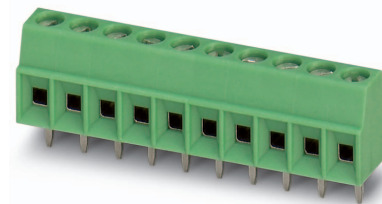


Data sheet

Order No.: 1727052

Type: MKDS 1/ 6-3,81

PCB terminal block, Screw connection with tension sleeve



The figure shows a 10-position version of the product

1 Main features



- | | | | |
|---------------------------|--------------------------------------|------------------------|---------------------|
| • No. of pos. | 6 | • Nominal current | 13.5 A |
| • Conductor cross section | 1.5 mm ² | • Nominal voltage | 200 V |
| • Color | green (6021) | • Connection direction | 0° |
| • Pitch | 3.81 mm | • Type of packaging | packed in cardboard |
| • Connection method | Screw connection with tension sleeve | | |

2 Your advantages

- ✓ Well-known connection principle allows worldwide use
- ✓ Low temperature rise, thanks to maximum contact force
- ✓ Allows connection of two conductors
- ✓ Extremely small design for the respective conductor cross section



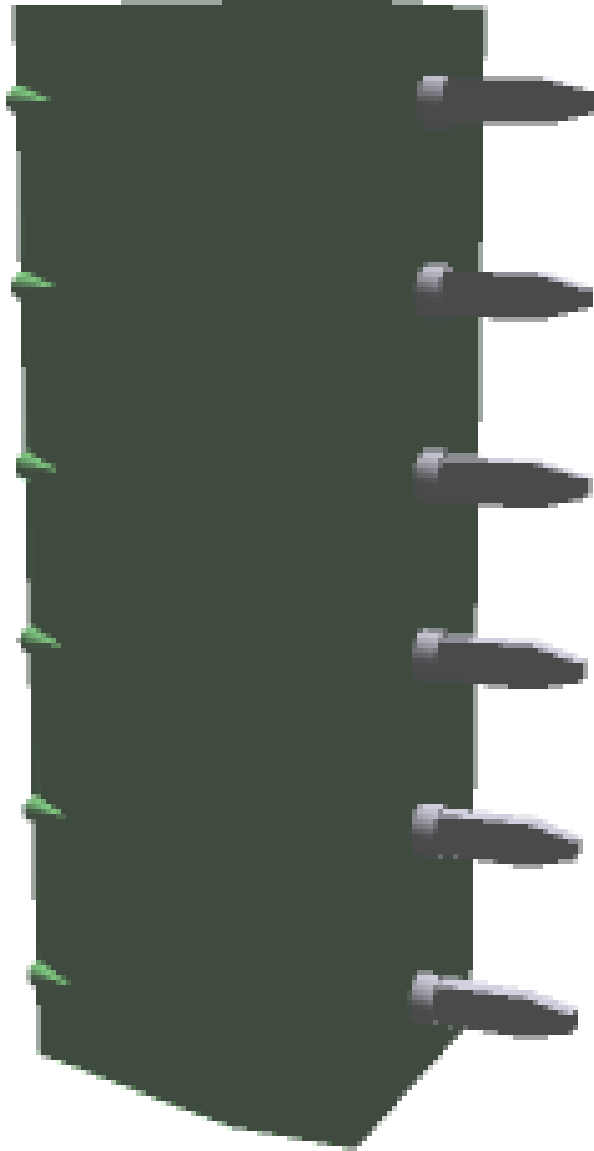
Make sure you always use the latest documentation.

It can be downloaded at: phoenixcontact.net/product/1727052

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4 3D model in PDF can be activated (Acrobat Reader only)



1727052 MKDS 1/ 6-3,81**5 General Technical Data****5.1 item properties**

Order No.	1727052
Type	MKDS 1/ 6-3,81
Product type	PCB terminal block
Range of articles	MKDS 1
Pitch	3.81 mm
Range of positions	2...13
Number of positions	6
Number of levels	1
Number of connections	6
Number of potentials	6
Connection method	Screw connection with tension sleeve
Screw thread	M2
Drive form screw head	Slotted (L)
Mounting type	Wave soldering
Connection direction of the conductor to the PCB	0 °
Pin layout	Linear pinning
Solder pins per potential	1
Type	PC termination block

