

KDS 4 - PCB terminal block

1780507

<https://www.phoenixcontact.com/us/products/1780507>



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PCB terminal block, nominal current: 41 A, rated voltage (III/2): 320 V, nominal cross section: 4 mm², number of potentials: 1, number of rows: 1, number of positions per row: 1, product range: KDS 4, pitch: 7.5 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, mounting: Wave soldering, conductor/PCB connection direction: 0 °, color: green, Pin layout: Linear pinning, Solder pin [P]: 5 mm, number of solder pins per potential: 2, type of packaging: packed in cardboard. The article can be aligned to create different nos. of positions!

Your advantages

- Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- Allows connection of two conductors
- Potentials can be easily looped through with additional connection to the PCB
- Two solder pins reduce the mechanical strain on the soldering spots
- The latching on the side enables various numbers of positions to be combined

Commercial data

| | |
|--------------------------------------|---------------------|
| Item number | 1780507 |
| Packing unit | 1 pc |
| Minimum order quantity | 50 pc |
| Sales key | AA14 |
| Product key | AANFBA |
| Catalog page | Page 127 (C-1-2013) |
| GTIN | 4017918040918 |
| Weight per piece (including packing) | 5.29 g |
| Weight per piece (excluding packing) | 0.53 g |
| Customs tariff number | 85369010 |
| Country of origin | PL |

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Technical data

Product properties

| | |
|---------------------------|---|
| Type | PCB terminal block can be aligned in rows+feed-through terminal block |
| Product line | COMBICON Terminals L |
| Product type | Printed circuit board terminal |
| Product family | KDS 4 |
| Number of positions | 1 |
| Pitch | 7.5 mm |
| Number of connections | 2 |
| Number of rows | 1 |
| Number of potentials | 1 |
| Pin layout | Linear pinning |
| Solder pins per potential | 2 |

Electrical properties

| | |
|-----------------------------|-------|
| Nominal current I_N | 41 A |
| Nominal voltage U_N | 320 V |
| Degree of pollution | 3 |
| Rated voltage (III/3) | 320 V |
| Rated surge voltage (III/3) | 4 kV |
| Rated voltage (III/2) | 320 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 | PCB terminal block can be aligned in rows+feed-through terminal block |
| Nominal cross section | 4 mm ² |

Conductor connection

| | |
|---|---|
| Connection method | Screw connection with tension sleeve |
| Conductor cross section rigid | 0.2 mm ² ... 6 mm ² |
| Conductor cross section flexible | 0.2 mm ² ... 4 mm ² |
| Conductor cross section AWG | 24 ... 10 |
| Conductor cross section flexible, with ferrule without plastic sleeve | 0.25 mm ² ... 4 mm ² |
| Conductor cross section, flexible, with ferrule, with plastic sleeve | 0.25 mm ² ... 4 mm ² |
| 2 conductors with same cross section, solid | 0.2 mm ² ... 1.5 mm ² |
| 2 conductors with same cross section, flexible | 0.2 mm ² ... 1 mm ² |
| 2 conductors with same cross section, flexible, with ferrule | 0.25 mm ² ... 1 mm ² |

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| | |
|---|---------------------|
| without plastic sleeve | |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm² ... 2.5 mm² |
| Stripping length | 8 mm |
| Tightening torque | 0.6 Nm ... 0.8 Nm |

Mounting

| | |
|-----------------------|--------------------------------------|
| Mounting type | Wave soldering |
| Pin layout | Linear pinning |
| Drive form screw head | Slotted (L) |
| Connection method | Screw connection with tension sleeve |
| Drive form screw head | Slotted (L) |

Processing notes

| | |
|---------|----------------|
| Process | Wave soldering |
|---------|----------------|

Material specifications

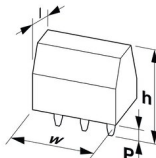
Material data - contact

| | |
|--|--|
| 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 (5 - 7 µm Sn) |
| Metal surface soldering area (top layer) | Tin (5 - 7 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 | 7.5 mm |
| Width [w] | 7.5 mm |

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| | |
|-----------------------|--------------|
| Height [h] | 23 mm |
| Length [l] | 20.6 mm |
| Installed height | 18 mm |
| Solder pin length [P] | 5 mm |
| Pin dimensions | 0.9 x 0.9 mm |

Mechanical tests

Test for conductor damage and slackening

| | |
|---------------|---------------------|
| Specification | IEC 60999-1:1990-05 |
| Result | Test passed |

