KDS10 - PCB terminal block

1704020

https://www.phoenixcontact.com/us/products/1704020

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PCB terminal block, nominal current: 76 A, rated voltage (III/2): 320 V, nominal cross section: 10 mm^2, 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	1704020
Packing unit	1 pc
Minimum order quantity	50 pc
Sales Key	AA14
Product Key	AANFCA
Catalog Page	Page 457 (C-1-2013)
GTIN	4017918023164
Weight per Piece (including packing)	16.96 g
Weight per Piece (excluding packing)	16.065 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 mm²

Conductor connection

Connection method	Screw connection with tension sleeve
Conductor cross section rigid	0.5 mm² ... 16 mm²
Conductor cross section flexible	0.5 mm² ... 10 mm²
Conductor cross section AWG	20 ... 6
Conductor cross section flexible, with ferrule without plastic sleeve	0.5 mm² ... 10 mm²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.5 mm² ... 10 mm²
2 conductors with same cross section, solid	0.5 mm² ... 4 mm²
2 conductors with same cross section, flexible	0.5 mm² ... 4 mm²
2 conductors with same cross section, flexible, with ferrule	0.5 mm² ... 2.5 mm²

without plastic sleeve	
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm² ... 6 mm²
Stripping length	12 mm
Tightening torque	1.2 Nm ... 1.5 Nm

Mounting

Mounting type	Wave soldering
Pin layout	Linear pinning
Drive form screw head	Slotted
Drive form screw head	Slotted

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)

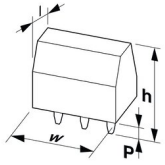
Material data - housing

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 ()	()

Dimensions

Dimensional drawing	
Pitch	10 mm

Width [w]	10 mm
Height [h]	33.3 mm
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 mm² / solid / > 30 N
	0.5 mm² / flexible / > 30 N
	16 mm² / solid / > 100 N
	10 mm² / flexible / > 90 N

Torque test

Specification	IEC 60998-2-1:1990-04

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	10^9 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)	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

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

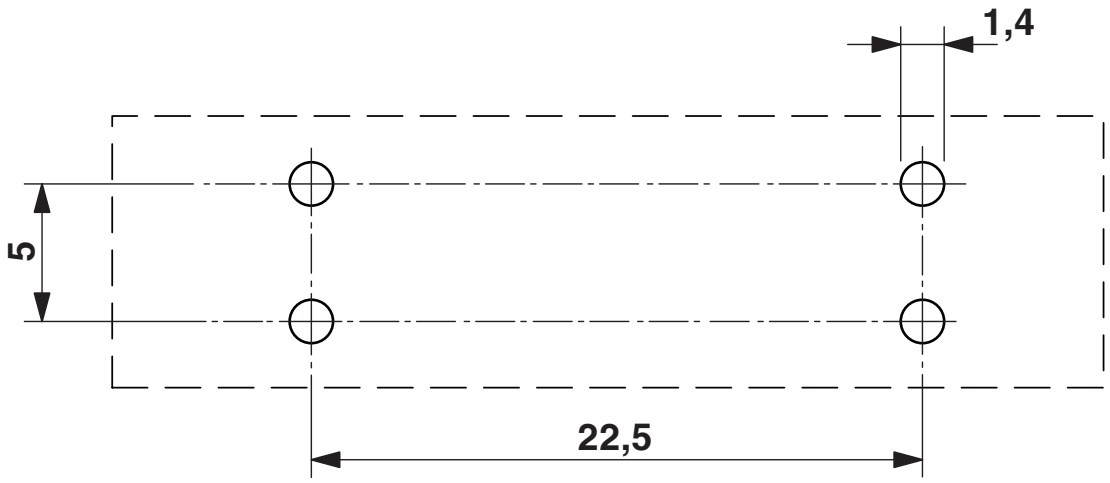
Ambient temperature (operation)	-40 °C ... 100 °C (Depending on the current carrying capacity/derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

