PCB terminal block - FRONT 2,5-V/SA 5-EX - 1701162

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PCB terminal block, nominal current: 21 A, nominal cross section: 2.5 mm², pitch: 5 mm, number of positions: 1, connection method: Front screw connection, mounting: Wave soldering, conductor/PCB connection direction: 90 °, color: green, Pin layout: Linear double pinning, Solder pin [P]: 3.5 mm. 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
- Satisfies the more stringent safety requirements of “Ex eb” protection according to IEC 60079-7 for potentially explosive areas
- Operation and conductor connection from one direction enable integration into front of device
- Two solder pins reduce the mechanical strain on the soldering spots
- The latching on the side enables various numbers of positions to be combined

RoHS

Key Commercial Data

Packing unit	50 pc
Minimum order quantity	50 pc
GTIN	4 017918 023003
GTIN	4017918023003

Technical data

Item properties

Brief article description	PCB terminal block
Range of articles	FRONT 2,5-V-EX
Pitch	5 mm
Number of positions	1
Connection method	Front screw connection
Drive form screw head	Slotted (L)
Screw thread	M2,5
Mounting type	Wave soldering
Pin layout	Linear double pinning

PCB terminal block - FRONT 2,5-V/SA 5-EX - 1701162

Technical data

Item properties

Number of levels	1
Number of connections	1
Number of potentials	1

Electrical parameters

Nominal current	21 A
Nom. voltage	176 V
Rated current	21 A
Rated voltage	176 V

Connection capacity

Connection method	Front screw connection
pluggable	Yes
Conductor cross section solid	0.2 mm² ... 2.5 mm²
Conductor cross section flexible	0.2 mm² ... 2.5 mm²
Conductor cross section AWG / kcmil	24 ... 14
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm² ... 1.5 mm²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm² ... 1.5 mm²
2 conductors with same cross section, solid	0.2 mm² ... 0.75 mm²
2 conductors with same cross section, flexible	0.2 mm² ... 0.75 mm²
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	0.25 mm² ... 0.34 mm²
Stripping length	9 mm
Torque	0.4 Nm ... 0.5 Nm

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 (4 - 8 µm Sn)
Metal surface soldering area (top layer)	Tin (4 - 8 µm Sn)

Material data - housing

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

Dimensions for the product

PCB terminal block - FRONT 2,5-V/SA 5-EX - 1701162

Technical data

Dimensions for the product

Length [l]	18.5 mm
Width [w]	7.5 mm
Height [h]	23 mm
Pitch	5 mm
Height (without solder pin)	19.5 mm
Solder pin [P]	3.5 mm
Pin spacing	5 mm
Pin dimensions	0.8 x 0.8 mm

Dimensions for PCB design

Hole diameter	1.2 mm
Pin spacing	5 mm

Packaging information

Type of packaging	packed in cardboard
Pieces per package	50
Denomination packing units	Pcs.

Ambient conditions

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)

Termination and connection method

Test for conductor damage and slackening	IEC 60999-1:1999-11
	Test passed

Pull-out test

Pull-out test	IEC 60999-1:1999-11
	Test passed
Conductor cross section / conductor type / tensile force	0.2 mm² / solid / > 10 N
	0.2 mm² / flexible / > 10 N
	2.5 mm² / flexible / > 50 N
	2.5 mm² / solid / > 50 N

Mechanical tests according to standard

Test specification	IEC 60947-7-4

Electrical tests

Rated current	21 A
Conductor cross section	2.5 mm²

Air clearances and creepage distances

Minimum clearance - inhomogeneous field (III/3)	3 mm
Minimum clearance - inhomogeneous field (III/2)	3 mm

PCB terminal block - FRONT 2,5-V/SA 5-EX - 1701162

Technical data

Air clearances and creepage distances

Minimum clearance - inhomogeneous field (II/2)	3 mm
Minimum creepage distance value (III/3)	3.2 mm
Minimum creepage distance value (III/2)	3 mm
Minimum creepage distance value (II/2)	3.2 mm

Temperature-rise test

Specification	IEC 60947-7-4:2013-08
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.

