

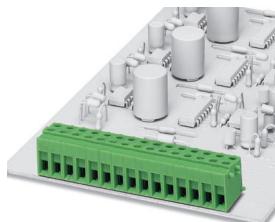
KDS - PCB terminal block

1701023

<https://www.phoenixcontact.com/us/products/1701023>



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Printed circuit board terminal, nominal current: 17.5 A, rated voltage (III/2): 400 V, nominal cross section: 1.5 mm², 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, screw head form: L Slotted, 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	50 pc
Sales key	AA12
Product key	AALFCA
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

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Technical data

Product properties

Product type	Printed circuit board terminal
Product family	KDS
Product line	COMBICON Terminals S
Type	PC terminal block can be aligned
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

Properties

Nominal current I_N	17.5 A
Nominal voltage U_N	400 V
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
Rated voltage (II/2)	630 V
Rated surge voltage (II/2)	4 kV

Connection data

Connection technology

Type	PC terminal block can be aligned
Nominal cross section	1.5 mm ²

Conductor connection

Connection method	Screw connection with tension sleeve
Conductor cross-section rigid	0.14 mm ² ... 2.5 mm ²
Conductor cross-section flexible	0.14 mm ² ... 1.5 mm ²
Conductor cross-section AWG	26 ... 14
Conductor cross-section flexible, with ferrule without plastic sleeve	0.25 mm ² ... 1 mm ²
Conductor cross-section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 1 mm ²
2 conductors with same cross section, solid	0.14 mm ² ... 0.75 mm ²
2 conductors with same cross section, flexible	0.14 mm ² ... 0.5 mm ²
Stripping length	10 mm
Drive form screw head	Slotted (L)

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Tightening torque	0.4 Nm ... 0.5 Nm
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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	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

Color (Housing)	green (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
Pin dimensions	1.1 x 0.8 mm

PCB design

Hole diameter	1.4 mm
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Mechanical tests

Test for conductor damage and slackening

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

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Pull-out test

Specification	IEC 60998-2-1:1990-04
Conductor cross-section/conductor type/tractive force setpoint/actual value	0.14 mm ² / solid / > 10 N
	0.14 mm ² / flexible / > 10 N
	2.5 mm ² / solid / > 50 N
	1.5 mm ² / flexible / > 40 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 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)
Acceleration	5g (60.1 Hz ... 150 Hz)
Test duration per axis	2.5 h

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Test directions	X-, Y- and Z-axis
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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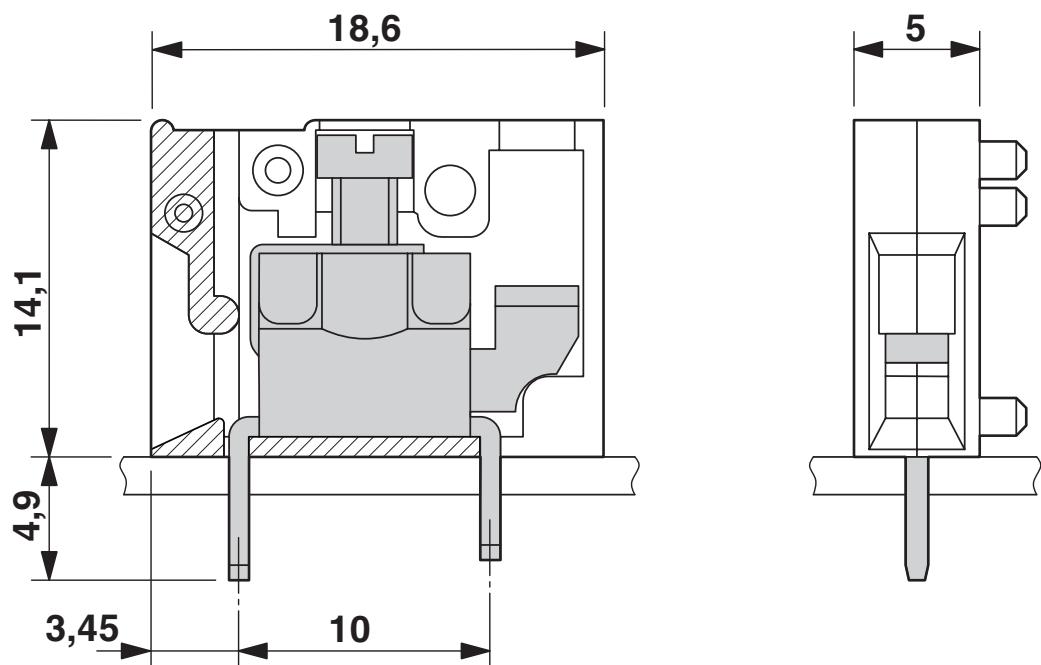


