

# PT 1,5/S-TWIN BU - Feed-through terminal block



3208168

<https://www.phoenixcontact.com/us/products/3208168>

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1,5 mm<sup>2</sup>



Push-in



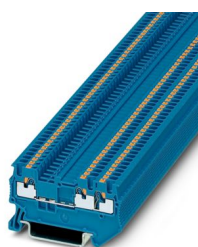
17,5 A

IEC



500 V

IEC



Feed-through terminal block, nom. voltage: 500 V, nominal current: 17.5 A, number of connections: 3, connection method: Push-in connection, 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

- 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                          | 3208168       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Sales key                            | BE22          |
| Product key                          | BE2212        |
| GTIN                                 | 4046356564335 |
| Weight per piece (including packing) | 4.445 g       |
| Weight per piece (excluding packing) | 4.445 g       |
| Customs tariff number                | 85369010      |
| Country of origin                    | DE            |

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## Technical data

### Product properties

|                       |                                |
|-----------------------|--------------------------------|
| Product type          | Multi-conductor terminal block |
| Product family        | PT                             |
| Area of application   | Railway industry               |
|                       | Machine building               |
|                       | Plant engineering              |
| Number of connections | 3                              |
| Number of rows        | 1                              |
| 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                                   | 3                                                                                                            |
| Nominal cross section                                             | 1.5 mm <sup>2</sup>                                                                                          |
| Connection method                                                 | Push-in connection                                                                                           |
| Stripping length                                                  | 8 mm ... 10 mm                                                                                               |
| Internal cylindrical gage                                         | A1 / B1                                                                                                      |
| Connection in acc. with standard                                  | IEC 60947-7-1                                                                                                |
| 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 ultrasound-compressed            | 0.34 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>                                                                 |
| Conductor cross-section, flexible [AWG] ultrasound-compressed     | 22 ... 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 cross section                                             | 1.5 mm <sup>2</sup>                                                                                          |
| Nominal current                                                   | 17.5 A                                                                                                       |
| Maximum load current                                              | 17.5 A                                                                                                       |
| Nominal voltage                                                   | 500 V                                                                                                        |

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

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## Ex data

### Rated data (ATEX/IECEx)

|                                                                          |                                       |
|--------------------------------------------------------------------------|---------------------------------------|
| Identification                                                           | Ex II 2 GD Ex eb IIC Gb               |
| Operating temperature range (1)                                          | -60 °C ... 85 °C                      |
| Operating temperature range (2)                                          | -40 °C ... 110 °C                     |
| Ex-certified accessories                                                 | 3208184 D-PT 1,5/S-TWIN               |
|                                                                          | 3030789 ATP-ST-TWIN                   |
|                                                                          | 1204504 SZF 0-0,4X2,5                 |
|                                                                          | 3022276 CLIPFIX 35-5                  |
|                                                                          | 3022218 CLIPFIX 35                    |
| List of bridges                                                          | Plug-in bridge / FBS 2-3,5 / 3213014  |
|                                                                          | Plug-in bridge / FBS 3-3,5 / 3213027  |
|                                                                          | Plug-in bridge / FBS 4-3,5 / 3213030  |
|                                                                          | Plug-in bridge / FBS 5-3,5 / 3213043  |
|                                                                          | Plug-in bridge / FBS 10-3,5 / 3213056 |
|                                                                          | Plug-in bridge / FBS 20-3,5 / 3213069 |
| Bridge data                                                              | 14.5 A (1.5 mm²)                      |
| Ex temperature increase                                                  | 40 K (15 A / 1.5 mm²)                 |
| for bridging with bridge                                                 | 352 V                                 |
| - At bridging between non-adjacent terminal blocks                       | 220 V                                 |
| - At bridging between non-adjacent terminal blocks via PE terminal block | 220 V                                 |
| - At cut-to-length bridging                                              | 166 V                                 |
| - At cut-to-length bridging with cover                                   | 275 V                                 |
| - At cut-to-length bridging with partition plate                         | 352 V                                 |
| Rated insulation voltage                                                 | 320 V                                 |
| output                                                                   | (Permanent)                           |

### Ex level General

|                      |        |
|----------------------|--------|
| Rated voltage        | 352 V  |
| Rated current        | 15 A   |
| Maximum load current | 15 A   |
| Contact resistance   | 1.4 mΩ |

### Ex connection data General

|                              |                      |
|------------------------------|----------------------|
| Nominal cross section        | 1.5 mm²              |
| Rated cross section AWG      | 16                   |
| Connection capacity rigid    | 0.14 mm² ... 1.5 mm² |
| Connection capacity AWG      | 26 ... 16            |
| Connection capacity flexible | 0.14 mm² ... 1.5 mm² |
| Connection capacity AWG      | 26 ... 16            |

## Dimensions

|       |        |
|-------|--------|
| Width | 3.5 mm |
|-------|--------|

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|                    |         |
|--------------------|---------|
| End cover width    | 2.2 mm  |
| Height             | 54 mm   |
| Depth              | 30.5 mm |
| Depth on NS 35/7,5 | 32 mm   |
| Depth on NS 35/15  | 39.5 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          |
| 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 | 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 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

### Mechanical strength

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

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## 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 (+/- 2) rpm                                                |
| Revolutions                    | 135                                                           |
| Conductor cross-section/weight | 0.14 mm <sup>2</sup> / 0.2 kg<br>1.5 mm <sup>2</sup> / 0.4 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):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           | 30.6 m/s <sup>2</sup>                          |
| 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                   | 300 m/s <sup>2</sup>                |
| Shock duration                 | 18 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                                                                                                              |

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



# PT 1,5/S-TWIN BU - Feed-through terminal block



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/3208168>

|  <b>CSA</b><br>Approval ID: 158887 |                       |                       |                   |                             |
|---------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                     | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B                                                                                                                   | 300 V                 | 15 A                  | 26 - 14           | -                           |
| C                                                                                                                   | 300 V                 | 15 A                  | 26 - 14           | -                           |
| D                                                                                                                   | 600 V                 | 5 A                   | 26 - 14           | -                           |

|  <b>IECEE CB Scheme</b><br>Approval ID: DE1-62964 |                       |                       |                   |                             |
|------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                    | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine                                                                                                                              | 500 V                 | -                     | -                 | 0.14 - 1.5                  |

|  <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                 | 15 A                  | 26 - 14           | -                           |
| C                                                                                                                                  | 300 V                 | 15 A                  | 26 - 14           | -                           |
| D                                                                                                                                  | 600 V                 | 5 A                   | 26 - 14           | -                           |

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

|  <b>NK</b><br>Approval ID: 14ME0912 |  |  |  |  |
|------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
|------------------------------------------------------------------------------------------------------------------------|--|--|--|--|

|  <b>VDE Zeichengenehmigung</b><br>Approval ID: 40039739 |                       |                       |                   |                             |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                            | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine                                                                                                                                      | 500 V                 | 17.5 A                | -                 | 0.14 - 1.5                  |

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## ABS

Approval ID: 21-2192245-PDA

## DNV

Approval ID: TAE000010T



## EAC Ex

Approval ID: RU C-DE.AB72.B.02351



## IECEx

Approval ID: IECEx SEV13.0005U



## ATEX

Approval ID: SEV13ATEX0159U



## CCC

Approval ID: 2020322313000631



## EAC Ex

Approval ID: KZ 7500525010101950

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27250101 |
| ECLASS-15.0 | 27250101 |

### 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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