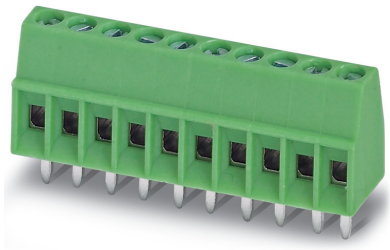
2021-10-20
Product version 05
Document revision 00

Data sheet

Order No.: 1725698

Type: MPT 0,5/ 6-2,54

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
- Conductor cross section 0.5 mm²
- Color green (6021)
- Pitch 2.54 mm
- Connection method Screw connection with tension sleeve
- Nominal current 6 A
- Nominal voltage 160 V
- Connection direction 0 °
- Type of packaging packed in cardboard

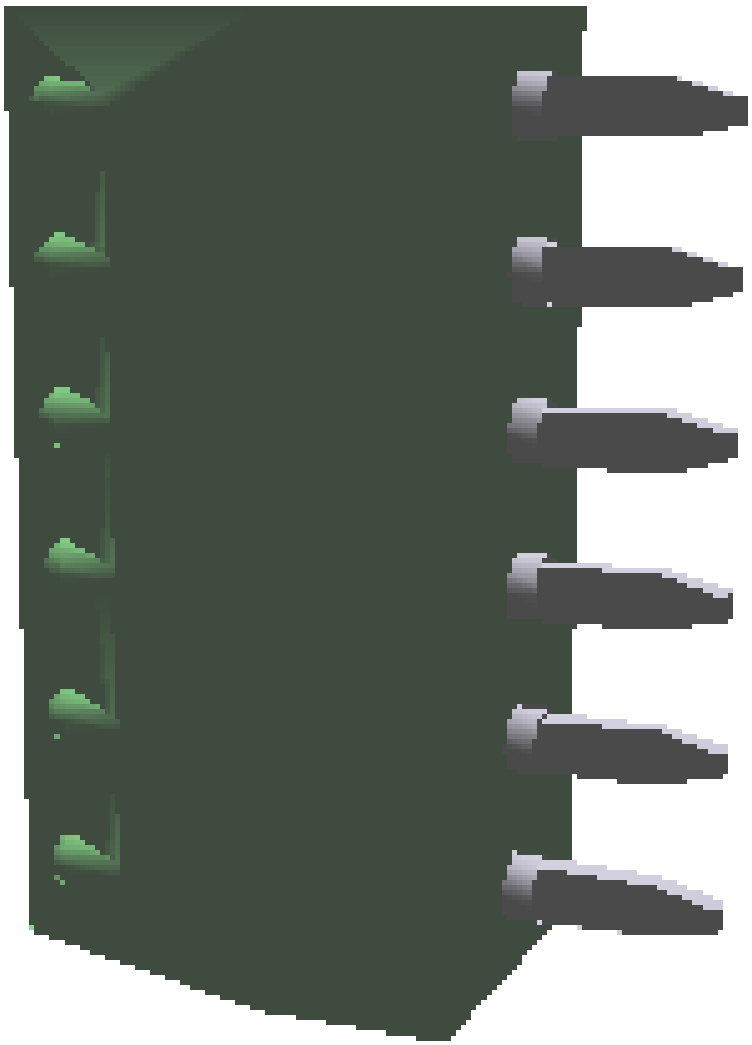
2 Your advantages

- 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/1725698

3 Table of contents

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



5 General Technical Data

5.1 item properties

Item no.	1725698
Type	MPT 0,5/ 6-2,54
Product type	PCB terminal block
Range of articles	MPT 0,5
Pitch	2.54 mm
Number of positions	6
Number of rows	1
Number of connections	6
Number of potentials	6
Connection method	Screw connection with tension sleeve
Screw thread	M1,6
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

6 Conductor connection

6.1 Connection capacity

Conductor cross section, rigid	0.14 mm² ... 0.5 mm²
Conductor cross section, flexible	0.14 mm² ... 0.5 mm²
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm² ... 0.34 mm²
Conductor cross section flexible, with ferrule with plastic sleeve	0.25 mm² ... 0.34 mm²
2 conductors with same cross section, solid	0.14 mm² ... 0.34 mm²
2 conductors with same cross section, stranded	0.14 mm² ... 0.34 mm²
2 conductors with same cross section, stranded, with ferrule without plastic sleeve	-
2 conductors with the same cross section flexible with TWIN ferrule and plastic sleeve	-
Stripping length	4.5 mm
Tightening torque	0.12 Nm ... 0.15 Nm

