PCB terminal block - KDS

1701023

https://www.phoenixcontact.com/pc/products/1701023

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PCB terminal block, nominal current: 17.5 A, rated voltage (III/2): 400 V, nominal cross section: 1.5 mm^2, number of potentials: 1, number of rows: 1, number of positions per row: 1, product range: KDS, pitch: 5 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]: 4.9 mm, number of solder pins per potential: 2, 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
- Quick and convenient testing using integrated test option
- Two solder pins reduce the mechanical strain on the soldering spots
- The latching on the side enables various numbers of positions to be combined

Commercial Data

Item number	1701023
Packing unit	50 pc
Minimum order quantity	1 pc
Product Key	AALFCA
Catalog Page	Page 103 (CC-2007)
GTIN	4017918022945
Weight per Piece (including packing)	2.448 g
Weight per Piece (excluding packing)	2.44 g
Customs tariff number	85369010
Country of origin	PL

Technical Data

Product properties

Type	PC terminal block can be aligned
Product line	COMBICON Terminals S
Product type	Printed circuit board terminal
Number of positions	1
Pitch	5 mm
Number of connections	1
Number of rows	1
Number of potentials	1
Pin layout	Linear pinning
Solder pins per potential	2

Electrical properties

Nominal current I_N	17.5 A
Nominal voltage U_N	400 V
Degree of pollution	3
Rated voltage (III/3)	250 V
Rated surge voltage (III/3)	4 kV
Rated voltage (III/2)	400 V
Rated surge voltage (III/2)	4 kV

Connection data

Connection technology

Type	PC terminal block can be aligned
Nominal cross section	1.5 mm²

Conductor connection

Connection method	Screw connection with tension sleeve
Conductor cross section solid	0.14 mm² ... 2.5 mm²
Conductor cross section flexible	0.14 mm² ... 1.5 mm²
Conductor cross section AWG	26 ... 14
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm² ... 1 mm²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm² ... 1 mm²
2 conductors with same cross section, solid	0.14 mm² ... 0.75 mm²
2 conductors with same cross section, flexible	0.14 mm² ... 0.5 mm²
Stripping length	10 mm
Tightening torque	0.4 Nm ... 0.5 Nm

Mounting

Mounting type	Wave soldering
Pin layout	Linear pinning

Drive form screw head	Slotted
Drive form screw head	Slotted

Material specifications

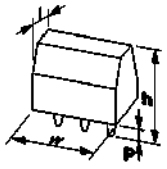
Material data - contact

Note	WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/JEDEC JESD 201
Contact material	Cu alloy
Surface characteristics	hot-dip tin-plated
Metal surface terminal point (top layer)	Tin (3 - 5 µm Sn)
Metal surface soldering area (top layer)	Tin (3 - 5 µm Sn)

Material data - housing

Housing color	green (RAL 6021)
Insulating material	PA
Insulating material group	I
CTI according to IEC 60112	600
Flammability rating according to UL 94	V2

Dimensions

Dimensional drawing	
Pitch	5 mm
Width [w]	5 mm
Height [h]	19 mm
Length [l]	18.6 mm
Installed height	14.1 mm
Solder pin length [P]	4.9 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	0.14 mm² / solid / > 10 N
	0.14 mm² / flexible / > 10 N
	2.5 mm² / solid / > 50 N
	1.5 mm² / flexible / > 40 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)	400 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

