

PCB terminal block - KDS10-PE/SO



1704062

<https://www.phoenixcontact.com/pc/products/1704062>

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PCB terminal block, nominal current: 76 A, rated voltage (III/2): 320 V, nominal cross section: 10 mm², number of potentials: 1, number of rows: 1, number of positions per row: 1, product range: KDS10-PE, pitch: 10 mm, connection method: Screw connection with tension sleeve, mounting: Wave soldering, conductor/PCB connection direction: 0 °, Pin layout: Linear pinning, Solder pin [P]: 4.3 mm, number of solder pins per potential: 4, 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
- The latching on the side enables various numbers of positions to be combined

Commercial Data

| | |
|--------------------------------------|---------------------|
| Item number | 1704062 |
| Packing unit | 50 pc |
| Minimum order quantity | 1 pc |
| Product Key | AANFCB |
| Catalog Page | Page 459 (C-1-2013) |
| GTIN | 4017918023195 |
| Weight per Piece (including packing) | 17.096 g |
| Weight per Piece (excluding packing) | 16.106 g |
| Customs tariff number | 85369010 |
| Country of origin | DE |

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Technical Data

Product properties

| | |
|---------------------------|--|
| Type | PC terminal block can be aligned + PE terminal block + feed-through terminal block |
| Product line | COMBICON Terminals L |
| Product type | Printed circuit board terminal |
| Number of positions | 1 |
| Pitch | 10 mm |
| Number of connections | 2 |
| Number of rows | 1 |
| Number of potentials | 1 |
| Pin layout | Linear pinning |
| Solder pins per potential | 4 |

Electrical properties

| | |
|-----------------------------|-------|
| Nominal current I_N | 76 A |
| Nominal voltage U_N | 320 V |
| Degree of pollution | 3 |
| Rated voltage (III/3) | 250 V |
| Rated surge voltage (III/3) | 4 kV |
| Rated voltage (III/2) | 320 V |
| Rated surge voltage (III/2) | 4 kV |

Connection data

Connection technology

| | |
|-----------------------|--|
| Type | PC terminal block can be aligned + PE terminal block + feed-through terminal block |
| Nominal cross section | 10 mm ² |

Conductor connection

| | |
|---|---|
| Connection method | Screw connection with tension sleeve |
| Conductor cross section solid | 0.5 mm ² ... 16 mm ² |
| Conductor cross section flexible | 0.5 mm ² ... 10 mm ² |
| Conductor cross section AWG | 20 ... 6 |
| Conductor cross section flexible, with ferrule without plastic sleeve | 0.5 mm ² ... 10 mm ² |
| Conductor cross section, flexible, with ferrule, with plastic sleeve | 0.5 mm ² ... 10 mm ² |
| 2 conductors with same cross section, solid | 0.5 mm ² ... 4 mm ² |
| 2 conductors with same cross section, flexible | 0.5 mm ² ... 4 mm ² |
| 2 conductors with same cross section, flexible, with ferrule without plastic sleeve | 0.5 mm ² ... 2.5 mm ² |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm ² ... 6 mm ² |
| Stripping length | 12 mm |

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| | |
|-------------------|-------------------|
| Tightening torque | 1.2 Nm ... 1.5 Nm |
|-------------------|-------------------|

Mounting

| | |
|---------------|----------------|
| Mounting type | Wave soldering |
| Pin layout | Linear pinning |

Material specifications

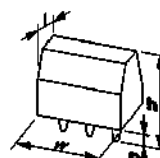
Material data - contact

| | |
|---|--|
| 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 (5 - 7 μm Sn) |
| Metal surface terminal point (middle layer) | Nickel (2 - 3 μm Ni) |
| Metal surface soldering area (top layer) | Tin (5 - 7 μm Sn) |
| Metal surface soldering area (middle layer) | Nickel (2 - 3 μm Ni) |

Material data - housing

| | |
|---|--------|
| 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 | 10 mm |
| Width [w] | 10 mm |
| Height [h] | 33.3 mm |
| Length [l] | 36.8 mm |
| Installed height | 29 mm |
| Solder pin length [P] | 4.3 mm |

Mechanical tests

Test for conductor damage and slackening

| | |
|---------------|-----------------------|
| Specification | IEC 60998-2-1:1990-04 |
|---------------|-----------------------|

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| | |
|--------|-------------|
| Result | Test passed |
|--------|-------------|

Pull-out test

| | |
|---|---|
| Specification | IEC 60998-2-1:1990-04 |
| Conductor cross section/conductor type/tractive force setpoint/actual value | 0.5 mm ² / solid / > 30 N |
| | 0.5 mm ² / flexible / > 30 N |
| | 16 mm ² / solid / > 100 N |
| | 10 mm ² / flexible / > 90 N |

Torque test

| | |
|---------------|-----------------------|
| Specification | IEC 60998-2-1:1990-04 |
|---------------|-----------------------|