Pull-out test

| | |
|---|---|
| Specification | IEC 60999-1:1990-05 |
| Conductor cross section/conductor type/tractive force setpoint/actual value | 0.2 mm ² / solid / > 10 N |
| | 0.2 mm ² / flexible / > 10 N |
| | 6 mm ² / solid / > 80 N |
| | 4 mm ² / flexible / > 60 N |

Torque test

| | |
|---------------|---------------------|
| Specification | IEC 60999-1:1990-05 |
|---------------|---------------------|

Electrical tests

Temperature-rise test

| | |
|-----------------------------------|--------------------------------|
| Specification | IEC 60999-1:1990-05 |
| Requirement temperature-rise test | Increase in temperature ≤ 45 K |

Insulation resistance

| | |
|--|---------------------|
| Specification | IEC 60512-2:1985-00 |
| Insulation resistance, neighboring positions | 10 ¹² 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) | 320 V |
| Rated surge voltage (III/3) | 4 kV |
| minimum clearance value - non-homogenous field (III/3) | 3 mm |
| minimum creepage distance (III/3) | 4 mm |
| Rated insulation voltage (III/2) | 320 V |
| Rated surge voltage (III/2) | 4 kV |
| minimum clearance value - non-homogenous field (III/2) | 3 mm |
| minimum creepage distance (III/2) | 3 mm |
| Rated insulation voltage (II/2) | 630 V |
| Rated surge voltage (II/2) | 4 kV |
| minimum clearance value - non-homogenous field (II/2) | 3 mm |

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| | |
|----------------------------------|--------|
| minimum creepage distance (II/2) | 3.2 mm |
|----------------------------------|--------|

Environmental and real-life conditions

Vibration test

| | |
|------------------------|---------------------------------|
| Specification | IEC 60068-2-6:1982 + AMD 2:1985 |
| Frequency | 10 - 150 - 10 Hz |
| Sweep speed | 1 octave/min |
| Amplitude | 0.35 mm (10 Hz ... 60.1 Hz) |
| Sweep speed | 5g (60.1 Hz ... 150 Hz) |
| Test duration per axis | 2.5 h |

Ambient conditions

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

Packaging specifications

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

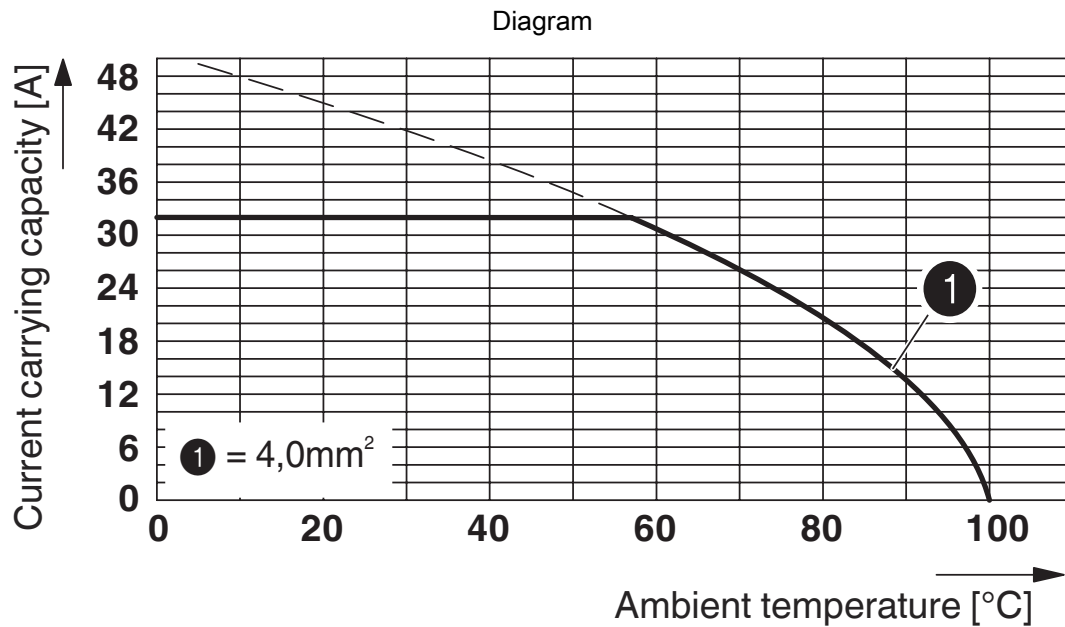
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Drawings

