

# ZFKDSA 1,5-5,08- 3 - PCB terminal block



1891506

<https://www.phoenixcontact.com/us/products/1891506>

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PCB terminal block, nominal current: 16 A, rated voltage (III/2): 400 V, nominal cross section: 1.5 mm<sup>2</sup>, number of potentials: 3, number of rows: 1, number of positions per row: 3, product range: ZFKDS(A) 1,5, pitch: 5.08 mm, connection method: Spring-cage connection, mounting: Wave soldering, conductor/PCB connection direction: 45 °, color: green, Pin layout: Linear pinning, Solder pin [P]: 3.5 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
- Angled connection enables multi-row arrangement on the PCB
- The latching on the side enables various numbers of positions to be combined
- Two solder pins reduce the mechanical strain on the soldering spots

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1891506       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Product key                          | AALMBA        |
| GTIN                                 | 4017918416386 |
| Weight per piece (including packing) | 4.048 g       |
| Weight per piece (excluding packing) | 4.03 g        |
| Country of origin                    | IN            |

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## Technical data

### Product properties

|                           |                                  |
|---------------------------|----------------------------------|
| Product type              | PCB terminal block               |
| Product family            | ZFKDS(A) 1,5                     |
| Product line              | COMBICON Terminals S             |
| Type                      | PC terminal block can be aligned |
| Number of positions       | 3                                |
| Pitch                     | 5.08 mm                          |
| Number of connections     | 3                                |
| Number of rows            | 1                                |
| Number of potentials      | 3                                |
| Pin layout                | Linear pinning                   |
| Solder pins per potential | 2                                |

### Electrical properties

#### Properties

|                             |       |
|-----------------------------|-------|
| Nominal current $I_N$       | 16 A  |
| Nominal voltage $U_N$       | 400 V |
| Rated voltage (III/3)       | 250 V |
| Rated surge voltage (III/3) | 4 kV  |
| Rated voltage (III/2)       | 400 V |
| Rated surge voltage (III/2) | 4 kV  |
| Rated voltage (II/2)        | 630 V |
| Rated surge voltage (II/2)  | 4 kV  |

### Connection data

#### Connection technology

|                       |                                  |
|-----------------------|----------------------------------|
| Type                  | PC terminal block can be aligned |
| Nominal cross section | 1.5 mm <sup>2</sup>              |

#### Conductor connection

|   |  |
|---|--|
| Connection method   | Spring-cage connection                       |
| Conductor cross-section rigid   | 0.2 mm <sup>2</sup> ... 2.5 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 ... 14                                    |
| Conductor cross-section, flexible, with ferrule, without plastic sleeve | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Conductor cross-section, flexible, with ferrule, with plastic sleeve    | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Stripping length  | 7.5 mm                                       |

### Mounting

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

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|            |                |
|------------|----------------|
| 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                  | hot-dip 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)   |

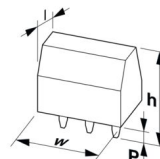
### Material data - housing

|   |              |
|---|--------------|
| 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                 | 5.08 mm  |
| Width [w]             | 17.78 mm   |
| Height [h]            | 17.7 mm  |
| Length [l]            | 16.9 mm  |
| Installed height      | 14.2 mm  |
| Solder pin length [P] | 3.5 mm   |
| Pin dimensions        | 0.7 x 1 mm   |

### PCB design

|               |         |
|---------------|---------|
| Pin spacing   | 5.08 mm |
| Hole diameter | 1.3 mm  |

## Electrical tests

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## Air clearances and creepage distances |

|                                  |       |
|----------------------------------|-------|
| Insulating material group        | I     |
| Rated insulation voltage (III/3) | 250 V |
| Rated surge voltage (III/3)      | 4 kV  |
| Rated insulation voltage (III/2) | 400 V |
| Rated surge voltage (III/2)      | 4 kV  |
| Rated insulation voltage (II/2)  | 630 V |
| Rated surge voltage (II/2)       | 4 kV  |

## Environmental and real-life conditions

### 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 |
|-------------------|---------------------|

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1891506>

|  <b>CSA</b><br>Approval ID: 13631 |                       |                       |                   |                             |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B  | 300 V                 | 10 A                  | 28 - 12           | -                           |
| D  | 300 V                 | 10 A                  | 28 - 12           | -                           |

|  <b>cULus Recognized</b><br>Approval ID: E60425-19941111 |                       |                       |                   |                             |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
|   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B   | 250 V                 | 10 A                  | 26 - 12           | -                           |
| D   | 300 V                 | 10 A                  | 26 - 12           | -                           |

|  <b>KEMA-KEUR</b><br>Approval ID: 2160724.01 |                       |                       |                   |                             |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
|   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine   |                       |                       |                   |                             |
| Only flexible conductors  | 250 V                 | -                     | -                 | 0.2 - 1.5                   |
| Only rigid conductors   | 250 V                 | -                     | -                 | 0.2 - 2.5                   |

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## Classifications

### ECLASS

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

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | 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% |
|-------------------------------------|----------------------------|

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