

# PT 2,5-3PV - Multi-level terminal block



3210512

<https://www.phoenixcontact.com/us/products/3210512>

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Multi-level terminal block, with equipotential bonder, nom. voltage: 500 V, nominal current: 20 A, connection method: Push-in connection, 1st, 2nd and 3rd level, Rated cross section: 2.5 mm<sup>2</sup>, cross section: 0.14 mm<sup>2</sup> - 4 mm<sup>2</sup>, mounting type: NS 35/7,5, NS 35/15, color: gray



## Your advantages

- Time-saving conductor connection thanks to tool-free direct-connection technology
- Convenient plugging with lower insertion force
- High conductor pull-out forces due to the spring design
- Vibration-resistant and maintenance-free conductor connection
- Full flexibility thanks to the standardized CLIPLINE complete bridging, marking, and testing accessories
- Maximum efficiency in the smallest space - thanks to integrated level bridging, the connections are connected across levels
- Optimized for manual and automated wiring

## Commercial data

Item number	3210512
Packing unit	50 pc
Minimum order quantity	50 pc
Sales key	BE22
Product key	BE2215
GTIN	4046356422598
Weight per piece (including packing)	18.771 g
Weight per piece (excluding packing)	18.654 g
Customs tariff number	85369010
Country of origin	PL

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## Technical data

### Product properties

Product type	Multi-level terminal block
Product family	PT
Area of application	Railway industry
	Machine building
	Plant engineering
Number of connections	6
Number of rows	3
Potentials	1

### Insulation characteristics

Overvoltage category	III
Degree of pollution	3

### Electrical properties

Rated surge voltage	6 kV
Maximum power dissipation for nominal condition	0.77 W

### Connection data

Number of connections per level	2
Nominal cross section	2.5 mm <sup>2</sup>

### 1st, 2nd and 3rd level

Connection method	Push-in connection
Stripping length	8 mm ... 10 mm
Internal cylindrical gage	A3
Connection in acc. with standard	IEC 60947-7-1
Conductor cross-section rigid	0.14 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Cross section AWG	26 ... 12 (converted acc. to IEC)
Conductor cross-section flexible	0.14 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Conductor cross-section, flexible [AWG]	26 ... 12 (converted acc. to IEC)
Conductor cross-section flexible ultrasound-compressed	0.34 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Conductor cross-section, flexible [AWG] ultrasound-compressed	22 ... 12 (converted acc. to IEC)
Conductor cross-section flexible (ferrule without plastic sleeve)	0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Flexible conductor cross-section (ferrule with plastic sleeve)	0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm <sup>2</sup>
Nominal cross section	2.5 mm <sup>2</sup>
Nominal current	20 A
Maximum load current	24 A (with 4 mm <sup>2</sup> conductor cross-section, rigid)
Nominal voltage	500 V

1st, 2nd and 3rd level Connection cross sections directly pluggable

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Conductor cross-section rigid	0.34 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Conductor cross-section flexible (ferrule without plastic sleeve)	0.5 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Flexible conductor cross-section (ferrule with plastic sleeve)	0.34 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>

## Ex data

### Rated data (ATEX/IECEX)

Identification	⊕ II 2 GD Ex eb IIC Gb
Operating temperature range (1)	-60 °C ... 85 °C
Operating temperature range (2)	-40 °C ... 110 °C
Ex-certified accessories	3211647 D-PT 2,5-3L 1204517 SZF 1-0,6X3,5 3022276 CLIPFIX 35-5 3022218 CLIPFIX 35
List of bridges	Plug-in bridge / FBS 2-5 / 3030161 Plug-in bridge / FBS 3-5 / 3030174 Plug-in bridge / FBS 4-5 / 3030187 Plug-in bridge / FBS 5-5 / 3030190 Plug-in bridge / FBS 10-5 / 3030213 Plug-in bridge / FBS 20-5 / 3030226
Bridge data	14.5 A / 2.5 mm <sup>2</sup>
Ex temperature increase	40 K (17 A / 2.5 mm <sup>2</sup> )
for bridging with bridge	440 V
- At bridging between non-adjacent terminal blocks	352 V
- At bridging between non-adjacent terminal blocks via PE terminal block	352 V
- At cut-to-length bridging	166 V
- At cut-to-length bridging with cover	352 V
Rated insulation voltage	400 V
output	(Permanent)

