

# MK3DS 3/16-5,08 BK - PCB terminal block



1846262

<https://www.phoenixcontact.com/us/products/1846262>

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PCB terminal block, nominal current: 17.5 A, rated voltage (III/2): 400 V, nominal cross section: 2.5 mm<sup>2</sup>, number of rows: 3, number of positions per row: 16, product range: MK3DS 3, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, mounting: Wave soldering, conductor/PCB connection direction: 0 °, color: black, Pin layout: Linear pinning, Solder pin [P]: 5 mm, number of solder pins per potential: 1, type of packaging: packed in cardboard

## Your advantages

- Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- Allows connection of two conductors
- Conductor connection on several levels enables higher contact density
- Integrated protective guide prevents incorrect insertion of the conductor underneath the tension sleeve
- The latching on the side enables various numbers of positions to be combined

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1846262                        |
| Packing unit                         | 10 pc                          |
| Minimum order quantity               | 10 pc                          |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | AA13                           |
| Product key                          | AAMFKL                         |
| GTIN                                 | 4046356988698                  |
| Weight per piece (including packing) | 128 g                          |
| Weight per piece (excluding packing) | 127.9 g                        |
| Customs tariff number                | 85369010                       |
| Country of origin                    | CN                             |

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## Technical data

### Product properties

|                           |                                  |
|---------------------------|----------------------------------|
| Product type              | Printed circuit board terminal   |
| Product family            | MK3DS 3                          |
| Product line              | COMBICON Terminals M             |
| Type                      | PC terminal block can be aligned |
| Number of positions       | 16                               |
| Pitch                     | 5.08 mm                          |
| Number of rows            | 3                                |
| Pin layout                | Linear pinning                   |
| Solder pins per potential | 1                                |

### Electrical properties

|                             |        |
|-----------------------------|--------|
| Nominal current $I_N$       | 17.5 A |
| Nominal voltage $U_N$       | 400 V  |
| Degree of pollution         | 3      |
| Rated voltage (III/3)       | 250 V  |
| Rated surge voltage (III/3) | 4 kV   |
| Rated voltage (III/2)       | 400 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                  | PC terminal block can be aligned |
| Nominal cross section | 2.5 mm <sup>2</sup>              |

#### Conductor connection

|                                                                                           |                                               |
|-------------------------------------------------------------------------------------------|-----------------------------------------------|
| Connection method                                                                         | Screw connection with tension sleeve          |
| Conductor cross section rigid                                                             | 0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>     |
| Conductor cross section flexible                                                          | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>   |
| Conductor cross section AWG                                                               | 24 ... 12                                     |
| Conductor cross section flexible, with ferrule without plastic sleeve                     | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>  |
| Conductor cross section, flexible, with ferrule, with plastic sleeve                      | 0.25 mm <sup>2</sup> ... 2.5 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> |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm <sup>2</sup> ... 0.5 mm <sup>2</sup>   |
| Stripping length                                                                          | 7 mm                                          |

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|                   |                   |
|-------------------|-------------------|
| 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)                                                   | black (9005) |
| 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                 | 5.08 mm      |
| Width [w]             | 88.9 mm      |
| Height [h]            | 49.8 mm      |
| Length [l]            | 33.6 mm      |
| Installed height      | 44.8 mm      |
| Solder pin length [P] | 5 mm         |
| Pin dimensions        | 0.9 x 0.9 mm |

### PCB design

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

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## Mechanical tests

### Test for conductor damage and slackening

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60998-2-1:1990-04 |
| Result        | Test passed           |

### Pull-out test

|                                                                             |                                         |
|-----------------------------------------------------------------------------|-----------------------------------------|
| Specification                                                               | IEC 60998-2-1:1990-04                   |
| 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 |
|                                                                             | 4 mm <sup>2</sup> / solid / > 60 N      |
|                                                                             | 2.5 mm <sup>2</sup> / flexible / > 50 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 <sup>9</sup> 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)                       | 400 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 |
|---------------|-----------------------|

