

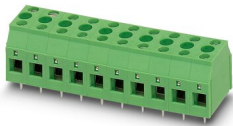
# PCB terminal block - KDSP 4



1780536

<https://www.phoenixcontact.com/pc/products/1780536>

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PCB terminal block, nominal current: 41 A, rated voltage (III/2): 320 V, nominal cross section: 4 mm<sup>2</sup>, number of potentials: 1, number of rows: 1, number of positions per row: 1, product range: KDSP 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
- Quick and convenient testing using integrated test option
- 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                          | 1780536             |
| Packing unit                         | 50 pc               |
| Minimum order quantity               | 1 pc                |
| Product Key                          | AANFBB              |
| Catalog Page                         | Page 127 (C-1-2013) |
| GTIN                                 | 4017918040925       |
| Weight per Piece (including packing) | 5.285 g             |
| Weight per Piece (excluding packing) | 5.285 g             |
| Customs tariff number                | 85369010            |
| Country of origin                    | PL                  |

## 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  |
| 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  |

### Connection data

#### Connection technology

|                       |   |
|-----------------------|---|
| Type                  | PCB terminal block can be aligned in rows+feed-through terminal block |
| Nominal cross section | 4 mm <sup>2</sup>   |

#### Conductor connection

|   |   |
|---|---|
| Connection method   | Screw connection with tension sleeve        |
| Conductor cross section solid   | 0.2 mm <sup>2</sup> ... 6 mm <sup>2</sup>   |
| Conductor cross section flexible  | 0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>   |
| Conductor cross section AWG   | 24 ... 10                                   |
| Conductor cross section flexible, with ferrule without plastic sleeve                     | 0.25 mm <sup>2</sup> ... 4 mm <sup>2</sup>  |
| Conductor cross section, flexible, with ferrule, with plastic sleeve                      | 0.25 mm <sup>2</sup> ... 4 mm <sup>2</sup>  |
| 2 conductors with same cross section, solid   | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| 2 conductors with same cross section, flexible  | 0.2 mm <sup>2</sup> ... 1 mm <sup>2</sup>   |
| 2 conductors with same cross section, flexible, with ferrule without plastic sleeve       | 0.25 mm <sup>2</sup> ... 1 mm <sup>2</sup>  |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Stripping length  | 8 mm  |

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|                   |                   |
|-------------------|-------------------|
| Tightening torque | 0.6 Nm ... 0.8 Nm |
|-------------------|-------------------|

## Mounting

|                       |                |
|-----------------------|----------------|
| Mounting type         | Wave soldering |
| Pin layout            | Linear pinning |
| Drive form screw head | Slotted (L)    |
| 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   |
| Metal surface terminal point (top layer)    | Tin (5 - 7 $\mu\text{m}$ Sn)   |
| Metal surface terminal point (middle layer) | Nickel (2 - 3 $\mu\text{m}$ Ni)  |
| Metal surface soldering area (top layer)    | Tin (5 - 7 $\mu\text{m}$ Sn)   |
| Metal surface soldering area (middle layer) | Nickel (2 - 3 $\mu\text{m}$ Ni)  |

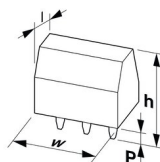
### Material data - housing

|   |              |
|---|--------------|
| 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 ( ) | ( ) |
|-----------|-----|

## Dimensions

|                     |  |
|---------------------|--|
| Dimensional drawing |  |
| Pitch               | 7.5 mm   |
| Width [w]           | 7.5 mm   |
| Height [h]          | 23 mm  |

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|                       |         |
|-----------------------|---------|
| Length [l]            | 20.6 mm |
| Installed height      | 18 mm   |
| Solder pin length [P] | 5 mm    |