Current carrying capacity / derating curves

Caption	Type: FRONT 2,5-V/SA 5/..
Specification	IEC 60947-7-4:2013-08
Number of positions	1
Reduction factor	1
Note	Representation based on IEC 60512-5-2:2002-02

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	5 g (60.1 - 150 Hz)
Test duration per axis	2.5 h

Insulation resistance

Specification	IEC 60512-3-1:2002-02
Result	Test passed
Insulation resistance, neighboring positions	> 0.2 TΩ

Glow-wire test

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

Alternating climate test

Result	Test passed
Specification	ISO 6988:1985-02
Corrosive stress	KFW 0.2 S/1 cycle

Standards and Regulations

Connection in acc. with standard	EN-VDE

PCB terminal block - FRONT 2,5-V/SA 5-EX - 1701162

Technical data

Standards and Regulations

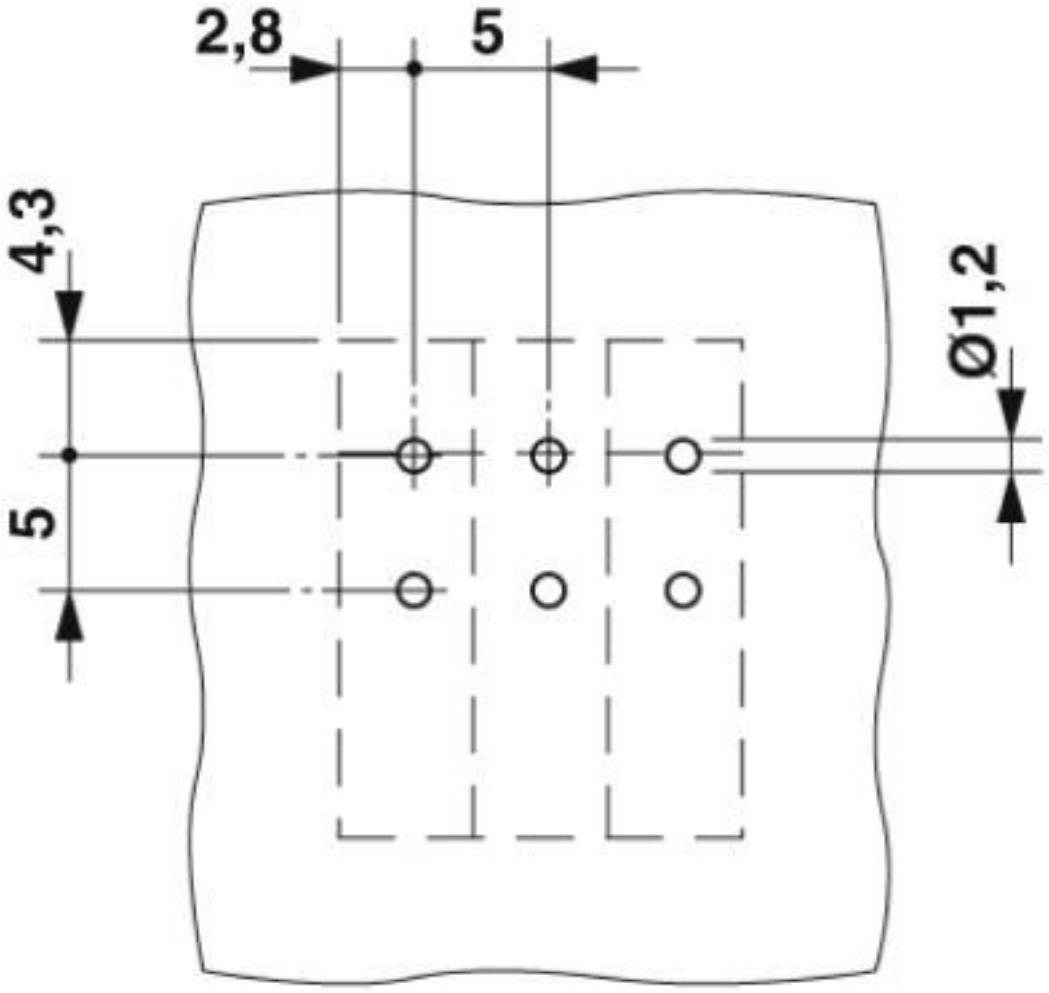
Flammability rating according to UL 94	V0

