

# PTTB 4 BU - Double-level terminal block



3211793

<https://www.phoenixcontact.com/us/products/3211793>

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Double-level terminal block, nom. voltage: 500 V, nominal current: 28 A, connection method: Push-in connection, 1st and 2nd level, Rated cross section: 4 mm<sup>2</sup>, cross section: 0.2 mm<sup>2</sup> - 6 mm<sup>2</sup>, mounting type: NS 35/7,5, NS 35/15, color: blue

## 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
- High space savings thanks to the compact integration of two separate circuits in a single terminal block
- Optimized for manual and automated wiring

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 3211793       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Sales key                            | BE22          |
| Product key                          | BE2214        |
| GTIN                                 | 4046356482714 |
| Weight per piece (including packing) | 16.37 g       |
| Weight per piece (excluding packing) | 15.2 g        |
| Customs tariff number                | 85369010      |
| Country of origin                    | CN            |

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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          |
|                       | Process industry           |
| Number of connections | 4                          |
| Number of rows        | 2                          |
| Potentials            | 2                          |

### Insulation characteristics

|                      |     |
|----------------------|-----|
| Overvoltage category | III |
| Degree of pollution  | 3   |

### Electrical properties

|   |        |
|---|--------|
| Rated surge voltage                             | 6 kV   |
| Maximum power dissipation for nominal condition | 1.02 W |

### Connection data

|                                 |                   |
|---------------------------------|-------------------|
| Number of connections per level | 2                 |
| Nominal cross section           | 4 mm <sup>2</sup> |

### 1st and 2nd level

|   |  |
|---|--|
| Connection method   | Push-in connection   |
| Stripping length  | 10 mm ... 12 mm  |
| Internal cylindrical gage   | A4   |
| Connection in acc. with standard  | IEC 60947-7-1  |
| Conductor cross-section rigid   | 0.2 mm <sup>2</sup> ... 6 mm <sup>2</sup>                    |
| Cross section AWG   | 24 ... 10 (converted acc. to IEC)                            |
| Conductor cross-section flexible  | 0.2 mm <sup>2</sup> ... 6 mm <sup>2</sup>                    |
| Conductor cross-section, flexible [AWG]   | 24 ... 10 (converted acc. to IEC)                            |
| Conductor cross-section flexible (ferrule without plastic sleeve)                         | 0.25 mm <sup>2</sup> ... 4 mm <sup>2</sup>                   |
| Flexible conductor cross-section (ferrule with plastic sleeve)                            | 0.25 mm <sup>2</sup> ... 4 mm <sup>2</sup>                   |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm <sup>2</sup> ... 1 mm <sup>2</sup>                    |
| Nominal cross section   | 4 mm <sup>2</sup>  |
| Nominal current   | 28 A (with 4 mm <sup>2</sup> conductor cross-section)        |
| Maximum load current  | 32 A (with 6 mm <sup>2</sup> conductor cross-section, rigid) |
| Nominal voltage   | 500 V  |

### 1st and 2nd level Connection cross sections directly pluggable

|                               |   |
|-------------------------------|---|
| Conductor cross-section rigid | 0.5 mm <sup>2</sup> ... 6 mm <sup>2</sup> |
|-------------------------------|---|

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|   |   |
|---|---|
| Conductor cross-section flexible (ferrule without plastic sleeve) | 0.5 mm <sup>2</sup> ... 4 mm <sup>2</sup> |
| Flexible conductor cross-section (ferrule with plastic sleeve)    | 0.5 mm <sup>2</sup> ... 4 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   | 3030462 D-STTB 4<br>3030747 ATP-STTB 4<br>1204517 SZF 1-0,6X3,5<br>3022276 CLIPFIX 35-5<br>3022218 CLIPFIX 35  |
| List of bridges  | Plug-in bridge / FBS 2-6 / 3030336<br>Plug-in bridge / FBS 3-6 / 3030242<br>Plug-in bridge / FBS 4-6 / 3030255<br>Plug-in bridge / FBS 5-6 / 3030349<br>Plug-in bridge / FBS 10-6 / 3030271<br>Plug-in bridge / FBS 20-6 / 3030365 |
| Bridge data  | 23 A / 4 mm <sup>2</sup>   |
| Ex temperature increase  | 40 K (23 A / 4 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  | 220 V  |
| - At cut-to-length bridging with cover                                   | 352 V  |
| - At cut-to-length bridging with partition plate                         | 440 V  |
| Rated insulation voltage   | 400 V  |
| output   | (Permanent)  |

### Ex level General

|                      |                           |
|----------------------|---------------------------|
| Rated voltage        | 440 V                     |
| Rated current        | 23 A (4 mm <sup>2</sup> ) |
| Maximum load current | 27 A (6 mm <sup>2</sup> ) |

### Ex connection data General

|                              |   |
|------------------------------|---|
| Nominal cross section        | 4 mm <sup>2</sup>                         |
| Rated cross section AWG      | 12  |
| Connection capacity rigid    | 0.2 mm <sup>2</sup> ... 6 mm <sup>2</sup> |
| Connection capacity AWG      | 24 ... 10                                 |
| Connection capacity flexible | 0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup> |
| Connection capacity AWG      | 24 ... 12                                 |
| output                       | (Permanent)                               |

