

MKDSP 50/ 2-17,5 - PCB terminal block

1856126

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Printed circuit board terminal, nominal current: 192 A, rated voltage (III/2): 1000 V, nominal cross section: 70 mm², number of potentials: 2, number of rows: 1, number of positions per row: 2, product range: MKDSP 50, pitch: 17.5 mm, connection method: Screw connection with tension sleeve, screw head form: T30 Torx®, mounting: Wave soldering, conductor/PCB connection direction: 0 °, color: green, Pin layout: Linear pinning, Solder pin [P]: 4 mm, number of solder pins per potential: 4, 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
- Quick and convenient testing using integrated test option
- Integrated protective guide prevents incorrect insertion of the conductor underneath the tension sleeve

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 1856126 |
| Packing unit | 10 pc |
| Minimum order quantity | 10 pc |
| Sales key | AA16 |
| Product key | AAPIAA |
| GTIN | 4055626029078 |
| Weight per piece (including packing) | 86.01 g |
| Weight per piece (excluding packing) | 86.01 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 | MKDSP 50 |
| Product line | COMBICON Terminals XXL |
| Type | Standard |
| Number of positions | 2 |
| Pitch | 17.5 mm |
| Number of connections | 2 |
| Number of rows | 1 |
| Number of potentials | 2 |
| Pin layout | Linear pinning |
| Solder pins per potential | 4 |

Electrical properties

Properties

| | |
|-----------------------------|--------|
| Nominal current I_N | 192 A |
| Nominal voltage U_N | 1000 V |
| Rated voltage (III/3) | 1000 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 | Standard |
| Nominal cross section | 70 mm ² |

Conductor connection

| | |
|---|--|
| Connection method | Screw connection with tension sleeve |
| Conductor cross-section rigid | 1.5 mm ² ... 70 mm ² |
| Single-conductor/terminal point multi-stranded | 1.5 mm ² ... 70 mm ² |
| Conductor cross-section flexible | 1.5 mm ² ... 70 mm ² |
| Conductor cross-section AWG | 16 ... 2/0 |
| Conductor cross-section, flexible, with ferrule, without plastic sleeve | 1.5 mm ² ... 50 mm ² |
| Conductor cross-section, flexible, with ferrule, with plastic sleeve | 1.5 mm ² ... 50 mm ² |
| 2 conductors with same cross section, rigid | 1.5 mm ² ... 16 mm ² |
| 2 conductors with the same cross section, stranded | 1.5 mm ² ... 25 mm ² |
| 2 conductors with same cross section, flexible | 1.5 mm ² ... 25 mm ² |

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| | |
|---|--|
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 1.5 mm ² ... 16 mm ² |
| Stripping length | 20 mm |
| Drive form screw head | Torx® (T30) |
| Tightening torque | 5.5 Nm |

Information on the aluminum conductor

| | |
|--|--|
| Cross section / torque / form of conductor | Cable cross section:50 mm ² ; Torque:5.5 Nm; Form of cable:sector-shaped, single-strand, class 1, $\alpha = 90^\circ$ (se) |
| Specification | DIN VDE 0276-603 (VDE 0276-603):2010-03 |
| Note on conductor pretreatment | The following measures are required for durable and reliable contacting of the aluminum conductor: the stripped end of the aluminum conductor must be separated from the oxide layer using a blade, and immediately dipped in non-acid and non-alkali Vaseline. The pretreatment must be repeated when connecting the conductors anew. |

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 (4 μ m - 8 μ m Sn) |
| Metal surface soldering area (top layer) | Tin (4 μ m - 8 μ m 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 |

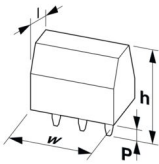
Dimensions

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| | |
|-----------------------|--|
| Dimensional drawing |  |
| Pitch | 17.5 mm |
| Width [w] | 37.5 mm |
| Height [h] | 59 mm |
| Length [l] | 32 mm |
| Installed height | 55 mm |
| Solder pin length [P] | 4 mm |
| Pin dimensions | 1.4 x 1.4 mm |

PCB design

| | |
|---------------|--------|
| Hole diameter | 2.4 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 | 1.5 mm ² / solid / > 40 N |
| | 1.5 mm ² / flexible / > 40 N |
| | 70 mm ² / stranded / > 285 N |
| | 70 mm ² / flexible / > 285 N |
| | 50 mm ² / flexible with ferrule / > 236 N |
| | 1.5 mm ² / flexible with ferrule / > 40 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 |

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| | |
|--|----------------------------------|
| Specification | IEC 60947-1:2007-06 + A1:2010-12 |
| Insulating material group | I |
| Comparative tracking index (IEC 60112) | CTI 600 |
| Rated insulation voltage (III/3) | 1000 V |
| Rated surge voltage (III/3) | 8 kV |
| minimum clearance value - non-homogenous field (III/3) | 8 mm |
| minimum creepage distance (III/3) | 12.5 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 |
| 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 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 (storage/transport) | -40 °C ... 70 °C |
| Relative humidity (storage/transport) | 30 % ... 70 % |
| Ambient temperature (assembly) | -5 °C ... 100 °C |
| Ambient temperature (operation) | -40 °C ... 100 °C (Depending on the current carrying capacity/derating curve) |

