

# PTSA 1,5/ 8-3,5-B RD/GY - PCB terminal block



1858991

<https://www.phoenixcontact.com/us/products/1858991>

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The figure shows a 10-position version of the product

PCB terminal block, nominal current: 8 A, rated voltage (III/2): 250 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: PTSA 1,5, pitch: 3.5 mm, connection method: Push-in spring connection, mounting: Wave soldering, conductor/PCB connection direction: 45 °, color: multicolored, Pin layout: Linear back pinning, Solder pin [P]: 3.5 mm, number of solder pins per potential: 1, 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
- Angled connection enables multi-row arrangement on the PCB

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1858991                        |
| Packing unit                         | 120 pc                         |
| Minimum order quantity               | 120 pc                         |
| Note                                 | Made to order (non-returnable) |
| Product key                          | AALBDA                         |
| GTIN                                 | 4055626075600                  |
| Weight per piece (including packing) | 4.392 g                        |
| Weight per piece (excluding packing) | 4.073 g                        |
| Country of origin                    | DE                             |

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## Technical data

### Product properties

|                           |                      |
|---------------------------|----------------------|
| Product type              | PCB terminal block   |
| Product family            | PTSA 1,5             |
| Product line              | COMBICON Terminals S |
| Type                      | PC termination block |
| Number of positions       | 8                    |
| Pitch                     | 3.5 mm               |
| Number of connections     | 8                    |
| Number of rows            | 1                    |
| Number of potentials      | 8                    |
| Pin layout                | Linear back pinning  |
| Solder pins per potential | 1                    |

### Electrical properties

#### Properties

|                             |        |
|-----------------------------|--------|
| Nominal current $I_N$       | 8 A    |
| Nominal voltage $U_N$       | 250 V  |
| Rated voltage (III/3)       | 200 V  |
| Rated surge voltage (III/3) | 2.5 kV |
| Rated voltage (III/2)       | 250 V  |
| Rated surge voltage (III/2) | 2.5 kV |
| Rated voltage (II/2)        | 400 V  |
| Rated surge voltage (II/2)  | 2.5 kV |

### Connection data

#### Connection technology

|                       |                      |
|-----------------------|----------------------|
| Type                  | PC termination block |
| 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 | 0.25 mm <sup>2</sup> ... 1 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  | 9 mm   |

### Mounting

|               |                |
|---------------|----------------|
| Mounting type | Wave soldering |
|---------------|----------------|

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|            |                     |
|------------|---------------------|
| Pin layout | Linear back pinning |
|------------|---------------------|

## 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 $\mu\text{m}$ - 8 $\mu\text{m}$ Sn)                                       |
| Metal surface soldering area (top layer) | Tin (4 $\mu\text{m}$ - 8 $\mu\text{m}$ 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           |

### Material data – actuating element

|                           |                  |
|---------------------------|------------------|
| Color (Actuating element) | multicolored (-) |
|---------------------------|------------------|

## Dimensions

|                       |               |
|-----------------------|---------------|
| Dimensional drawing   |               |
| Pitch                 | 3.5 mm        |
| Width [w]             | 29.5 mm       |
| Height [h]            | 16.7 mm       |
| Length [l]            | 12 mm         |
| Installed height      | 13.1 mm       |
| Solder pin length [P] | 3.5 mm        |
| Pin dimensions        | 0.4 x 0.75 mm |

### PCB design

|               |        |
|---------------|--------|
| Pin spacing   | 3.5 mm |
| Hole diameter | 1 mm   |

## Mechanical tests

# PTSA 1,5/ 8-3,5-B RD/GY - 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 | 0.2 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 |

## Electrical tests

### Temperature-rise test

|                                   |  |
|-----------------------------------|--|
| Specification                     | IEC 60947-7-4:2013-08  |
| 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 60947-7-4:2013-08 |
|---------------|-----------------------|

### Insulation resistance

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

### Air clearances and creepage distances |

|  |   |
|--|---|
| Specification  | IEC 60947-1:2007-06 + A1:2010-12 + A2:2014-09 |
| Insulating material group                              | I   |
| Comparative tracking index (IEC 60112)                 | CTI 600                                       |
| Rated insulation voltage (III/3)                       | 200 V   |
| Rated surge voltage (III/3)                            | 2.5 kV  |
| minimum clearance value - non-homogenous field (III/3) | 1.5 mm  |
| minimum creepage distance (III/3)                      | 2.5 mm  |
| Rated insulation voltage (III/2)                       | 250 V   |
| Rated surge voltage (III/2)                            | 2.5 kV  |
| minimum clearance value - non-homogenous field (III/2) | 1.5 mm  |
| minimum creepage distance (III/2)                      | 1.5 mm  |
| Rated insulation voltage (II/2)                        | 400 V   |
| Rated surge voltage (II/2)                             | 2.5 kV  |
| minimum clearance value - non-homogenous field (II/2)  | 1.5 mm  |
| minimum creepage distance (II/2)                       | 2 mm  |

## Environmental and real-life conditions

### Vibration test

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60068-2-6:2007-12 |
|---------------|-----------------------|

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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 60695-2-10:2000-10 |
| Temperature      | 850 °C                 |
| Time of exposure | 5 s                    |

## Aging

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60947-7-4:2013-08 |
|---------------|-----------------------|

## Ambient conditions

|   |   |
|---|---|
| Ambient temperature (storage/transport) | -40 °C ... 70 °C  |
| Relative humidity (storage/transport)   | 30 % ... 70 %   |
| Ambient temperature (assembly)          | -5 °C ... 85 °C   |
| Ambient temperature (operation)         | -40 °C ... 100 °C (Depending on the current carrying capacity/derating curve) |

## Packaging specifications

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

Drawings

Diagram



Type: PTSA 1,5/...-3,5-F

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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% |
|-------------------------------------|----------------------------|

### EF3.1 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 0.146 kg CO2e |
|---------|---------------|

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