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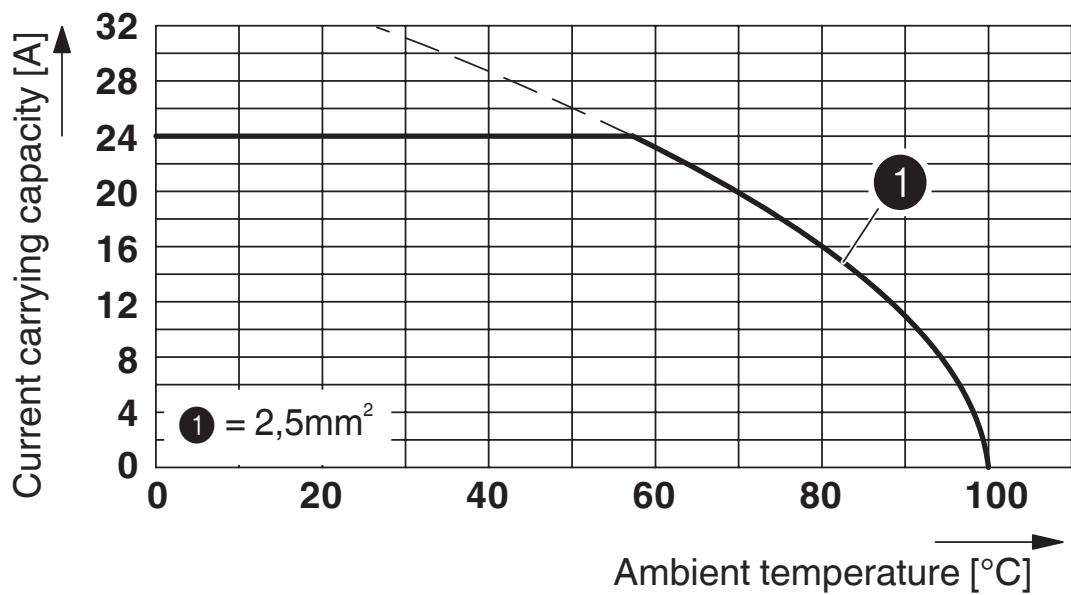
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Drawings

Dimensional drawing



Diagram



Type: KDS

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

Reduction factor = 1

No. of positions: 5

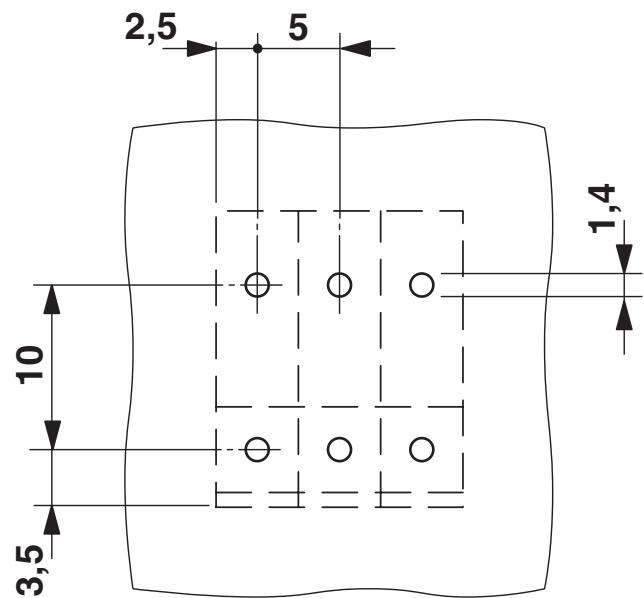
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Drilling plan/solder pad geometry



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Approvals

ⓘ To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1701023>

CSA Approval ID: 13631				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
B	300 V	10 A	24 - 12	-
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
B	250 V	15 A	30 - 14	-
with pitch spacer	-	15 A	30 - 14	-
C	50 V	15 A	30 - 14	-
with pitch spacer	-	15 A	30 - 14	-

VDE approval of drawings Approval ID: 40055394				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
keine	400 V	24 A	-	0.2 - 2.5

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Classifications

ECLASS

ECLASS-13.0	27460101
ECLASS-15.0	27460101

ETIM

ETIM 9.0	EC002643
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UNSPSC

UNSPSC 21.0	39121400
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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
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EF3.0 Climate Change

CO2e kg	0.029 kg CO2e
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