

## PCB terminal block - FRONT 2,5-H/SA 5-EX - 1701159

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PCB terminal block, nominal current: 21 A, nominal cross section: 2.5 mm<sup>2</sup>, pitch: 5 mm, number of positions: 1, connection method: Front screw connection, mounting: Wave soldering, conductor/PCB connection direction: 0 °, color: green, Pin layout: Linear pinning, Solder pin [P]: 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



### Key Commercial Data

Packing unit	50 pc
Minimum order quantity	50 pc
GTIN	
GTIN	4017918022990

### Technical data

#### Item properties

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

# PCB terminal block - FRONT 2,5-H/SA 5-EX - 1701159

## 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 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section AWG / kcmil	24 ... 14
2 conductors with same cross section, solid	0.2 mm <sup>2</sup> ... 0.75 mm <sup>2</sup>
2 conductors with same cross section, flexible	0.2 mm <sup>2</sup> ... 0.75 mm <sup>2</sup>
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 (5 - 7 µm Sn)
Metal surface soldering area (top layer)	Tin (5 - 7 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

Caption	Schematic representation – for additional information, see product range drawing in the Download Center
Length [ l ]	19.5 mm
Width [ w ]	5 mm

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## Technical data

### Dimensions for the product

Height [ h ]	24 mm
Pitch	5 mm
Height (without solder pin)	19 mm
Solder pin [P]	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 mm <sup>2</sup> / solid / > 10 N
	0.2 mm <sup>2</sup> / flexible / > 10 N
	2.5 mm <sup>2</sup> / flexible / > 50 N
	2.5 mm <sup>2</sup> / solid / > 50 N

### Mechanical tests according to standard

Test specification	IEC 60947-7-4
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### Electrical tests

Rated current	21 A
Conductor cross section	2.5 mm <sup>2</sup>

### Air clearances and creepage distances

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

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## Technical data

### Air clearances and creepage distances

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-H/SA 5/...
Specification	IEC 60947-7-4:2013-08
Number of positions	4
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
Flammability rating according to UL 94	V0

