

# KDS10/SO - PCB terminal block



1704059

<https://www.phoenixcontact.com/in/products/1704059>

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PCB terminal block, nominal current: 76 A, rated voltage (III/2): 320 V, nominal cross section: 10 mm<sup>2</sup>, number of potentials: 1, number of rows: 1, number of positions per row: 1, product range: KDS10, pitch: 10 mm, connection method: Screw connection with tension sleeve, mounting: Wave soldering, conductor/PCB connection direction: 0 °, color: green, Pin layout: Linear pinning, Solder pin [P]: 4.3 mm, number of solder pins per potential: 4, type of packaging: packed in cardboard. The article can be aligned to create different nos. of positions!

## Your advantages

- Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- Allows connection of two conductors
- Potentials can be easily looped through with additional connection to the PCB
- The latching on the side enables various numbers of positions to be combined

## Commercial Data

Item number	1704059
Packing unit	50 pc
Minimum order quantity	50 pc
Sales Key	AAN
Product Key	AANFCA
Catalog Page	Page 457 (C-1-2013)
GTIN	4017918023188
Weight per Piece (including packing)	16.848 g
Weight per Piece (excluding packing)	16.64 g
Customs tariff number	85369010
Country of origin	DE

## Technical Data

### Product properties

Type	PCB terminal block can be aligned in rows+feed-through terminal block
Product line	COMBICON Terminals L
Product type	Printed circuit board terminal
Product family	KDS10
Number of positions	1
Pitch	10 mm
Number of connections	2
Number of rows	1
Number of potentials	1
Pin layout	Linear pinning
Solder pins per potential	4

### Electrical properties

Nominal current $I_N$	76 A
Nominal voltage $U_N$	320 V
Degree of pollution	3
Rated voltage (III/3)	250 V
Rated surge voltage (III/3)	4 kV
Rated voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV
Rated voltage (II/2)	630 V
Rated surge voltage (II/2)	4 kV

### Connection data

#### Connection technology

Type	PCB terminal block can be aligned in rows+feed-through terminal block
Nominal cross section	10 mm <sup>2</sup>

#### Conductor connection

Connection method	Screw connection with tension sleeve
Conductor cross section rigid	0.5 mm <sup>2</sup> ... 16 mm <sup>2</sup>
Conductor cross section flexible	0.5 mm <sup>2</sup> ... 10 mm <sup>2</sup>
Conductor cross section AWG	20 ... 6
Conductor cross section flexible, with ferrule without plastic sleeve	0.5 mm <sup>2</sup> ... 10 mm <sup>2</sup>
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.5 mm <sup>2</sup> ... 10 mm <sup>2</sup>
2 conductors with same cross section, solid	0.5 mm <sup>2</sup> ... 4 mm <sup>2</sup>
2 conductors with same cross section, flexible	0.5 mm <sup>2</sup> ... 4 mm <sup>2</sup>
2 conductors with same cross section, flexible, with ferrule	0.5 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>

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without plastic sleeve	
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	12 mm
Tightening torque	1.2 Nm ... 1.5 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 (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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## Dimensions

Dimensional drawing	
Pitch	10 mm
Width [w]	10 mm
Height [h]	33.3 mm

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Length [L]	36.8 mm
Installed height	29 mm
Solder pin length [P]	4.3 mm

## Mechanical tests

### Test for conductor damage and slackening

Specification	IEC 60998-2-1:1990-04
Result	Test passed

### Pull-out test

Specification	IEC 60998-2-1:1990-04
Conductor cross section/conductor type/tractive force setpoint/actual value	0.5 mm <sup>2</sup> / solid / > 30 N
	0.5 mm <sup>2</sup> / flexible / > 30 N
	16 mm <sup>2</sup> / solid / > 100 N
	10 mm <sup>2</sup> / flexible / > 90 N

### Torque test

Specification	IEC 60998-2-1:1990-04
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## Electrical tests

### Temperature-rise test

Specification	IEC 60998-2-1:1990-04
Requirement temperature-rise test	Increase in temperature ≤ 45 K