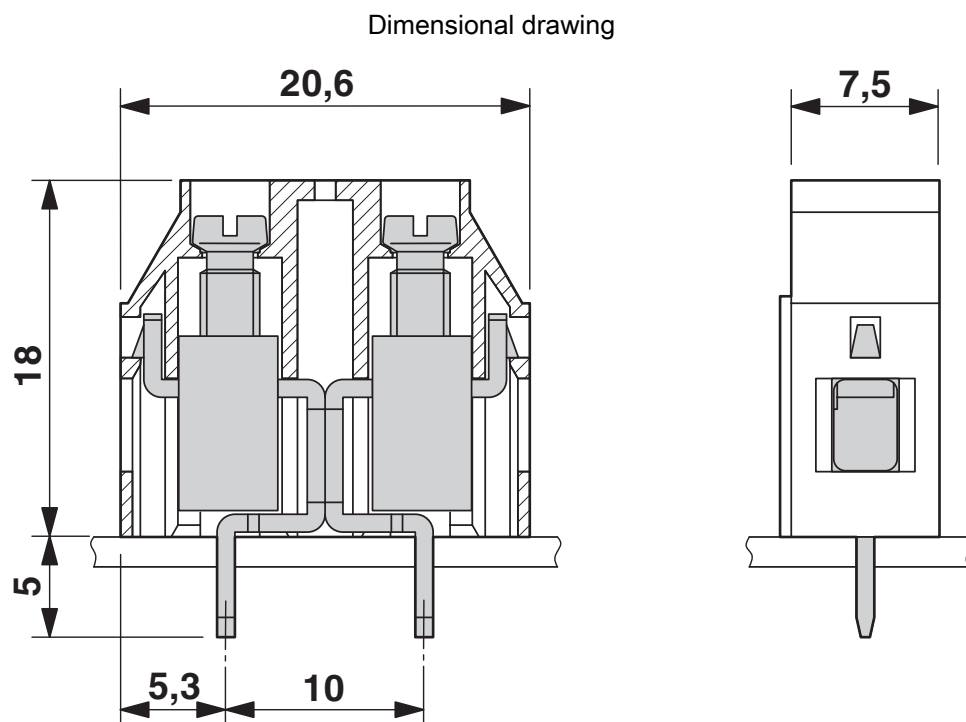


Type: KDS 4

Test following DIN EN 60512-5-2:2003-01

Reduction factor = 1

No. of positions: 5



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Approvals


To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1780507>

|  CSA Approval ID: 13631 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| Use group B | 300 V | 30 A | 28 - 10 | - |
| | | | | |
| Use group D | 300 V | 10 A | 28 - 10 | - |
| | | | | |

|  EAC Approval ID: B.01687 | | | | |
|--|--|--|--|--|
|--|--|--|--|--|

|  cULus Recognized Approval ID: E60425-19770427 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| Use group B | 300 V | 30 A | 30 - 10 | - |
| | | | | |
| Use group D | 300 V | 10 A | 30 - 10 | - |
| | | | | |

|  DNV GL Approval ID: TAE00001EV | | | | |
|--|--|--|--|--|
|--|--|--|--|--|

|  VDE Zeichengenehmigung Approval ID: 40055394 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| | 320 V | 41 A | - | 0.2 - 6 |

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-11.0 | 27460101 |
| ECLASS-12.0 | 27460101 |
| ECLASS-13.0 | 27460101 |

ETIM

| | |
|----------|----------|
| ETIM 8.0 | EC002643 |
|----------|----------|

UNSPSC

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

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Environmental product compliance

| | |
|------------|---|
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
| | No hazardous substances above threshold values |

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Accessories

RZ-KDS 4 - Pitch spacer

1705058

<https://www.phoenixcontact.com/us/products/1705058>



Pitch spacer, raises the pitch by 2.5 mm, interlocks with terminal block of the same shape, color: green

SZS 0,6X3,5 - Screwdriver

1205053

<https://www.phoenixcontact.com/us/products/1205053>



Actuation tool, for ST terminal blocks, insulated, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip

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SK 7,5/5:FORTL.ZAHLEN - Marker card

0804468

<https://www.phoenixcontact.com/us/products/0804468>



Marker card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, mounting type: adhesive, for terminal block width: 7.5 mm, lettering field size: 7.5 x 5 mm

BNB-ZB 7,5,LGS:FORTL.ZAHLEN - Marker pin Zack strip

1400052

<https://www.phoenixcontact.com/us/products/1400052>



Marker pin Zack strip, Strip, white, labeled, printed horizontally: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 991 ... 1000, mounting type: plug in, for terminal block width: 7.5 mm, lettering field size: 6 x 4 mm, Number of individual labels: 10

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