6.2 Connection capacity AWG

Conductor cross section AWG	26 ... 20

7 Material properties

7.1 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

7.2 Material of plastic parts

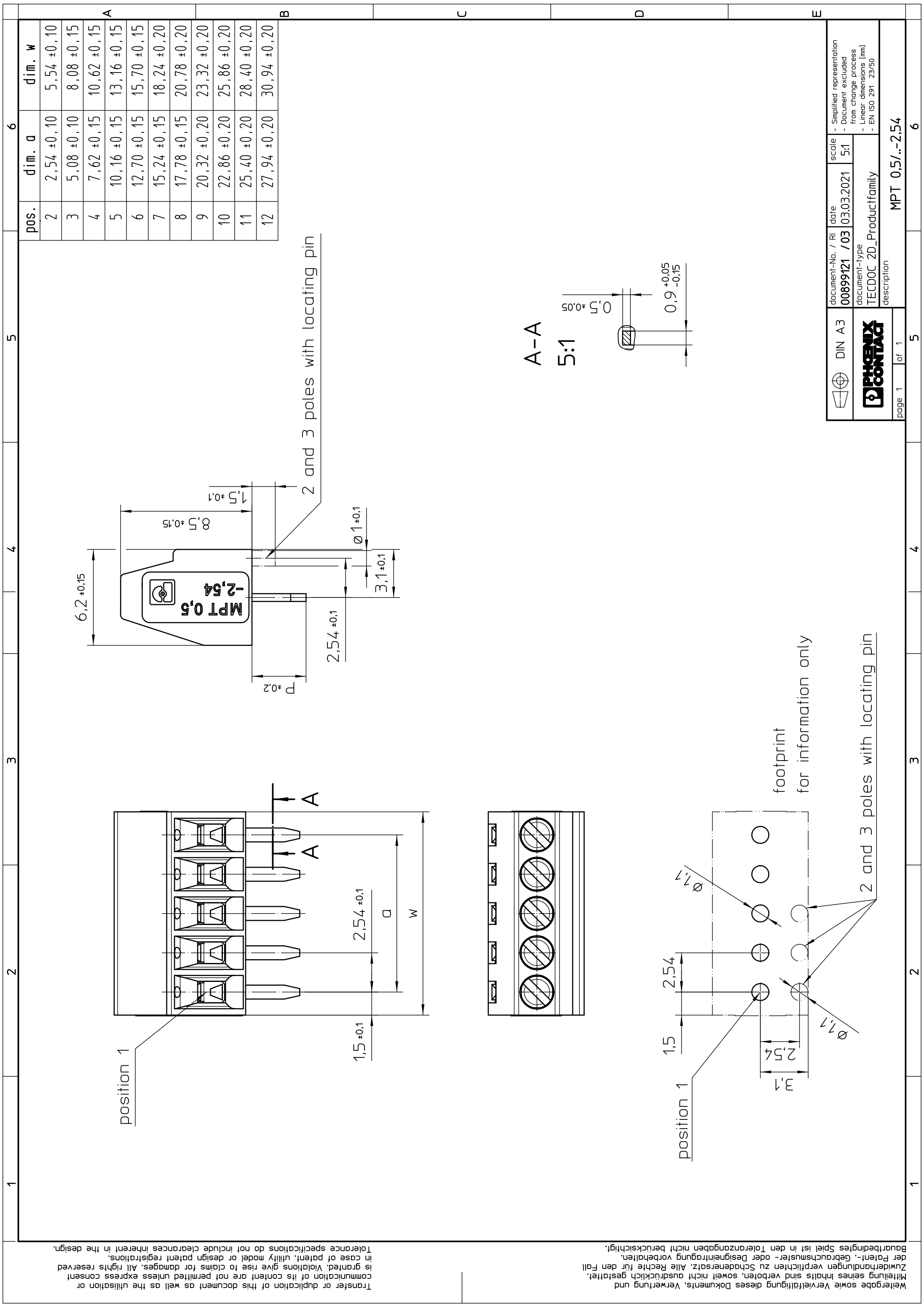
	Housing
Color	green (6021)
Insulating material	PA
Insulating material group	I
CTI according to IEC 60112	600
Flammability rating according to UL 94	V0
Glow wire flammability index GWFI according to EN 60695-2-12	850
Glow wire ignition temperature GWIT according to EN 60695-2-13	775
Temperature for the ball pressure test according to EN 60695-10-2	125 °C

8 Dimensions

8.1 Dimensions for the product

Length	6.2 mm
Width	15.7 mm
Height (without solder pin)	8.5 mm
Total height	12 mm
Solder pin [P]	3.5 mm

9 Series drawing



pos.	dim. a	dim. w
2	2,54 ±0,10	5,54 ±0,10
3	5,08 ±0,10	8,08 ±0,15
4	7,62 ±0,15	10,62 ±0,15
5	10,16 ±0,15	13,16 ±0,15
6	12,70 ±0,15	15,70 ±0,15
7	15,24 ±0,15	18,24 ±0,20
8	17,78 ±0,15	20,78 ±0,20
9	20,32 ±0,20	23,32 ±0,20
10	22,86 ±0,20	25,86 ±0,20
11	25,40 ±0,20	28,40 ±0,20
12	27,94 ±0,20	30,94 ±0,20

10 Product notes

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).

