

# MKDSP 10N/ 2-10,16 GY - PCB terminal block



1774030

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Printed circuit board terminal, nominal current: 76 A, rated voltage (III/2): 1000 V, nominal cross section: 16 mm<sup>2</sup>, number of potentials: 2, number of rows: 1, number of positions per row: 2, product range: MKDSP 10N, pitch: 10.16 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, mounting: Wave soldering, conductor/PCB connection direction: 0 °, color: gray, 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
- The latching on the side enables various numbers of positions to be combined
- Integrated protective guide prevents incorrect insertion of the conductor underneath the tension sleeve

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1774030       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Sales key                            | AA14          |
| Product key                          | AANFFF        |
| GTIN                                 | 4046356481489 |
| Weight per piece (including packing) | 15.104 g      |
| Weight per piece (excluding packing) | 15.224 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            | MKDSP 10N                        |
| Product line              | COMBICON Terminals L             |
| Type                      | PC terminal block can be aligned |
| Number of positions       | 2                                |
| Pitch                     | 10.16 mm                         |
| Number of connections     | 2                                |
| Number of rows            | 1                                |
| Number of potentials      | 2                                |
| Pin layout                | Linear pinning                   |
| Solder pins per potential | 2                                |

### Data management status

|                  |    |
|------------------|----|
| Article revision | 01 |
|------------------|----|

### Electrical properties

|                             |        |
|-----------------------------|--------|
| Nominal current $I_N$       | 76 A   |
| Nominal voltage $U_N$       | 1000 V |
| Rated voltage (III/3)       | 690 V  |
| Rated surge voltage (III/3) | 8 kV   |
| Rated voltage (III/2)       | 1000 V |
| Rated surge voltage (III/2) | 8 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 | 16 mm <sup>2</sup>               |

#### Conductor connection

|                                                                       |                                             |
|-----------------------------------------------------------------------|---------------------------------------------|
| Connection method                                                     | Screw connection with tension sleeve        |
| Conductor cross section rigid                                         | 0.5 mm <sup>2</sup> ... 16 mm <sup>2</sup>  |
| Conductor cross section flexible                                      | 0.5 mm <sup>2</sup> ... 16 mm <sup>2</sup>  |
| Conductor cross section AWG                                           | 20 ... 6                                    |
| Conductor cross section flexible, with ferrule without plastic sleeve | 0.5 mm <sup>2</sup> ... 16 mm <sup>2</sup>  |
| Conductor cross section, flexible, with ferrule, with plastic sleeve  | 0.5 mm <sup>2</sup> ... 16 mm <sup>2</sup>  |
| 2 conductors with same cross section, solid                           | 0.5 mm <sup>2</sup> ... 4 mm <sup>2</sup>   |
| 2 conductors with same cross section, flexible                        | 0.5 mm <sup>2</sup> ... 4 mm <sup>2</sup>   |
| 2 conductors with same cross section, flexible, with ferrule          | 0.5 mm <sup>2</sup> ... 2.5 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> ... 6 mm <sup>2</sup> |
| Stripping length                                                                          | 10 mm                                     |
| Drive form screw head                                                                     | Slotted (L)                               |
| Tightening torque                                                                         | 1.2 Nm ... 1.5 Nm                         |

## Mounting

|               |                |
|---------------|----------------|
| Mounting type | Wave soldering |
| Pin layout    | Linear pinning |

## Material specifications

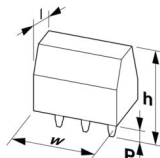
### Material data - contact

|                                             |                                                                                  |
|---------------------------------------------|----------------------------------------------------------------------------------|
| 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 - 7 µm Sn)                                                                |
| Metal surface terminal point (middle layer) | Nickel (2 - 3 µm Ni)                                                             |
| Metal surface soldering area (top layer)    | Tin (5 - 7 µm Sn)                                                                |
| Metal surface soldering area (middle layer) | Nickel (2 - 3 µm Ni)                                                             |

### Material data - housing

|                                                                   |             |
|-------------------------------------------------------------------|-------------|
| Color (Housing)                                                   | gray (7042) |
| 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               | 10.16 mm                                                                             |
| Width [w]           | 20.32 mm                                                                             |
| Height [h]          | 34.3 mm                                                                              |
| Length [l]          | 18.4 mm                                                                              |
| Installed height    | 29.3 mm                                                                              |

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|                       |            |
|-----------------------|------------|
| Solder pin length [P] | 5 mm       |
| Pin dimensions        | 1 x 0.9 mm |

## PCB design

|               |        |
|---------------|--------|
| Hole diameter | 1.5 mm |
|---------------|--------|