## Electrical tests

### Air clearances and creepage distances |

|                                  |       |
|----------------------------------|-------|
| Insulating material group        | I     |
| Rated insulation voltage (III/3) | 320 V |
| Rated surge voltage (III/3)      | 4 kV  |
| Rated insulation voltage (III/2) | 320 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 (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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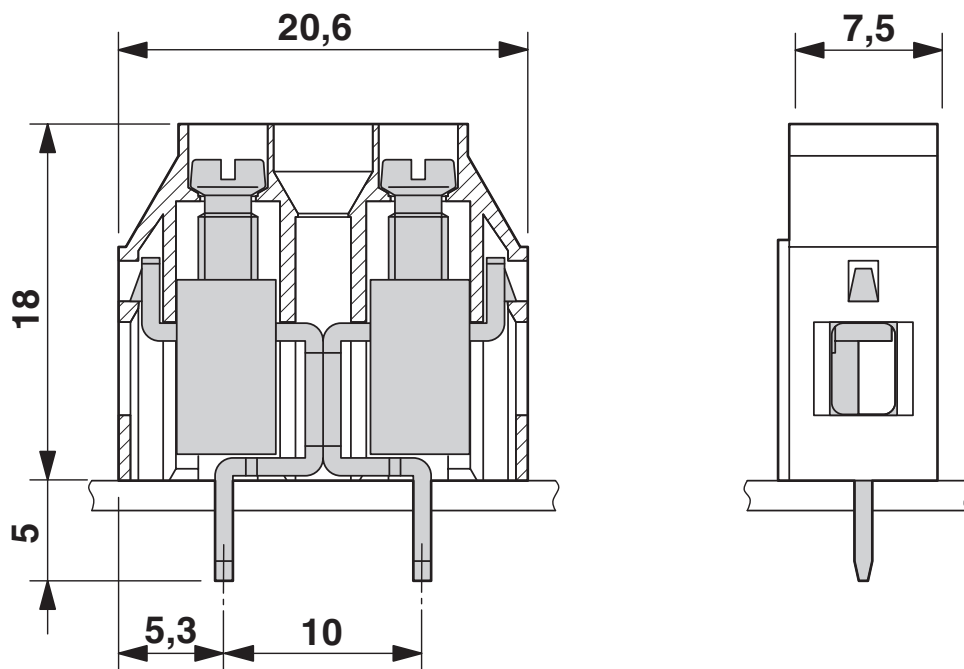
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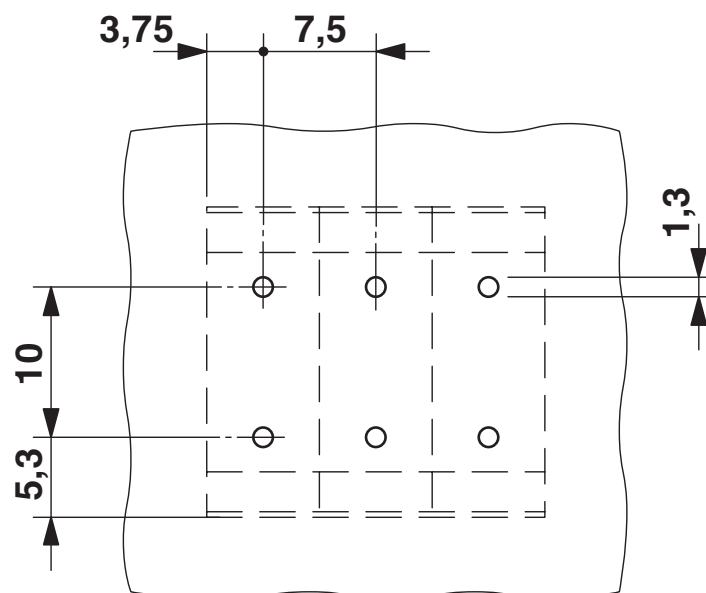


## Drawings

Dimensional drawing



Drilling plan/solder pad geometry




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## Approvals

|  <b>CSA</b><br>Approval ID: 13631 |                       |                       |                   |                             |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | Nominal Voltage $U_N$ | Nominal Current $I_N$ | Cross Section AWG | Cross Section $\text{mm}^2$ |
| Use group B  |                       |                       |                   |                             |
|  | 300 V                 | 30 A                  | 28 - 10           | -                           |
| Use group D  |                       |                       |                   |                             |
|  | 300 V                 | 10 A                  | 28 - 10           | -                           |

|  <b>EAC</b><br>Approval ID: B.01687 |  |  |  |  |
|--|--|--|--|--|
|--|--|--|--|--|

|  <b>cULus Recognized</b><br>Approval ID: E60425-19770427 |                       |                       |                   |                             |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
|   | Nominal Voltage $U_N$ | Nominal Current $I_N$ | Cross Section AWG | Cross Section $\text{mm}^2$ |
| Use group B   |                       |                       |                   |                             |
|   | 300 V                 | 30 A                  | 30 - 10           | -                           |
| Use group D   |                       |                       |                   |                             |
|   | 300 V                 | 10 A                  | 30 - 10           | -                           |

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## Classifications

### ECLASS

|               |          |
|---------------|----------|
| ECLASS-10.0.1 | 27440401 |
| ECLASS-9.0    | 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-KDS 4 - 1705058

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



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

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### Test plugs

Test plugs - MPS-MT - 0201744

<https://www.phoenixcontact.com/pc/products/0201744>



Test plugs, with solder connection up to 1 mm<sup>2</sup> conductor cross section, color: gray

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## Screwdriver

Screwdriver - SZS 0,6X3,5 - 1205053

<https://www.phoenixcontact.com/pc/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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## Marker card

Marker card - SK 7,5/5:FORTL.ZAHLEN - 0804468

<https://www.phoenixcontact.com/pc/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

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## Marker pin Zack strip

Marker pin Zack strip - BNB-ZB 7,5,LGS:FORTL.ZAHLEN - 1400052

<https://www.phoenixcontact.com/pc/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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