5.2 Connection capacity

Conductor cross section, solid	0.14 mm ² ... 1.5 mm ²
Conductor cross section, flexible	0.14 mm ² ... 1.5 mm ²
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² ... 0.5 mm ²
Conductor cross section flexible, with ferrule with plastic sleeve	0.25 mm ² ... 0.5 mm ²
2 conductors with same cross section, solid	0.14 mm ² ... 0.5 mm ²
2 conductors with same cross section, stranded	0.14 mm ² ... 0.34 mm ²
Cylindrical gauge a x b / diameter	- / 1.6 mm
Stripping length	5 mm
Tightening torque	0.22 Nm ... 0.25 Nm

5.3 Connection capacity AWG

Conductor cross section AWG	26 ... 16
-----------------------------	-----------

6 Material properties**6.1 Material of metal parts**

Note	WEEE/RoHS-compliant, whisker-free acc. to IEC 60068-2-82/JEDEC JESD 201
Contact material	Cu alloy
Terminal point surface	Nickel (2 - 3 µm Ni) , Tin (5 - 7 µm Sn)
Soldering area surface	Nickel (2 - 3 µm Ni) , Tin (5 - 7 µm Sn)
Surface characteristics	Tin-plated

1727052 MKDS 1/ 6-3,81**6.2 Material of plastic parts**

	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

1727052 MKDS 1/ 6-3,81

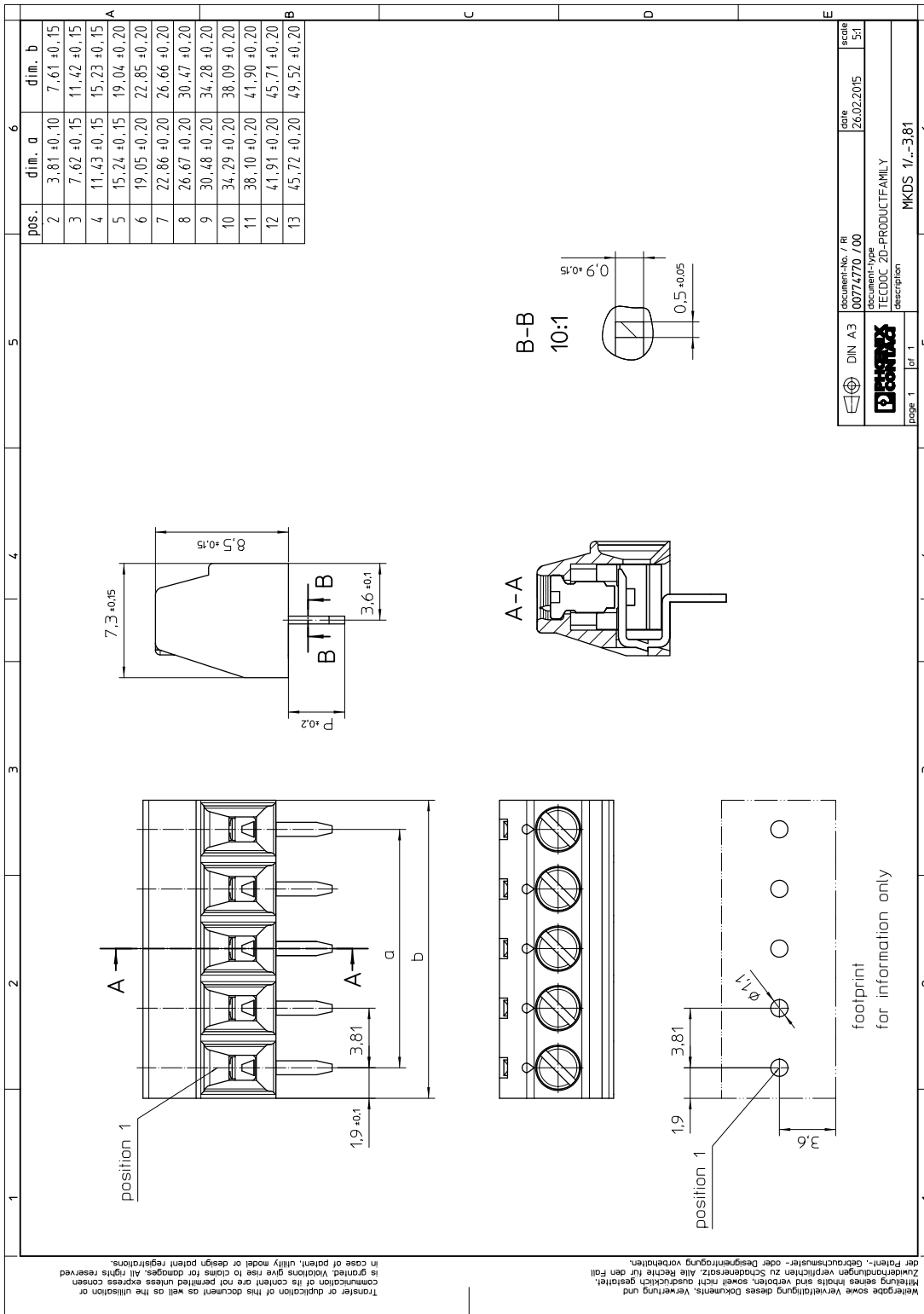
7 Dimensions

7.1 Dimensions for the product

Length	7.3 mm
Width	22.85 mm
Height (without solder pin)	8.5 mm
Total height	12 mm
Solder pin [P]	3.5 mm
Dimension a	19.05 mm

1727052 MKDS 1/ 6-3,81

8 Series drawing



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Phoenix Contact	document-type TECDOC 2D-PRODUCTFAMILY		
page 1	of 1	description MKDS 1/ 6-3,81	

1727052 MKDS 1/ 6-3,81

9 Product drawing

1	2	3	4	5	6												
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<p> page 1 of 1 MKDS 1/ 6-3,81 </p>																	

1727052 MKDS 1/ 6-3,81**9.1 Dimensions for PCB design**

Hole diameter	1.1 mm
Pin dimensions	0.5 x 0.9 mm

10 Application**10.1 General information**

Note on application	For safe conductor connection, always adhere to a defined tightening torque. Particularly in the case of PCB terminal blocks with two or three positions, the individual solder pin for each contact point cannot compensate for this. That is why the terminal blocks must be supported during conductor connection (held with one hand, support on the housing).
