

# PT 2,5-QUATTRO BN - Feed-through terminal block



1176302

<https://www.phoenixcontact.com/us/products/1176302>

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Feed-through terminal block, nom. voltage: 800 V, nominal current: 24 A, number of connections: 4, connection method: Push-in connection, 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: brown

## 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
- Compact wiring of three conductors in a single terminal block
- Optimized for manual and automated wiring

## Commercial data

Item number	1176302
Packing unit	50 pc
Minimum order quantity	50 pc
Sales key	BE22
Product key	BE2223
GTIN	4063151208011
Weight per piece (including packing)	9.227 g
Weight per piece (excluding packing)	9.227 g
Customs tariff number	85369010
Country of origin	CN

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## Technical data

### Notes

#### General

Note	The max. load current must not be exceeded by the total current of all connected conductors.
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### Product properties

Product type	Multi-conductor terminal block
Product family	PT
Area of application	Railway industry
	Machine building
	Plant engineering
	Process industry
Number of connections	4
Number of rows	1
Potentials	1

#### Insulation characteristics

Overvoltage category	III
Degree of pollution	3

### Electrical properties

Rated surge voltage	8 kV
Maximum power dissipation for nominal condition	0.77 W

### Connection data

Number of connections per level	4
Nominal cross section	2.5 mm <sup>2</sup>
Connection method	Push-in connection
Stripping length	8 mm ... 10 mm
Internal cylindrical gage	A3
	B2
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>

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Nominal cross section	2.5 mm <sup>2</sup>
Nominal current	24 A
Maximum load current	28 A (with 4 mm <sup>2</sup> conductor cross-section, rigid)
Nominal voltage	800 V

## Connection cross sections directly pluggable

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 G Ex eb IIC Gb
Operating temperature range (1)	-60 °C ... 85 °C
Operating temperature range (2)	-40 °C ... 110 °C
Ex-certified accessories	3030514 D-ST 2,5-QUATTRO 3030815 ATP-ST QUATTRO 3036602 DS-ST 2,5 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	19 A (2.5 mm <sup>2</sup> )
Ex temperature increase	40 K (19 A / 2.5 mm <sup>2</sup> )
for bridging with bridge	550 V
- At bridging between non-adjacent terminal blocks	352 V
- At cut-to-length bridging	220 V
- At cut-to-length bridging with cover	275 V
- At cut-to-length bridging with partition plate	550 V
Rated insulation voltage	500 V
output	(Permanent)

### Ex level General

Rated voltage	550 V
Rated current	19 A
Maximum load current	23 A
Contact resistance	1.14 mΩ

### Ex connection data General

Nominal cross section	2.5 mm <sup>2</sup>
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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

## Dimensions

Width	5.2 mm
End cover width	2.2 mm
Height	72.2 mm
Depth	35.3 mm
Depth on NS 35/7,5	36.8 mm
Depth on NS 35/15	44.3 mm

## Material specifications

Color	brown (RAL 8028)
Flammability rating according to UL 94	V0
Insulating material group	I
Insulating material	PA
Static insulating material application in cold	-60 °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
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	9.8 kV
Result	Test passed

### Temperature-rise test

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

### Power-frequency withstand voltage

Test voltage setpoint	2 kV
Result	Test passed

## Mechanical properties

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## 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 (+/- 2) 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):2022-06
Spectrum	Long life test category 2, bogie-mounted
Frequency	$f_1 = 5 \text{ Hz}$ to $f_2 = 250 \text{ Hz}$
ASD level	6.12 (m/s <sup>2</sup> ) <sup>2</sup> /Hz
Acceleration	3.12g
Test duration per axis	5 h
Test directions	X-, Y- and Z-axis
Result	Test passed

### Shocks

Specification	DIN EN 50155 (VDE 0115-200):2018-05
Pulse shape	Half-sine
Acceleration	30g
Shock duration	18 ms
Number of shocks per direction	3

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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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## Drawings

Circuit diagram



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## Approvals


To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1176302>

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

 <b>IECEE CB Scheme</b> Approval ID: DE1-66980				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
keine	800 V	24 A	-	0.2 - 2.5

 <b>EAC</b> Approval ID: RU C-DE.BL08.B.00644				
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 <b>cULus Recognized</b> Approval ID: E60425				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
B	600 V	20 A	26 - 12	-
C	600 V	20 A	26 - 12	-
F	800 V	20 A	26 - 12	-

 <b>LR</b> Approval ID: LR2371832TA				
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 <b>NK</b> Approval ID: 22ME0007				
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 <b>BV</b> Approval ID: 25278/C1 BV				
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 <b>VDE Zeichengenehmigung</b> Approval ID: 40032222				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
keine				
	800 V	24 A	-	0.2 - 2.5


<b>ABS</b> Approval ID: 21-2192245-PDA				
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<b>ClassNK</b> <b>NK</b> Approval ID: 14ME0912				
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<b>DNV</b> Approval ID: TAE000010T				
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 <b>cUL Recognized</b> Approval ID: E192998				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
keine				
	550 V	20 A	26 - 12	-

 <b>EAC Ex</b> Approval ID: RU C-DE.AB72.B.02351				
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 <b>IEC Ex</b> Approval ID: IECExPTB10.0021U				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
keine				
Only flexible conductors	550 V	19 A	-	0.14 - 2.5
Only rigid conductors	550 V	23 A	-	0.14 - 4

 <b>UL Recognized</b> Approval ID: E192998				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
keine				
	550 V	20 A	26 - 12	-

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 <b>ATEX</b> Approval ID: PTB09ATEX1111U				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
keine				
Only flexible conductors	550 V	19 A	-	0.14 - 2.5
Only rigid conductors	550 V	23 A	-	0.14 - 4

 <b>CCC</b> Approval ID: 2020322313000631				
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 <b>UKCA-EX</b> Approval ID: CSAFE 22UKEX1096U				
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 <b>EAC Ex</b> Approval ID: KZ 7500525010101950				
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## Classifications

### ECLASS

ECLASS-13.0	27250101
ECLASS-15.0	27250101

### 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	0.054 kg CO2e
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Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)