

MKDS 10 HV/ 2-ZB-10,16 - PCB terminal block



1709681

<https://www.phoenixcontact.com/in/products/1709681>

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PCB terminal block, nominal current: 76 A, rated voltage (III/2): 1000 V, nominal cross section: 16 mm², number of potentials: 2, number of rows: 1, number of positions per row: 2, product range: MKDS 10 HV, 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: green, Pin layout: Zigzag pinning W, Solder pin [P]: 5 mm, number of solder pins per potential: 2, 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
- Unrestricted 600-V-UL approval thanks to compact zig-zag pinning
- Integrated protective guide prevents incorrect insertion of the conductor underneath the tension sleeve

Commercial Data

Item number	1709681
Packing unit	50 pc
Minimum order quantity	50 pc
Sales Key	AAN
Product Key	AANFFA
Catalog Page	Page 453 (C-1-2013)
GTIN	4046356073769
Weight per Piece (including packing)	16.94 g
Weight per Piece (excluding packing)	16.73 g
Customs tariff number	85369010
Country of origin	CN

Technical Data

Product properties

Type	PC terminal block can be aligned
Product line	COMBICON Terminals L
Product type	Printed circuit board terminal
Product family	MKDS 10 HV
Number of positions	2
Pitch	10.16 mm
Number of connections	2
Number of rows	1
Number of potentials	2
Pin layout	Zigzag pinning W
Solder pins per potential	2

Electrical properties

Nominal current I_N	76 A
Nominal voltage U_N	1000 V
Degree of pollution	3
Rated voltage (III/3)	800 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)	8 kV

Connection data

Connection technology

Type	PC terminal block can be aligned
Nominal cross section	16 mm ²

Conductor connection

Connection method	Screw connection with tension sleeve
Conductor cross section rigid	0.5 mm ² ... 16 mm ²
Conductor cross section flexible	0.5 mm ² ... 16 mm ²
Conductor cross section AWG	20 ... 6
Conductor cross section flexible, with ferrule without plastic sleeve	0.5 mm ² ... 16 mm ²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.5 mm ² ... 16 mm ²
2 conductors with same cross section, solid	0.5 mm ² ... 6 mm ²
2 conductors with same cross section, flexible	0.5 mm ² ... 6 mm ²
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	0.5 mm ² ... 4 mm ²
2 conductors with the same cross section, flexible, with TWIN	0.5 mm ² ... 6 mm ²

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ferrule with plastic sleeve	
Stripping length	10 mm
Tightening torque	1.2 Nm ... 1.5 Nm

Mounting

Mounting type	Wave soldering
Pin layout	Zigzag pinning W
Drive form screw head	Slotted (L)
Drive form screw head	Slotted (L)

Processing notes

Process	Wave soldering
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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)	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

Material data – actuating element

Color ()	()
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Notes

Note on application	For reliable conductor connection, always adhere to a defined tightening torque. During conductor connection (mounting), the terminal blocks must be supported (held with one hand, support on the housing).
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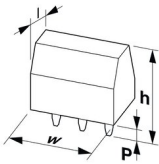
Dimensions

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Dimensional drawing	
Pitch	10.16 mm
Width [w]	20.32 mm
Height [h]	35.8 mm
Length [l]	18.7 mm
Installed height	30.8 mm
Solder pin length [P]	5 mm

Mechanical tests

Test for conductor damage and slackening

Specification	IEC 60998-1:2002-12
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 ² / solid / > 20 N
	0.5 mm ² / flexible / > 20 N
	16 mm ² / solid / > 100 N
	10 mm ² / flexible / > 90 N

Torque test

Specification	IEC 60998-2-1:2002-12
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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 60664-1:2007-04
Insulating material group	I
Comparative tracking index (IEC 60112)	CTI 600
Rated insulation voltage (III/3)	800 V
Rated surge voltage (III/3)	8 kV
minimum clearance value - non-homogenous field (III/3)	8 mm
minimum creepage distance (III/3)	10 mm

