

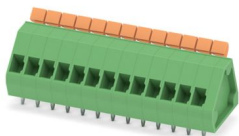
ZFKDSA 1-W-3,81-13 - PCB terminal block



1747960

<https://www.phoenixcontact.com/us/products/1747960>

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Printed circuit board terminal, nominal current: 12 A, rated voltage (III/2): 200 V, nominal cross section: 1 mm², number of potentials: 13, number of rows: 1, number of positions per row: 13, product range: ZFKDS(A) 1-W, pitch: 3.81 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
- Can be operated without tools by means of color-coded actuating lever
- 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 | 1747960 |
| Packing unit | 50 pc |
| Minimum order quantity | 50 pc |
| Note | Made to order (non-returnable) |
| Sales key | AA12 |
| Product key | AALMAF |
| GTIN | 4046356299947 |
| Weight per piece (including packing) | 12.692 g |
| Weight per piece (excluding packing) | 12.556 g |
| Customs tariff number | 85369010 |
| Country of origin | PL |

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Technical data

Product properties

| | |
|---------------------------|----------------------------------|
| Product type | Printed circuit board terminal |
| Product family | ZFKDS(A) 1-W |
| Product line | COMBICON Terminals S |
| Type | PC terminal block can be aligned |
| Number of positions | 13 |
| Pitch | 3.81 mm |
| Number of connections | 13 |
| Number of rows | 1 |
| Number of potentials | 13 |
| 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) | 160 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) |

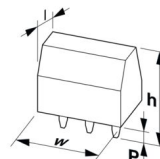
Material data - housing

| | |
|---|--------------|
| Color (Housing) | 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 | 3.81 mm |
| Width [w] | 52.57 mm |
| Height [h] | 19.48 mm |
| Length [l] | 17.46 mm |
| Installed height | 15.98 mm |
| Solder pin length [P] | 3.5 mm |
| Pin dimensions | 0.7 x 1 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) | 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) | 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

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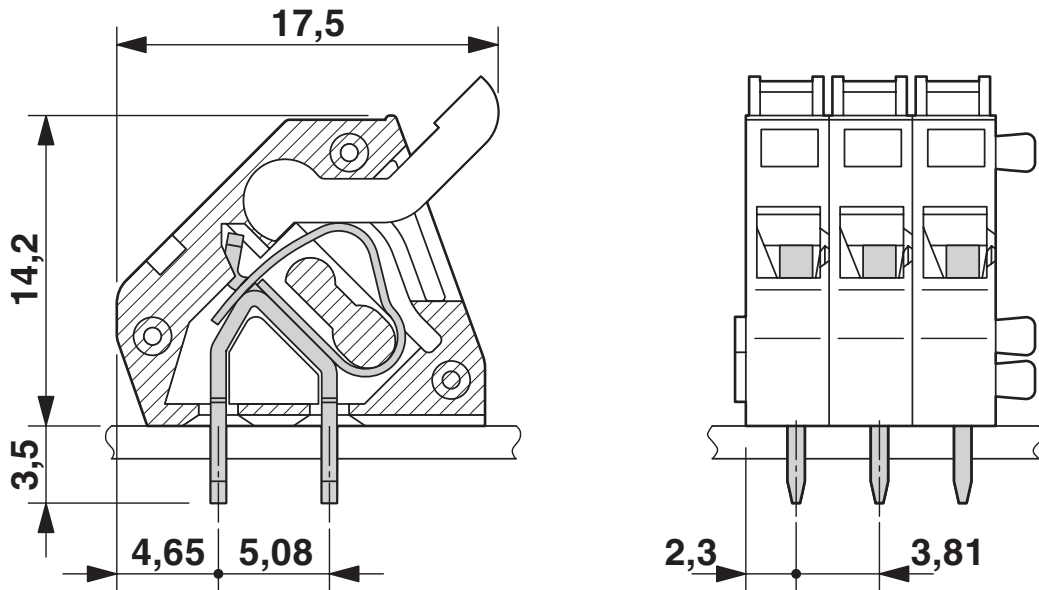


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Drawings

Dimensional drawing



Drilling plan/solder pad geometry



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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1747960>

|  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 | 0.089 kg CO2e |
|---------|---------------|

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Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com