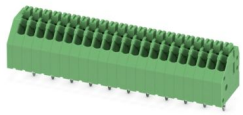
# PTSA 0,5/22-2,5-Z - PCB terminal block

1990203

https://www.phoenixcontact.com/us/products/1990203

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PCB terminal block, nominal current: 2 A, rated voltage (III/2): 250 V, nominal cross section: 0.5 $mm^2$, number of potentials: 22, number of rows: 1, number of positions per row: 22, product range: PTSA 0,5, pitch: 2.5 mm, connection method: Push-in spring connection, mounting: Wave soldering, conductor/PCB connection direction: 45 °, color: green, Pin layout: Zigzag pinning W, Solder pin [P]: 3.6 mm, number of solder pins per potential: 1, type of packaging: packed in cardboard. Offset soldering legs, two-rowed

## 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 | 1990203 |
| Packing unit | 50 pc |
| Minimum order quantity | 50 pc |
| Sales key | AA11 |
| Product key | AAKBDA |
| GTIN | 4017918973773 |
| Weight per piece (including packing) | 8.35 g |
| Weight per piece (excluding packing) | 7.65 g |
| Customs tariff number | 85369010 |
| Country of origin | PL |

# Technical data

## Product properties

| | |
|---|---|
| Product type | PCB terminal block |
| Product family | PTSA 0,5 |
| Product line | COMBICON Terminals XS |
| Type | PC termination block |
| Number of positions | 22 |
| Pitch | 2.5 mm |
| Number of connections | 22 |
| Number of rows | 1 |
| Number of potentials | 22 |
| Pin layout | Zigzag pinning W |
| Solder pins per potential | 1 |

### Fitting of components

| | |
|---|---|
| Partial assembly | No |

## Electrical properties

### Properties

| | |
|---|---|
| Nominal current $I_N$ | 2 A |
| Nominal voltage $U_N$ | 250 V |
| Rated voltage (III/3) | 160 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 | 0.5 mm² |

### Conductor connection

| | |
|---|---|
| Connection method | Push-in spring connection |
| Conductor cross-section rigid | 0.14 mm² ... 0.5 mm² |
| Conductor cross-section flexible | 0.2 mm² ... 0.5 mm² |
| Conductor cross-section AWG | 24 ... 20 |
| Stripping length | 9 mm |

## Mounting

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

| | |
|---|---|
| Pin layout | Zigzag pinning W |

## Material specifications

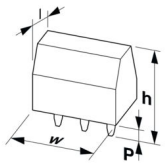
Material data - contact

| | |
|---|---|
| Note | WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/JEDEC JESD 201 |
| Contact material | Cu alloy |
| Surface characteristics | hot-dip tin-plated |
| Metal surface terminal point (top layer) | Tin (4 µm - 8 µm Sn) |
| Metal surface soldering area (top layer) | Tin (4 µm - 8 µm Sn) |

Material data - housing

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

| | |
|---|---|
| Dimensional drawing |  |
| Pitch | 2.5 mm |
| Width [w] | 56.5 mm |
| Height [h] | 16.7 mm |
| Length [l] | 12 mm |
| Installed height | 13.1 mm |
| Solder pin length [P] | 3.6 mm |
| Pin dimensions | 0.4 x 0.75 mm |

PCB design

| | |
|---|---|
| Pin spacing | 2.5 mm |
| Hole diameter | 1 mm |

## Mechanical tests

Connection test

| | |
|---|---|
| Specification | IEC 60998-2-2:1991-10 |

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

Test for conductor damage and slackening

| | |
|---|---|
| Specification | IEC 60998-2-2:1991-10 |
| Result | Test passed |

Pull-out test

| | |
|---|---|
| Specification | IEC 60998-2-2:1991-10 |
| Conductor cross-section/conductor type/tractive force setpoint/actual value | 0.14 mm² / solid / > 7 N |
| | 0.2 mm² / flexible / > 10 N |
| | 0.5 mm² / solid / > 30 N |
| | 0.5 mm² / flexible / > 30 N |

## Electrical tests

Temperature-rise test

| | |
|---|---|
| Specification | IEC 60998-2-1:1990-04 |
| Requirement temperature-rise test | Increase in temperature ≤ 45 K |

Insulation resistance

| | |
|---|---|
| Specification | IEC 60998-2-2:1991-10 |
| Insulation resistance, neighboring positions | $10^9$ Ω |

Air clearances and creepage distances |

| | |
|---|---|
| Specification | IEC 60664-1:2007-04 |
| Insulating material group | I |
| Comparative tracking index (IEC 60112) | CTI 600 |
| Rated insulation voltage (III/3) | 160 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 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 60068-2-6:1995-03 |
| 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 60998-2-2:1991-10 |
| Temperature | 850 °C |
| Time of exposure | 5 s |

