

## PCB terminal block - SPT 2,5/ 2-H-5,0 - 1990973

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PCB terminal block, nominal current: 24 A, rated voltage (III/2): 400 V, nominal cross section: 2.5 mm<sup>2</sup>, pitch: 5 mm, number of positions: 2, connection method: Push-in spring connection, mounting: Wave soldering, conductor/PCB connection direction: 0 °, color: green, Pin layout: Linear double pinning, Solder pin [P]: 2.5 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
- Clamping space opened by means of fixed screwdriver enables convenient conductor connection
- Operation and conductor connection from one direction enable integration into front of device
- Two solder pins reduce the mechanical strain on the soldering spots



### Key Commercial Data

|              |               |
|--------------|---------------|
| Packing unit | 100 pc        |
| GTIN         |               |
| GTIN         | 4046356104593 |

### Technical data

#### Item properties

|                           |                           |
|---------------------------|---------------------------|
| Brief article description | PCB terminal block        |
| Range of articles         | SPT 2,5/..-H              |
| 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                         |
| Number of potentials      | 2                         |

## PCB terminal block - SPT 2,5/ 2-H-5,0 - 1990973

### Technical data

#### Electrical parameters

|                             |       |
|-----------------------------|-------|
| Nominal current             | 24 A  |
| Nom. voltage                | 400 V |
| Rated voltage               | 250 V |
| Rated voltage (III/2)       | 400 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> ... 4 mm <sup>2</sup>                            |
| Conductor cross section flexible                                      | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>                          |
| Conductor cross section AWG / kcmil                                   | 24 ... 12  |
| Conductor cross section flexible, with ferrule without plastic sleeve | 0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> (Stripping length 8 mm) |
| Conductor cross section, flexible, with ferrule, with plastic sleeve  | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (Stripping length 8 mm) |
| Stripping length  | 10 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 (4 - 8 µm Sn)   |
| Metal surface soldering area (top layer) | Tin (4 - 8 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           |
| 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       |

#### Dimensions for the product

|                             |         |
|-----------------------------|---------|
| Length [ l ]                | 14.4 mm |
| Width [ w ]                 | 11.4 mm |
| Height [ h ]                | 16 mm   |
| Pitch                       | 5 mm    |
| Height (without solder pin) | 13.5 mm |
| Solder pin [P]              | 2.5 mm  |

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## Technical data

### Dimensions for the product

|                |              |
|----------------|--------------|
| Pin spacing    | 8.2 mm       |
| Pin dimensions | 0.8 x 0.8 mm |

### Dimensions for PCB design

|               |        |
|---------------|--------|
| Hole diameter | 1.1 mm |
| Pin spacing   | 8.2 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         | Rated insulation voltages with pitch spacer<br>RZ-SPT-2,5-2,5: 400 V (III/3), 630 V (III/2), 1000 V (II/2)<br>RZ-SPT-2,5-5,0: 630 V (III/3), 800 V (III/2), 1000 V (II/2) |

### Ambient conditions

|   |   |
|---|---|
| Ambient temperature (storage/transport) | -40 °C ... 70 °C  |
| Ambient temperature (assembly)          | -5 °C ... 100 °C  |
| Ambient temperature (operation)         | -40 °C ... 100 °C (Depending on the current carrying capacity/derating curve) |

### Termination and connection method

|  |                       |
|--|-----------------------|
| Connection test                          | IEC 60998-2-2:2002-12 |
| Test result                              | Test passed           |
| Test for conductor damage and slackening | IEC 60998-2-2:2002-12 |
|  | Test passed           |

### Pull-out test

|  |   |
|--|---|
| Pull-out test  | IEC 60998-2-2:2002-12                   |
|  | Test passed                             |
| Conductor cross section / conductor type / tensile force | 0.2 mm <sup>2</sup> / solid / > 10 N    |
|  | 0.2 mm <sup>2</sup> / flexible / > 10 N |
|  | 4 mm <sup>2</sup> / solid / > 60 N      |
|  | 2.5 mm <sup>2</sup> / flexible / > 50 N |

### Mechanical tests according to standard

|                    |                          |
|--------------------|--------------------------|
| Test specification | IEC 60998-2-2 (in parts) |
|--------------------|--------------------------|

### Electrical tests

|                             |                     |
|-----------------------------|---------------------|
| Rated current               | 24 A                |
| Conductor cross section     | 2.5 mm <sup>2</sup> |
| Rated voltage (III/2)       | 400 V               |
| Rated surge voltage (III/2) | 4 kV                |