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11 Packaging information

Type of packaging	packed in cardboard
Pieces per package	100

11.1 Temperature limit values

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

1727052 MKDS 1/ 6-3,81**12 Mechanical tests****12.1 Pull-out test**

Specification	IEC 60998-2-1:2002-12
Result	Test passed
Conductor cross section/conductor type/tractive force actual value	0.14 mm ² / solid / > 10 N
Conductor cross section/conductor type/tractive force actual value	0.14 mm ² / flexible / > 10 N
Conductor cross section/conductor type/tractive force actual value	1.5 mm ² / solid / > 40 N
Conductor cross section/conductor type/tractive force actual value	1.5 mm ² / flexible / > 40 N

12.2 Check for damage to conductor or loosening

Specification	IEC 60998-2-1:2002-12
Result	Test passed

1727052 MKDS 1/ 6-3,81**13 Electrical tests****13.1 Electrical data**

Rated current / conductor cross section	13.5 A / 1.5 mm ²
Rated insulation voltage (III/2)	200 V
Rated surge voltage (III/2)	2.5 kV
Contact resistance	
Degree of pollution	2

13.2 Air and creepage distances

Component	PCB terminal block		
Specification	IEC 60664-1:1992-10 + A1:2000-02 + A2:2002-05		
Mains type	unearthed mains		
Insulating material group	I		
Comparative tracking index (IEC 60112:2003-01)	CTI 600		
Rated insulation voltage	160 V	200 V	400 V
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV
Degree of pollution	3	2	2
Overvoltage category	III	III	II
Minimum clearance case A (inhomogeneous field)	1.5 mm	1.5 mm	1.5 mm
Minimum value of the creepage path requirement in acc. with table	2 mm	1 mm	2 mm

13.3 Temperature rise test

Specification	IEC 60998-1:2002-12
Result	Test passed
Requirement temperature-rise test	Increase in temperature ≤ 45 K
Conductor cross section/test current/temperature rise	1 mm ² / 13.5 A / 38.5 K

13.4 Stoßspannungsprüfung

Result	Test passed
Specification	IEC 60664-1:1992-10 + A1:2000-02 + A2:2002-05
Rated surge voltage	2.5 kV
Surge voltage between neighboring positions	2.95 kV

