

# LPT 2,5/ 9-5,0 - PCB terminal block

1190305

<https://www.phoenixcontact.com/us/products/1190305>



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Printed circuit board terminal, nominal current: 24 A, rated voltage (III/2): 400 V, nominal cross section: 2.5 mm<sup>2</sup>, number of potentials: 9, number of rows: 1, number of positions per row: 9, product range: LPT 2,5/, pitch: 5 mm, connection method: Lever Push-in connection, mounting: Wave soldering, conductor/PCB connection direction: 0 °, color: green, Pin layout: Linear pinning, Solder pin [P]: 3.5 mm, type of packaging: packed in cardboard

## Your advantages

- Tool-free lever principle enables time-saving connection and release of conductors with/without ferrules
- Clear lever positions provide reliable feedback on opened or closed clamping spaces
- Defined contact force ensures that contact remains stable over the long term
- Time-saving push-in connection when lever is closed
- Intuitive operation, thanks to a color-coded actuation lever

## Commercial data

Item number	1190305
Packing unit	50 pc
Minimum order quantity	50 pc
Note	Made to order (non-returnable)
Sales key	AA13
Product key	AAMTAA
GTIN	4063151238988
Weight per piece (including packing)	15.154 g
Weight per piece (excluding packing)	2.22 g
Customs tariff number	85369010
Country of origin	SK

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## Technical data

### Product properties

Product type	Printed circuit board terminal
Product family	LPT 2,5/
Product line	COMBICON Terminals M
Number of positions	9
Pitch	5 mm
Number of connections	9
Number of rows	1
Number of potentials	9
Pin layout	Linear pinning

### Electrical properties

#### Properties

Nominal current $I_N$	24 A
Nominal voltage $U_N$	400 V
Rated voltage (III/3)	320 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

Nominal cross section	2.5 mm <sup>2</sup>
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#### Conductor connection

Connection method	Lever Push-in connection
Conductor cross-section rigid	0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup> (Conductor connection with open terminal point) 0.5 mm <sup>2</sup> ... 4 mm <sup>2</sup> (Push-in connection)
Conductor cross-section flexible	0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Conductor cross-section AWG	24 ... 12
Conductor cross-section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> (Conductor connection with open terminal point) 1.5 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> (Push-in connection)
Conductor cross-section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> (Conductor connection with open terminal point) 0.5 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> (Push-in connection)
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Stripping length	10 mm ... 12 mm

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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	Tin-plated
Metal surface terminal point (top layer)	Tin (10 - 16 µm Sn)
Metal surface soldering area (top layer)	Tin (10 - 16 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	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

### Material data – actuating element

Color (Actuating element)	orange (2003)
Insulating material	PA GF
Insulating material group	I
CTI according to IEC 60112	600
Flammability rating according to UL 94	V0

## Dimensions

Dimensional drawing	
Pitch	5 mm
Width [w]	46.5 mm
Height [h]	20.14 mm
Length [l]	17.8 mm
Installed height	16.64 mm
Solder pin length [P]	3.5 mm

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Pin dimensions	0.84 x 0.7 mm
PCB design	
Hole diameter	1.3 mm

## Mechanical tests

Test for conductor damage and slackening

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

Pull-out test

Specification	IEC 60999-1:1999-11
Conductor cross-section/conductor type/tractive force setpoint/actual value	0.2 mm <sup>2</sup> / solid / > 10 N
	0.2 mm <sup>2</sup> / flexible / > 10 N
	4 mm <sup>2</sup> / solid / > 60 N
	4 mm <sup>2</sup> / flexible / > 60 N
	0.5 mm <sup>2</sup> / solid / > 20 N

## Electrical tests

Temperature-rise test

Specification	IEC 60947-7-4:2019-01
Requirement temperature-rise test	The sum of ambient temperature and temperature rise of the PCB terminal block shall not exceed the upper limiting temperature.