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 60998-2-1:1990-04 |
| Insulation resistance, neighboring positions | 10 ⁹ 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) | 250 V |
| Rated surge voltage (III/3) | 4 kV |
| minimum clearance value - non-homogenous field (III/3) | 3 mm |
| minimum creepage distance (III/3) | 3.2 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 |
| minimum creepage distance (II/2) | 3.2 mm |

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) |
| Sweep speed | 5g (60.1 Hz ... 150 Hz) |

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| | |
|------------------------|-------|
| Test duration per axis | 2.5 h |
|------------------------|-------|

Glow-wire test

| | |
|------------------|-----------------------|
| Specification | IEC 60998-2-1:1990-04 |
| Temperature | 850 °C |
| Time of exposure | 5 s |

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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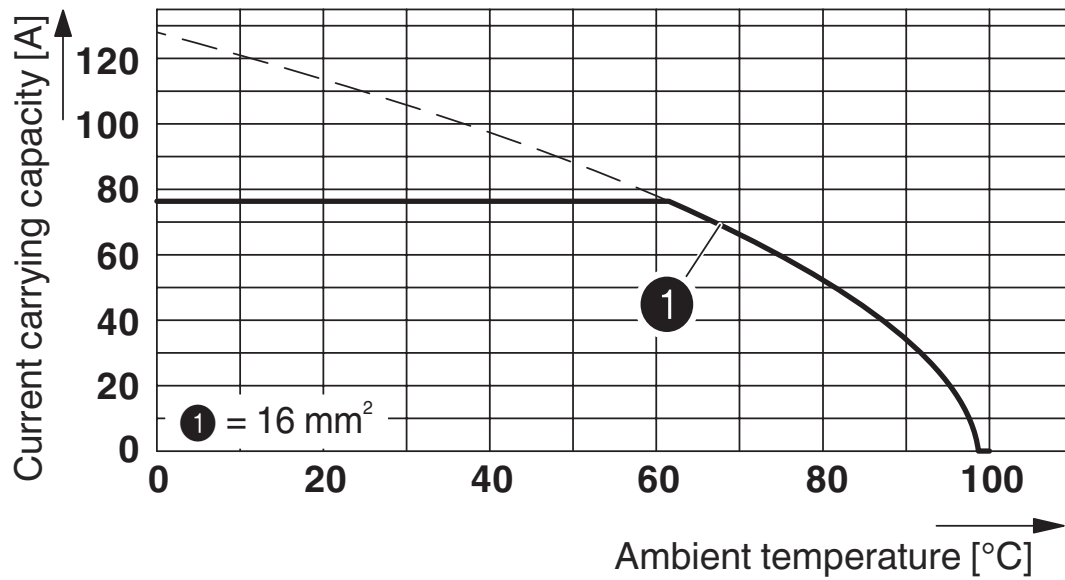


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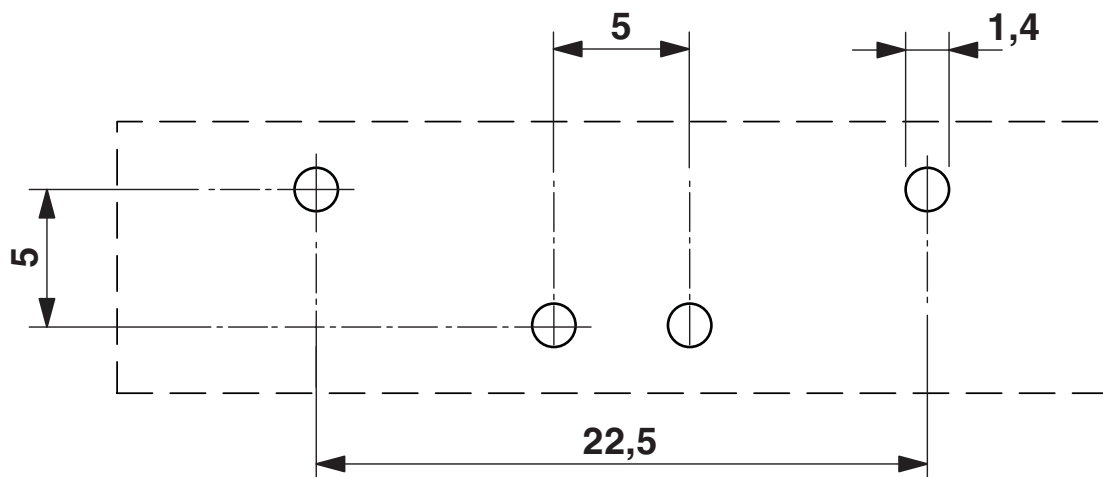
Drawings