### Insulation resistance

Specification	IEC 60998-2-1:1990-04
Insulation resistance, neighboring positions	10 <sup>9</sup> 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)	250 V
Rated surge voltage (III/3)	4 kV
minimum clearance value - non-homogenous field (III/3)	3 mm
minimum creepage distance (III/3)	3.2 mm
Rated insulation voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV
minimum clearance value - non-homogenous field (III/2)	3 mm
minimum creepage distance (III/2)	3 mm
Rated insulation voltage (II/2)	630 V
Rated surge voltage (II/2)	4 kV
minimum clearance value - non-homogenous field (II/2)	3 mm
minimum creepage distance (II/2)	3.2 mm

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## 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 60998-2-1:1990-04
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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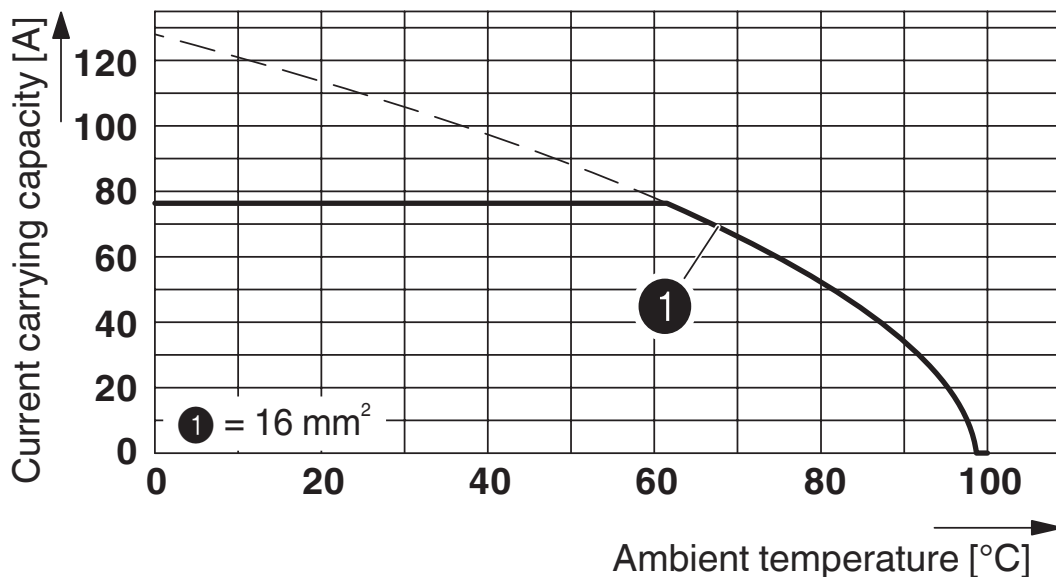
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## Drawings

