

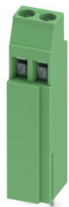
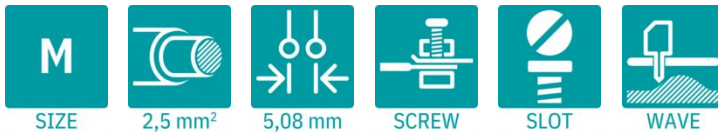
# MK3DSH 3/ 2-5,08-EX - PCB terminal block



1869774

<https://www.phoenixcontact.com/nl/products/1869774>

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Printed circuit board terminal, nominal current: 20 A, nominal cross section: 2.5 mm<sup>2</sup>, number of potentials: 2, number of rows: 1, number of positions per row: 2, product range: MK3DSH 3-EX, 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: green, Pin layout: Linear pinning, Solder pin [P]: 5 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
- Satisfies the more stringent safety requirements of "Ex e" protection according to IEC 60079-7 for potentially explosive areas
- Tall type enables conductor connection for sealed PCBs
- 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                          | 1869774       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Sales key                            | AAMFKJ        |
| Product key                          | AAMFKJ        |
| GTIN                                 | 4017918266660 |
| Weight per piece (including packing) | 7,365 g       |
| Weight per piece (excluding packing) | 6,433 g       |
| Customs tariff number                | 85369010      |
| Country of origin                    | CN            |

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## Technical data

### Product properties

|                           |                                  |
|---------------------------|----------------------------------|
| Product family            | MK3DSH 3-EX                      |
| Product line              | COMBICON Terminals M             |
| Type                      | PC terminal block can be aligned |
| Number of positions       | 2                                |
| Pitch                     | 5.08 mm                          |
| Number of connections     | 2                                |
| Number of rows            | 1                                |
| Number of potentials      | 2                                |
| Pin layout                | Linear pinning                   |
| Solder pins per potential | 1                                |

### Electrical properties

#### Properties

|                                         |                          |
|-----------------------------------------|--------------------------|
| Nominal current $I_N$                   | 20 A                     |
| Nominal voltage $U_N$                   | 176 V                    |
| Rated current / conductor cross-section | 20 A/2.5 mm <sup>2</sup> |

### Ex data

#### Ex approval

|                                 |                                          |
|---------------------------------|------------------------------------------|
| Identification                  | 0344 <sup>Ex</sup> II 2GD / Ex eb IIC Gb |
| EU-type examination certificate | KEMA 01ATEX2130 U                        |
| IECEx certificate               | IECEx KEM 07.0019 U                      |

### 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><br>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> ... 1.5 mm <sup>2</sup>                                           |
| 2 conductors with same cross section, rigid                             | 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            | 0.25 mm <sup>2</sup> ... 0.75 mm <sup>2</sup>                                          |

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|                                                                                           |                                             |
|-------------------------------------------------------------------------------------------|---------------------------------------------|
| without plastic sleeve                                                                    |                                             |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Stripping length                                                                          | 7 mm                                        |
| Drive form screw head                                                                     | Slotted (L)                                 |
| Tightening torque                                                                         | 0.5 Nm ... 0.6 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 µm - 7 µm Sn)                                                             |
| Metal surface soldering area (top layer) | Tin (5 µm - 7 µm Sn)                                                             |

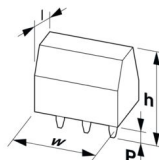
### Material data - housing

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

## Notes

|                     |                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Note on application | For safe conductor connection, always adhere to a defined tightening torque. Particularly in the case of PCB terminal blocks with two or three positions, the individual solder pin for each contact point cannot compensate for this. That is why the terminal blocks must be supported during conductor connection (held with one hand, support on the housing). |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Dimensions

|                     |                                                                                      |
|---------------------|--------------------------------------------------------------------------------------|
| Dimensional drawing |  |
|---------------------|--------------------------------------------------------------------------------------|