Diagram



Type: KDS10-PE

Drilling plan/solder pad geometry



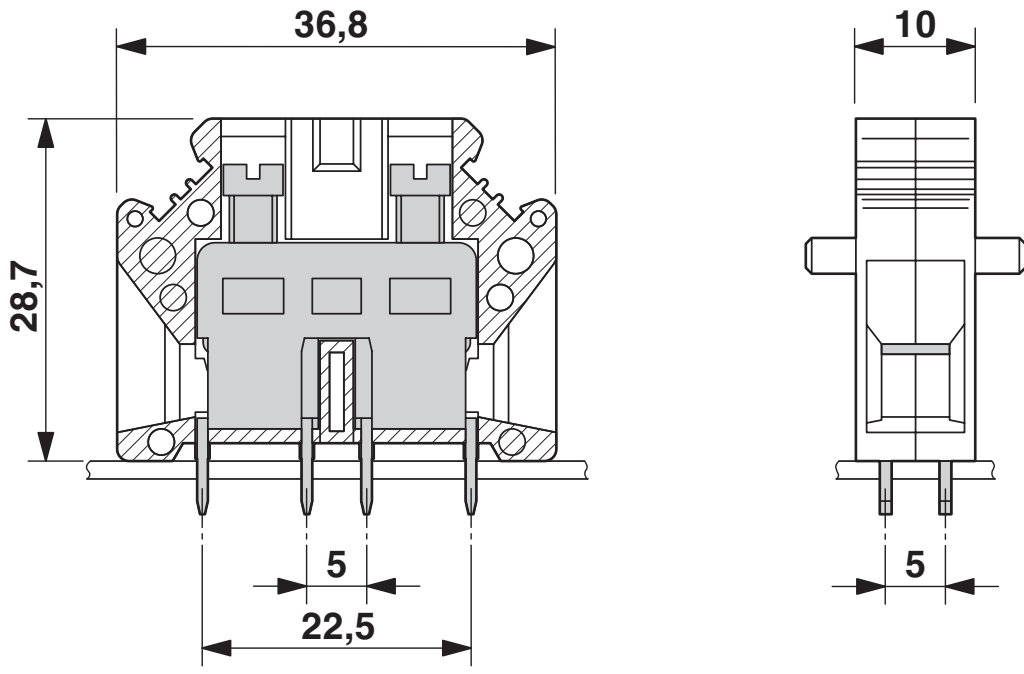
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Dimensional drawing




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Approvals

|  CSA Approval ID: 13631 | | | | |
|--|-----------------------|-----------------------|-------------------|----------------------|
| | Nominal Voltage U_N | Nominal Current I_N | Cross Section AWG | Cross Section mm^2 |
| Use group B | | | 18 - 6 | - |
| Use group C | | | 18 - 6 | - |

|  cUL Recognized Approval ID: FILE E 60425 | | | | |
|--|-----------------------|-----------------------|-------------------|----------------------|
| | Nominal Voltage U_N | Nominal Current I_N | Cross Section AWG | Cross Section mm^2 |
| Use group B | | | 24 - 6 | - |
| Use group C | | | 24 - 6 | - |

|  UL Recognized Approval ID: FILE E 60425 | | | | |
|---|-----------------------|-----------------------|-------------------|----------------------|
| | Nominal Voltage U_N | Nominal Current I_N | Cross Section AWG | Cross Section mm^2 |
| Use group B | | | 24 - 6 | - |
| Use group C | | | 24 - 6 | - |

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

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

| cULus Recognized | | | | |
|-------------------------|--|--|--|--|
|-------------------------|--|--|--|--|

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Classifications

ECLASS

| | |
|---------------|----------|
| ECLASS-9.0 | 27440401 |
| ECLASS-10.0.1 | 27440401 |
| ECLASS-11.0 | 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

Pitch spacer

Pitch spacer - RZ-KDS10 - 1701065

<https://www.phoenixcontact.com/pc/products/1701065>



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

Fixed bridge

Fixed bridge - FBI 10-10 - 0203276

<https://www.phoenixcontact.com/pc/products/0203276>



Fixed bridge, pitch: 10 mm, color: silver

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Female test connector

Female test connector - PSB 4/7/6 - 0303299

<https://www.phoenixcontact.com/pc/products/0303299>



Female test connector, color: silver

Screwdriver

Screwdriver - SZS 1,0X4,0 VDE - 1205066

<https://www.phoenixcontact.com/pc/products/1205066>



Screwdriver, slot-headed, VDE insulated, size: 1.0 x 4.0 x 100 mm, 2-component grip, with non-slip grip

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Zack marker strip

Zack marker strip - ZB10,LGS:FORTL.ZAHLEN - 1053014

<https://www.phoenixcontact.com/pc/products/1053014>



Zack marker strip, Strip, white, labeled, can be labeled with: CMS-P1-PLOTTER, printed horizontally: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, mounting type: snapped, for terminal block width: 10.2 mm, lettering field size: 10.15 x 10.5 mm, Number of individual labels: 10

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