Packaging specifications

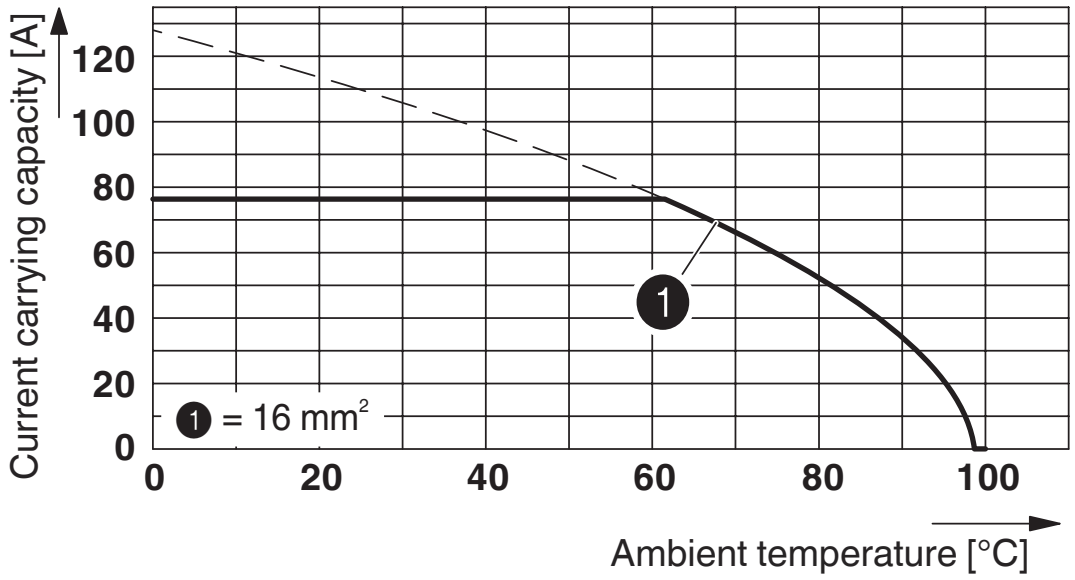
Type of packaging	packed in cardboard

Drawings

Drilling plan/solder pad geometry



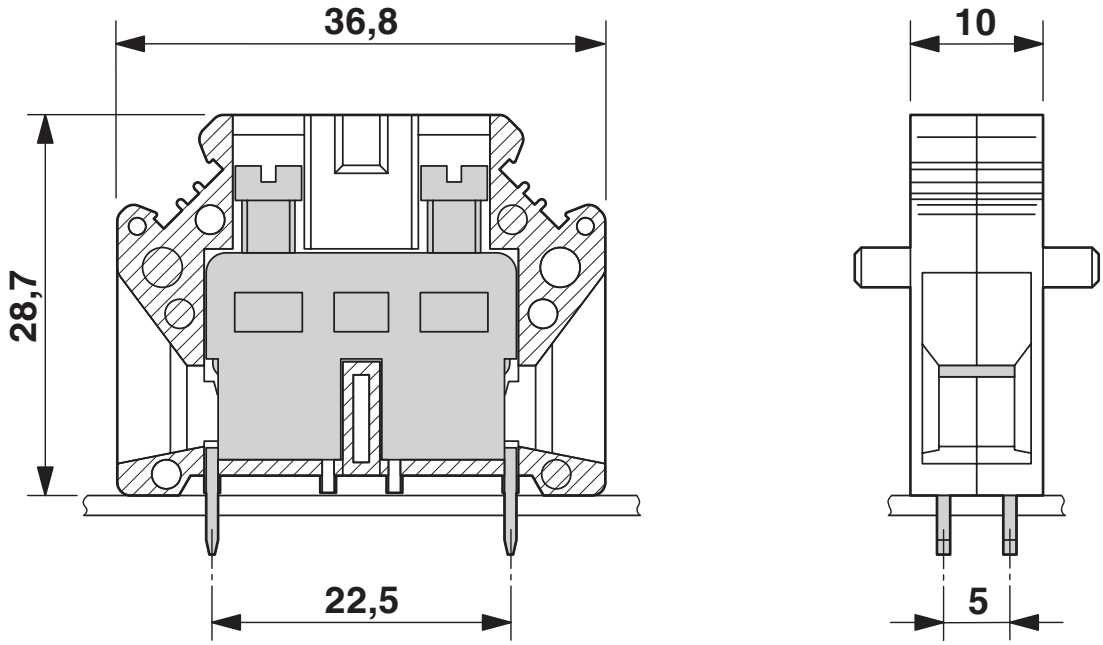
Diagram



Type: KDS 10

Test following DIN EN 60512-5-2:2003-01
Reduction factor = 1
No. of positions: 5

Dimensional drawing



Approvals

CSA
Approval ID: 13631

	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
Use group B				
	300 V	65 A	18 - 6	-
Use group C				
	300 V	65 A	18 - 6	-

cUL Recognized
Approval ID: FILE E 60425

	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
Use group B				
	250 V	65 A	24 - 6	-
Use group C				
	300 V	65 A	24 - 6	-
Use group D				
	600 V	5 A	24 - 6	-

UL Recognized
Approval ID: FILE E 60425

	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
Use group B				
	250 V	65 A	24 - 6	-
Use group C				
	300 V	65 A	24 - 6	-
Use group D				
	600 V	5 A	24 - 6	-

EAC
Approval ID: B.01687

DNV GL
Approval ID: TAE00001EV

IECEE CB Scheme
Approval ID: DE1-66542

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

VDE Zeichengenehmigung
Approval ID: 40055394

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

Classifications

ECLASS

ECLASS-10.0.1	27440401
ECLASS-11.0	27460101
ECLASS-12.0	27460101

ETIM

ETIM 8.0	EC002643

UNSPSC

UNSPSC 21.0	39121400

Environmental Product Compliance

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

Accessories

RZ-KDS10 - Pitch spacer

1701065

https://www.phoenixcontact.com/us/products/1701065

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

FBI 10-10 - Fixed bridge

0203276

https://www.phoenixcontact.com/us/products/0203276

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

PSB 4/7/6 - Female test connector

0303299

https://www.phoenixcontact.com/us/products/0303299

Female test connector, color: silver

SZS 1,0X4,0 VDE - Screwdriver

1205066

https://www.phoenixcontact.com/us/products/1205066

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

ZB10,LGS:FORTL.ZAHLEN - Zack marker strip

1053014

https://www.phoenixcontact.com/us/products/1053014

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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