1727052 MKDS 1/ 6-3,81

14 Current carrying capacity/derating curves

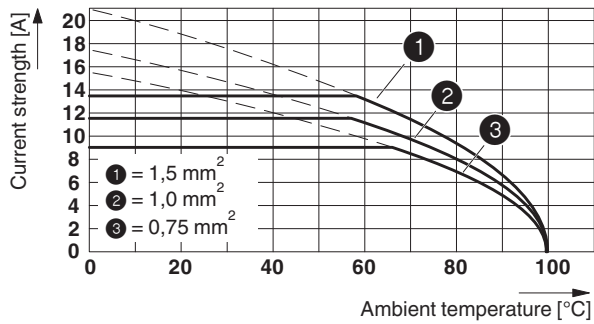
Specification	Following IEC 60512-5-2:2002-02
Reduction factor	1
Number of positions	5
Conductor cross section	1.5 mm ²

Type: MKDS 1/...-3,81

Tested according to DIN EN 60512-5-2:2003-01

Reduction factor = 1

Number of positions = 5



1727052 MKDS 1/ 6-3,81

15 Environmental and durability tests

15.1 Vibration test

Specification	IEC 60068-2-6:1995-03
Result	Test passed
Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 - 60.1 Hz)
Acceleration	5 g (60.1 - 150 Hz)
Test duration per axis	2.5 h
Test directions	X-, Y- and Z-axis
Note	Test object without conductor connection, no damage.

15.2 Assessment of fire risk (glow wire test)

Specification	IEC 60998-1:2002-12
Result	Test passed
Temperature	850 °C
Time of exposure	5 s

Protection against electric shock

Specification	IEC 60998-1:2002-12
Result	Test passed

15.3 Shock protection

Specification	IEC 61032:1997-12
Back of the hand protection (Ball ø 50)	guaranteed
Finger protection (movable test finger)	guaranteed
Note	unenclosed basic insulation - protected against finger contact with IP20 test finger in acc. with IEC 60529 when connected, above the PCB

Mechanical strength/tumbling barrel





Specification	IEC 60998-1:2002-12
Result	Test passed
Height of fall	50 cm
Number of drop cycles	50

15.4 Testing in a saturated atmosphere in the presence of sulfur dioxide

Specification	DIN 50018-EN:1997-06
Result	Test passed
Corrosive stress	KFW 1.0 S/1 cycle
Conductor cross section	0.14 mm ² to 1.5 mm ²

1727052 MKDS 1/ 6-3,81

16 Approvals / Certificates

IECEE CB Scheme 	Voltage [V]	Current [A]	Cross section [AWG]	Cross section [mm ²]
	160 V	12 A	-	1.5
EAC 				
cULus Recognized 	Voltage [V]	Current [A]	Cross section [AWG]	Cross section [mm ²]
Usegroup B				
	300 V	10 A	30 - 16	-
Nur flexible Leiter	300 V	13.5 A	30 - 16	-
Usegroup D				
	300 V	10 A	30 - 16	-
Nur flexible Leiter	150 V	13.5 A	30 - 16	-
SEV 	Voltage [V]	Current [A]	Cross section [AWG]	Cross section [mm ²]
	160 V	12 A	-	1.5

1727052 MKDS 1/ 6-3,81**17 Commercial Data**

Order No.	1727052
Type	MKDS 1/ 6-3,81
Pieces per package	100
Net weight	3.008 g
GTIN	4017918025526
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

18 Accessories

Description	Order No.	Type
Screwdriver, slot-headed, VDE insulated, size: 0.4 x 2.5 x 80 mm, 2-component grip, with non-slip grip	1205037	SZS 0,4X2,5 VDE
	0804109	SK 3,81/2,8:FORTL.ZAHLEN
	0805399	SK 3,81/2,8:UNBEDRUCKT
	0804112	SK 3,81/2,8: 0-9
	0805056	SK 3,81/2,8:SO
	0804141	SK 3,81/2,8: 1-250
Marker card, printed horizontally, self-adhesive, 10 -section marker strip, 14 identical decades, with consecutive numbers from 501-750	0804167	SK 3,81/2,8: 501-750
Marker card, printed horizontally, self-adhesive, 10 -section marker strip, 14 identical decades, with consecutive numbers from 751-1000	0804170	SK 3,81/2,8: 751-1000
Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm	1051993	B-STIFT