Packaging specifications

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

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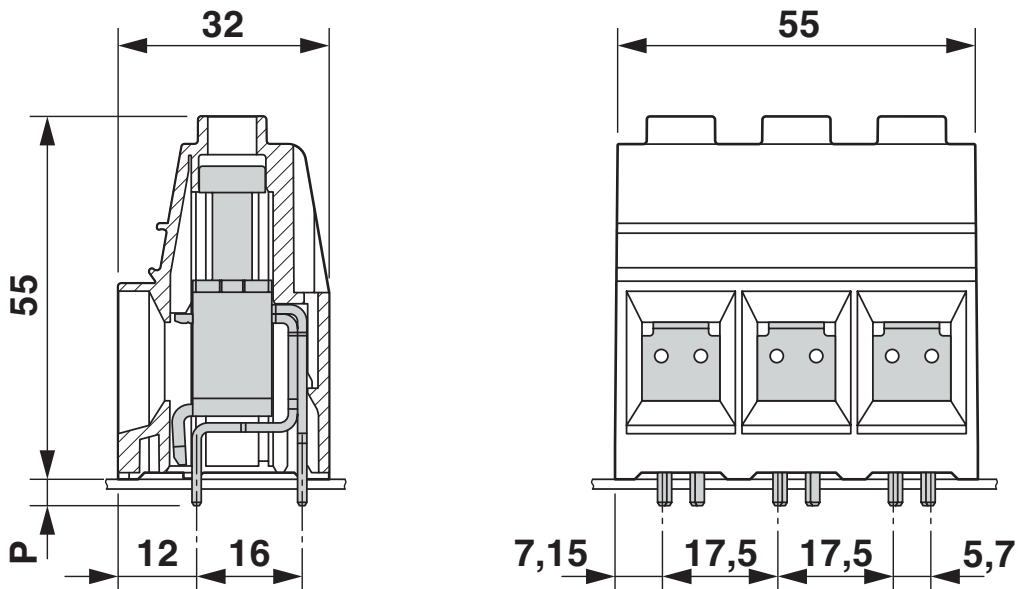


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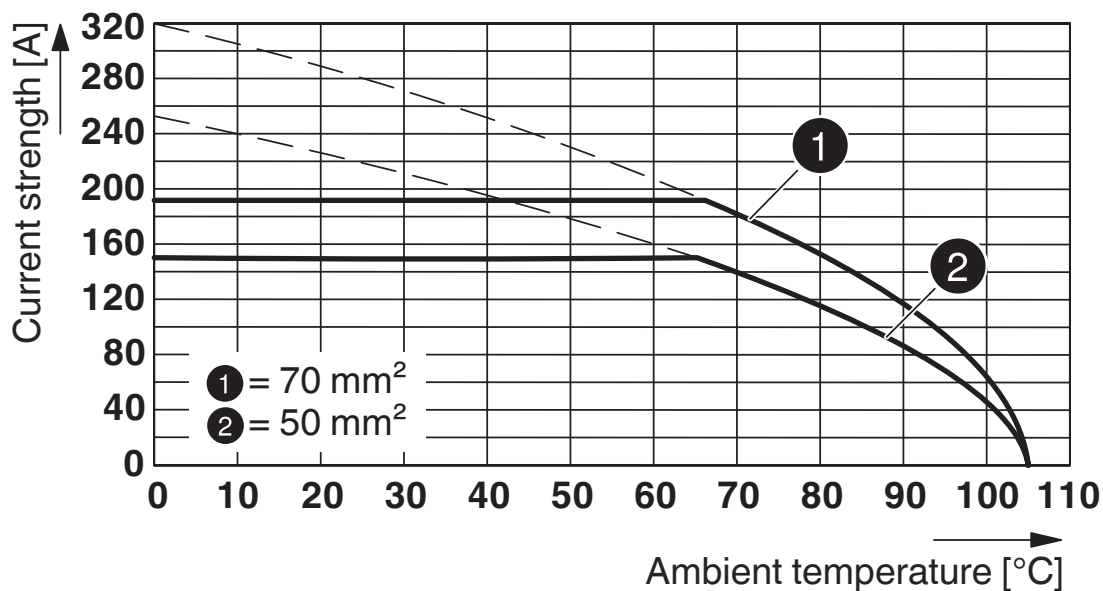
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Drawings

Dimensional drawing



Diagram



Type: MKDSP 50/...-17,5(-F)(-FL)

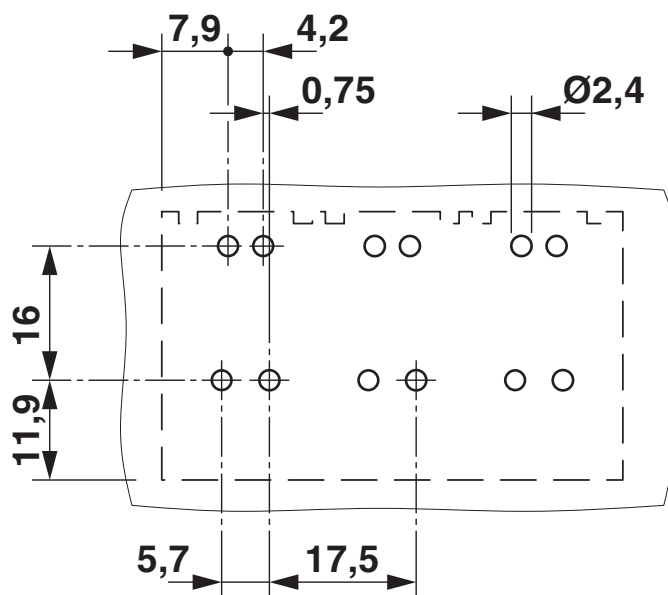
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Drilling plan/solder pad geometry



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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1856126>

|  cULus Recognized Approval ID: E60425-19770427 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| B | 600 V | 160 A | 16 - 2/0 | - |
| C | 600 V | 160 A | 16 - 2/0 | - |

|  VDE approval of drawings Approval ID: 40041859 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | 1000 V | 192 A | - | 1.5 - 70 |

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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% |
|-------------------------------------|----------------------------|

EF3.1 Climate Change

| | |
|---------|---------------|
| CO2e kg | 1.025 kg CO2e |
|---------|---------------|

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