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

## Ambient conditions

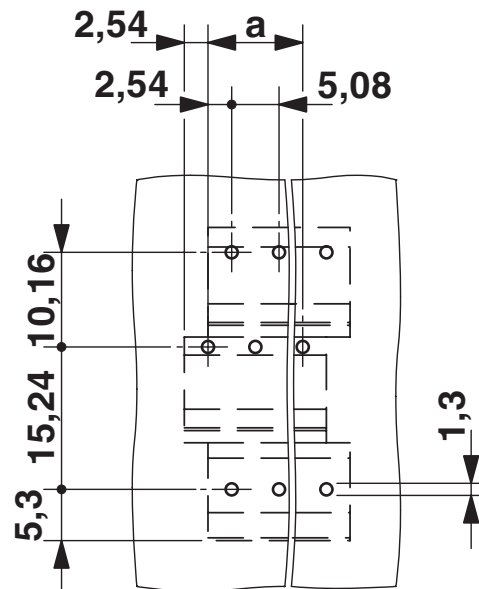
|                                         |                                                                               |
|-----------------------------------------|-------------------------------------------------------------------------------|
| Ambient temperature (operation)         | -40 °C ... 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

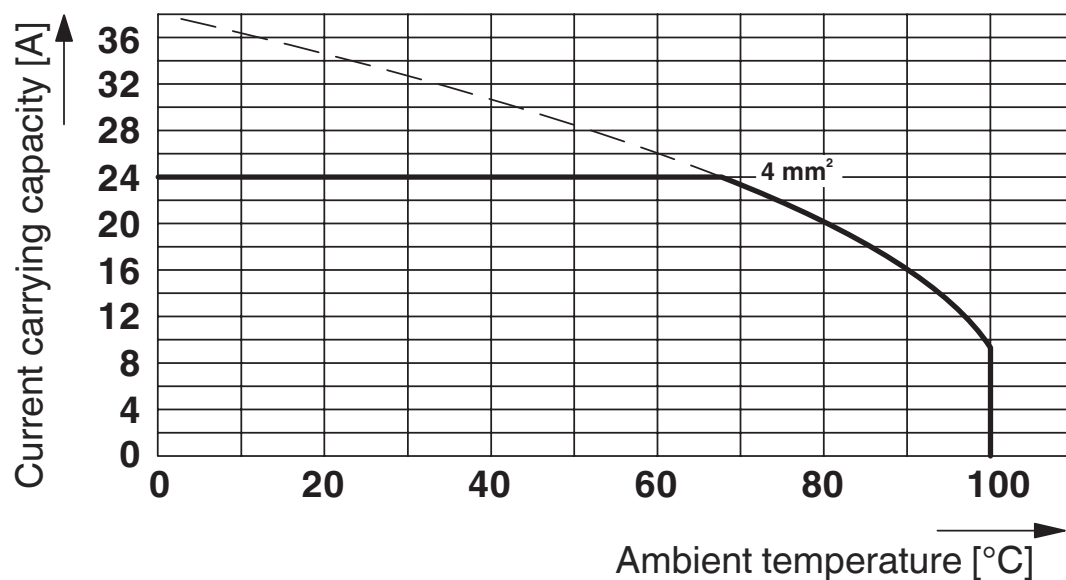
|                   |                     |
|-------------------|---------------------|
| Type of packaging | packed in cardboard |
|-------------------|---------------------|

