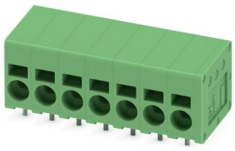
SPT 2,5/ 7-H-5,0 - PCB terminal block

1991024

https://www.phoenixcontact.com/us/products/1991024

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PCB terminal block, nominal current: 24 A, rated voltage (III/2): 400 V, nominal cross section: 2.5 mm^2, number of potentials: 7, number of rows: 1, number of positions per row: 7, product range: SPT 2,5/..-H, pitch: 5 mm, connection method: Push-in spring connection, mounting: Wave soldering, conductor/PCB connection direction: 0 °, color: green, Pin layout: Linear pinning, Solder pin [P]: 2.5 mm, number of solder pins per potential: 2, type of packaging: packed in cardboard

Your advantages

- Time saving push-in connection, tools not required
- Defined contact force ensures that contact remains stable over the long term
- Clamping space opened by means of fixed screwdriver enables convenient conductor connection
- Operation and conductor connection from one direction enable integration into front of device
- Two solder pins reduce the mechanical strain on the soldering spots

Commercial data

Item number	1991024
Packing unit	60 pc
Minimum order quantity	50 pc
Note	Made to order (non-returnable)
Sales key	AA13
Product key	AAMBFE
Catalog page	Page 143 (C-1-2013)
GTIN	4046356104654
Weight per piece (including packing)	9.145 g
Weight per piece (excluding packing)	8.07 g
Customs tariff number	85369010
Country of origin	PL

Technical data

Product properties

Product type	Printed circuit board terminal
Product family	SPT 2,5/..-H
Product line	COMBICON Terminals M
Number of positions	7
Pitch	5 mm
Number of connections	7
Number of rows	1
Number of potentials	7
Pin layout	Linear pinning
Solder pins per potential	2

Data management status

Article revision	03

Electrical properties

Nominal current I_N	24 A
Nominal voltage U_N	400 V
Rated voltage (III/3)	250 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 mm²

Conductor connection

Connection method	Push-in spring connection
Conductor cross section rigid	0.2 mm² ... 4 mm²
Conductor cross section flexible	0.2 mm² ... 2.5 mm²
Conductor cross section AWG	24 ... 12
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm² ... 2.5 mm²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm² ... 2.5 mm²
Stripping length	10 mm

Specifications for ferrules without insulating collar

recommended crimping tool	1212034 CRIMPFOX 6
ferrules without insulating collar, according to DIN 46228-1	Cross section: 0.25 mm²; Length: 7 mm
	Cross section: 0.34 mm²; Length: 7 mm

	Cross section: 0.5 mm²; Length: 8 mm
	Cross section: 0.75 mm²; Length: 8 mm
	Cross section: 1 mm²; Length: 8 mm
	Cross section: 1.5 mm²; Length: 8 mm
	Cross section: 2.5 mm²; Length: 8 mm

Specifications for ferrules with insulating collar

recommended crimping tool	1212034 CRIMPFOX 6
ferrules with insulating collar, according to DIN 46228-4	Cross section: 0.25 mm²; Length: 8 mm
	Cross section: 0.34 mm²; Length: 8 mm
	Cross section: 0.5 mm²; Length: 8 mm ... 10 mm
	Cross section: 0.75 mm²; Length: 8 mm ... 10 mm
	Cross section: 1 mm²; Length: 8 mm ... 10 mm
	Cross section: 1.5 mm²; Length: 8 mm ... 10 mm
	Cross section: 2.5 mm²; Length: 10 mm

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

Dimensions

Pitch	5 mm
Width [w]	36.4 mm
Height [h]	16 mm
Length [l]	14.4 mm

Installed height	13.5 mm
Solder pin length [P]	2.5 mm

PCB design

Pin spacing	5 mm
Hole diameter	1.2 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 mm² / solid / > 10 N
	0.2 mm² / flexible / > 10 N
	4 mm² / solid / > 60 N
	2.5 mm² / flexible / > 50 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

Insulation resistance

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

Air clearances and creepage distances | 1. Insulation coordination

Application	without pitch spacer
Specification	IEC 60947-7-4:2019-01
Insulating material group	I
Comparative tracking index (IEC 60112)	CTI 600
Rated insulation voltage (III/3)	250 V
Rated surge voltage (III/3)	4 kV
minimum clearance value - non-homogenous field (III/3)	3 mm
minimum creepage distance (III/3)	3.2 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
minimum creepage distance (II/2)	3.2 mm