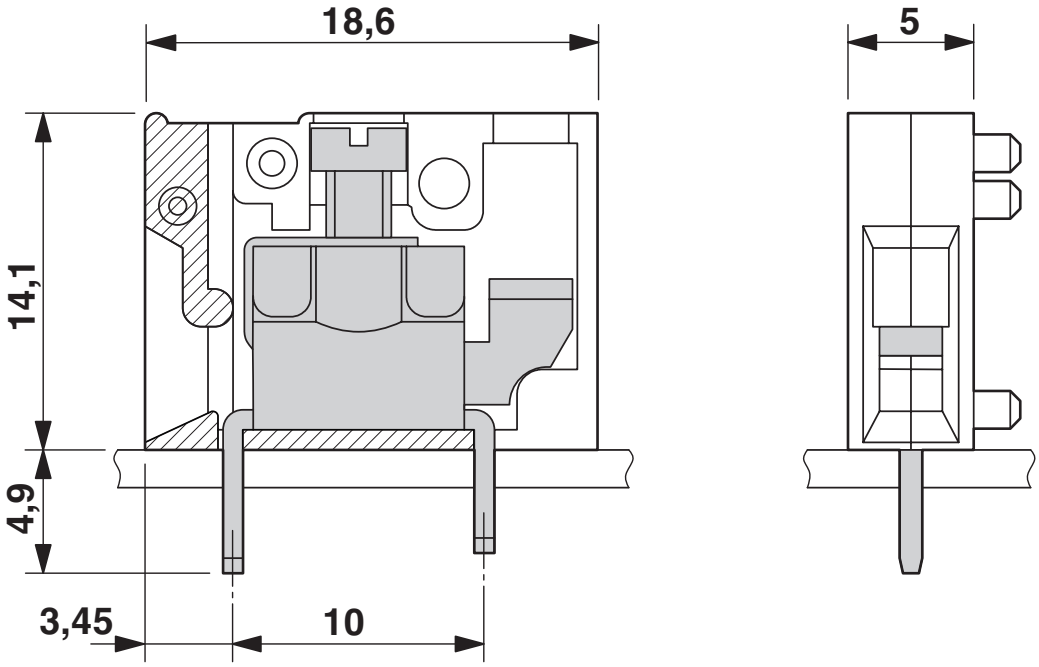
Ambient temperature (operation)	-40 °C ... 100 °C (Depending on the current carrying capacity/derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

