

# SPT 16/ 4-V-10,0-ZBMIX GY/GNY - PCB terminal block



1872579

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Printed circuit board terminal, nominal current: 76 A, rated voltage (III/2): 1000 V, nominal cross section: 16 mm<sup>2</sup>, number of potentials: 4, number of rows: 1, number of positions per row: 4, product range: SPT 16/...-V, pitch: 10 mm, connection method: Push-in spring connection, mounting: Wave soldering, conductor/PCB connection direction: 90 °, color: multicolored, Pin layout: Zigzag pinning W, Solder pin [P]: 4.1 mm, number of solder pins per potential: 3, type of packaging: packed in cardboard

## 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
- Unrestricted 600-V-UL approval thanks to compact zig-zag pinning
- Vertical connection enables multi-row arrangement on the PCB

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1872579       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 1 pc          |
| Product key                          | AAOBCB        |
| GTIN                                 | 4055626187594 |
| Weight per piece (including packing) | 31.39 g       |
| Weight per piece (excluding packing) | 30 g          |
| Country of origin                    | BG            |

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## Technical data

### Product properties

|                           |                                |
|---------------------------|--------------------------------|
| Product type              | Printed circuit board terminal |
| Product family            | SPT 16/...-V                   |
| Product line              | COMBICON Terminals XL          |
| Number of positions       | 4                              |
| Pitch                     | 10 mm                          |
| Number of connections     | 4                              |
| Number of rows            | 1                              |
| Number of potentials      | 4                              |
| Pin layout                | Zigzag pinning W               |
| Solder pins per potential | 3                              |

### Electrical properties

#### Properties

|                             |        |
|-----------------------------|--------|
| Nominal current $I_N$       | 76 A   |
| Nominal voltage $U_N$       | 1000 V |
| Rated voltage (III/3)       | 1000 V |
| Rated surge voltage (III/3) | 8 kV   |
| Rated voltage (III/2)       | 1000 V |
| Rated surge voltage (III/2) | 8 kV   |
| Rated voltage (II/2)        | 1000 V |
| Rated surge voltage (II/2)  | 6 kV   |

### Connection data

#### Connection technology

|                       |                                  |
|-----------------------|----------------------------------|
| Type                  | PC terminal block can be aligned |
| Nominal cross section | 16 mm <sup>2</sup>               |

#### Conductor connection

|                                                                                           |                                                                                             |
|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Connection method                                                                         | Push-in spring connection                                                                   |
| Conductor cross-section rigid                                                             | 0.75 mm <sup>2</sup> ... 16 mm <sup>2</sup> (Conductor connection with open terminal point) |
|                                                                                           | 0.75 mm <sup>2</sup> ... 16 mm <sup>2</sup> (Push-in connection)                            |
| Conductor cross-section flexible                                                          | 0.75 mm <sup>2</sup> ... 16 mm <sup>2</sup>                                                 |
| Conductor cross-section AWG                                                               | 20 ... 4                                                                                    |
| Conductor cross-section flexible, with ferrule without plastic sleeve                     | 0.75 mm <sup>2</sup> ... 16 mm <sup>2</sup>                                                 |
| Conductor cross-section, flexible, with ferrule, with plastic sleeve                      | 0.75 mm <sup>2</sup> ... 10 mm <sup>2</sup>                                                 |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.75 mm <sup>2</sup> ... 4 mm <sup>2</sup>                                                  |
| Stripping length                                                                          | 18 mm                                                                                       |

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## Mounting

|               |                  |
|---------------|------------------|
| Mounting type | Wave soldering   |
| Pin layout    | Zigzag pinning W |

## Material specifications

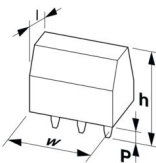
### Material data - contact

|                                          |                                                                                  |
|------------------------------------------|----------------------------------------------------------------------------------|
| Note                                     | WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/JEDEC JESD 201 |
| Contact material                         | Cu alloy                                                                         |
| Surface characteristics                  | Tin-plated                                                                       |
| Metal surface terminal point (top layer) | Tin (10 - 16 µm Sn)                                                              |
| Metal surface soldering area (top layer) | Tin (10 - 16 µm Sn)                                                              |

### Material data - housing

|                                                                   |                 |
|-------------------------------------------------------------------|-----------------|
| Color (Housing)                                                   | multicolored () |
| 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

|                       |                                                                                      |
|-----------------------|--------------------------------------------------------------------------------------|
| Dimensional drawing   |  |
| Pitch                 | 10 mm                                                                                |
| Width [w]             | 41.8 mm                                                                              |
| Height [h]            | 35.4 mm                                                                              |
| Length [l]            | 24.7 mm                                                                              |
| Installed height      | 31.3 mm                                                                              |
| Solder pin length [P] | 4.1 mm                                                                               |
| Pin dimensions        | 1.2 x 1 mm                                                                           |

### PCB design

|               |        |
|---------------|--------|
| Pin spacing   | 15 mm  |
| Hole diameter | 1.7 mm |

## Mechanical tests

# SPT 16/ 4-V-10,0-ZBMIX GY/GNY - PCB terminal block



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## Test for conductor damage and slackening

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

## Pull-out test

|                                                                             |                                          |
|-----------------------------------------------------------------------------|------------------------------------------|
| Specification                                                               | IEC 60999-1:1999-11                      |
| Conductor cross-section/conductor type/tractive force setpoint/actual value | 0.75 mm <sup>2</sup> / solid / > 30 N    |
|                                                                             | 0.75 mm <sup>2</sup> / flexible / > 30 N |
|                                                                             | 16 mm <sup>2</sup> / solid / > 100 N     |
|                                                                             | 16 mm <sup>2</sup> / flexible / > 100 N  |

