

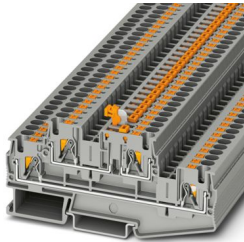
# PTTB 4-MT - Knife-disconnect terminal block



3211913

<https://www.phoenixcontact.com/us/products/3211913>

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Knife-disconnect terminal block, nom. voltage: 500 V, nominal current: 28 A, 1 level, connection method: Push-in connection, Rated cross section: 4 mm<sup>2</sup>, cross section: 0.2 mm<sup>2</sup> - 6 mm<sup>2</sup>, 2nd level, connection method: Push-in connection, Rated cross section: 4 mm<sup>2</sup>, cross section: 0.2 mm<sup>2</sup> - 6 mm<sup>2</sup>, mounting: 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
- Convenient separation of circuits through the implementation of knife disconnection
- Optimized for manual and automated wiring

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 3211913       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Sales key                            | BE22          |
| Product key                          | BE2231        |
| GTIN                                 | 4055626380940 |
| Weight per piece (including packing) | 20.016 g      |
| Weight per piece (excluding packing) | 18.579 g      |
| Customs tariff number                | 85369010      |
| Country of origin                    | CN            |

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## Technical data

### Product properties

|                       |                           |
|-----------------------|---------------------------|
| Product type          | Disconnect terminal block |
| Product family        | PTTB                      |
| Area of application   | Plant engineering         |
| 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> |

#### 1 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   |
| Maximum load current  | 32 A (bei 6 mm <sup>2</sup> Leiterquerschnitt starr) |
| Nominal voltage   | 500 V  |

#### 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      |

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|   |  |
|---|--|
| 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> ... 4 mm <sup>2</sup>  |
| Conductor cross-section, flexible [AWG]   | 24 ... 12 (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> |
| Conductor cross-section flexible (2 conductors with the same cross-section, with TWIN ferrule and plastic sleeve) | 0.5 mm <sup>2</sup> ... 1 mm <sup>2</sup>  |
| Nominal cross section   | 4 mm <sup>2</sup>                          |
| Nominal current   | 20 A                                       |
| Maximum load current  | 20 A                                       |
| Nominal voltage   | 500 V                                      |

## 1 level Connection cross sections directly pluggable

|   |   |
|---|---|
| Conductor cross-section rigid                                     | 0.5 mm <sup>2</sup> ... 6 mm <sup>2</sup> |
| Conductor cross-section, rigid [AWG]                              | 20 ... 10 (converted acc. to IEC)         |
| 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> |

## 2nd level Connection cross sections directly pluggable

|   |   |
|---|---|
| Conductor cross-section rigid                                     | 0.5 mm <sup>2</sup> ... 6 mm <sup>2</sup> |
| Conductor cross-section, rigid [AWG]                              | 20 ... 10 (converted acc. to IEC)         |
| 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> |

## Dimensions

|                    |          |
|--------------------|----------|
| Width              | 6.2 mm   |
| End cover width    | 2.2 mm   |
| Height             | 102.9 mm |
| Depth on NS 35/7,5 | 49 mm    |
| Depth on NS 35/15  | 56.5 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)) | 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        |

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|   |        |
|---|--------|
| 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

|  |                                     |
|--|-------------------------------------|
| 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                              |
|  | 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 |
|-----------------|-----|

## Mechanical tests

### Mechanical strength

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

### Attachment on the carrier

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

### Test for conductor damage and slacking

|                                |                              |
|--------------------------------|------------------------------|
| 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

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|                    |             |
|--------------------|-------------|
| 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              | $f_1 = 5 \text{ Hz}$ to $f_2 = 150 \text{ Hz}$   |
| ASD level              | $0.964 \text{ (m/s}^2\text{)}^2\text{/Hz}$       |
| 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 |
|                                  | IEC 60947-7-1 |

## Mounting

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

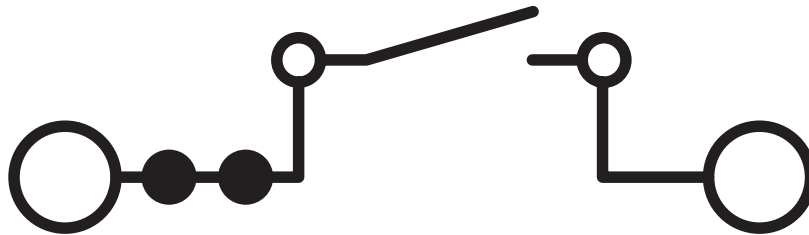
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## Drawings

Circuit diagram



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## Approvals


To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/3211913>

 **CSA**  
Approval ID: 158887

 **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 $\text{mm}^2$ |
|-------------|-----------------------|-----------------------|-------------------|-----------------------------|
| <b>B</b>    |                       |                       |                   |                             |
| upper level | 300 V                 | 16 A                  | 24 - 10           | -                           |
| lower level | 300 V                 | 20 A                  | 24 - 10           | -                           |
| <b>C</b>    |                       |                       |                   |                             |
| upper level | 300 V                 | 16 A                  | 24 - 10           | -                           |
| lower level | 300 V                 | 20 A                  | 24 - 10           | -                           |
| <b>D</b>    |                       |                       |                   |                             |
|             | 600 V                 | 5 A                   | 24 - 10           | -                           |

 **EAC**  
Approval ID: KZ7500651131219505

 **CSA**  
Approval ID: 13631

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27250108 |
| ECLASS-15.0 | 27250108 |

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | EC000902 |
|-----------|----------|

### 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 | 0.267 kg CO2e |
|---------|---------------|

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