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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)	8 kV
minimum clearance value - non-homogenous field (II/2)	8 mm
minimum creepage distance (II/2)	10 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)
Sweep speed	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 ... 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

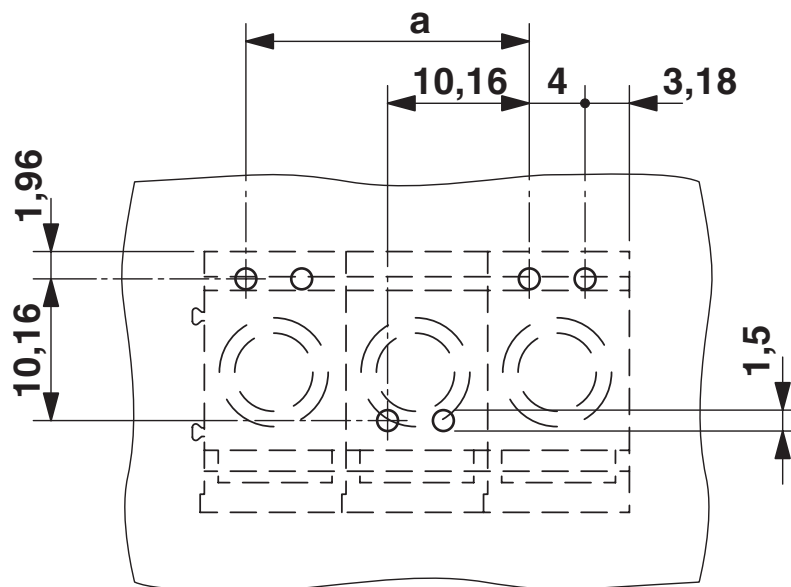
Type of packaging	packed in cardboard
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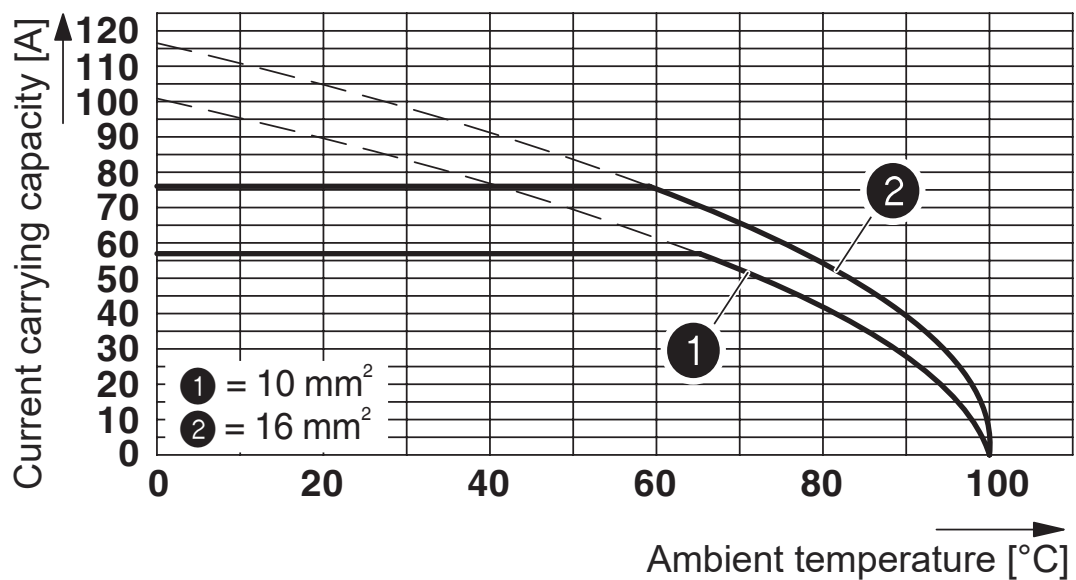
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Drawings