## 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. |

### Short-time withstand current

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60947-7-4:2019-01 |
|---------------|-----------------------|

### Insulation resistance

|                                              |                       |
|----------------------------------------------|-----------------------|
| Specification                                | IEC 60512-3-1:2002-02 |
| Insulation resistance, neighboring positions | > 5 MΩ                |

### Air clearances and creepage distances |

|                                                        |                       |
|--------------------------------------------------------|-----------------------|
| Specification                                          | IEC 60947-7-4:2019-01 |
| Insulating material group                              | I                     |
| Comparative tracking index (IEC 60112)                 | CTI 600               |
| Rated insulation voltage (III/3)                       | 1000 V                |
| Rated surge voltage (III/3)                            | 8 kV                  |
| minimum clearance value - non-homogenous field (III/3) | 8 mm                  |
| minimum creepage distance (III/3)                      | 12.5 mm               |
| Rated insulation voltage (III/2)                       | 1000 V                |
| Rated surge voltage (III/2)                            | 8 kV                  |
| minimum clearance value - non-homogenous field (III/2) | 8 mm                  |
| minimum creepage distance (III/2)                      | 8 mm                  |
| Rated insulation voltage (II/2)                        | 1000 V                |
| Rated surge voltage (II/2)                             | 6 kV                  |
| minimum clearance value - non-homogenous field (II/2)  | 5.5 mm                |
| minimum creepage distance (II/2)                       | 5.5 mm                |

## Environmental and real-life conditions

### Vibration test

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

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|                        |                             |
|------------------------|-----------------------------|
| 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                       |
| Test directions        | X-, Y- and Z-axis           |

## Glow-wire test

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

## Aging

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60947-7-4:2019-01 |
|---------------|-----------------------|

## 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

|                   |                     |
|-------------------|---------------------|
| Type of packaging | packed in cardboard |
|-------------------|---------------------|

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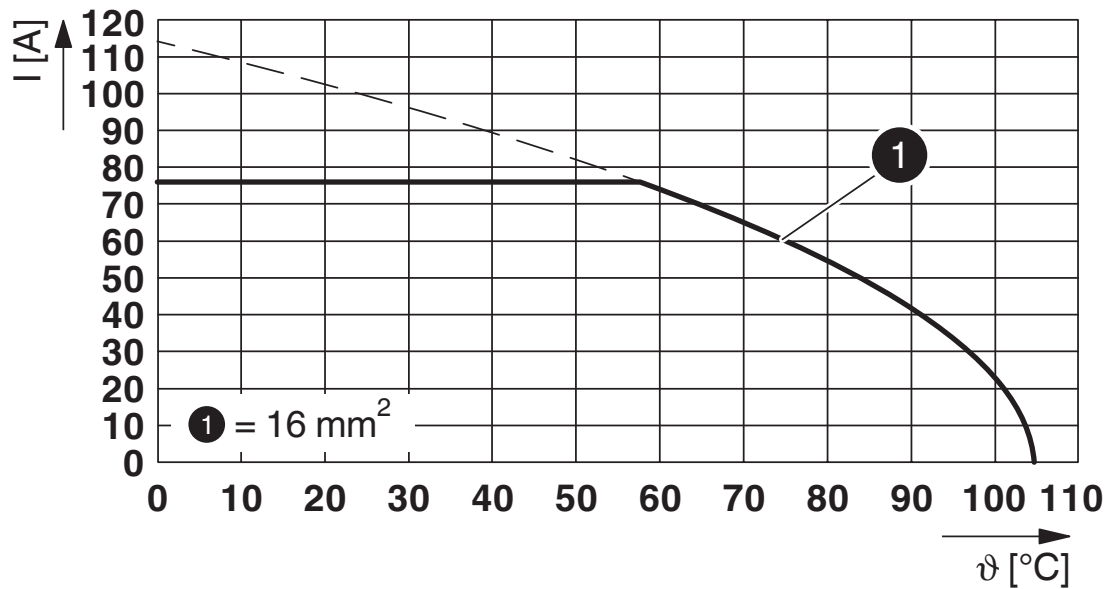


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## Drawings

Diagram



Type: SPT 16/...-V-10,0-ZB

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1872579>

|  <b>VDE Zeichengenehmigung</b><br>Approval ID: 40042909 |                       |                       |                   |                             |
|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                          | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine                                                                                                                                    |                       |                       |                   |                             |
|                                                                                                                                          | 1000 V                | 76 A                  | -                 | 0.75 - 16                   |

|  <b>cULus Recognized</b><br>Approval ID: E60425-20061129 |                       |                       |                   |                             |
|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                           | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B                                                                                                                                         |                       |                       |                   |                             |
|                                                                                                                                           | 600 V                 | 66 A                  | 20 - 4            | -                           |
| C                                                                                                                                         |                       |                       |                   |                             |
|                                                                                                                                           | 600 V                 | 66 A                  | 20 - 4            | -                           |

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27460101 |
| ECLASS-15.0 | 27460101 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC002643 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 39121400 |
|-------------|----------|

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## Environmental product compliance

|                                         |                                          |
|-----------------------------------------|------------------------------------------|
| EU RoHS                                 |                                          |
| Fulfills EU RoHS substance requirements | Yes, No exemptions                       |
| China RoHS                              |                                          |
| Environment friendly use period (EFUP)  | EFUP-E                                   |
|                                         | No hazardous substances above the limits |
| EU REACH SVHC                           |                                          |
| REACH candidate substance (CAS No.)     | No substance above 0.1 wt%               |
| EF3.0 Climate Change                    |                                          |
| CO2e kg                                 | 0.366 kg CO2e                            |

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