2017-10-02
Product version 00
Document revision 0

Data sheet

Order No.: 1725328

Type: PTDA 2,5/ 4-5,0

PCB terminal block, Push-in spring connection

The figure shows a 10-position version of the product

1 Main features

- No. of pos. 4
- Conductor cross section 2.5 mm²
- Color green
- Pitch 5 mm
- Connection method Push-in spring connection
- Nominal current 24 A
- Nominal voltage 400 V
- Connection direction 45 °
- Type of packaging packed in cardboard

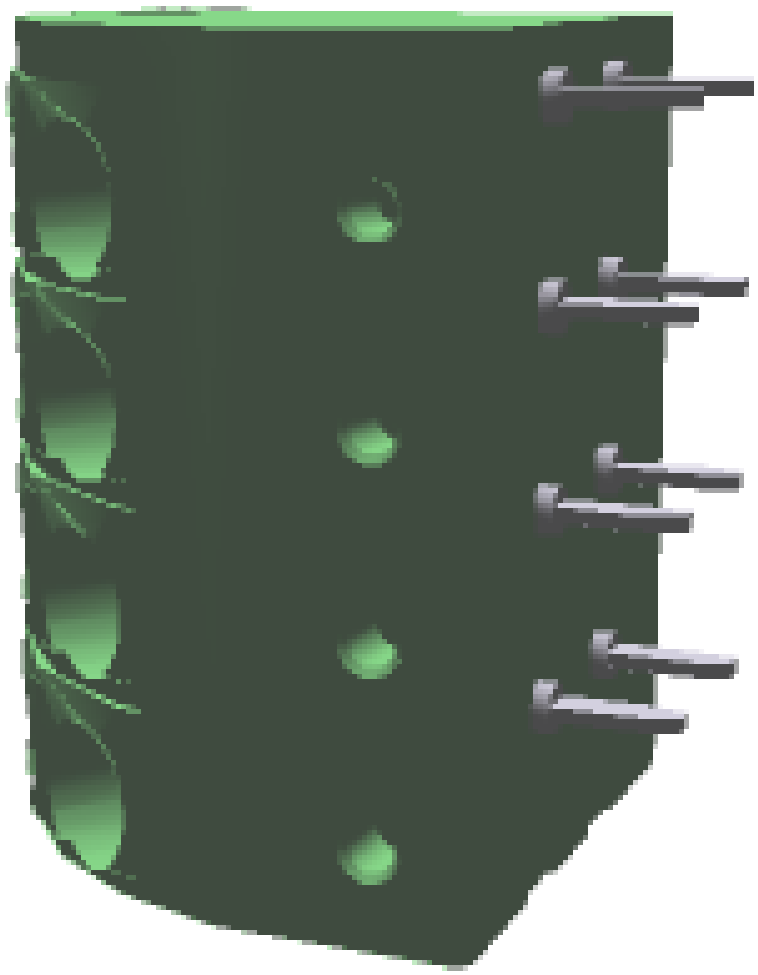
2 Your advantages

- Time saving push-in connection, tools not required
- Defined contact force ensures that contact remains stable over the long term
- Potentials can be easily looped through – ideal for BUS applications
- Quick and convenient testing using integrated test option
- Rounded type for individual device design
- Two solder pins reduce the mechanical strain on the soldering spots

Make sure you always use the latest documentation.
It can be downloaded at: phoenixcontact.net/product/1725328

3 Table of contents

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



5 item properties

Order No.	1725328
Type	PTDA 2,5/ 4-5,0
Range of articles	PTDA 2,5/
Pitch	5 mm
Number of positions	4
Connection method	Push-in spring connection
Mounting type	Wave soldering
Pin layout	Linear double pinning

5.1 Connection capacity

Conductor cross section, solid	0.2 mm² to 2.5 mm²
Conductor cross section, flexible	0.2 mm² to 2.5 mm²
Conductor cross section AWG/kcmil	24 to 14
2 conductors with same cross section, solid	0.2 mm² to 2.5 mm²
2 conductors with same cross section, stranded	0.2 mm² to 2.5 mm²
Conductor cross section flexible, with ferrule without plastic sleeve	0.5 mm² to 2.5 mm²
Conductor cross section flexible, with ferrule with plastic sleeve	0.5 mm² to 1 mm²
2 conductors with same cross section, stranded, with ferrule without plastic sleeve	0.5 mm² to 2.5 mm²
2 conductors with same cross section, stranded, with TWIN ferrules with plastic sleeve	0.5 mm² to 1 mm²
Stripping length	10 mm

5.2 Material data

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	Sn 4 µm ... 8 µm
Soldering area surface	Sn 4 µm ... 8 µm
Surface characteristics	Tin-plated

Insulating material data	Housing
Insulating material	PA
CTI according to IEC 60112	600
Flammability rating according to UL 94	V0
Color	green (6021)
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

6 Dimensions

6.1 Dimensions for the product

Length	16 mm
Width	20 mm
Height (without solder pin)	16 mm
Total height	19.5 mm
Solder pin [P]	3.5 mm
Dimension a	15 mm

6.2 Dimensions for PCB design

Hole diameter	1.3 mm
Pin dimensions	1 x 0,4 mm
Pin spacing	5 mm

7 Series drawing

8 Packaging information

Type of packaging	packed in cardboard
Pieces per package	50

9 Application

9.1 Temperature limit values

Ambient temperature (storage/transport)	-40 °C ... 70 °C
Ambient temperature (assembly)	-5 °C ... 100 °C
Ambient temperature (operation)	-40 °C (dependent on the derating curve)