# PCB terminal block - SPT 2,5/ 2-H-5,0 - 1990973

## Technical data

### Air clearances and creepage distances

|   |                     |
|---|---------------------|
| Clearances and creepage distances               | IEC 60664-1:2007-04 |
| Specification                                   | IEC 60664-1:2007-04 |
| 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)         | 3 mm                |
| Minimum creepage distance value (II/2)          | 3.2 mm              |

### Temperature-rise test

|                                   |                                     |
|-----------------------------------|-------------------------------------|
| Specification                     | IEC 60998-2-1:2002-12               |
| Result                            | Test passed                         |
| Requirement temperature-rise test | Increase in temperature $\leq 45$ K |

### Current carrying capacity / derating curves

|                     |   |
|---------------------|---|
| Caption             | Type: SPT 2,5/5-H-5,0<br>Test following DIN EN 60512-5-2:2003-01<br>Reduction factor = 1<br>No. of positions: 5 |
| Specification       | Following IEC 60512-5-2:2002-02   |
| Number of positions | 5   |
| Reduction factor    | 1   |

### Vibration test

|                        |                        |
|------------------------|------------------------|
| Specification          | IEC 60068-2-6:1995-03  |
| 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                  |

### Resistance to ageing, humidity and penetration of solids

|            |                 |
|------------|-----------------|
| Dry heat   | 168 h/100°C     |
| Humid heat | 48 h/30 °C/92 % |

### Insulation resistance

|  |                     |
|--|---------------------|
| Specification                                | IEC 60998-1:2002-12 |
| Result                                       | Test passed         |
| Insulation resistance, neighboring positions | $10^9 \Omega$       |

### Glow-wire test

|               |                     |
|---------------|---------------------|
| Specification | IEC 60998-1:2002-12 |
| Result        | Test passed         |
| Temperature   | 850 °C              |

## PCB terminal block - SPT 2,5/ 2-H-5,0 - 1990973

### Technical data

#### Glow-wire test

|                  |     |
|------------------|-----|
| Time of exposure | 5 s |
|------------------|-----|

#### Mechanical strength/tumbling barrel test

|                       |                     |
|-----------------------|---------------------|
| Specification         | IEC 60998-1:2002-12 |
| Height of fall        | 50 cm               |
| Number of drop cycles | 50                  |
| Rotation speed        | 5 rpm               |

#### Standards and Regulations

|  |        |
|--|--------|
| Connection in acc. with standard       | EN-VDE |
|  | CUL    |
| Flammability rating according to UL 94 | V0     |

