

# MKKDS 5/ 2-9,5 - PCB terminal block



1719015  
<https://www.phoenixcontact.com/us/products/1719015>

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PCB terminal block, nominal current: 41 A, rated voltage (III/2): 1000 V, nominal cross section: 4 mm<sup>2</sup>, number of potentials: 4, number of rows: 2, number of positions per row: 2, product range: MKKDS 5, pitch: 9.52 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]: 5.2 mm, number of solder pins per potential: 1, 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
- The latching on the side enables various numbers of positions to be combined
- Conductor connection on several levels enables higher contact density

## Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 1719015             |
| Packing unit                         | 50 pc               |
| Minimum order quantity               | 50 pc               |
| Sales key                            | AA14                |
| Product key                          | AANFEB              |
| Catalog page                         | Page 449 (C-1-2013) |
| GTIN                                 | 4017918024956       |
| Weight per piece (including packing) | 17.476 g            |
| Weight per piece (excluding packing) | 17.476 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            | MKKDS 5                          |
| Product line              | COMBICON Terminals L             |
| Type                      | PC terminal block can be aligned |
| Number of positions       | 2                                |
| Pitch                     | 9.52 mm                          |
| Number of connections     | 4                                |
| Number of rows            | 2                                |
| Number of potentials      | 4                                |
| Pin layout                | Linear pinning                   |
| Solder pins per potential | 1                                |

### Electrical properties

|                             |        |
|-----------------------------|--------|
| Nominal current $I_N$       | 41 A   |
| Nominal voltage $U_N$       | 1000 V |
| Degree of pollution         | 3      |
| Rated voltage (III/3)       | 690 V  |
| Rated surge voltage (III/3) | 6 kV   |
| Rated voltage (III/2)       | 1000 V |
| Rated surge voltage (III/2) | 6 kV   |
| Rated voltage (II/2)        | 1000 V |
| Rated surge voltage (II/2)  | 6 kV   |

### Connection data

#### Connection technology

|                       |                                  |
|-----------------------|----------------------------------|
| Type                  | PC terminal block can be aligned |
| Nominal cross section | 4 mm <sup>2</sup>                |

#### Conductor connection

|                                                                                     |                                               |
|-------------------------------------------------------------------------------------|-----------------------------------------------|
| Connection method                                                                   | Screw connection with tension sleeve          |
| Conductor cross section rigid                                                       | 0.2 mm <sup>2</sup> ... 6 mm <sup>2</sup>     |
| Single-conductor/terminal point multi-stranded                                      | 0.2 mm <sup>2</sup> ... 6 mm <sup>2</sup>     |
| Conductor cross section flexible                                                    | 0.2 mm <sup>2</sup> ... 6 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> ... 1.5 mm <sup>2</sup>   |
| 2 conductors with same cross section, flexible, with ferrule without plastic sleeve | 0.25 mm <sup>2</sup> ... 0.75 mm <sup>2</sup> |

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|                                                                                           |                     |
|-------------------------------------------------------------------------------------------|---------------------|
| 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                                                                         | 0.5 Nm ... 0.6 Nm   |

## Mounting

|                       |                |
|-----------------------|----------------|
| Mounting type         | Wave soldering |
| Pin layout            | Linear pinning |
| Drive form screw head | Slotted (L)    |

## 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 (4 - 8 µm Sn)                                                                |
| Metal surface soldering area (top layer) | Tin (4 - 8 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                 | 9.52 mm                                                                              |
| Width [w]             | 23.8 mm                                                                              |
| Height [h]            | 44.1 mm                                                                              |
| Length [l]            | 28 mm                                                                                |
| Installed height      | 38.9 mm                                                                              |
| Solder pin length [P] | 5.2 mm                                                                               |
| Pin dimensions        | 0.9 x 0.9 mm                                                                         |

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## PCB design

|               |        |
|---------------|--------|
| Hole diameter | 1.3 mm |
|---------------|--------|

## Mechanical tests

### Test for conductor damage and slackening

|               |                     |
|---------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
| Result        | Test passed         |

### Pull-out test

|                                                                             |                                         |
|-----------------------------------------------------------------------------|-----------------------------------------|
| Specification                                                               | IEC 60999-1:1999-11                     |
| Conductor cross section/conductor type/tractive force setpoint/actual value | 0.2 mm <sup>2</sup> / solid / > 10 N    |
|                                                                             | 0.2 mm <sup>2</sup> / flexible / > 10 N |
|                                                                             | 6 mm <sup>2</sup> / solid / > 80 N      |
|                                                                             | 6 mm <sup>2</sup> / flexible / > 80 N   |

## Electrical tests

### Temperature-rise test

|                                   |                                                                                                                                |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Specification                     | IEC 60947-7-4:2013-08                                                                                                          |
| Requirement temperature-rise test | The sum of ambient temperature and temperature rise of the PCB terminal block shall not exceed the upper limiting temperature. |

### Short-time withstand current

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60947-7-4:2013-08 |
|---------------|-----------------------|

### Insulation resistance

|                                              |                       |
|----------------------------------------------|-----------------------|
| Specification                                | IEC 60512-3-1:2002-02 |
| Insulation resistance, neighboring positions | > 5 MΩ                |