10 Mechanical tests

10.1 Connection test

Specification	IEC 60998-2-2:2002-12
Result	Test passed

10.2 Electrical performance test

Specification	IEC 60998-2-2:2002-12
Result	Test passed

10.3 Check for damage to conductor or loosening

Specification	IEC 60998-2-2:2002-12
Result	Test passed

10.4 Pull-out test

Specification	IEC 60998-2-2:2002-12
Result	Test passed
Conductor cross section/conductor type/tractive force actual value	0.2 mm^2 / solid / > 10 N
Conductor cross section/conductor type/tractive force actual value	0.2 mm^2 / stranded / > 10 N
Conductor cross section/conductor type/tractive force actual value	2.5 mm^2 / solid / > 50 N
Conductor cross section/conductor type/tractive force actual value	2.5 mm^2 / stranded / > 50 N

10.5 Bending test

Specification	IEC 60998-2-2:2002-12
Result	Test passed

11 Electrical tests

11.1 Electrical data

Rated current / conductor cross section	24 A / 2.5 mm²
Rated insulation voltage (III/2)	400 V
Rated surge voltage (III/2)	4 kV
Contact resistance	0.6 mΩ
Degree of pollution	2

11.2 Air clearances and creepage distances

Specification	IEC 60664-1:2007-04		
Mains type	unearthed mains		
Insulating material group	I		
Comparative tracking index (IEC 60112:2003-01)	CTI 600		
Rated insulation voltage	320 V	400 V	630 V
Rated surge voltage	4 kV	4 kV	4 kV
Degree of pollution	3	2	2
Overvoltage category	III	III	II
Minimum clearance case A (inhomogeneous field)	3 mm	3 mm	3 mm
Minimum value of the creepage path requirement in acc. with table	4 mm	2 mm	3.2 mm
Note on connection cross section			
Note			

11.3 Temperature rise test

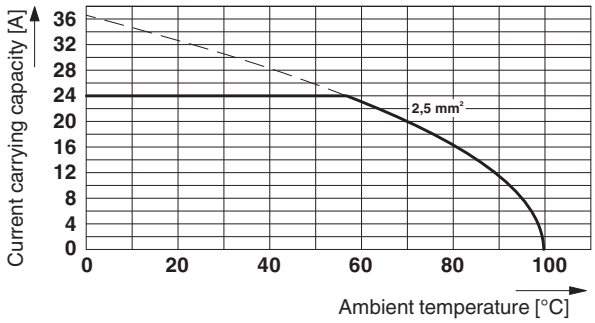
Specification	IEC 60998-2-1:2002-12
Result	Test passed
Requirement temperature-rise test	Increase in temperature ≤ 45 K
Conductor cross section/test current/temperature rise	2.5 mm² / 24 A / 36 K

Specification	Following IEC 60512-5-2:2002-02
Result	Test passed
Conductor cross section/test current/temperature rise	2.5 mm² / 24 A / 43.7 K

12 Current carrying capacity/derating curves

Specification	IEC 60512-5-2:2002-02
Reduction factor	1
Number of positions	5

Derating diagram for 5 positions; reduction factor=0.8



13 Environmental and durability tests

13.1 Resistance to ageing, humidity and penetration of solids

Specification	IEC 60998-1:2002-12
Result	Test passed
Dry heat	168 h/100°C
Damp heat	48 h/30 °C/92 %

13.2 Insulation resistance

Specification	IEC 60998-1:2002-12
Result	Test passed
Insulation resistance, neighboring positions	10 GΩ

13.3 Test of the power frequency electric strength

Specification	IEC 60998-1:2002-12
Result	Test passed
Test voltage between neighboring positions	3.5 kV

13.4 Glow-wire test

Specification	IEC 60998-1:2002-12
Result	Test passed
Temperature	850 °C
Time of exposure	5 s

13.5 Mechanical strength/tumbling barrel

Specification	IEC 60998-1:2002-12
Result	Test passed
Height of fall	50 cm
Number of drop cycles	50

13.6 Vibration test

Specification	IEC 60068-2-6:1995-03
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
Test directions	X-, Y- and Z-axis

13.7 Testing in a saturated atmosphere in the presence of sulfur dioxide

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Specification	DIN 50018-EN:1997-06
Result	Test passed
Corrosive stress	KFW 1.0 S/1 cycle
Conductor cross section	0.2 mm² to 2.5 mm²

Specification	IEC 61032:1997-12
Note	unenclosed basic insulation - protected against finger contact with IP20 test finger in acc. with IEC 60529 when connected, above the PCB

14 Type approval and special tests

15 Approvals

UL Recognized				
Use group	B	D		
mm²/AWG/kcmil	24-14	24-14		
Voltage	300 V	300 V		
Current	15 A	10 A		

VDE Gutachten mit Fertigungsüberwachung				
mm²/AWG/kcmil	0.2-2.5			
Voltage	250 V			
Current	24 A			

cUL Recognized				
Use group	B	D		
mm²/AWG/kcmil	24-14	24-14		
Voltage	300 V	300 V		
Current	15 A	10 A		

CCA				
mm²/AWG/kcmil	0.2-2.5			
Voltage	250 V			
Current	24 A			

IECEE CB Scheme				
mm²/AWG/kcmil	0.2-2.5			
Voltage	250 V			
Current	24 A			

EAC

cULus Recognized

16 Commercial Data

Order No.	1725328
Type	PTDA 2,5/ 4-5,0
Pieces per package	50
Net weight	6.696 g
GTIN	4046356129275
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

17 Accessories

Description	Order No.	Type
Actuation tool, for ST terminal blocks, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip	1204517	SZF 1-0,6X3,5