### Environmental Product Compliance

# PCB terminal block - FRONT 2,5-H/SA 5-EX - 1701159

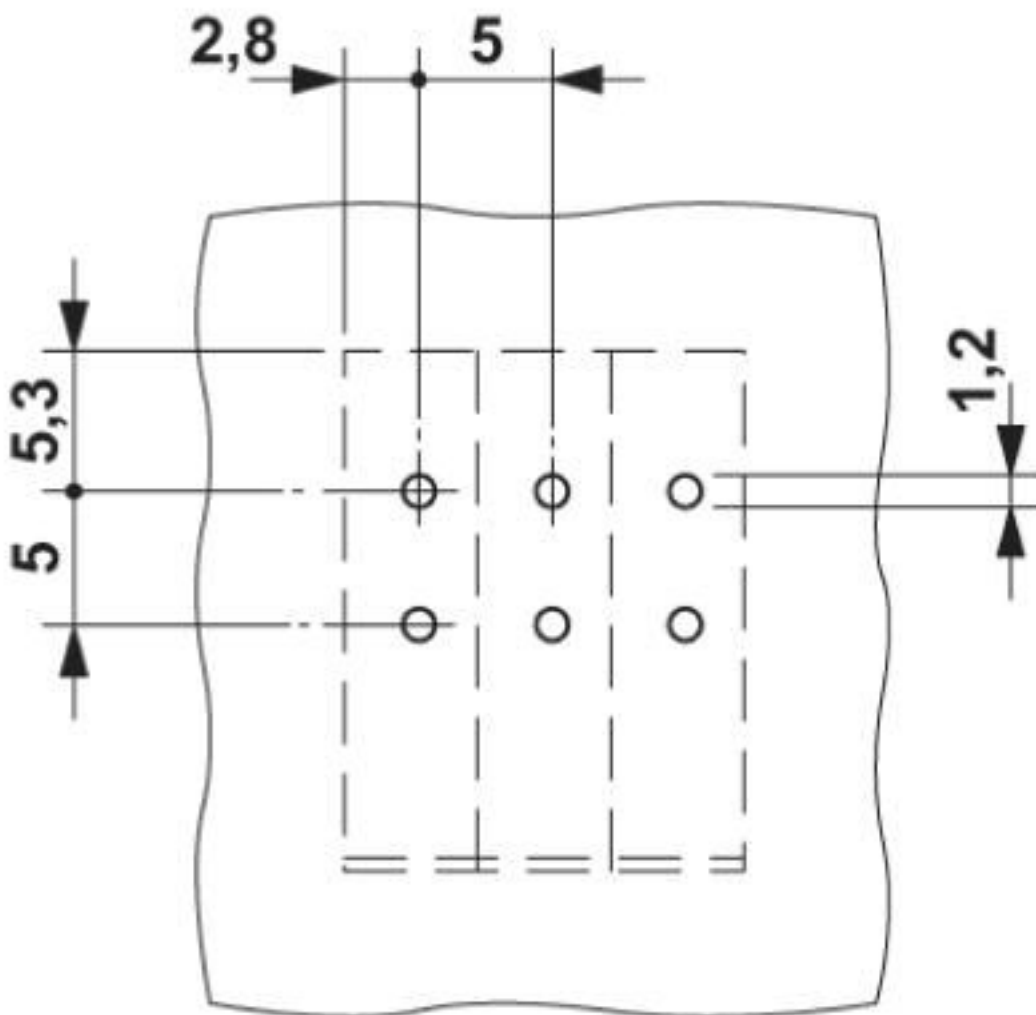
## Technical data

### Environmental Product Compliance

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

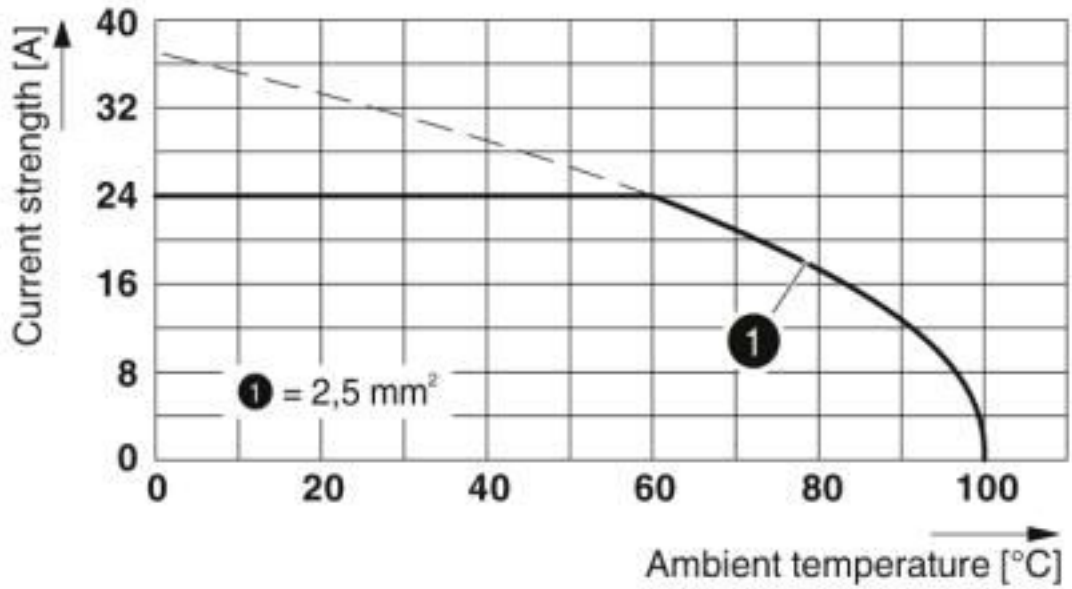
## Drawings

Drilling diagram

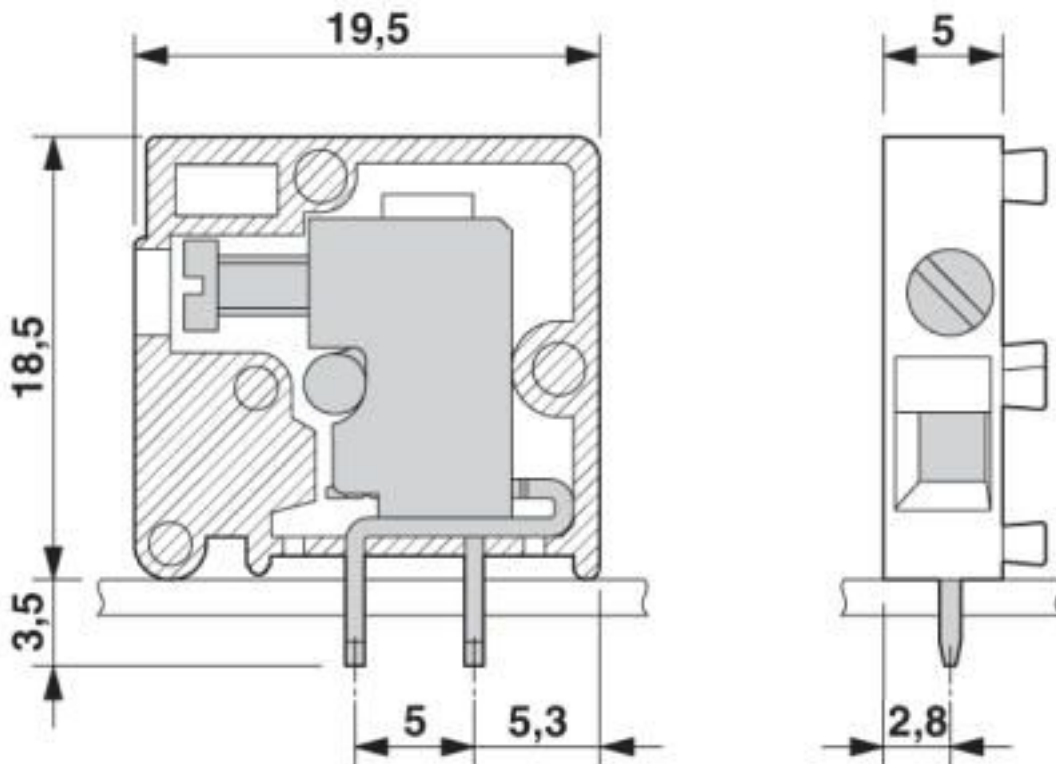


# PCB terminal block - FRONT 2,5-H/SA 5-EX - 1701159

Diagram



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

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#### Approvals

cULus Recognized

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#### Ex Approvals

IECEX / ATEX / EAC Ex

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### Approval details

# PCB terminal block - FRONT 2,5-H/SA 5-EX - 1701159

## Approvals

cULus Recognized		FILE E192998
Nominal voltage UN	176 V	
Nominal current IN	10 A	
mm <sup>2</sup> /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

#### End cover

End cover - D-FRONT 2,5-H-O.Z. - 1700024



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



## PCB terminal block - FRONT 2,5-H/SA 5-EX - 1701159

### Accessories

Pitch spacer - RZ 2,5-FRONT 2,5 H-EX - 1701269



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

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### 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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### Additional products

End cover - D-FRONT 2,5-H-O.Z. - 1700024



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

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