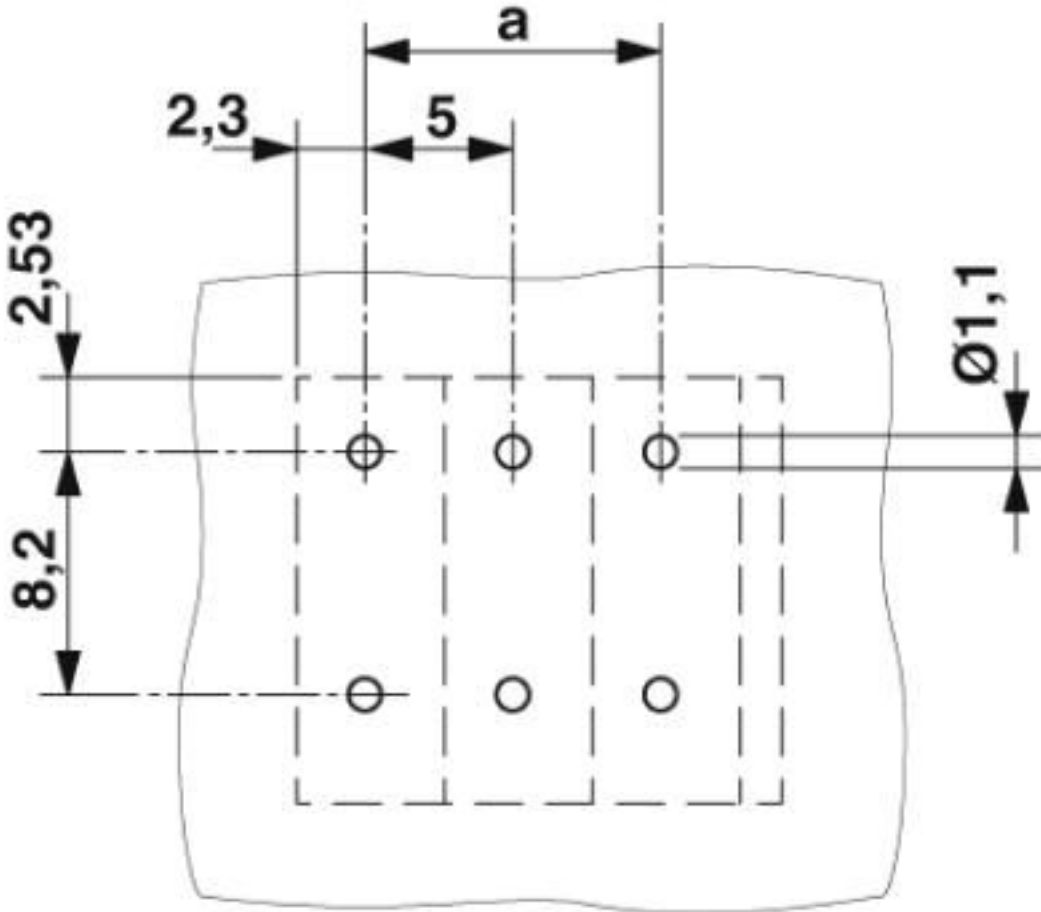
#### Environmental Product Compliance

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

### Drawings

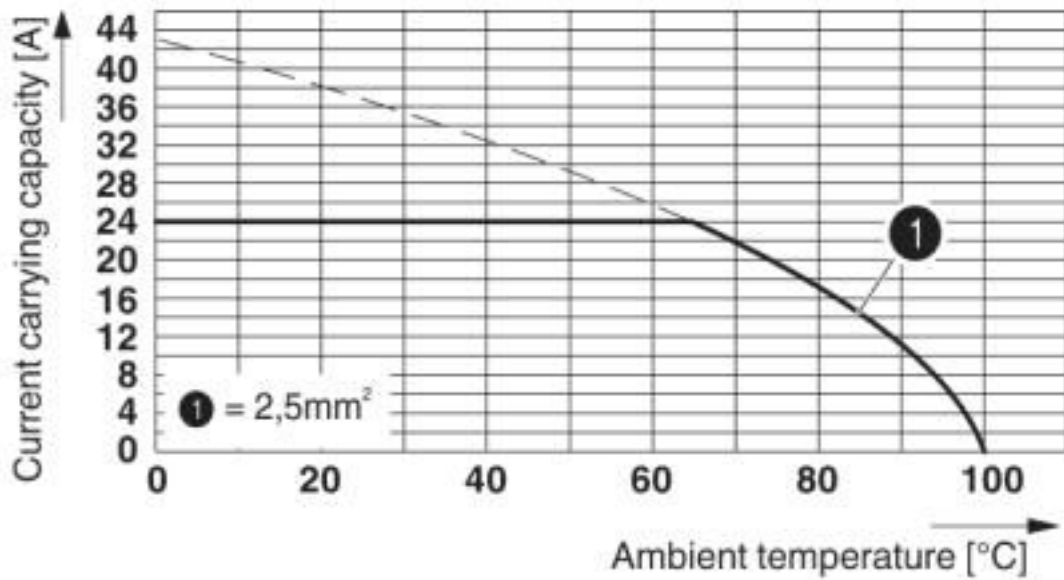
# PCB terminal block - SPT 2,5/ 2-H-5,0 - 1990973

