terminal block



1824365

<https://www.phoenixcontact.com/us/products/1824365>

Phoenix Contact 2024 © - all rights reserved  
<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)