## Mechanical tests

### Test for conductor damage and slackening

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60998-2-1:2002-12 |
| Result        | Test passed           |

### Pull-out test

|                                                                             |                                         |
|-----------------------------------------------------------------------------|-----------------------------------------|
| Specification                                                               | IEC 60998-2-1:2002-12                   |
| Conductor cross section/conductor type/tractive force setpoint/actual value | 0.5 mm <sup>2</sup> / solid / > 20 N    |
|                                                                             | 0.5 mm <sup>2</sup> / flexible / > 20 N |
|                                                                             | 16 mm <sup>2</sup> / solid / > 100 N    |
|                                                                             | 16 mm <sup>2</sup> / flexible / > 100 N |

### Torque test

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60998-2-1:2002-12 |
|---------------|-----------------------|

## Electrical tests

### Temperature-rise test

|                                   |                                |
|-----------------------------------|--------------------------------|
| Specification                     | IEC 60998-1:2002-12            |
| Requirement temperature-rise test | Increase in temperature ≤ 45 K |

### Insulation resistance

|                                              |                     |
|----------------------------------------------|---------------------|
| Specification                                | IEC 60998-1:2002-12 |
| 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)                            | 8 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)                            | 8 kV                |
| minimum clearance value - non-homogenous field (III/2) | 8 mm                |
| minimum creepage distance (III/2)                      | 8 mm                |
| Rated insulation voltage (II/2)                        | 1000 V              |
| Rated surge voltage (II/2)                             | 6 kV                |
| minimum clearance value - non-homogenous field (II/2)  | 5.5 mm              |

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|                                  |        |
|----------------------------------|--------|
| minimum creepage distance (II/2) | 5.5 mm |
|----------------------------------|--------|

## 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                       |
| Test directions        | X-, Y- and Z-axis           |

### Glow-wire test

|                  |                     |
|------------------|---------------------|
| Specification    | IEC 60998-1:2002-12 |
| Temperature      | 850 °C              |
| Time of exposure | 5 s                 |

### Ambient conditions

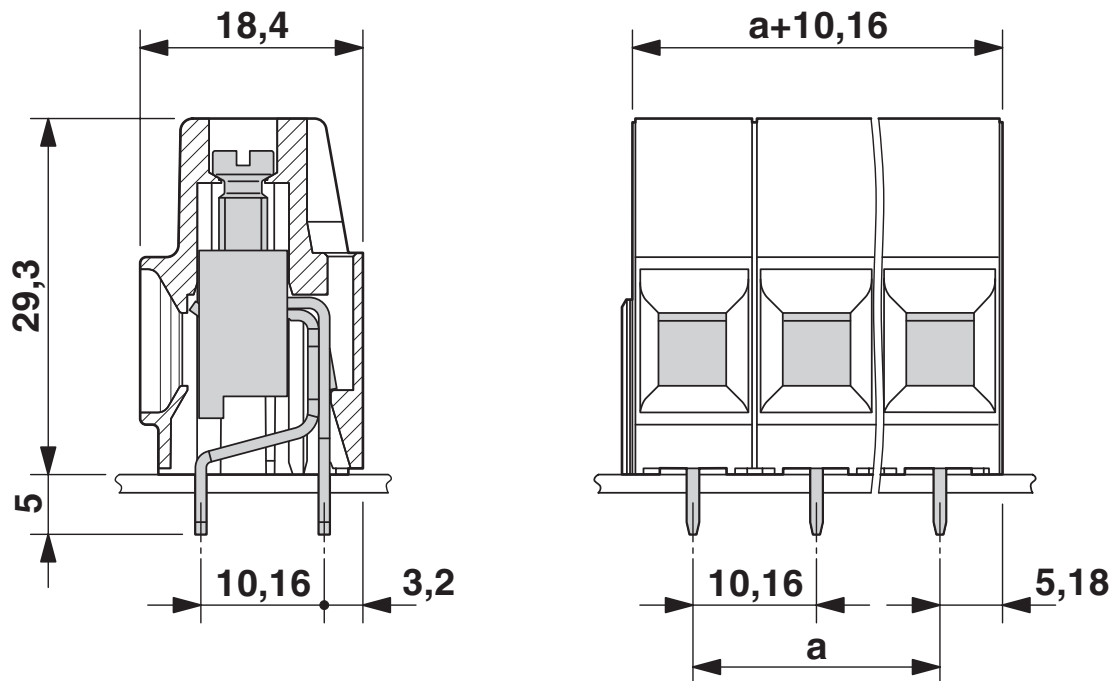
|                                         |                                                                               |
|-----------------------------------------|-------------------------------------------------------------------------------|
| Ambient temperature (operation)         | -40 °C ...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