## Drawings

### Drilling plan/solder pad geometry



### Diagram



Type: MK3DS 3/2 and MK3DS 3/3

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

Reduction factor = 1

No. of positions: 5

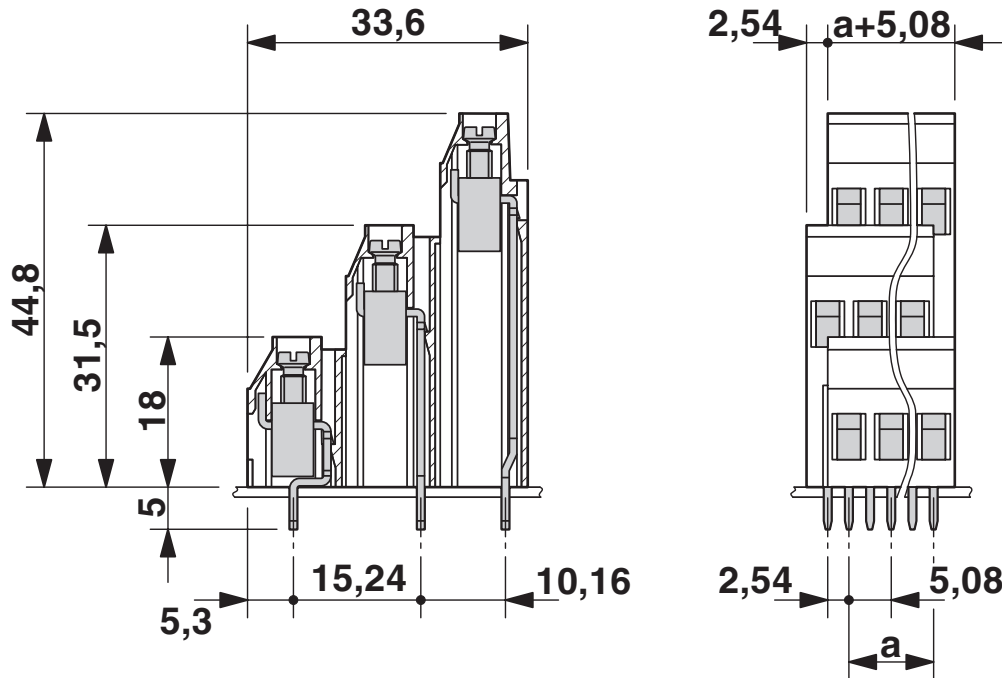
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Dimensional drawing



# MK3DS 3/16-5,08 BK - PCB terminal block



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1846262>

|  <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                 | 10 A                  | 28 - 12           | -                           |
| Use group D                                                                                                        |                       |                       |                   |                             |
|                                                                                                                    | 300 V                 | 10 A                  | 28 - 12           | -                           |

|  <b>VDE Zeichengenehmigung</b><br>Approval ID: 40055535 |                       |                       |                   |                             |
|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                          | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|                                                                                                                                          | 400 V                 | 24 A                  | -                 | 0.2 - 4                     |

|  <b>cULus Recognized</b><br>Approval ID: E60425-19870326 |                       |                       |                   |                             |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                             | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Use group B                                                                                                                                 |                       |                       |                   |                             |
| Screw connection                                                                                                                            | 125 V                 | 20 A                  | 30 - 12           | -                           |
| 2 conductors with the same cross-section                                                                                                    | 125 V                 | 20 A                  | 16                | -                           |
| Use group D                                                                                                                                 |                       |                       |                   |                             |
| Screw connection                                                                                                                            | 300 V                 | 10 A                  | 30 - 12           | -                           |
| 2 conductors with the same cross-section                                                                                                    | 300 V                 | 10 A                  | 16                | -                           |



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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

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

### EA-MKDS - Cover

1711408

<https://www.phoenixcontact.com/us/products/1711408>



Single cover for single and multi-level MKDS 3 PCB terminal blocks, for covering individual terminal positions, color: orange, transparent

### SK 5,08/3,8:FORTL.ZAHLEN - Marker card

0804293

<https://www.phoenixcontact.com/us/products/0804293>



Marker card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... (99)100, mounting type: adhesive, for terminal block width: 5.08 mm, lettering field size: 5.08 x 3.8 mm

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## SK 5,08/3,8:UNBEDRUCKT - Marker card

0805412

<https://www.phoenixcontact.com/us/products/0805412>

Marker card, Sheet, white, unlabeled, can be labeled with: Marker pen: without print, mounting type: adhesive, for terminal block width: 5.08 mm, lettering field size: 5.08 x 3.8 mm, Number of individual labels: 120



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## B-STIFT - Marker pen

1051993

<https://www.phoenixcontact.com/us/products/1051993>

Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm



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