Environmental Product Compliance

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

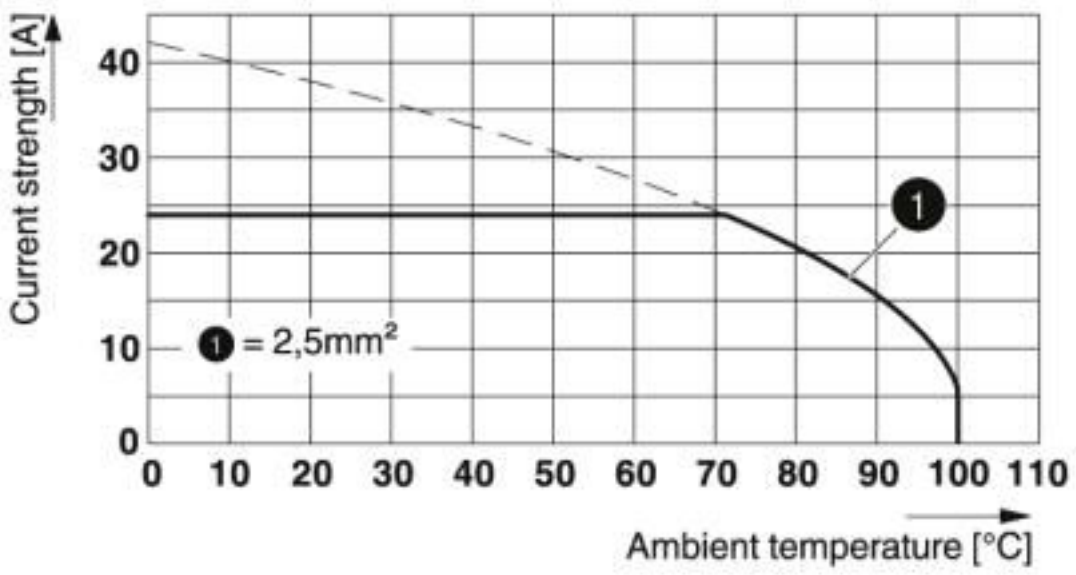
Drawings

Drilling diagram



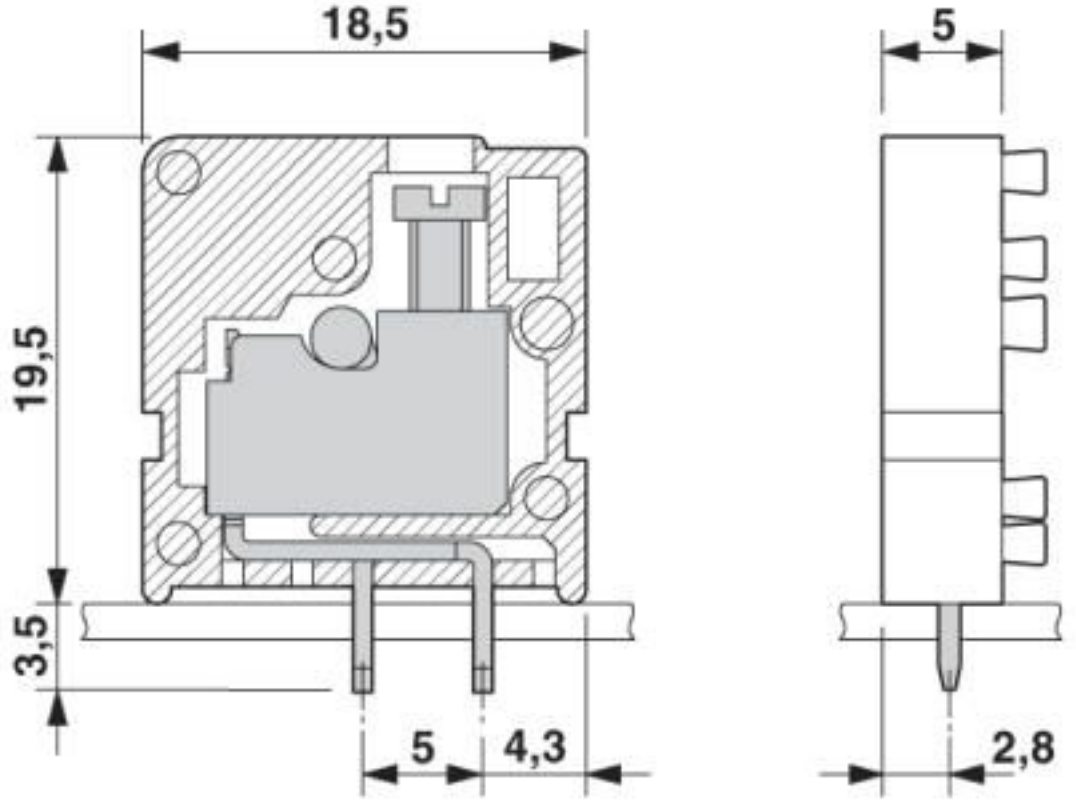
PCB terminal block - FRONT 2,5-V/SA 5-EX - 1701162

Diagram



Type: FRONT 2,5-V/SA...
Tested according to DIN EN 60512-5-2:2003-01
Reduction factor = 1
Number of positions: 5

Dimensional drawing



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Classifications

eCl@ss

eCl@ss 10.0.1	27440401
eCl@ss 4.0	27141100
eCl@ss 4.1	27141100
eCl@ss 5.0	27141100
eCl@ss 5.1	27261100
eCl@ss 6.0	27261100
eCl@ss 7.0	27440401
eCl@ss 8.0	27440401
eCl@ss 9.0	27440401

ETIM

ETIM 3.0	EC001121
ETIM 4.0	EC002643
ETIM 5.0	EC002643
ETIM 6.0	EC002643
ETIM 7.0	EC002643

UNSPSC

UNSPSC 6.01	30211801
UNSPSC 7.0901	39121432
UNSPSC 11	39121432
UNSPSC 12.01	39121432
UNSPSC 13.2	39121432
UNSPSC 18.0	39121432
UNSPSC 19.0	39121432
UNSPSC 20.0	39121432
UNSPSC 21.0	39121432

Approvals

Approvals

Approvals

cULus Recognized

Ex Approvals

IECEx / ATEX / EAC Ex

Approval details

PCB terminal block - FRONT 2,5-V/SA 5-EX - 1701162

Approvals

cULus Recognized	FILE E192998

Nominal voltage UN	176 V
Nominal current IN	10 A
mm²/AWG/kcmil	30-12

Accessories

Accessories

Bridge

Insertion bridge - EBP 2- 5 - 1733169

Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch

Insertion bridge - EBP 3- 5 - 1733172

Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch

Insertion bridge - EBP 4- 5 - 1733185

Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch

Insertion bridge - EBP 5- 5 - 1733198

Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch

PCB terminal block - FRONT 2,5-V/SA 5-EX - 1701162

Accessories

Insertion bridge - EBP 6- 5 - 1733208

Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch

End cover

End cover - D-FRONT 2,5-V-O.Z. - 1700011

End cover, necessary at the end of a terminal row, 2.5 mm thick, color: green

Labeled terminal marker

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

Marker card, 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

Pitch spacer

Pitch spacer - RZ 2,5-FRONT 2,5 V-EX - 1700794

Pitch spacer, only for Ex version, increases the pitch by 2.5 mm, interlocks with terminal block of the same shape, color: green

Screwdriver tools

Screwdriver - SZS 0,6X3,5 - 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

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