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## Ex level Level 1

|                    |             |
|--------------------|-------------|
| Contact resistance | 0.67 mΩ     |
| output             | (Permanent) |

## Ex level Level 2

|                    |         |
|--------------------|---------|
| Contact resistance | 0.49 mΩ |
|--------------------|---------|

## Dimensions

|                    |         |
|--------------------|---------|
| Width              | 6.2 mm  |
| End cover width    | 2.2 mm  |
| Height             | 83.5 mm |
| Depth on NS 35/7,5 | 47.5 mm |
| Depth on NS 35/15  | 55 mm   |

## Material specifications

|   |                 |
|---|-----------------|
| Color   | blue (RAL 5015) |
| 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)) | 130 °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)                        | 28 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

|  |             |
|--|-------------|
| Result   | Test passed |
| Short-time withstand current 4 mm <sup>2</sup> | 0.48 kA     |
| Short-time withstand current 6 mm <sup>2</sup> | 0.72 kA     |
| Result   | Test passed |

### Power-frequency withstand voltage

|                       |             |
|-----------------------|-------------|
| Test voltage setpoint | 1.89 kV     |
| Result                | Test passed |

## Mechanical properties

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## Mechanical data

|                 |     |
|-----------------|-----|
| Open side panel | Yes |
|-----------------|-----|

## Mechanical tests

### Mechanical strength

|        |             |
|--------|-------------|
| Result | Test passed |
|--------|-------------|

### Attachment on the carrier

|                         |             |
|-------------------------|-------------|
| DIN rail/fixing support | NS 32/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 | 0.2 mm <sup>2</sup> / 0.2 kg |
|                                | 4 mm <sup>2</sup> / 0.9 kg   |
|                                | 6 mm <sup>2</sup> / 1.4 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 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):2008-03 |
| Pulse shape                    | Semi-sinusoidal                     |
| 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 |
|----------------------------------|---------------|

## Mounting

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

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## Drawings

Circuit diagram



# PTTB 4 BU - Double-level terminal block





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## Approvals


To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/3211793>


|  <b>CSA</b><br>Approval ID: 158887 |                       |                       |                   |                      |
|---|-----------------------|-----------------------|-------------------|----------------------|
|   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
| B   | 300 V                 | 30 A                  | 24 - 10           | -                    |
| C   | 300 V                 | 30 A                  | 24 - 10           | -                    |
| D   | 600 V                 | 5 A                   | 24 - 10           | -                    |

|  <b>IECEE CB Scheme</b><br>Approval ID: DE1-65853 |                       |                       |                   |                      |
|--|-----------------------|-----------------------|-------------------|----------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
| keine  | 500 V                 | 28 A                  | -                 | 0.2 - 4              |

|  <b>cULus Recognized</b><br>Approval ID: E60425 |                       |                       |                   |                      |
|--|-----------------------|-----------------------|-------------------|----------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
| B  | 300 V                 | 28 A                  | 24 - 10           | -                    |
| C  | 300 V                 | 28 A                  | 24 - 10           | -                    |
| D  | 600 V                 | 5 A                   | 24 - 10           | -                    |

|  <b>LR</b><br>Approval ID: LR2371832TA |  |  |  |  |
|---|--|--|--|--|
|---|--|--|--|--|

|  <b>NK</b><br>Approval ID: 22ME0007 |  |  |  |  |
|--|--|--|--|--|
|--|--|--|--|--|

|  <b>VDE Gutachten mit Fertigungsüberwachung</b><br>Approval ID: 40036696 |                       |                       |                   |                      |
|---|-----------------------|-----------------------|-------------------|----------------------|
|   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
| keine   | 500 V                 | 28 A                  | -                 | 0.2 - 4              |

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**PRs**

Approval ID: TE/2107/880590/21

**ABS**

Approval ID: 21-2192245-PDA

**DNV**

Approval ID: TAE000010T



**IECEX**

Approval ID: IECEXPTB10.0046U

|                          | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|--------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
| keine                    |                       |                       |                   |                             |
| Only flexible conductors | 440 V                 | 23 A                  | -                 | 0.2 - 4                     |
| Only rigid conductors    | 440 V                 | 27 A                  | -                 | 0.2 - 6                     |



**ATEX**

Approval ID: PTB09ATEX1112U

|                          | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|--------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
| keine                    |                       |                       |                   |                             |
| Only flexible conductors | 440 V                 | 23 A                  | -                 | 0.2 - 4                     |
| Only rigid conductors    | 440 V                 | 27 A                  | -                 | 0.2 - 6                     |



**CCC**

Approval ID: 2020322313000631



**UKCA-EX**

Approval ID: CSAE 22UKEX1100U



**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 |
|-----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 39121400 |
|-------------|----------|

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## 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% |
|-------------------------------------|----------------------------|

### EF3.1 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 0.217 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)