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|                       |              |
|-----------------------|--------------|
| Pitch                 | 5.08 mm      |
| Width [w]             | 10.16 mm     |
| Height [h]            | 49.8 mm      |
| Length [l]            | 12.1 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 |
|---------------|--------|

## Environmental and real-life conditions

### Ambient conditions

|                                         |                   |
|-----------------------------------------|-------------------|
| Ambient temperature (storage/transport) | -40 °C ... 70 °C  |
| Relative humidity (storage/transport)   | 30 % ... 70 %     |
| Ambient temperature (assembly)          | -5 °C ... 100 °C  |
| Ambient temperature (operation)         | -50 °C ... 110 °C |

### Ambient conditions

|                                         |                   |
|-----------------------------------------|-------------------|
| Ambient temperature (operation)         | -50 °C ... 110 °C |
| 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 |
|-------------------|---------------------|

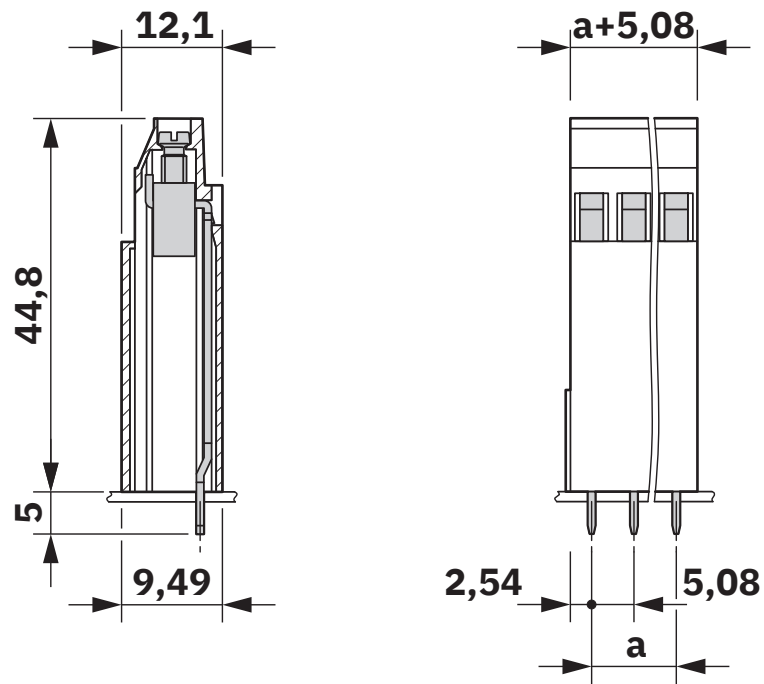
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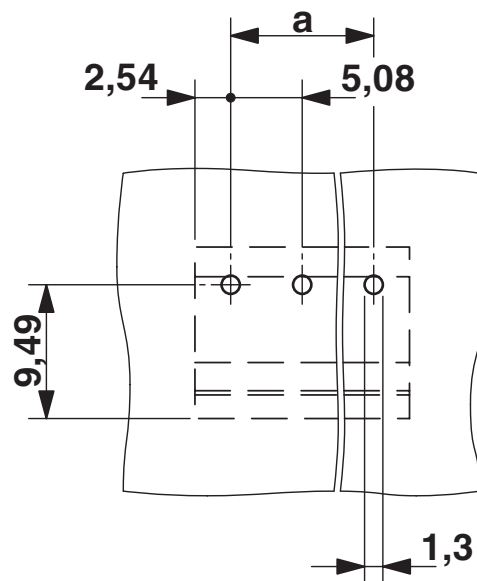
## Drawings

Dimensional drawing



The figure shows the dimensional drawing of the 3-pos. version of the product

Drilling plan/solder pad geometry



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## Approvals

 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/nl/products/1869774>



**ATEX**

Approval ID: KEMA 01ATEX2130 U



**IECEx**

Approval ID: IECEx KEM 07.0019 U

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27460101 |
| ECLASS-15.0 | 27460101 |

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | 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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