

# PTTB 1,5/S/2P-PV BU - Double-level terminal block



3213933

<https://www.phoenixcontact.com/ae/products/3213933>

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Double-level terminal block, Current and voltage are determined by the plug used., with equipotential bonder, nom. voltage: 500 V, nominal current: 16 A, connection method: Push-in / plug connection, 1st and 2nd level, Rated cross section: 1.5 mm<sup>2</sup>, cross section: 0.14 mm<sup>2</sup> - 1.5 mm<sup>2</sup>, mounting type: NS 35/7,5, NS 35/15, color: blue

## Your advantages

- The compact design and front connection enable wiring in a confined space<br/>
- The Push-in connection terminal blocks are characterized by the system features of the CLIPLINE complete system and by easy and tool-free wiring of conductors with ferrules or solid conductors
- In addition to the testing option in the double function shaft, all terminal blocks provide an additional test pick-off
- Tested for railway applications

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 3213933       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Sales key                            | BE2           |
| Product key                          | BE2241        |
| GTIN                                 | 4046356591829 |
| Weight per piece (including packing) | 6.622 g       |
| Weight per piece (excluding packing) | 6.622 g       |
| Customs tariff number                | 85369010      |
| Country of origin                    | DE            |

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## Technical data

### Notes

|         |                                                      |
|---------|------------------------------------------------------|
| General | Current and voltage are determined by the plug used. |
|---------|------------------------------------------------------|

### Product properties

|                       |                        |
|-----------------------|------------------------|
| Product type          | Plug-in terminal block |
| Area of application   | Railway industry       |
|                       | Machine building       |
|                       | Plant engineering      |
| Number of connections | 4                      |
| Number of rows        | 2                      |
| Potentials            | 1                      |

### Insulation characteristics

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

### Electrical properties

|                                                 |        |
|-------------------------------------------------|--------|
| Rated surge voltage                             | 6 kV   |
| Maximum power dissipation for nominal condition | 0.56 W |

### Connection data

|                                 |                     |
|---------------------------------|---------------------|
| Number of connections per level | 2                   |
| Nominal cross section           | 1.5 mm <sup>2</sup> |

### 1st and 2nd level

|                                                                   |                                                                                                            |
|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Stripping length                                                  | 8 mm                                                                                                       |
| Internal cylindrical gage                                         | A1 / B1                                                                                                    |
| Connection in acc. with standard                                  | IEC 61984                                                                                                  |
| Conductor cross section rigid                                     | 0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>                                                               |
| Cross section AWG                                                 | 26 ... 16 (converted acc. to IEC)                                                                          |
| Conductor cross section flexible                                  | 0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>                                                               |
| Conductor cross section, flexible [AWG]                           | 26 ... 16 (converted acc. to IEC)                                                                          |
| Conductor cross-section flexible (ferrule without plastic sleeve) | 0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>                                                               |
| Flexible conductor cross section (ferrule with plastic sleeve)    | 0.14 mm <sup>2</sup> ... 1 mm <sup>2</sup> Using the AI-S 1-8 TQ ferrule, Item No. 1200293, is recommended |
| Nominal current                                                   | 16 A (observe derating)                                                                                    |
| Maximum load current                                              | 16 A (with 1.5 mm <sup>2</sup> conductor cross section)                                                    |
| Nominal voltage                                                   | 500 V                                                                                                      |
| Nominal cross section                                             | 1.5 mm <sup>2</sup>                                                                                        |

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

|                                                                   |                                              |
|-------------------------------------------------------------------|----------------------------------------------|
| Conductor cross section rigid                                     | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Conductor cross-section flexible (ferrule without plastic sleeve) | 0.34 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |

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|                                                                |                                            |
|----------------------------------------------------------------|--------------------------------------------|
| Flexible conductor cross section (ferrule with plastic sleeve) | 0.34 mm <sup>2</sup> ... 1 mm <sup>2</sup> |
|----------------------------------------------------------------|--------------------------------------------|

## Dimensions

|                    |         |
|--------------------|---------|
| Width              | 3.5 mm  |
| End cover width    | 2.2 mm  |
| Height             | 69.3 mm |
| Depth on NS 35/7,5 | 42.6 mm |
| Depth on NS 35/15  | 50.1 mm |

## Material specifications

|                                                                         |             |
|-------------------------------------------------------------------------|-------------|
| Color                                                                   | blue        |
| 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

|                                                  |             |
|--------------------------------------------------|-------------|
| Test voltage setpoint                            | 7.3 kV      |
| Result                                           | Test passed |
| Short-time withstand current 1.5 mm <sup>2</sup> | 0.18 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 |
|-----------------|-----|

## Mechanical tests

### Attachment on the carrier

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

## Environmental and real-life conditions

### Needle-flame test

|                  |             |
|------------------|-------------|
| Time of exposure | 30 s        |
| Result           | Test passed |

### Oscillation/broadband noise

|                        |                                                     |
|------------------------|-----------------------------------------------------|
| Specification          | DIN EN 50155 (VDE 0115-200):2008-03                 |
| Spectrum               | Service life test category 1, class B, body mounted |
| Frequency              | $f_1 = 5 \text{ Hz}$ to $f_2 = 150 \text{ Hz}$      |
| ASD level              | $1.857 \text{ (m/s}^2\text{)}^2\text{/Hz}$          |
| Acceleration           | 0.8g                                                |
| 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 (max. operating temperature see derating curve)                   |
| Ambient temperature (storage/transport)  | -25 °C ... 60 °C (for a short time, no longer than 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

