

# PCB terminal block - MKDS 5N HV/ 5-ZB-6,35



1777574

<https://www.phoenixcontact.com/de/produkte/1777574>

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PCB terminal block, nominal current: 41 A, rated voltage (III/2): 1000 V, nominal cross section: 4 mm<sup>2</sup>, number of potentials: 5, number of rows: 1, number of positions per row: 5, product range: MKDS 5 N HV, pitch: 6.35 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: 0 °, color: green, Pin layout: Zigzag pinning W, Solder pin [P]: 5 mm, number of solder pins per potential: 1, 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

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## Commercial Data

Item number	1777574
Packing unit	50 pc
Minimum order quantity	50 pc
Sales Key	E1 - Leiterplattenanschl.
Product Key	AANFDF
Catalog Page	Page 445 (C-1-2013)
GTIN	4046356522359
Weight per Piece (including packing)	16,186 g
Weight per Piece (excluding packing)	16,186 g
Customs tariff number	85369010
Country of origin	DE

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## Technical Data

### Product properties

Type	PC termination block
Product line	COMBICON Terminals L
Product type	Printed circuit board terminal
Number of positions	5
Pitch	6.35 mm
Number of connections	5
Number of rows	1
Number of potentials	5
Pin layout	Zigzag pinning W

### Electrical properties

Nominal current $I_N$	41 A
Nominal voltage $U_N$	1000 V
Pollution degree	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

### Connection data

#### Connection technology

Type	PC termination block
Nominal cross section	4 mm <sup>2</sup>

#### Conductor connection

Connection method	Screw connection with tension sleeve
Conductor cross section solid	0.2 mm <sup>2</sup> ... 6 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Conductor cross section AWG	24 ... 10
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 4 mm <sup>2</sup>
2 conductors with same cross section, solid	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
2 conductors with same cross section, flexible	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 0.75 mm <sup>2</sup>
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Stripping length	8 mm
Torque	0.5 Nm ... 0.6 Nm

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## Mounting

Mounting type Wave soldering	Wave soldering
Mounting type	Wave soldering
Drive form screw head	Slotted (L)

## 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	hot-dip tin-plated
Metal surface terminal point (top layer)	Tin (5 - 7 $\mu\text{m}$ Sn)
Metal surface soldering area (top layer)	Tin (5 - 7 $\mu\text{m}$ Sn)

### 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
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	6.35 mm
Width [w]	31.75 mm
Height [h]	27 mm
Length [l]	15.85 mm
Installed height	27 mm
Solder pin length [P]	5 mm

### PCB design

Pin spacing	9 mm
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## Mechanical tests

Test for conductor damage and slackening

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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 mm <sup>2</sup> / solid / > 10 N
	0.2 mm <sup>2</sup> / flexible / > 10 N
	6 mm <sup>2</sup> / solid / > 80 N
	4 mm <sup>2</sup> / flexible / > 60 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 <sup>12</sup> Ω

### Air clearances and creepage distances |

Specification	IEC 60947-7-4:2013-08
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
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)	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 - 60.1 Hz)

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Sweep speed	5g (60.1 - 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

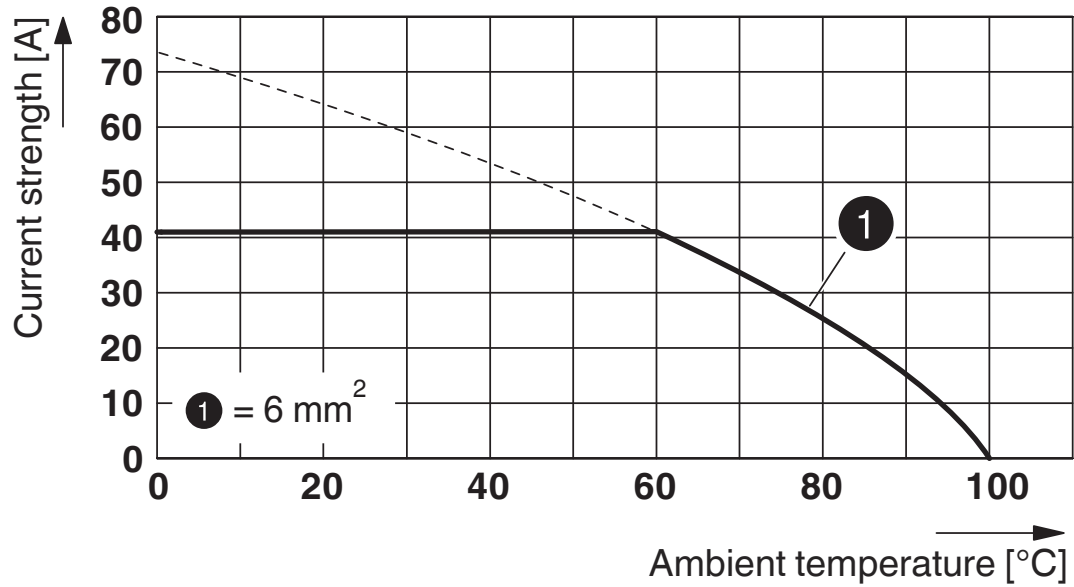
Type of packaging	packed in cardboard
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## Drawings