Diagram



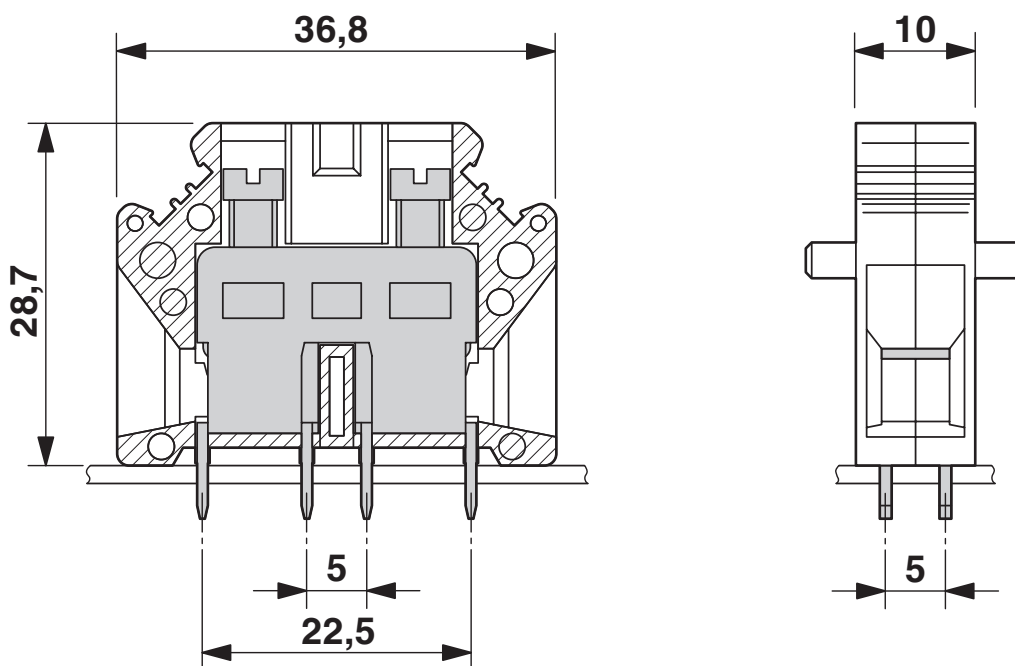
Type: KDS 10

Test following DIN EN 60512-5-2:2003-01

Reduction factor = 1

No. of positions: 5

Dimensional drawing



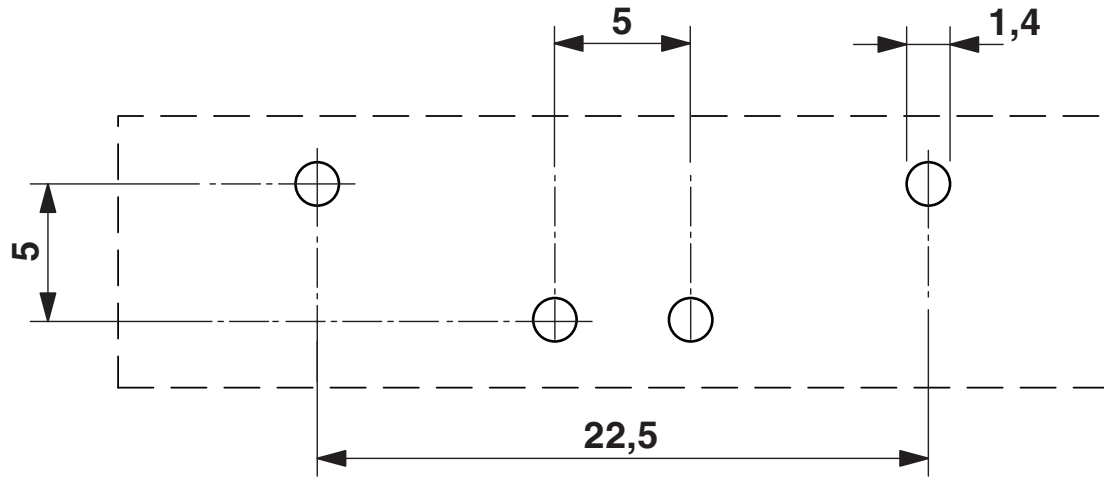
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Drilling plan/solder pad geometry




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## Approvals

 <b>CSA</b> Approval ID: 13631				
	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
	300 V	65 A	18 - 6	-
	300 V	65 A	18 - 6	-

 <b>cUL Recognized</b> Approval ID: FILE E 60425				
	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
	250 V	65 A	24 - 6	-
	300 V	65 A	24 - 6	-
	600 V	5 A	24 - 6	-

 <b>UL Recognized</b> Approval ID: FILE E 60425				
	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
	250 V	65 A	24 - 6	-
	300 V	65 A	24 - 6	-
	600 V	5 A	24 - 6	-

 <b>EAC</b> Approval ID: B.01687				
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 <b>DNV GL</b> Approval ID: TAE00001EV				
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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

### RZ-KDS10 - Pitch spacer

1701065

<https://www.phoenixcontact.com/in/products/1701065>



Pitch spacer, raises the pitch by 2.5 mm, interlocks with terminal block of the same shape, color: green

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### FBI 10-10 - Fixed bridge

0203276

<https://www.phoenixcontact.com/in/products/0203276>



Fixed bridge, pitch: 10 mm, number of positions: 10, color: silver

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## PSB 4/7/6 - Female test connector

0303299

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Female test connector, number of positions: 1, color: silver

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## SZS 1,0X4,0 VDE - Screwdriver

1205066

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

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## ZB10,LGS:FORTL.ZAHLEN - Zack marker strip

1053014

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Zack marker strip, Strip, white, labeled, can be labeled with: CMS-P1-PLOTTER, printed horizontally: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, mounting type: snapped, for terminal block width: 10.2 mm, lettering field size: 10,15 x 10,5 mm, Number of individual labels: 10

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