# ZFKDSA 4-7,5- 5 - PCB terminal block

1989191

https://www.phoenixcontact.com/us/products/1989191

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PCB terminal block, nominal current: 32 A, rated voltage (III/2): 630 V, nominal cross section: 4 mm$^2$, number of rows: 1, number of positions per row: 5, product range: ZFKDS(A) 4, pitch: 7.5 mm, connection method: Spring-cage connection, mounting: Wave soldering, conductor/PCB connection direction: 45 °, color: green, Pin layout: Linear pinning, Solder pin [P]: 4.6 mm, number of solder pins per potential: 2, type of packaging: packed in cardboard

## Your advantages

- Defined contact force ensures that contact remains stable over the long term
- Clamping space opened by means of fixed screwdriver enables convenient conductor connection
- Separate bridge shaft for easily connecting multiple positions to jumpers
- Quick and convenient testing using integrated test option

## Commercial data

| | |
|---|---|
| Item number | 1989191 |
| Packing unit | 50 pc |
| Minimum order quantity | 50 pc |
| Note | Made to order (non-returnable) |
| Sales key | AA14 |
| Product key | AANMAA |
| GTIN | 4017918939793 |
| Weight per piece (including packing) | 22.6 g |
| Weight per piece (excluding packing) | 14 g |
| Customs tariff number | 85369010 |
| Country of origin | IN |

# Technical data

## Product properties

| | |
|---|---|
| Product type | PCB terminal block |
| Product family | ZFKDS(A) 4 |
| Product line | COMBICON Terminals L |
| Number of positions | 5 |
| Pitch | 7.5 mm |
| Number of rows | 1 |
| Pin layout | Linear pinning |
| Solder pins per potential | 2 |

## Electrical properties

### Properties

| | |
|---|---|
| Nominal current $I_N$ | 32 A |
| Nominal voltage $U_N$ | 630 V |
| Rated voltage (III/3) | 500 V |
| Rated surge voltage (III/3) | 6 kV |
| Rated voltage (III/2) | 630 V |
| Rated surge voltage (III/2) | 6 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 | 4 mm² |

### Conductor connection

| | |
|---|---|
| Connection method | Spring-cage connection |
| Conductor cross-section rigid | 0.2 mm² ... 6 mm² |
| Conductor cross-section flexible | 0.2 mm² ... 4 mm² |
| Conductor cross-section AWG | 24 ... 10 |
| Conductor cross-section, flexible, with ferrule, without plastic sleeve | 0.25 mm² ... 4 mm² |
| Conductor cross-section, flexible, with ferrule, with plastic sleeve | 0.25 mm² ... 4 mm² |
| Stripping length | 10 mm |

## Mounting

| | |
|---|---|
| Mounting type | Wave soldering |
| Pin layout | Linear 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 | Tin-plated |
| Metal surface terminal point (top layer) | Tin (10 µm - 16 µm Sn) |
| Metal surface soldering area (top layer) | Tin (10 µm - 16 µm Sn) |

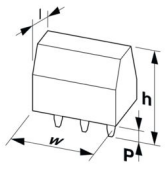
Material data - housing

| | |
|---|---|
| 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 |

Material data – actuating element

| | |
|---|---|
| Color (Actuating element) | green (6021) |

## Dimensions

| | |
|---|---|
| Dimensional drawing |  |
| Pitch | 7.5 mm |
| Width [w] | 39 mm |
| Height [h] | 27.6 mm |
| Length [l] | 29 mm |
| Installed height | 23 mm |
| Solder pin length [P] | 4.6 mm |
| Pin dimensions | 1 x 1.4 mm |

PCB design

| | |
|---|---|
| Hole diameter | 1.8 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 | 0.2 mm² / solid / > 10 N |
| | 0.2 mm² / flexible / > 10 N |
| | 6 mm² / solid / > 80 N |
| | 4 mm² / flexible / > 60 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 |

| | |
|---|---|
| Insulating material group | I |
| Rated insulation voltage (III/3) | 500 V |
| Rated surge voltage (III/3) | 6 kV |
| Rated insulation voltage (III/2) | 630 V |
| Rated surge voltage (III/2) | 6 kV |
| Rated insulation voltage (II/2) | 1000 V |
| Rated surge voltage (II/2) | 6 kV |

## 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

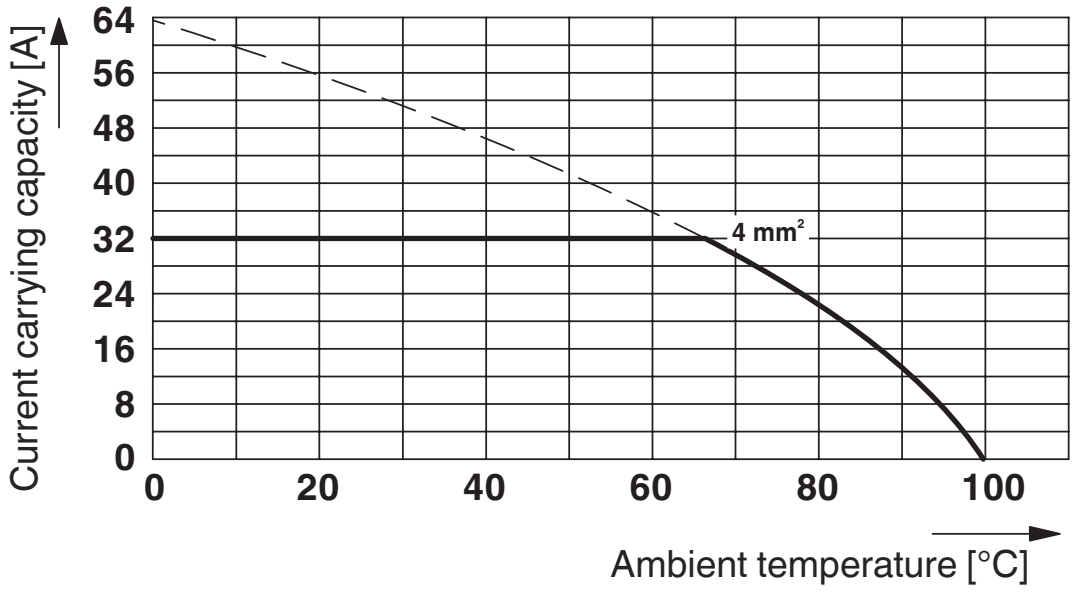
| | |
|---|---|
| Ambient temperature (storage/transport) | -40 °C ... 70 °C |
| Relative humidity (storage/transport) | 30 % ... 70 % |
| Ambient temperature (assembly) | -5 °C ... 100 °C |
| Ambient temperature (operation) | -40 °C ... 100 °C (Depending on the current carrying capacity/derating curve)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

## Packaging specifications

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

## Drawings

Diagram




## Type: ZFKDS 4-7,5 and ZFKDSA 4-9

Test following DIN EN 60512-5-2:2003-01
Reduction factor = 1
No. of positions: 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 | 0.105 kg CO2e |


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