Diagram



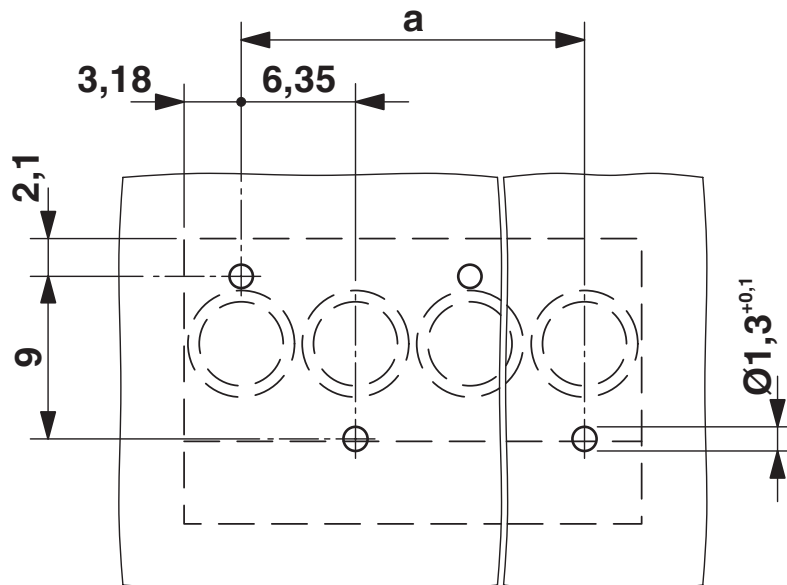
Type: MKDS 5N HV/...-ZB-6,35

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

Reduction factor = 1

Number of positions: 5

Drilling plan/solder pad geometry

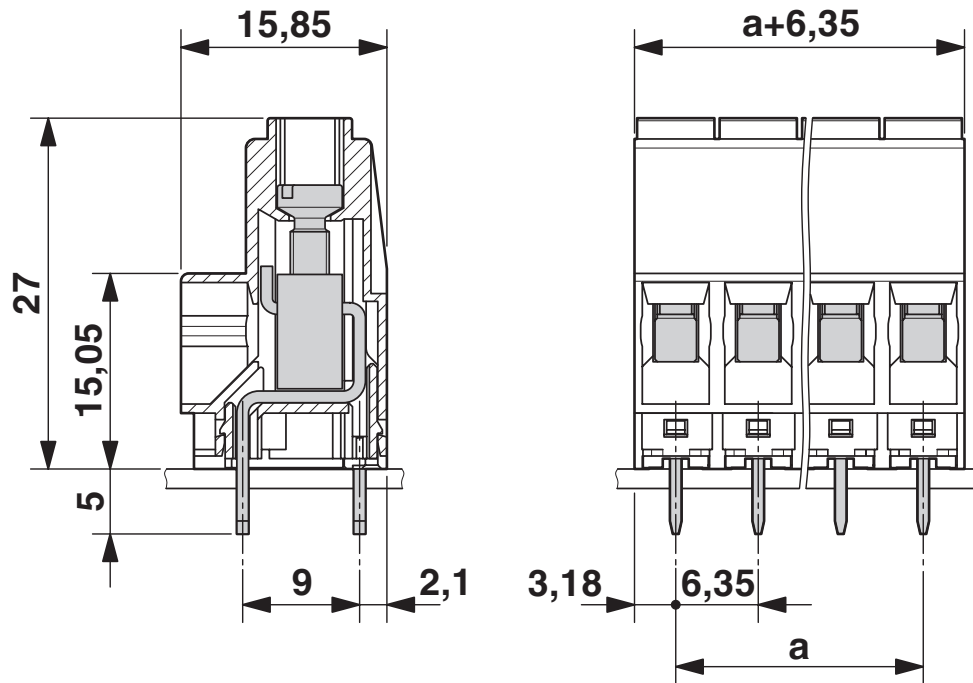


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Dimensional drawing





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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 $\text{mm}^2$
Use group B				
	600 V	30 A	30 - 10	-
Use group C				
	600 V	30 A	30 - 10	-

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## Classifications

### ECLASS

ECLASS-9.0	27440401
ECLASS-10.0.1	27440401
ECLASS-11.0	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

### Screwdriver

Screwdriver - SZF 1-0,6X3,5 - 1204517

<https://www.phoenixcontact.com/de/produkte/1204517>



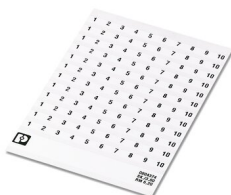
Actuation tool, for ST terminal blocks, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip

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### Marker card

Marker card - SK 6,2/3,8:FORTL.ZAHLEN - 0804374

<https://www.phoenixcontact.com/de/produkte/0804374>



Marker card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... (99)100, mounting type: adhesive, for terminal block width: 6.2 mm, lettering field size: 6.2 x 3.8 mm

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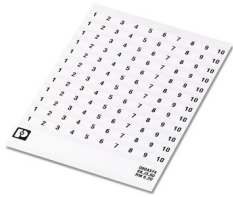
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## Marker card

Marker card - SK 3,8 REEL P6,2 WH CUS - 0825126

<https://www.phoenixcontact.com/de/produkte/0825126>



Marker card, can be ordered: by card, white, labeled according to customer specifications, mounting type: adhesive, for terminal block width: 6.2 mm, lettering field size: continuous x 3.8 mm

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## Marker strip

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

<https://www.phoenixcontact.com/de/produkte/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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## Screwdriver

Screwdriver - SZS 0,8X4,0 VDE - 1212508

<https://www.phoenixcontact.com/de/produkte/1212508>



Screwdriver, slot-headed, VDE insulated, size: 0.8 x 4.0 x 100 mm, 2-component grip, with non-slip grip

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