

# PCB terminal block - MKDS 10 HV/ 3-ZB-10,16 - 1709694

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PCB terminal block, nominal current: 76 A, rated voltage (III/2): 1000 V, nominal cross section: 16 mm<sup>2</sup>, number of potentials: 3, Number of rows: 1, Number of positions per row: 3, 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, type of packaging: packed in cardboard


The figure shows a 5-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
- ✓ Unrestricted 600-V-UL approval thanks to compact zig-zag pinning
- ✓ Integrated protective guide prevents incorrect insertion of the conductor underneath the tension sleeve



## Key Commercial Data

Packing unit	50 pc
GTIN	 4 046356 074179
GTIN	4046356074179

## Technical data

### Item properties

Brief article description	PCB terminal block
Range of articles	MKDS 10 HV
Pitch	10.16 mm
Number of positions	3
Drive form screw head	Slotted (L)
Screw thread	M4
Mounting type	Wave soldering
Pin layout	Zigzag pinning W
Number of rows	1
Number of connections	3

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## Technical data

### Item properties

Number of potentials	3
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### Electrical parameters

Nominal current	76 A
Nom. voltage	1000 V
Rated voltage (III/3)	800 V
Rated voltage (III/2)	1000 V
Rated voltage (II/2)	1000 V
Rated surge voltage (III/3)	8 kV
Rated surge voltage (III/2)	8 kV
Rated surge voltage (II/2)	8 kV

### Connection capacity

Connection method	Screw connection with tension sleeve
Conductor cross section solid	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 / kcmil	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> ... 6 mm <sup>2</sup>
2 conductors with same cross section, flexible	0.5 mm <sup>2</sup> ... 6 mm <sup>2</sup>
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	0.5 mm <sup>2</sup> ... 4 mm <sup>2</sup>
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
Torque	1.2 Nm ... 1.5 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 (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

Housing color	green (6021)
Insulating material	PA
Insulating material group	I
CTI according to IEC 60112	600
Flammability rating according to UL 94	V0

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## Technical data

### Material data - housing

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	Schematische Abbildung - weitere Details siehe Produktfamilienzeichnung im Download Center
Length [ l ]	18.7 mm
Width [ w ]	30.48 mm
Height [ h ]	35.8 mm
Pitch	10.16 mm
Height (without solder pin)	30.8 mm
Solder pin [P]	5 mm
Pin dimensions	1 x 0.9 mm

### Dimensions for PCB design

Hole diameter	1.5 mm
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### Packaging information

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

### Ambient conditions

Ambient temperature (storage/transport)	-40 °C ... 70 °C
Ambient temperature (assembly)	-5 °C ... 100 °C
Ambient temperature (operation)	-40 °C ... 100 °C (Depending on the current carrying capacity/derating curve)

### Termination and connection method

Connection test	IEC 60998-2-2:2002-12
Test result	Test passed
Test for conductor damage and slackening	IEC 60998-1:2002-12
	Test passed

### Pull-out test

Pull-out test	IEC 60998-2-1:2002-12
Conductor cross section / conductor type / tensile force	0.5 mm <sup>2</sup> / solid / flexible / > 20 N
	10 mm <sup>2</sup> / flexible / > 90 N
	16 mm <sup>2</sup> / solid / > 100 N

### Mechanical tests according to standard

Test specification	IEC 60998-2-1 (in parts)
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### Electrical tests

Rated current	76 A
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## Technical data

### Electrical tests

Conductor cross section	16 mm <sup>2</sup>
Rated voltage (III/2)	1000 V
Rated surge voltage (III/2)	8 kV

### Air clearances and creepage distances

Clearances and creepage distances	IEC 60664-1:2007-04
Specification	IEC 60664-1:2007-04
Minimum clearance - inhomogeneous field (III/3)	8 mm
Minimum clearance - inhomogeneous field (III/2)	8 mm
Minimum clearance - inhomogeneous field (II/2)	8 mm
Minimum creepage distance value (III/3)	10 mm
Minimum creepage distance value (III/2)	8 mm
Minimum creepage distance value (II/2)	10 mm

### Temperature-rise test

Specification	IEC 60998-1:2002-12
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### Current carrying capacity / derating curves

Caption	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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### Vibration test

Specification	IEC 60068-2-6:1995-03
Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 - 60.1 Hz)
Acceleration	5g (60.1 - 150 Hz)
Test duration per axis	2.5 h