### Ex level General

Rated voltage	440 V
Rated current	17 A
Maximum load current	21 A

### Ex connection data General

Nominal cross section	2.5 mm <sup>2</sup>
Rated cross section AWG	14
Connection capacity rigid	0.14 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Connection capacity AWG	26 ... 12
Connection capacity flexible	0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Connection capacity AWG	26 ... 14
output	(Permanent)

### Ex level Level 1

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Contact resistance	1.2 mΩ
output	(Permanent)

## Ex level Level 2

Contact resistance	1.1 mΩ
output	(Permanent)

## Ex level Level 3

Contact resistance	0.8 mΩ
output	(Permanent)

## Ex level PV connection

Contact resistance	1.3 mΩ
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## Dimensions

Width	5.2 mm
End cover width	2.2 mm
Height	102 mm
Depth	56.5 mm
Depth on NS 35/7,5	58 mm
Depth on NS 35/15	65.5 mm

## Material specifications

Color	gray (RAL 7042)
Flammability rating according to UL 94	V0
Insulating material group	I
Insulating material	PA
Static insulating material application in cold	-60 °C
Temperature index of insulation material (DIN EN 60216-1 (VDE 0304-21))	125 °C
Relative insulation material temperature index (Elec., UL 746 B)	130 °C
Fire protection for rail vehicles (DIN EN 45545-2) R22	HL 1 - HL 3
Fire protection for rail vehicles (DIN EN 45545-2) R23	HL 1 - HL 3
Fire protection for rail vehicles (DIN EN 45545-2) R24	HL 1 - HL 3
Fire protection for rail vehicles (DIN EN 45545-2) R26	HL 1 - HL 3
Calorimetric heat release NFPA 130 (ASTM E 1354)	27,5 MJ/kg
Surface flammability NFPA 130 (ASTM E 162)	passed
Specific optical density of smoke NFPA 130 (ASTM E 662)	passed
Smoke gas toxicity NFPA 130 (SMP 800C)	passed

## Electrical tests

### Surge voltage test

Test voltage setpoint	7.3 kV
Result	Test passed

### Temperature-rise test

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Requirement temperature-rise test	Increase in temperature $\leq 45$ K
Result	Test passed
Short-time withstand current 2.5 mm <sup>2</sup>	0.3 kA
Short-time withstand current 4 mm <sup>2</sup>	0.48 kA
Result	Test passed

## Power-frequency withstand voltage

Test voltage setpoint	1.89 kV
Result	Test passed

## Mechanical properties

### Mechanical data

Open side panel	Yes
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## Mechanical tests

### Mechanical strength

Result	Test passed
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### Attachment on the carrier

DIN rail/fixing support	NS 35
Test force setpoint	1 N
Result	Test passed

### Test for conductor damage and slackening

Rotation speed	10 rpm
Revolutions	135
Conductor cross-section/weight	0.14 mm <sup>2</sup> / 0.2 kg
	2.5 mm <sup>2</sup> / 0.7 kg
	4 mm <sup>2</sup> / 0.9 kg
Result	Test passed

## Environmental and real-life conditions

### Aging

Temperature cycles	192
Result	Test passed

### Needle-flame test

Time of exposure	30 s
Result	Test passed

### Oscillation/broadband noise

Specification	DIN EN 50155 (VDE 0115-200):2008-03
Spectrum	Long life test category 1, class B, body mounted
Frequency	$f_1 = 5$ Hz to $f_2 = 150$ Hz
ASD level	0.964 (m/s <sup>2</sup> ) <sup>2</sup> /Hz

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Acceleration	0.58g
Test duration per axis	5 h
Test directions	X-, Y- and Z-axis
Result	Test passed