Short-time withstand current

Specification	IEC 60947-7-4:2019-01
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Insulation resistance

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

Air clearances and creepage distances |

Specification	IEC 60947-7-4:2019-01
Insulating material group	I
Rated insulation voltage (III/3)	320 V
Rated surge voltage (III/3)	4 kV
minimum clearance value - non-homogenous field (III/3)	3 mm
minimum creepage distance (III/3)	4 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

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minimum creepage distance (II/2)	3.2 mm
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## Environmental and real-life conditions

### Vibration test

Specification	IEC 60068-2-6:2007-12
Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 Hz ... 60.1 Hz)
Acceleration	50 m/s <sup>2</sup> (60.1 Hz ... 150 Hz)
Test duration per axis	2.5 h
Test directions	X-, Y- and Z-axis

### Glow-wire test

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

### Aging

Specification	IEC 60947-7-4:2019-01
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### Ambient conditions

Ambient temperature (operation)	-40 °C ... 105 °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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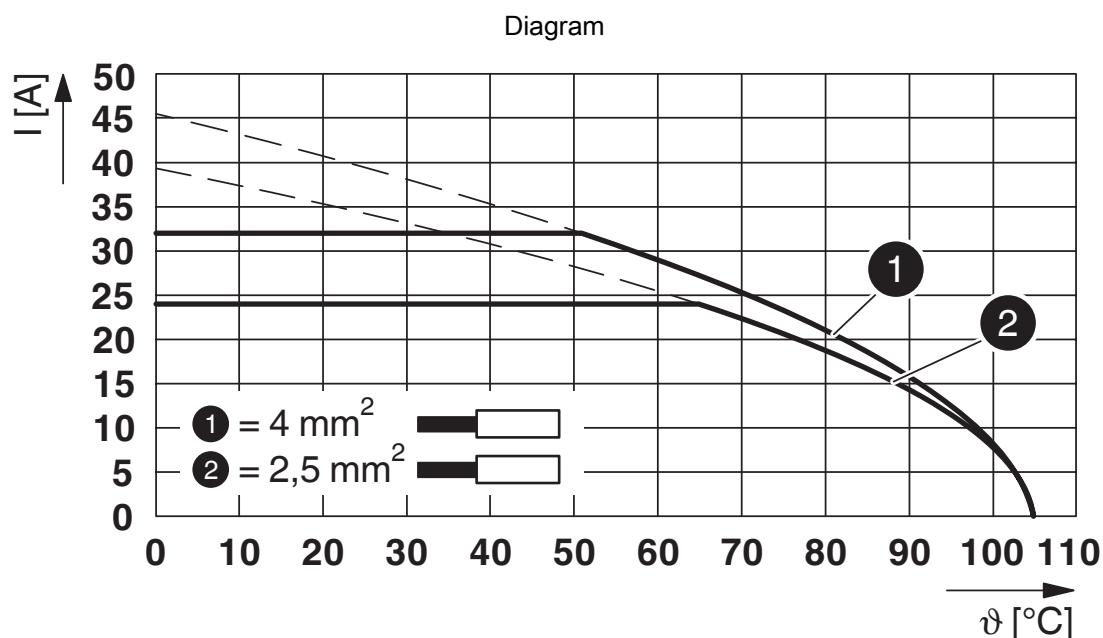
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## Drawings



Type: LPT 2,5/...-5,0

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## Approvals

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UL Recognized				
Approval ID: E60425-20210507				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
F	320 V	20 A	24 - 12	-
G	300 V	10 A	24 - 12	-

cULus Recognized				
Approval ID: E60425-20210507				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
B	300 V	20 A	24 - 12	-
D	300 V	10 A	24 - 12	-

VDE approval of drawings				
Approval ID: 40054949				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
keine				
Standard	400 V	24 A	-	0.2 - 2.5
Alternative 1	400 V	32 A	-	0.2 - 4

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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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