Ambient conditions

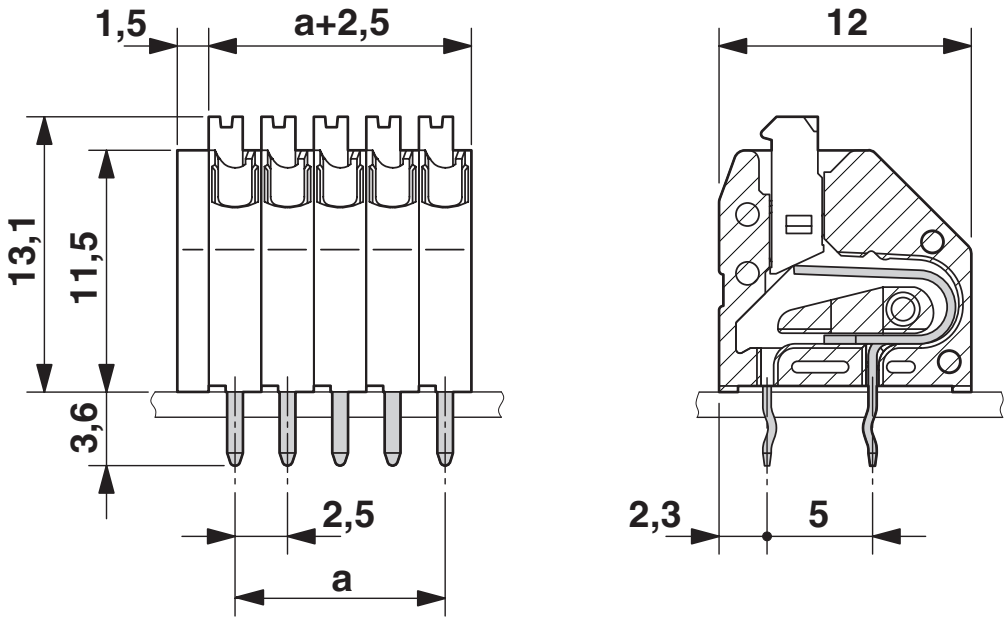
| | |
|---|---|
| Ambient temperature (storage/transport) | -40 °C ... 70 °C |
| Relative humidity (storage/transport) | 30 % ... 70 % |
| Ambient temperature (assembly) | -5 °C ... 55 °C |
| Ambient temperature (operation) | -40 °C ... 85 °C |

## Packaging specifications

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

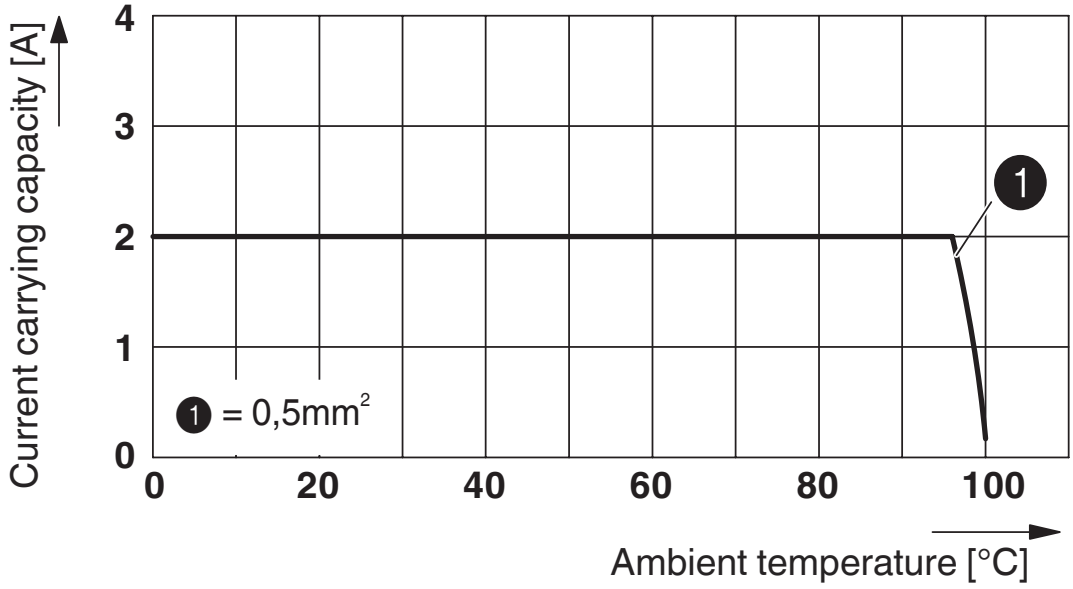
## Drawings

Dimensional drawing



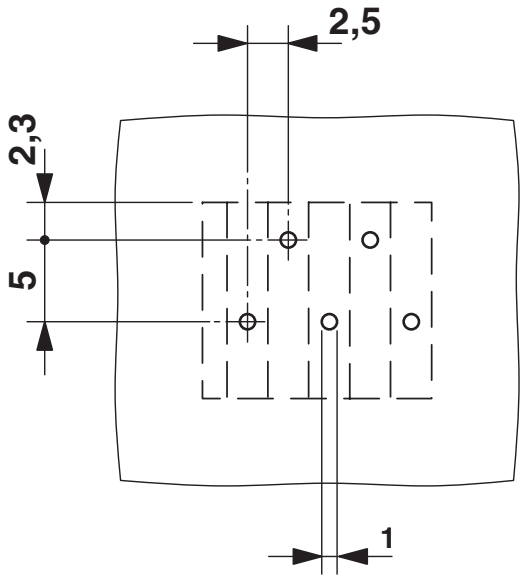

The figure shows the 5-pos. version

Diagram




Derating diagram for 5 pins;reduction factor=1

Drilling plan/solder pad geometry




The figure shows the 5-pos. version – Zig-zag pinning starts at the right-hand position. Other pinning available on request.

## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1990203

**cULus Recognized**
Approval ID: E60425-20030527

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| B | | | | |
| Field wiring | 300 V | 1 A | 26 - 20 | - |
| Factory wiring | 300 V | 2 A | 26 - 20 | - |
| D | | | | |
| Field wiring | 300 V | 1 A | 26 - 20 | - |
| Factory wiring | 300 V | 2 A | 26 - 20 | - |

**VDE report with production monitoring**
Approval ID: 40013932

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| keine | | | | |
| | 250 V | 2 A | - | - 0.5 |

## Classifications

### ECLASS

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

### ETIM

| | |
|---|---|
| ETIM 10.0 | EC002643 |

### UNSPSC

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

## 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 | 0.052 kg CO2e |


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