# MKDSO 2,5 HV/ 3L-7,5 KMGY - PCB terminal block

2890946

https://www.phoenixcontact.com/us/products/2890946

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PCB terminal block, nominal current: 24 A, rated voltage (III/2): 630 V, nominal cross section: 2.5 $mm^2$, number of rows: 1, number of positions per row: 3, product range: MKDSO 2,5 HV/..-L, pitch: 7.5 mm, connection method: Screw connection with tension sleeve, mounting: Wave soldering, conductor/PCB connection direction: 0 °, color: light grey, Pin layout: Linear pinning, Solder pin [P]: 3.5 mm, number of solder pins per potential: 1. Product with pin output on left side

## Your advantages

- Maintenance-free and vibration-resistant, thanks to the Reakdyn principle or spring-loaded elements
- PCB terminal block is orthogonal to the PCB
- Internationally recognized and proven screw connection

## Commercial data

| | |
|---|---|
| Item number | 2890946 |
| Packing unit | 50 pc |
| Minimum order quantity | 50 pc |
| Sales key | AC08 |
| Product key | ACHADA |
| Catalog page | Page 125 (C-1-2013) |
| GTIN | 4046356101585 |
| Weight per piece (including packing) | 8.212 g |
| Weight per piece (excluding packing) | 7.22 g |
| Customs tariff number | 85369010 |
| Country of origin | DE |

# Technical data

## Product properties

| | |
|---|---|
| Product type | Printed circuit board terminal |
| Product family | MKDSO 2,5 HV/..-L |
| Number of positions | 3 |
| Pitch | 7.5 mm |
| Number of rows | 1 |
| Pin layout | Linear pinning |
| Solder pins per potential | 1 |

## Electrical properties

| | |
|---|---|
| Nominal current $I_N$ | 24 A |
| Nominal voltage $U_N$ | 600 V |
| Degree of pollution | 3 |
| Rated voltage (III/3) | 630 V |
| Rated surge voltage (III/3) | 6 kV |
| Rated voltage (III/2) | 630 V |
| Rated surge voltage (III/2) | 6 kV |
| Rated voltage (II/2) | 1000 V |
| Rated surge voltage (II/2) | 6 kV |

## Connection data

### Connection technology

| | |
|---|---|
| Nominal cross section | 2.5 mm² |

### Conductor connection

| | |
|---|---|
| Connection method | Screw connection with tension sleeve |
| Conductor cross section rigid | 0.2 mm² ... 2.5 mm² |
| Conductor cross section flexible | 0.2 mm² ... 2.5 mm² |
| Conductor cross section AWG | 24 ... 14 |
| Conductor cross section flexible, with ferrule without plastic sleeve | 0.25 mm² ... 2.5 mm² |
| Conductor cross section, flexible, with ferrule, with plastic sleeve | 0.25 mm² ... 2.5 mm² |
| 2 conductors with same cross section, solid | 0.2 mm² ... 0.75 mm² |
| 2 conductors with same cross section, flexible | 0.25 mm² ... 0.75 mm² |
| 2 conductors with same cross section, flexible, with ferrule without plastic sleeve | 0.25 mm² ... 0.75 mm² |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.25 mm² ... 1.5 mm² |
| Stripping length | 8 mm |
| Tightening torque | 0.5 Nm ... 0.6 Nm |

## Mounting

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

## Material specifications

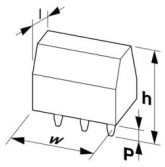
Material data - contact

| | |
|---|---|
| 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 (Sn) |

Material data - housing

| | |
|---|---|
| Color (Housing) | light grey (7035) |
| 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 | 7.5 mm |
| Width [w] | 20.8 mm |
| Height [h] | 23.25 mm |
| Length [l] | 27.95 mm |
| Solder pin length [P] | 3.5 mm |
| Pin dimensions | 0.8 x 1 mm |

PCB design

| | |
|---|---|
| Hole diameter | 1.4 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 | 0.2 mm² / solid / > 10 N |
| | 0.2 mm² / flexible / > 10 N |
| | 2.5 mm² / solid / > 50 N |
| | 2.5 mm² / flexible / > 50 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 | $10^9$ Ω |

Air clearances and creepage distances |

| | |
|---|---|
| Specification | IEC 60664-1:1992-10 + A1:2000-02 + A2:2002-05 |
| Insulating material group | I |
| Comparative tracking index (IEC 60112) | CTI 600 |
| Rated insulation voltage (III/3) | 630 V |
| Rated surge voltage (III/3) | 6 kV |
| minimum clearance value - non-homogenous field (III/3) | 5.5 mm |
| minimum creepage distance (III/3) | 8 mm |
| Rated insulation voltage (III/2) | 630 V |
| Rated surge voltage (III/2) | 6 kV |
| minimum clearance value - non-homogenous field (III/2) | 5.5 mm |
| minimum creepage distance (III/2) | 5.5 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 60068-2-6:1995-03 |
| 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 60998-1:2002-12 |
| Temperature | 850 °C |
| Time of exposure | 5 s |

Ambient conditions

| | |
|---|---|
| Ambient temperature (operation) | -40 °C ... 105 °C (Depending on the current carrying capacity/derating curve) |
| Ambient temperature (storage/transport) | -40 °C ... 55 °C |
| Relative humidity (storage/transport) | 30 % ... 70 % |
| Ambient temperature (assembly) | -5 °C ... 100 °C |

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