10.2 Dimensions for PCB design

Hole diameter	1.1 mm
Pin dimensions	0.5 x 0.9 mm

11 Application

12 Packaging information

Type of packaging	packed in cardboard
Pieces per package	100

12.1 Temperature limit values

Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C
Ambient temperature (operation)	-40 °C ... 105 °C (Depending on the current carrying capacity/derating curve)

13 Mechanical tests

13.1 Pull-out test

Specification	IEC 60999-1:1999-11
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	0.5 mm^2 / solid / > 20 N
Conductor cross section/conductor type/tractive force actual value	0.5 mm^2 / flexible / > 20 N

13.2 Check for damage to conductor or loosening

Specification	IEC 60999-1:1999-11
Result	Test passed

14 Electrical tests

Rated current / conductor cross section	6 A / 0.5 mm²
Rated insulation voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
Contact resistance	2.64 mΩ
Degree of pollution	2

14.1 Air and creepage distances

Component	PCB terminal block		
Specification	IEC 60947-1:2007-06 + A1:2010-12 + A2:2014-09		
Mains type	unearthed mains		
Insulating material group	I		
Comparative tracking index (IEC 60112:2003-01)	CTI 600		
Rated insulation voltage	63 V	160 V	320 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	1.6 mm	1.5 mm	1.6 mm

14.2 Short-time withstand current test

Specification	IEC 60947-7-4:2019-01
Result	Test passed
Conductor cross section/short-time current	0.5 mm² / 54 A

14.3 Aging test (climatic impact and corrosion testing)

Specification	IEC 60947-7-4:2019-01
Result	Test passed
Contact resistance R_1	2.64 mΩ / 0.5 mm²
Test sequence 1: low temperature storage	-40 °C / 2 h
Test sequence 2: heat storage	168 h/105 °C
Test sequence 3: noxious gas storage (ISO 6988)	KFW 0.2 S/1 cycle
Contact resistance R_2	3.77 mΩ / 0.5 mm²
Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 µs)	2.95 kV
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	1.4 kV

14.4 Insulation resistance

Specification	IEC 60512-3-1:2002-02
Result	Test passed
Insulation resistance, neighboring positions	> 5 MΩ

14.5 Mechanical connection test for the PCB terminal block

Specification	IEC 60947-7-4:2019-01
Result	Test passed

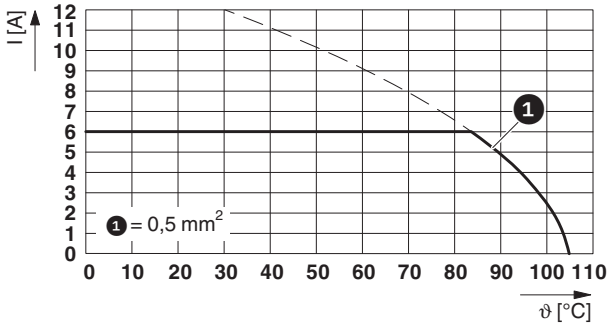
14.6 Temperature rise test

Specification	IEC 60947-7-4:2019-01
Result	Test passed
Requirement temperature-rise test	The sum of ambient temperature and temperature rise of the PCB terminal block shall not exceed the upper limiting temperature.
Conductor cross section/test current/temperature rise	0.5 mm^2 / 6 A / 21.5 K

15 Current carrying capacity/derating curves

Specification	IEC 60947-7-4:2019-01
Note	Representation based on IEC 60512-5-2:2002-02
Reduction factor	1
Number of positions	4
Conductor cross section	0.5 mm²

Type: MPT 0,5/...-2,54



16 Environmental and durability tests

16.1 Vibration test

Specification	IEC 60068-2-6:2007-12
Result	Test passed
Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 - 60.1 Hz)
Acceleration	5g (60.1 - 150 Hz)
Test duration per axis	2.5 h
Test directions	X-, Y- and Z-axis
Note	

16.2 Assessment of fire risk (glow wire test)

Specification	IEC 60695-2-10:2013-04		
Result	Test passed		
Temperature	850 °C		
Time of exposure	5 s		

17 Approvals / Certificates

CSA	Voltage [V]	Current [A]	Cross section [AWG]	Cross section [mm²]
Usegroup B				
	125 V	6 A	28 - 20	-

EAC				

cULus Recognized	Voltage [V]	Current [A]	Cross section [AWG]	Cross section [mm²]
Usegroup B				
	125 V	6 A	30 - 20	-

VDE Zeichengenehmigung	Voltage [V]	Current [A]	Cross section [AWG]	Cross section [mm²]
	160 V	6 A	-	0.14 - 0.5

18 Commercial Data

Item no.	1725698
Type	MPT 0,5/ 6-2,54
Pieces per package	100
Net weight	1.7 g
GTIN	4017918116293
	Information that applies locally, see link on page 1

19 Accessories

Description	Order No.	Type
Micro screwdriver, bladed, size: 0.4 x 2.0 x 60 mm, 2-component grip, with non-slip grip and twist cap	1205202	SZS 0,4X2,0
	0804853	SK 2,54/2,8:FORTL.ZAHLEN
	0803883	SK U/2,8 WH:UNBEDRUCKT
	0804879	SK 2,54/2,8:SO
Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm	1051993	B-STIFT