

## PCB terminal block - MKDS 3/ 4 CRWH - 1985771

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PCB terminal block, nominal current: 24 A, nom. voltage: 400 V, pitch: 5 mm, number of positions: 4, connection method: Screw connection with tension sleeve, mounting: Wave soldering, conductor/PCB connection direction: 0 °, color: green

The figure shows a 2-pos. version of the product

### Your advantages

- ✓ Well-known connection principle allows worldwide use
- ✓ Low temperature rise, thanks to maximum contact force
- ✓ Allows connection of two conductors
- ✓ 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



### Key Commercial Data

|              |               |
|--------------|---------------|
| Packing unit | 50 pc         |
| GTIN         |               |
| GTIN         | 4017918910747 |

### Technical data

#### Item properties

|                           |                                      |
|---------------------------|--------------------------------------|
| Brief article description | PCB terminal block                   |
| Range of articles         | MKDS 3                               |
| Pitch                     | 5 mm                                 |
| Number of positions       | 4                                    |
| Connection method         | Screw connection with tension sleeve |
| Drive form screw head     | Slotted (L)                          |
| Screw thread              | M3                                   |
| Mounting type             | Wave soldering                       |
| Pin layout                | Linear pinning                       |
| Number of levels          | 1                                    |

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## Technical data

### Electrical parameters

|                                  |       |
|----------------------------------|-------|
| Rated current                    | 24 A  |
| Rated insulation voltage (III/2) | 400 V |
| Rated surge voltage (III/2)      | 4 kV  |

### Connection capacity

|                                                                                        |                                               |
|----------------------------------------------------------------------------------------|-----------------------------------------------|
| Conductor cross section solid                                                          | 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 / kcmil                                                    | 24 ... 12                                     |
| Conductor cross section flexible, with ferrule without plastic sleeve                  | 0.25 mm <sup>2</sup> ... 2.5 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, stranded, ferrules without plastic sleeve        | 0.25 mm <sup>2</sup> ... 0.75 mm <sup>2</sup> |
| 2 conductors with same cross section, stranded, with TWIN ferrules with plastic sleeve | 0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>   |
| Stripping length                                                                       | 8 mm                                          |
| Torque                                                                                 | 0.5 Nm ... 0.6 Nm                             |

### 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

|                                                                   |        |
|-------------------------------------------------------------------|--------|
| 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 for the product

|                             |                                                                                                         |
|-----------------------------|---------------------------------------------------------------------------------------------------------|
| Caption                     | Schematic representation – for additional information, see product range drawing in the Download Center |
| Length [ l ]                | 11.2 mm                                                                                                 |
| Width [ w ]                 | 20 mm                                                                                                   |
| Height [ h ]                | 23 mm                                                                                                   |
| Pitch                       | 5 mm                                                                                                    |
| Height (without solder pin) | 18 mm                                                                                                   |

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## Technical data

### Dimensions for the product

|                |              |
|----------------|--------------|
| Solder pin [P] | 5 mm         |
| Pin spacing    | 5 mm         |
| Pin dimensions | 0.9 x 0.9 mm |
| Dimension a    | 15 mm        |

### Dimensions for PCB design

|               |        |
|---------------|--------|
| Hole diameter | 1.3 mm |
| Pin spacing   | 5 mm   |

### Packaging information

|                            |                     |
|----------------------------|---------------------|
| Type of packaging          | packed in cardboard |
| Pieces per package         | 50                  |
| Denomination packing units | Pcs.                |

### General product information

|              |                                                                                                                                                                                                                                                                                                                                                                    |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type of note | Note on application                                                                                                                                                                                                                                                                                                                                                |
| Note         | 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). |

### Ambient conditions

|                                         |                  |
|-----------------------------------------|------------------|
| Ambient temperature (storage/transport) | -40 °C ... 70 °C |
| Ambient temperature (assembly)          | -5 °C ... 100 °C |
| Ambient temperature (operation)         | -40 °C           |

### Termination and connection method

|                 |                       |
|-----------------|-----------------------|
| Connection test | IEC 60998-2-2:2002-12 |
|-----------------|-----------------------|

### Pull-out test

|                                                          |                                         |
|----------------------------------------------------------|-----------------------------------------|
| Pull-out test                                            | IEC 60998-2-1:2002-12                   |
|                                                          | Test passed                             |
| Conductor cross section / conductor type / tensile force | 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 |

### Mechanical tests according to standard

|                    |                          |
|--------------------|--------------------------|
| Test specification | IEC 60998-2-1 (in parts) |
|--------------------|--------------------------|