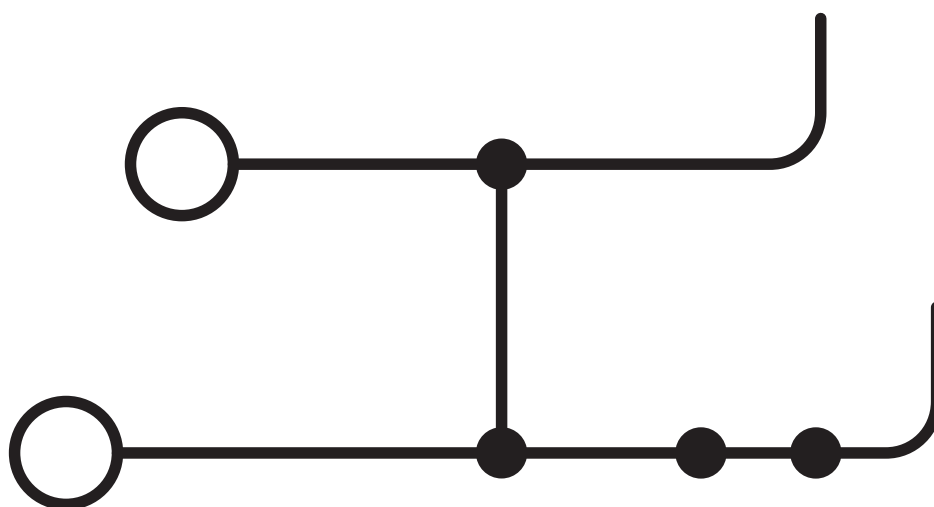
|                                  |           |
|----------------------------------|-----------|
| Connection in acc. with standard | IEC 61984 |
|----------------------------------|-----------|

## Mounting

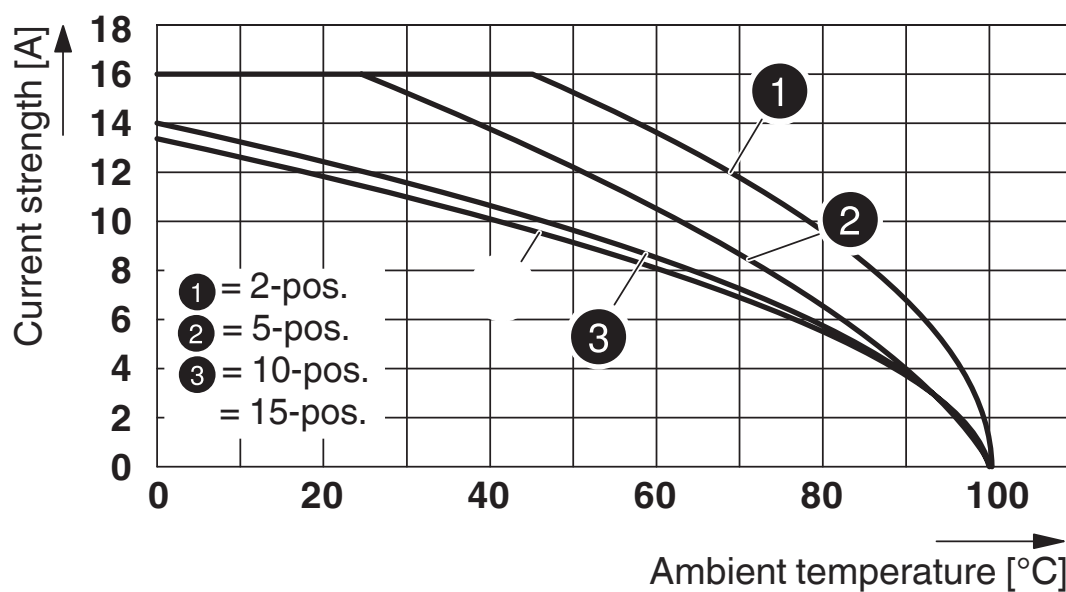
|               |           |
|---------------|-----------|
| Mounting type | NS 35/7,5 |
|               | NS 35/15  |

## Drawings

Circuit diagram



Diagram



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## Approvals

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### DNV

Approval ID: TAE00003JE



### IECEE CB Scheme

Approval ID: DE1-65179

|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | 500 V                 | -                     | -                 | 0.14 - 1.5                  |



### EAC

Approval ID: RU C-DE.BL08.B.00644



### cULus Recognized

Approval ID: E60425

|             | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|-------------|-----------------------|-----------------------|-------------------|-----------------------------|
| Use group B |                       |                       |                   |                             |
|             | 300 V                 | 15 A                  | 26 - 14           | -                           |
| Use group C |                       |                       |                   |                             |
|             | 300 V                 | 15 A                  | 26 - 14           | -                           |
| Use group D |                       |                       |                   |                             |
|             | 600 V                 | 5 A                   | 26 - 14           | -                           |



### LR

Approval ID: LR2371832TA



### NK

Approval ID: 14ME0912



### BV

Approval ID: 39979/B0 BV



### VDE Gutachten mit Fertigungsüberwachung

Approval ID: 40034766

|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | 500 V                 | -                     | -                 | -                           |

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27141120 |
| ECLASS-13.0 | 27250117 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | 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%               |

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