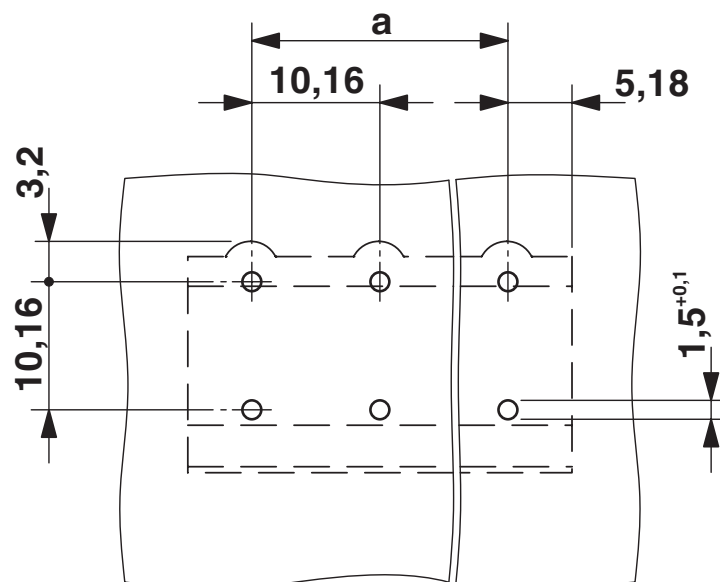
|                   |                     |
|-------------------|---------------------|
| Type of packaging | packed in cardboard |
|-------------------|---------------------|

## Drawings

Dimensional drawing



Drilling plan/solder pad geometry

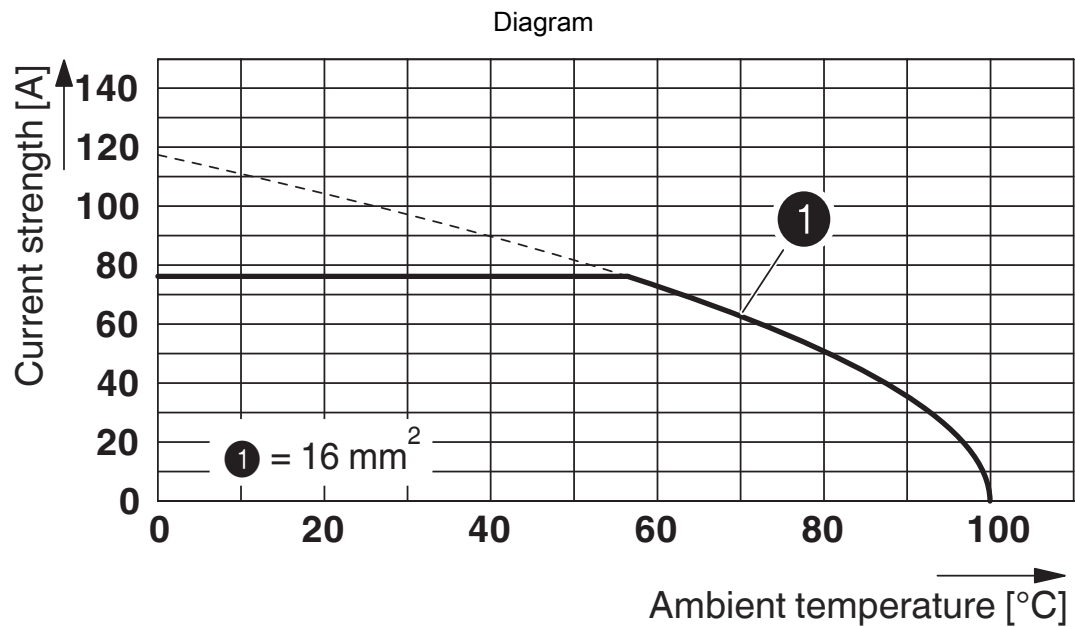


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Type: MKDSP 10N/...-10,16

Tested in accordance with DIN EN 60512-5-2:2003-01

Reduction factor = 1

No. of positions: 5

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1774030>

|  <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                 | 60 A                  | 20 - 6            | -                           |
| Use group C                                                                                                                               | 300 V                 | 60 A                  | 20 - 6            | -                           |
| Use group D                                                                                                                               | 600 V                 | 5 A                   | 20 - 6            | -                           |

|  <b>VDE Gutachten mit Fertigungsüberwachung</b><br>Approval ID: 40035740 |                       |                       |                   |                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                                           | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|                                                                                                                                                           | 1000 V                | 76 A                  | -                 | 0.5 - 16                    |



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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%               |
| EF3.0 Climate Change                    |                                          |
| CO2e kg                                 | 0.079 kg CO2e                            |

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