Drilling plan/solder pad geometry



Diagram



Type: MKDS 10 HV/...-ZB-10,16

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

Reduction factor = 1

No. of positions = 5

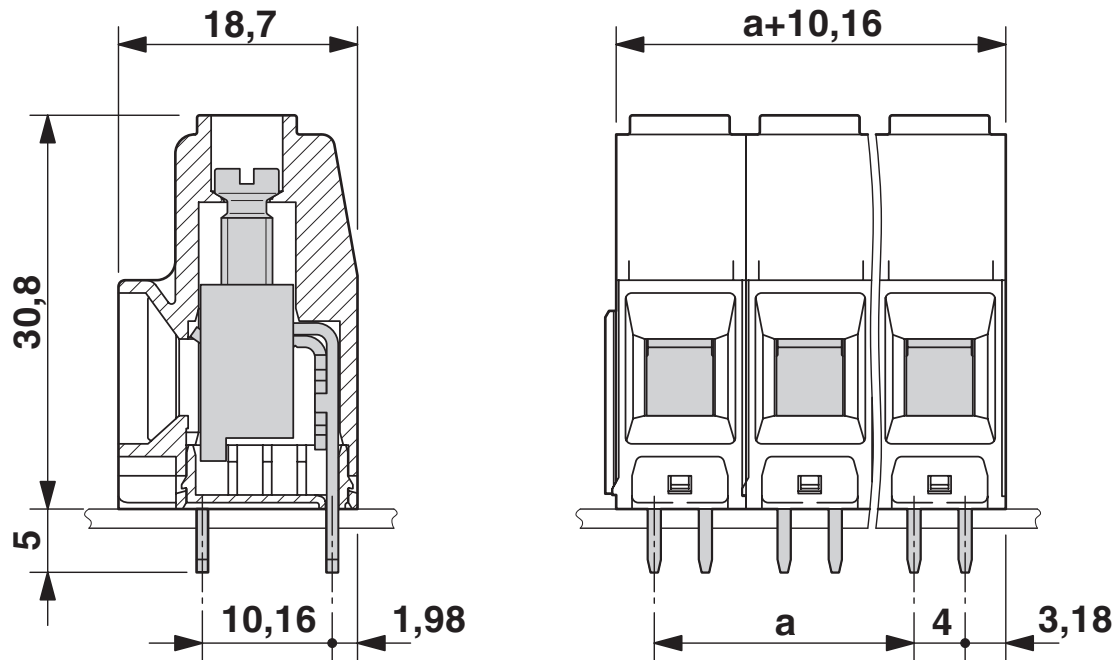
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Dimensional drawing



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

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Approvals



EAC

Approval ID: B.01687



cULus Recognized

Approval ID: E60425-19770427

	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	600 V	60 A	20 - 6	-
	600 V	60 A	20 - 6	-



IECEE CB Scheme

Approval ID: DE1-66634

	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	1000 V	76 A	-	0.2 - 16



VDE Zeichengenehmigung

Approval ID: 40055535

	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	1000 V	76 A	-	0.2 - 16

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Classifications

ECLASS

ECLASS-11.0	27460101
ECLASS-12.0	27460101
ECLASS-13.0	27460101

ETIM

ETIM 8.0	EC002643
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UNSPSC

UNSPSC 21.0	39121400
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Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

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Accessories

SZS 1,0X4,0 VDE - Screwdriver

1205066

<https://www.phoenixcontact.com/in/products/1205066>



Screwdriver, slot-headed, VDE insulated, size: 1.0 x 4.0 x 100 mm, 2-component grip, with non-slip grip

SK 5,0 WH:REEL - Marker strip

0805221

<https://www.phoenixcontact.com/in/products/0805221>



Marker strip, Roll, white, unlabeled, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: adhesive, for terminal block width: 5 mm, lettering field size: continuous x 5 mm, Number of individual labels: 90000

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CRIMPFOX 6 - Crimping pliers

1212034

<https://www.phoenixcontact.com/in/products/1212034>



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm² ... 6.0 mm², lateral entry, trapezoidal crimp

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