

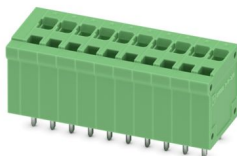
ZFKDS 1-V-3,81 BK - PCB terminal block



1766022

<https://www.phoenixcontact.com/us/products/1766022>

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The figure shows the 10-position version

PCB terminal block, nominal current: 12 A, rated voltage (III/2): 200 V, nominal cross section: 1 mm², number of potentials: 1, number of rows: 1, number of positions per row: 1, product range: ZFKDS(A) 1-V, pitch: 3.81 mm, connection method: Spring-cage connection, mounting: Wave soldering, conductor/PCB connection direction: 90 °, color: black, Pin layout: Linear pinning, Solder pin [P]: 3.5 mm, number of solder pins per potential: 2, type of packaging: packed in cardboard. Single module for the custom grouping of different numbers of positions. An end terminal block is also needed to terminate the block (see accessories). Blocked items with different numbers of positions are also available.

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
- Vertical 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 | 1766022 |
| Packing unit | 50 pc |
| Minimum order quantity | 50 pc |
| Note | Made to order (non-returnable) |
| Product key | AALMAC |
| GTIN | 4046356431842 |
| Weight per piece (including packing) | 1.231 g |
| Weight per piece (excluding packing) | 1.057 g |
| Country of origin | PL |

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Technical data

Product properties

| | |
|---------------------------|----------------------------------|
| Product type | PCB terminal block |
| Product family | ZFKDS(A) 1-V |
| Product line | COMBICON Terminals S |
| Type | PC terminal block can be aligned |
| Number of positions | 1 |
| Pitch | 3.81 mm |
| Number of connections | 1 |
| Number of rows | 1 |
| Number of potentials | 1 |
| Pin layout | Linear pinning |
| Solder pins per potential | 2 |

Electrical properties

Properties

| | |
|-----------------------------|--------|
| Nominal current I_N | 12 A |
| Nominal voltage U_N | 200 V |
| Rated voltage (III/3) | 200 V |
| Rated surge voltage (III/3) | 2.5 kV |
| Rated voltage (III/2) | 200 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 terminal block can be aligned |
| Nominal cross section | 1 mm ² |

Conductor connection

| | |
|---|--|
| Connection method | Spring-cage connection |
| Conductor cross-section rigid | 0.14 mm ² ... 1.5 mm ² |
| Conductor cross-section flexible | 0.14 mm ² ... 1 mm ² |
| Conductor cross-section AWG | 26 ... 16 |
| Conductor cross-section, flexible, with ferrule, without plastic sleeve | 0.25 mm ² ... 0.5 mm ² |
| Conductor cross-section, flexible, with ferrule, with plastic sleeve | 0.25 mm ² ... 0.5 mm ² |
| 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) | black (9005) |
| 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) | black (9005) |
|---------------------------|--------------|

Dimensions

| | |
|-----------------------|--------------|
| Dimensional drawing | |
| Pitch | 3.81 mm |
| Width [w] | 3.97 mm |
| Height [h] | 18.75 mm |
| Length [l] | 15.9 mm |
| Installed height | 15.25 mm |
| Solder pin length [P] | 3.5 mm |
| Pin dimensions | 0.8 x 0.8 mm |

PCB design

| | |
|---------------|--------|
| Hole diameter | 1.2 mm |
|---------------|--------|

Electrical tests

Air clearances and creepage distances |

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| | |
|--|---------------------|
| Specification | IEC 60664-1:2007-04 |
| 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) | 200 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

Ambient conditions

| | |
|---------------------------------------|---------------|
| Relative humidity (storage/transport) | 30 % ... 70 % |
|---------------------------------------|---------------|

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/1766022>

|  cULus Recognized Approval ID: E60425-19941111 | | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
|---|--|-----------------------|-----------------------|-------------------|-----------------------------|
| B | | 250 V | 10 A | 26 - 12 | - |
| D | | 300 V | 10 A | 26 - 12 | - |

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

EF3.1 Climate Change

| | |
|---------|--------------|
| CO2e kg | 0.01 kg CO2e |
|---------|--------------|

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