Drilling diagram



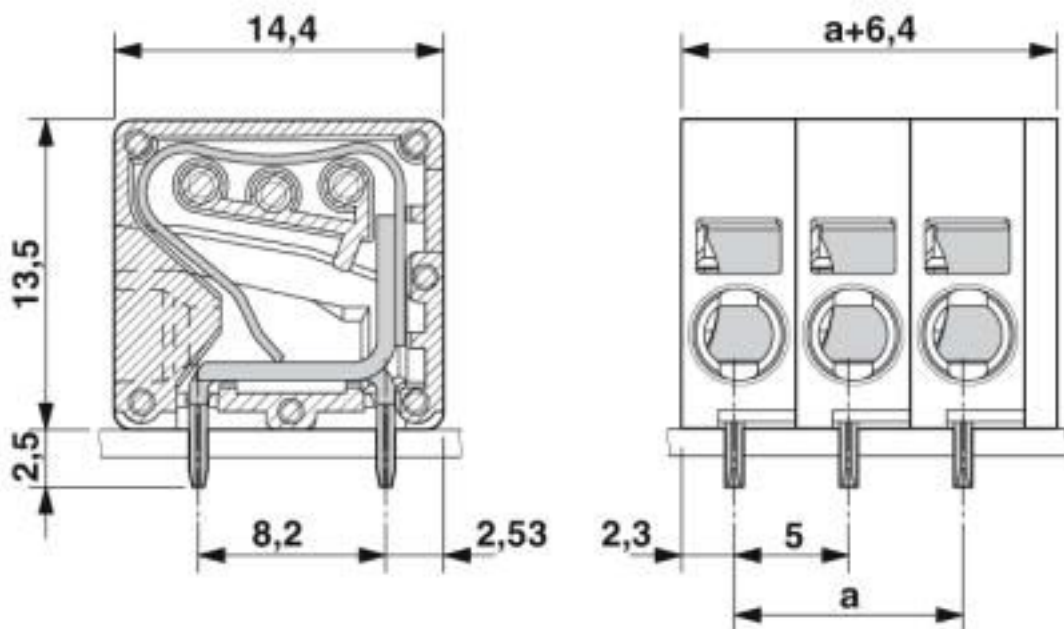
# PCB terminal block - SPT 2,5/ 2-H-5,0 - 1990973

Diagram



Type: SPT 2,5/5-H-5,0  
Test following DIN EN 60512-5-2:2003-01  
Reduction factor = 1  
No. of positions: 5

Dimensional drawing



# PCB terminal block - SPT 2,5/ 2-H-5,0 - 1990973

## Classifications

### eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27440401 |
| eCl@ss 4.0    | 27141100 |
| eCl@ss 4.1    | 27141100 |
| eCl@ss 5.0    | 27141100 |
| 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 3.0 | EC001121 |
| ETIM 4.0 | EC002643 |
| ETIM 5.0 | EC002643 |
| ETIM 6.0 | EC002643 |
| ETIM 7.0 | EC002643 |

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 30211801 |
| UNSPSC 7.0901 | 39121432 |
| UNSPSC 11     | 39121432 |
| UNSPSC 12.01  | 39121432 |
| 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

IECEE CB Scheme / SEV / EAC / cULus Recognized

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#### Ex Approvals

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### Approval details



# PCB terminal block - SPT 2,5/ 2-H-5,0 - 1990973

## Approvals

|                            |         |   |          |
|----------------------------|---------|---|----------|
| IECEE CB Scheme            |         | <a href="http://www.iecee.org/">http://www.iecee.org/</a> | CH-10802 |
| Nominal voltage UN         | 400 V   |   |          |
| Nominal current IN         | 24 A    |   |          |
| mm <sup>2</sup> /AWG/kcmil | 0.2-2.5 |   |          |

|                            |         |   |         |
|----------------------------|---------|---|---------|
| SEV                        |         | <a href="https://www.eurofins.ch/de/">https://www.eurofins.ch/de/</a> | IK-4498 |
| Nominal voltage UN         | 400 V   |   |         |
| Nominal current IN         | 24 A    |   |         |
| mm <sup>2</sup> /AWG/kcmil | 0.2-2.5 |   |         |

|     |  |  |         |
|-----|--|--|---------|
| EAC |  |  | B.01687 |
|-----|--|--|---------|

|                            |       |   |                 |
|----------------------------|-------|---|-----------------|
| 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 | 150 V   |                 |
| Nominal current IN         | 20 A  | 15 A  |                 |
| mm <sup>2</sup> /AWG/kcmil | 24-12 | 24-12   |                 |

## Accessories

### Accessories

#### Crimping tool

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

#### Pitch spacer

## PCB terminal block - SPT 2,5/ 2-H-5,0 - 1990973

### Accessories

Pitch spacer - RZ-SPT 2,5-2,5 - 1772595



Pitch spacer, number of positions: 1, pitch: 5 mm, color: green

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Pitch spacer - RZ-SPT 2,5-5,0 - 1772605



Pitch spacer, number of positions: 1, pitch: 5 mm, color: green

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### Screwdriver tools

Screwdriver - SZF 1-0,6X3,5 - 1204517



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

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