Air clearances and creepage distances | 2. Insulation coordination

Application	with RZ-SPT 2,5-2,5
Specification	IEC 60947-7-4:2019-01
Insulating material group	I
Comparative tracking index (IEC 60112)	CTI 600
Rated insulation voltage (III/3)	400 V
Rated surge voltage (III/3)	6 kV
minimum clearance value - non-homogenous field (III/3)	5.5 mm
minimum creepage distance (III/3)	5.5 mm
Rated insulation voltage (III/2)	630 V
Rated surge voltage (III/2)	6 kV
minimum clearance value - non-homogenous field (III/2)	5.5 mm
minimum creepage distance (III/2)	5.5 mm
Rated insulation voltage (II/2)	1000 V
Rated surge voltage (II/2)	6 kV
minimum clearance value - non-homogenous field (II/2)	5.5 mm
minimum creepage distance (II/2)	5.5 mm

Air clearances and creepage distances | 3. Insulation coordination

Application	with RZ-SPT 2,5-5,0
Specification	IEC 60947-7-4:2019-01
Insulating material group	I
Comparative tracking index (IEC 60112)	CTI 600
Rated insulation voltage (III/3)	630 V
Rated surge voltage (III/3)	8 kV
minimum clearance value - non-homogenous field (III/3)	8 mm
minimum creepage distance (III/3)	8 mm
Rated insulation voltage (III/2)	800 V
Rated surge voltage (III/2)	8 kV
minimum clearance value - non-homogenous field (III/2)	8 mm
minimum creepage distance (III/2)	8 mm
Rated insulation voltage (II/2)	1000 V
Rated surge voltage (II/2)	8 kV
minimum clearance value - non-homogenous field (II/2)	8 mm
minimum creepage distance (II/2)	8 mm

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/s² (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

Ambient conditions

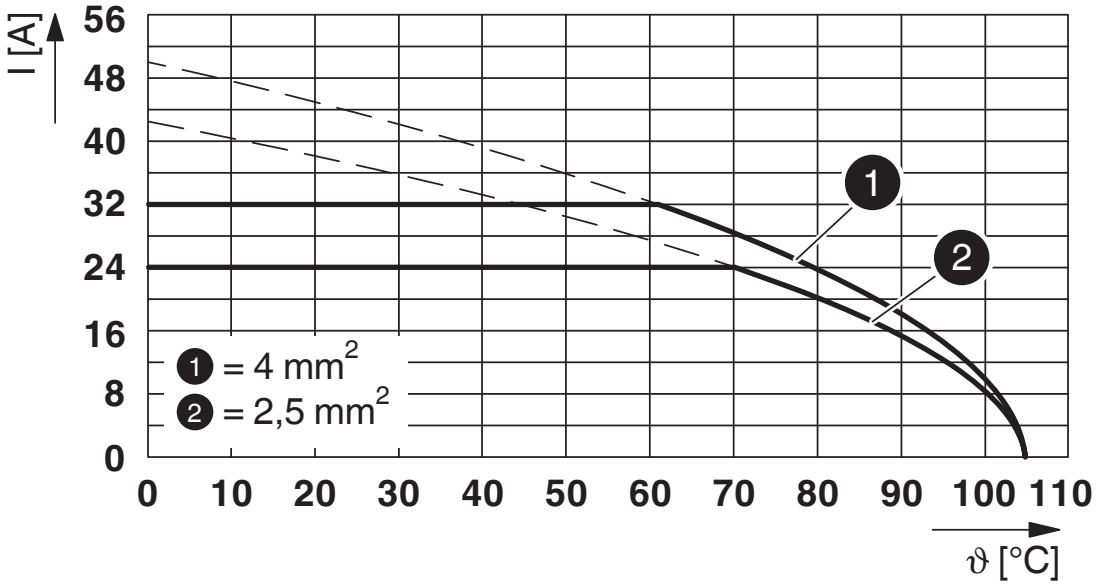
Ambient temperature (operation)	-40 °C ... 105 °C (Depending on the current carrying capacity/derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

Packaging specifications

Type of packaging	packed in cardboard

Drawings

Diagram



Type: SPT 2,5/...-H-5,0

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1991024

cULus Recognized
Approval ID: E60425-20061129

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
Use group B				
	300 V	20 A	24 - 12	-
Use group D				
	150 V	15 A	24 - 12	-
Use group C				
	150 V	20 A	24 - 12	-

VDE Zeichengenehmigung
Approval ID: 40042909

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
	400 V	32 A	-	0.2 - 4

Classifications

ECLASS

ECLASS-11.0	27460101
ECLASS-12.0	27460101
ECLASS-13.0	27460101

ETIM

ETIM 9.0	EC002643

UNSPSC

UNSPSC 21.0	39121400

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions

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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