## Shocks

Specification	DIN EN 50155 (VDE 0115-200):2008-03
Pulse shape	Half-sine
Acceleration	5g
Shock duration	30 ms
Number of shocks per direction	3
Test directions	X-, Y- and Z-axis (pos. and neg.)
Result	Test passed

## Ambient conditions

Ambient temperature (operation)	-60 °C ... 110 °C (Operating temperature range incl. self-heating; for max. short-term operating temperature, see RTI Elec.)
Ambient temperature (storage/transport)	-25 °C ... 60 °C (for a short time, not exceeding 24 h, -60 °C to +70 °C)
Ambient temperature (assembly)	-5 °C ... 70 °C
Ambient temperature (actuation)	-5 °C ... 70 °C
Permissible humidity (operation)	20 % ... 90 %
Permissible humidity (storage/transport)	30 % ... 70 %

## Standards and regulations

Connection in acc. with standard	IEC 60947-7-1
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## Mounting

Mounting type	NS 35/7,5
	NS 35/15

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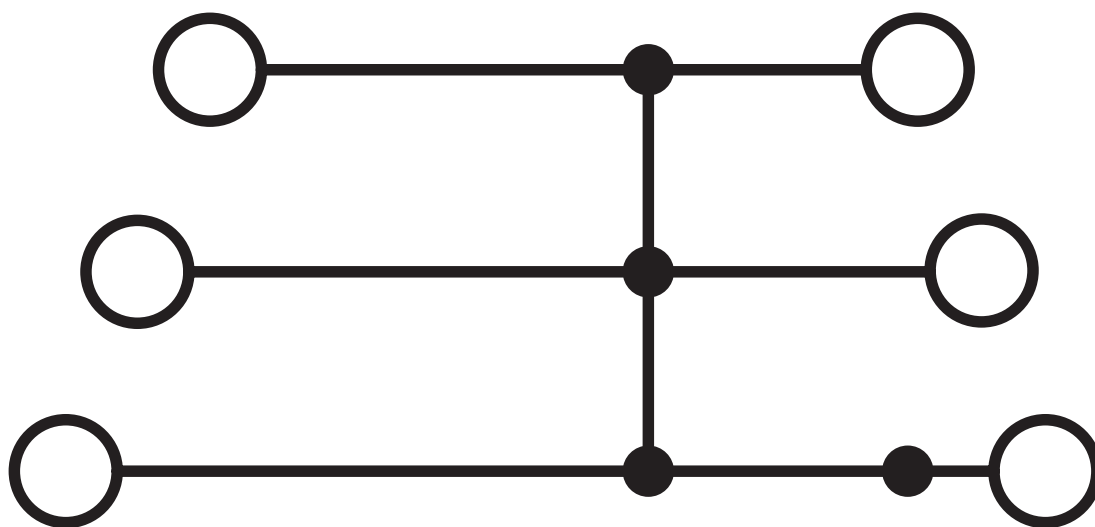


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## Drawings

Circuit diagram



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## Approvals

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 <b>IECEE CB Scheme</b> Approval ID: DE1-66980				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
keine				
	500 V	20 A	-	0.2 - 2.5

 <b>VDE Zeichengenehmigung</b> Approval ID: 40032222				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
keine				
	500 V	20 A	-	0.2 - 2.5

 <b>cULus Recognized</b> Approval ID: E60425				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
B				
	300 V	20 A	26 - 12	-
C				
	300 V	20 A	26 - 12	-

 <b>CSA</b> Approval ID: 158887				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
B				
	300 V	20 A	26 - 12	-
C				
	300 V	20 A	26 - 12	-
D				
	600 V	5 A	26 - 12	-

 <b>IECEx</b> Approval ID: IECEx SEV13.0005U				
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 <b>ATEX</b> Approval ID: SEV13ATEX0159U				
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**CCC**

Approval ID: 2020322313000631



**EAC Ex**

Approval ID: KZ 7500525010101950

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## Classifications

### ECLASS

ECLASS-13.0	27250102
ECLASS-15.0	27250102

### ETIM

ETIM 10.0	EC000897
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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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### EF3.1 Climate Change

CO2e kg	0.131 kg CO2e
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