### 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)                       | 690 V               |
| Rated surge voltage (III/3)                            | 6 kV                |
| minimum clearance value - non-homogenous field (III/3) | 8 mm                |
| minimum creepage distance (III/3)                      | 8 mm                |
| Rated insulation voltage (III/2)                       | 1000 V              |
| Rated surge voltage (III/2)                            | 6 kV                |
| minimum clearance value - non-homogenous field (III/2) | 8 mm                |
| minimum creepage distance (III/2)                      | 5 mm                |
| Rated insulation voltage (II/2)                        | 1000 V              |
| Rated surge voltage (II/2)                             | 6 kV                |
| minimum clearance value - non-homogenous field (II/2)  | 8 mm                |
| minimum creepage distance (II/2)                       | 5 mm                |

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## Environmental and real-life conditions

### Vibration test

|                        |                             |
|------------------------|-----------------------------|
| Specification          | IEC 60068-2-6:2007-12       |
| Frequency              | 10 - 150 - 10 Hz            |
| Sweep speed            | 1 octave/min                |
| Amplitude              | 0.35 mm (10 Hz ... 60.1 Hz) |
| Acceleration           | 5g (60.1 Hz ... 150 Hz)     |
| Test duration per axis | 2.5 h                       |

### Glow-wire test

|                  |                        |
|------------------|------------------------|
| Specification    | IEC 60695-2-10:2000-10 |
| Temperature      | 850 °C                 |
| Time of exposure | 5 s                    |

### Aging

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60947-7-4:2013-08 |
|---------------|-----------------------|

### 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 |
|-------------------|---------------------|

# MKKDS 5/ 2-9,5 - PCB terminal block

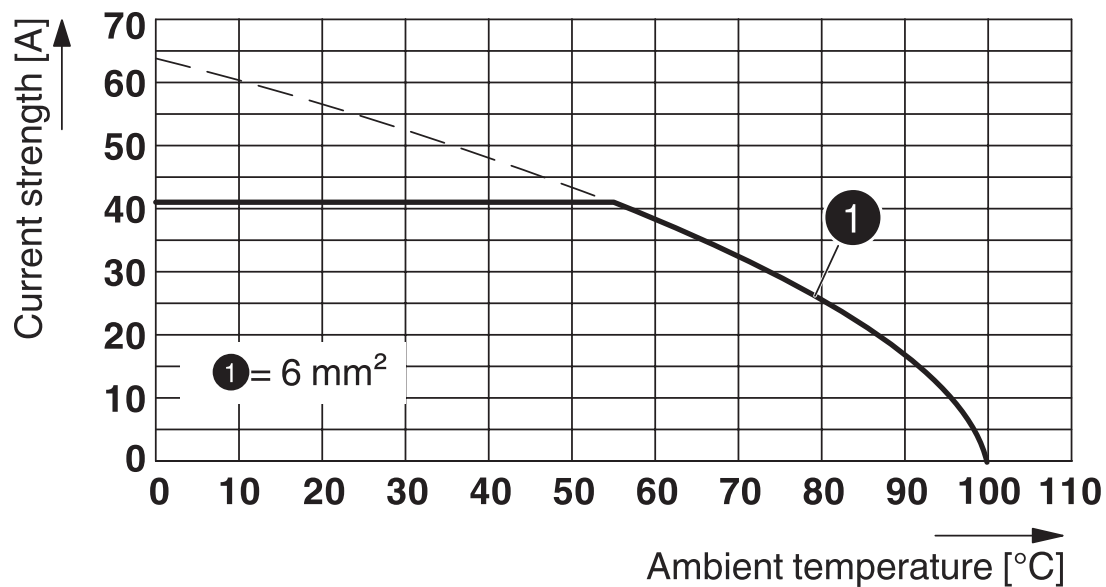


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## Drawings

Diagram



Type: MKKDS 5/...-9,5

# MKKDS 5/ 2-9,5 - PCB terminal block



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1719015>

|  <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 C                                                                                                        |                       |                       |                   |                             |
|                                                                                                                    | 300 V                 | 30 A                  | 28 - 10           | -                           |

|  <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 C                                                                                                                               |                       |                       |                   |                             |
|                                                                                                                                           | 300 V                 | 30 A                  | 30 - 10           | -                           |
| Use group D                                                                                                                               |                       |                       |                   |                             |
|                                                                                                                                           | 600 V                 | 5 A                   | 30 - 10           | -                           |

|  <b>VDE Zeichengenehmigung</b><br>Approval ID: 40055394 |                       |                       |                   |                             |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                            | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|                                                                                                                                            | 1000 V                | 32 A                  | -                 | 0.2 - 4                     |

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## Classifications

### ECLASS

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

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | 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%               |

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## Accessories

### 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

### SK 5,0 WH:REEL - Marker strip

0805221

<https://www.phoenixcontact.com/us/products/0805221>



Marker strip, Roll, white, unlabeled, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMaster 300/600, THERMOMARK X1.2, mounting type: adhesive, lettering field size: continuous x 5 mm, Number of individual labels: 10

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