

# PTTB 2,5 RD - Double-level terminal block



1109053

<https://www.phoenixcontact.com/us/products/1109053>

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Double-level terminal block, nom. voltage: 500 V, nominal current: 22 A, connection method: Push-in connection, 1st and 2nd 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: red

## 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                          | 1109053       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Sales key                            | BE22          |
| Product key                          | BE2214        |
| GTIN                                 | 4063151018825 |
| Weight per piece (including packing) | 10.963 g      |
| Weight per piece (excluding packing) | 10.028 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 | 0.77 W |

### Connection data

|                                 |                     |
|---------------------------------|---------------------|
| Number of connections per level | 2                   |
| Nominal cross section           | 2.5 mm <sup>2</sup> |
| Rated cross section AWG         | 12                  |

### 1st and 2nd level

|                                                                                                                   |                                                              |
|-------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| Connection method                                                                                                 | Push-in connection                                           |
| Stripping length                                                                                                  | 8 mm ... 10 mm                                               |
| Internal cylindrical gage                                                                                         | A4                                                           |
| 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 (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>                 |
| Conductor cross-section flexible (2 conductors with the same cross-section, with TWIN ferrule and plastic sleeve) | 0.5 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                                                                                                   | 22 A                                                         |
| Maximum load current                                                                                              | 26 A (with 4 mm <sup>2</sup> conductor cross-section, rigid) |
| Nominal voltage                                                                                                   | 500 V                                                        |

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|                                                                   |                                              |
|-------------------------------------------------------------------|----------------------------------------------|
| Cross section AWG                                                 | 26 ... 12 (converted acc. to IEC)            |
| 1st and 2nd level 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) | 0.34 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                                     | Ex 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                           | 3211634 D-PTTB 2,5<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 2-5 / 3030161<br>Plug-in bridge / FBS 3-5 / 3030174<br>Plug-in bridge / FBS 4-5 / 3030187<br>Plug-in bridge / FBS 5-5 / 3030190<br>Plug-in bridge / FBS 10-5 / 3030213<br>Plug-in bridge / FBS 20-5 / 3030226<br>Plug-in bridge / FBS 50-5 / 3038930 |
| Bridge data                                        | 16 A / 2.5 mm <sup>2</sup>                                                                                                                                                                                                                                                |
| Ex temperature increase                            | 40 K (18 A / 2.5 mm <sup>2</sup> )                                                                                                                                                                                                                                        |
| for bridging with bridge                           | 440 V                                                                                                                                                                                                                                                                     |
| - At bridging between non-adjacent terminal blocks | 352 V                                                                                                                                                                                                                                                                     |
| - At cut-to-length bridging                        | 166 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        | 18 A  |
| Maximum load current | 22 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> |

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|                         |             |
|-------------------------|-------------|
| Connection capacity AWG | 26 ... 14   |
| output                  | (Permanent) |

## Ex level Level 1

|                    |             |
|--------------------|-------------|
| Contact resistance | 1.2 mΩ      |
| output             | (Permanent) |

## Ex level Level 2

|                    |         |
|--------------------|---------|
| Contact resistance | 0.92 mΩ |
|--------------------|---------|

## Dimensions

|                    |         |
|--------------------|---------|
| Width              | 5.2 mm  |
| End cover width    | 2.2 mm  |
| Height             | 68 mm   |
| Depth              | 45.8 mm |
| Depth on NS 35/7,5 | 47.5 mm |
| Depth on NS 35/15  | 55 mm   |

## Material specifications

|                                                                  |                |
|------------------------------------------------------------------|----------------|
| Color                                                            | red (RAL 3001) |
| 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) | 125 °C         |

## Mechanical properties

### Mechanical data

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

## Environmental and real-life conditions

### 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

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

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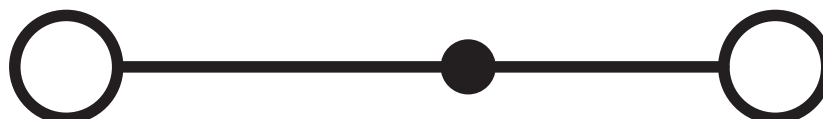


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## Drawings

Circuit diagram



# PTTB 2,5 RD - Double-level terminal block



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1109053>

|  <b>IECEE CB Scheme</b><br>Approval ID: DE1-66980 |                       |                       |                   |                             |
|------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                    | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine                                                                                                                              |                       |                       |                   |                             |
|                                                                                                                                    | 500 V                 | 22 A                  | -                 | 0.2 - 2.5                   |

|  <b>EAC</b><br>Approval ID: RU C-DE.BL08.B.00644 |  |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
|-----------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|

|  <b>cULus Recognized</b><br>Approval ID: E60425 |                       |                       |                   |                             |
|----------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B                                                                                                                                |                       |                       |                   |                             |
|                                                                                                                                  | 300 V                 | 20 A                  | 26 - 12           | -                           |
| C                                                                                                                                |                       |                       |                   |                             |
|                                                                                                                                  | 300 V                 | 20 A                  | 26 - 12           | -                           |
| D                                                                                                                                |                       |                       |                   |                             |
|                                                                                                                                  | 600 V                 | 5 A                   | 26 - 12           | -                           |

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

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

|  <b>BV</b><br>Approval ID: 25278/C1 BV |  |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
|---------------------------------------------------------------------------------------------------------------------------|--|--|--|--|

|  <b>VDE Zeichengenehmigung</b><br>Approval ID: 40032222 |                       |                       |                   |                             |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                            | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine                                                                                                                                      |                       |                       |                   |                             |
|                                                                                                                                            | 500 V                 | 22 A                  | -                 | 0.2 - 2.5                   |

| <b>ABS</b><br>Approval ID: 21-2192245-PDA |  |  |  |  |
|-------------------------------------------|--|--|--|--|
|-------------------------------------------|--|--|--|--|

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**NK**  
Approval ID: 14ME0912

**DNV**

Approval ID: TAE000010T



**EAC Ex**  
Approval ID: RU C-DE.AB72.B.02351



**IECEx**  
Approval ID: IECExPTB10.0021U

|                          | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|--------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
| keine                    |                       |                       |                   |                             |
| Only flexible conductors | 440 V                 | 18 A                  | -                 | 0.14 - 2.5                  |
| Only rigid conductors    | 440 V                 | 22 A                  | -                 | 0.14 - 4                    |



**ATEX**  
Approval ID: PTB09ATEX1111U

|                          | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|--------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
| keine                    |                       |                       |                   |                             |
| Only flexible conductors | 440 V                 | 18 A                  | -                 | 0.14 - 2.5                  |
| Only rigid conductors    | 440 V                 | 22 A                  | -                 | 0.14 - 4                    |



**CCC**  
Approval ID: 2020322313000631



**UKCA-EX**  
Approval ID: CSAE 22UKEX1096U



**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% |
|-------------------------------------|----------------------------|

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