Packaging specifications

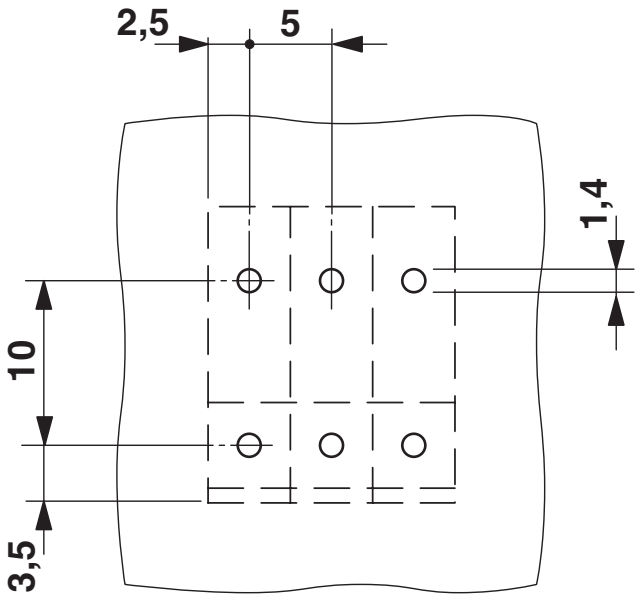
Type of packaging	packed in cardboard

Drawings

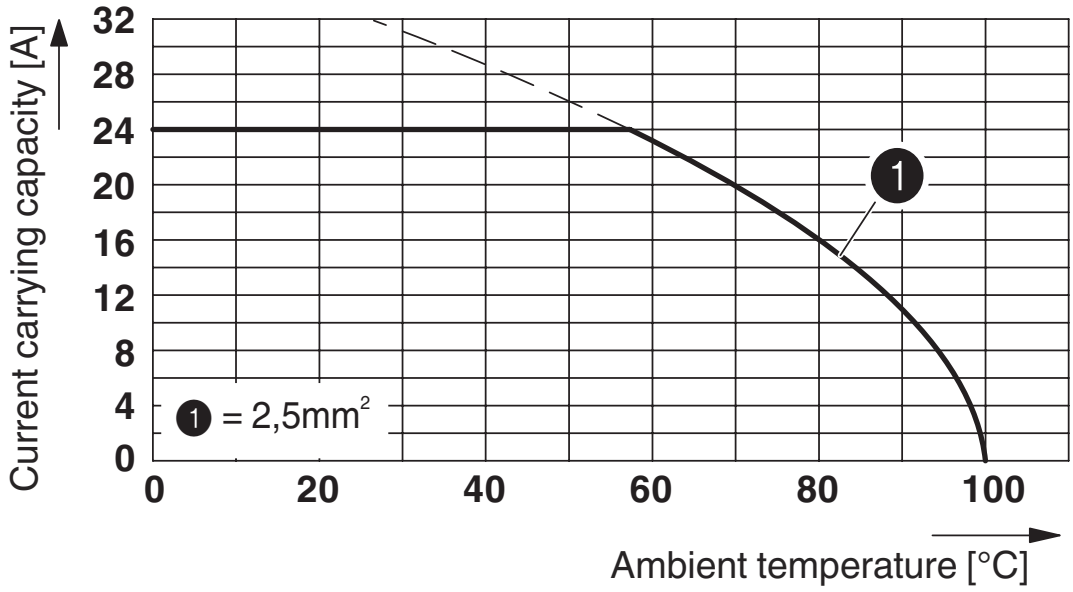
Dimensional drawing



Drilling plan/solder pad geometry



Diagram



Type: KDS

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

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	10 A	24 - 12	-
Use group D				
	300 V	10 A	24 - 12	-

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	15 A	30 - 14	-
with pitch spacer		15 A	30 - 14	-
Use group C				
	50 V	15 A	30 - 14	-
with pitch spacer		15 A	30 - 14	-

EAC
Approval ID: B.01687

IECEE CB Scheme
Approval ID: DE1-66542

	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	400 V	24 A	-	0.2 - 2.5

VDE Zeichengenehmigung
Approval ID: 40055394

	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	400 V	24 A	-	0.2 - 2.5

Classifications

ECLASS

ECLASS-9.0	27440401
ECLASS-10.0.1	27440401
ECLASS-11.0	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

Pitch spacer

Pitch spacer - RZ 2,5 - 1701052

https://www.phoenixcontact.com/pc/products/1701052

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

Insertion bridge

Insertion bridge - EB 2- 5 - 1401158

https://www.phoenixcontact.com/pc/products/1401158

Insertion bridge, pitch: 5 mm, color: gray

Insertion bridge

Insertion bridge - EB 3- 5 - 1401145

https://www.phoenixcontact.com/pc/products/1401145

Insertion bridge, pitch: 5 mm, color: gray

PCB terminal block

PCB terminal block - TP-KDS/GKDS - 1701793

https://www.phoenixcontact.com/pc/products/1701793

PCB terminal block, number of positions per row: 1, product range: DECKEL + RZ + DP, pitch: 0 mm, color: green

Reducing plug

Reducing plug - RPS - 0201647

https://www.phoenixcontact.com/pc/products/0201647

Reducing plug, color: gray

Screwdriver

Screwdriver - SZS 0,6X3,5 - 1205053

https://www.phoenixcontact.com/pc/products/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

Test plugs

Test plugs - MPS-MT - 0201744

https://www.phoenixcontact.com/pc/products/0201744

Test plugs, with solder connection up to 1 mm^2 conductor cross section, color: gray

Marker card

Marker card - SK 5/3,8:FORTL.ZAHLEN - 0804183

https://www.phoenixcontact.com/pc/products/0804183

Marker card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... (99)100, mounting type: adhesive, for terminal block width: 5 mm, lettering field size: 5 x 3.8 mm

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Marker pin Zack strip

Marker pin Zack strip - BNB-ZB 5,LGS:FORTL.ZAHLEN - 1400201

https://www.phoenixcontact.com/pc/products/1400201

Marker pin Zack strip, Strip, white, labeled, printed horizontally: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 491 ... 500, mounting type: plug in, for terminal block width: 5 mm, lettering field size: 4 x 4 mm, Number of individual labels: 10

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