### Electrical tests

|                                  |       |
|----------------------------------|-------|
| Rated current                    | 24 A  |
| Rated insulation voltage (III/2) | 400 V |
| Rated surge voltage (III/2)      | 4 kV  |

### Air clearances and creepage distances

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## Technical data

### Air clearances and creepage distances

|                                  |       |
|----------------------------------|-------|
| Insulating material group        | I     |
| Voltage                          | 250 V |
| Rated insulation voltage (III/3) | 250 V |
| Rated insulation voltage (III/2) | 400 V |
| Rated insulation voltage (II/2)  | 630 V |
| Rated surge voltage (III/3)      | 4 kV  |
| Rated surge voltage (III/2)      | 4 kV  |
| Rated surge voltage (II/2)       | 4 kV  |

### Current carrying capacity / derating curves

|               |                          |
|---------------|--------------------------|
| Specification | IEC 60998-2-1 (in parts) |
|---------------|--------------------------|

### Vibration test

|                                                                                                           |                                                             |
|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| Resistance to ageing, to humidity conditions, to ingress of solid objects and to harmful ingress of water | Test passed IEC 60998-1:2002-12 168 h/100°C 48 h/30 °C/92 % |
| Test result                                                                                               | Test passed                                                 |
| Test specification                                                                                        | IEC 60998-1:2002-12                                         |
| Dry heat                                                                                                  | 168 h/100°C                                                 |
| Humid heat                                                                                                | 48 h/30 °C/92 %                                             |

### Resistance to ageing, humidity and penetration of solids

|                    |                     |
|--------------------|---------------------|
| Test result        | Test passed         |
| Test specification | IEC 60998-1:2002-12 |
| Dry heat           | 168 h/100°C         |
| Humid heat         | 48 h/30 °C/92 %     |

### Standards and Regulations

|                                  |        |
|----------------------------------|--------|
| Connection in acc. with standard | EN-VDE |
|                                  | CSA    |

### Environmental Product Compliance

|            |                                                                                                     |
|------------|-----------------------------------------------------------------------------------------------------|
| REACH SVHC | Lead 7439-92-1                                                                                      |
| China RoHS | Environmentally Friendly Use Period = 50                                                            |
|            | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

## Approvals

### Approvals

#### Approvals

DNV GL / CSA / CCA / SEV / EAC / cULus Recognized

## PCB terminal block - MKDS 3/ 4 CRWH - 1985771

### Approvals

Ex Approvals

#### Approval details

|        |                                                                           |            |
|--------|---------------------------------------------------------------------------|------------|
| DNV GL | <a href="http://exchange.dnv.com/tari/">http://exchange.dnv.com/tari/</a> | TAE00001EV |
|--------|---------------------------------------------------------------------------|------------|

|                    |                                                                                   |                                                                                                                                         |       |
|--------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-------|
| CSA                |  | <a href="http://www.csagroup.org/services-industries/product-listing/">http://www.csagroup.org/services-industries/product-listing/</a> | 13631 |
|                    | D                                                                                 | B                                                                                                                                       |       |
| Nominal voltage UN | 300 V                                                                             | 300 V                                                                                                                                   |       |
| Nominal current IN | 10 A                                                                              | 10 A                                                                                                                                    |       |
| mm²/AWG/kcmil      | 28-12                                                                             | 28-12                                                                                                                                   |       |

|                    |         |
|--------------------|---------|
| CCA                | IK-3249 |
| Nominal voltage UN | 250 V   |
| mm²/AWG/kcmil      | 4       |

|                    |                                                                                     |                                                                                                                                                     |         |
|--------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| SEV                |  | <a href="https://www.electrosuisse.ch/de/meta/shop/produktezertifikate.html">https://www.electrosuisse.ch/de/meta/shop/produktezertifikate.html</a> | IK-4199 |
| Nominal voltage UN | 250 V                                                                               |                                                                                                                                                     |         |
| Nominal current IN | 28 A                                                                                |                                                                                                                                                     |         |
| mm²/AWG/kcmil      | 4                                                                                   |                                                                                                                                                     |         |

|     |                                                                                     |         |
|-----|-------------------------------------------------------------------------------------|---------|
| EAC |  | B.01742 |
|-----|-------------------------------------------------------------------------------------|---------|

|                    |                                                                                     |                                                                                                                                                       |                 |
|--------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| cULus Recognized   |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | E60425-19770427 |
|                    | D                                                                                   | B                                                                                                                                                     |                 |
| Nominal voltage UN | 300 V                                                                               | 300 V                                                                                                                                                 |                 |
| Nominal current IN | 10 A                                                                                | 15 A                                                                                                                                                  |                 |
| mm²/AWG/kcmil      | 30-12                                                                               | 30-12                                                                                                                                                 |                 |

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