### Insulation resistance

Specification	IEC 60998-1:2002-12
Result	Test passed
Insulation resistance, neighboring positions	10 <sup>9</sup> Ω

### Glow-wire test

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

### Mechanical strength/tumbling barrel test

Specification	IEC 60998-1:2002-12
Number of drop cycles	50

## Standards and Regulations

# PCB terminal block - MKDS 10 HV/ 3-ZB-10,16 - 1709694

## Technical data

### Standards and Regulations

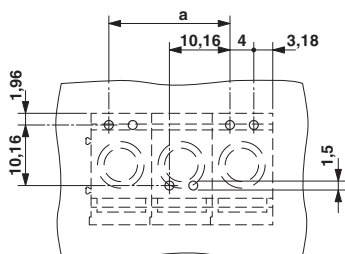
Connection in acc. with standard	EN-VDE
	CUL
Flammability rating according to UL 94	V0

### Environmental Product Compliance

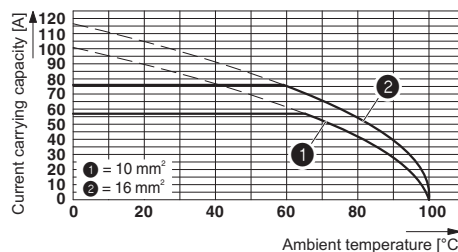
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Drawings

Drilling diagram

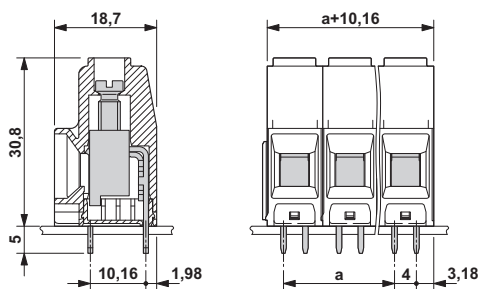


Diagram



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

Dimensional drawing



## Classifications

### eCl@ss

eCl@ss 10.0.1	27440401
eCl@ss 11.0	27460101
eCl@ss 4.0	27141100
eCl@ss 4.1	27141100
eCl@ss 5.0	27141100
eCl@ss 5.1	27261100

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## Classifications

### eCl@ss

eCl@ss 6.0	27261100
eCl@ss 7.0	27440401
eCl@ss 9.0	27440401

### ETIM

ETIM 3.0	EC001121
ETIM 4.0	EC002643
ETIM 6.0	EC002643
ETIM 7.0	EC002643

### UNSPSC

UNSPSC 6.01	30211801
UNSPSC 7.0901	39121432
UNSPSC 11	39121432
UNSPSC 12.01	39121432
UNSPSC 13.2	39121432
UNSPSC 18.0	39121432
UNSPSC 19.0	39121432
UNSPSC 20.0	39121432
UNSPSC 21.0	39121432

## Approvals


### Approvals

#### Approvals

IECEE CB Scheme / SEV / EAC / cULus Recognized

#### Ex Approvals

### Approval details

IECEE CB Scheme		<a href="http://www.iecee.org/">http://www.iecee.org/</a>	CH-10724-A1
Nominal voltage UN	800 V		
Nominal current IN	76 A		
mm <sup>2</sup> /AWG/kcmil	10		

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## Approvals

SEV		<a href="https://www.eurofins.ch/de/">https://www.eurofins.ch/de/</a>	IK-4486-A1
Nominal voltage UN		800 V	
Nominal current IN		76 A	
mm <sup>2</sup> /AWG/kcmil		10	

EAC		B.01687
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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
	B	C	
Nominal voltage UN	600 V	600 V	
Nominal current IN	60 A	60 A	
mm <sup>2</sup> /AWG/kcmil	20-6	20-6	

## Accessories

### Accessories

#### Crimping tool

Crimping pliers - CRIMPFOX 6 - 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 mm<sup>2</sup> ... 6.0 mm<sup>2</sup>, lateral entry, trapezoidal crimp

Crimping pliers - CRIMPFOX 16 S - 1207983



Crimping pliers for ferrules up to 16 mm<sup>2</sup>

#### Screwdriver tools

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### Accessories

Screwdriver - SZS 0,6X3,5 - 1205053



Actuation tool, for ST terminal blocks, insulated, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip

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### Terminal marking

Marker strip - SK 5,0 WH:REEL - 0805221



Marker strip, Roll, white, unlabeled, can be labeled with: 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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