

# PTV 2,5 GN - Feed-through terminal block



1291485

<https://www.phoenixcontact.com/us/products/1291485>

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Feed-through terminal block, nom. voltage: 800 V, nominal current: 24 A, number of connections: 2, number of positions: 1, connection method: Push-in connection, 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: green

## 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
- Optimized for manual and automated wiring

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1291485       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Sales key                            | BE23          |
| Product key                          | BE2311        |
| GTIN                                 | 4063151522889 |
| Weight per piece (including packing) | 6.118 g       |
| Weight per piece (excluding packing) | 6.118 g       |
| Customs tariff number                | 85369010      |
| Country of origin                    | CN            |

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## Technical data

### Product properties

|                       |                             |
|-----------------------|-----------------------------|
| Product type          | Feed-through terminal block |
| Product family        | PTV                         |
| Area of application   | Railway industry            |
|                       | Machine building            |
|                       | Plant engineering           |
|                       | Process industry            |
| Number of positions   | 1                           |
| Number of connections | 2                           |
| Number of rows        | 1                           |
| Potentials            | 1                           |

### Insulation characteristics

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

### Electrical properties

|   |        |
|---|--------|
| 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>  |
| Connection method   | Push-in connection   |
| Stripping length  | 8 mm ... 10 mm   |
| Internal cylindrical gage   | A3   |
| 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>                 |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>                  |
| Nominal cross section   | 2.5 mm <sup>2</sup>  |
| Nominal current   | 24 A (at 2.5 mm <sup>2</sup> )                               |
| Maximum load current  | 28 A (with 4 mm <sup>2</sup> conductor cross-section, rigid) |
| Nominal voltage   | 800 V  |

### Connection cross sections directly pluggable

|   |   |
|---|---|
| Conductor cross-section rigid                                     | 0.5 mm <sup>2</sup> ... 4 mm <sup>2</sup>   |
| Conductor cross-section, rigid [AWG]                              | 20 ... 12 (converted acc. to IEC)           |
| Conductor cross-section flexible (ferrule without plastic sleeve) | 1.5 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |

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|  |   |
|--|---|
| Flexible conductor cross-section (ferrule with plastic sleeve) | 1.5 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
|--|---|

## Ex data

### Rated data (ATEX/IECEX)

|   |   |
|---|---|
| Identification                                      | Ⓔ II 2 G Ex eb IIC Gb   |
| Operating temperature range                         | -60 °C ... 110 °C   |
| Ex-certified accessories                            | 1088746 D-PTV 2,5/4<br>3030721 ATP-ST 4<br>1204517 SZF 1-0,6X3,5<br>3022276 CLIPFIX 35-5  |
| 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   | 20.5 A (2.5 mm <sup>2</sup> )   |
| Ex temperature increase<br>for bridging with bridge | 40 K (20.7 A / 2.5 mm <sup>2</sup> )<br>550 V   |
| - At bridging between non-adjacent terminal blocks  | 352 V   |
| - At cut-to-length bridging                         | 275 V   |
| - At cut-to-length bridging with cover              | 275 V   |
| - At cut-to-length bridging with partition plate    | 550 V   |
| Rated insulation voltage                            | 500 V   |
| output  | (Permanent)   |

### Ex level General

|                      |                               |
|----------------------|-------------------------------|
| Rated voltage        | 550 V                         |
| Rated current        | 20.5 A (2.5 mm <sup>2</sup> ) |
| Maximum load current | 24.5 A (4 mm <sup>2</sup> )   |
| Contact resistance   | 0.8 mΩ                        |

### 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> ... 4 mm <sup>2</sup> |
| Connection capacity AWG      | 26 ... 12                                  |

## Dimensions

|                 |         |
|-----------------|---------|
| Width           | 5.2 mm  |
| End cover width | 2.2 mm  |
| Height          | 50.8 mm |

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|                    |         |
|--------------------|---------|
| Depth              | 35.3 mm |
| Depth on NS 35/7,5 | 36.8 mm |
| Depth on NS 35/15  | 44.3 mm |

## Material specifications

|  |                  |
|--|------------------|
| Color  | green (RAL 6021) |
| 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 | 9.8 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                              |
| Result   | Test passed                         |

### Power-frequency withstand voltage

|                       |             |
|-----------------------|-------------|
| Test voltage setpoint | 2 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 |
|-------------------------|-------|

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|  |                               |
|--|-------------------------------|
| Result                                   | Test passed                   |
| Test for conductor damage and slackening |                               |
| Rotation speed                           | 10 rpm                        |
| Revolutions                              | 135                           |
| Conductor cross-section/weight           | 0.14 mm <sup>2</sup> / 0.2 kg |
|  | 2.5 mm <sup>2</sup> / 0.7 kg  |
|  | 4 mm <sup>2</sup> / 0.9 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):2018-05            |
| 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

|                                |                                   |
|--------------------------------|-----------------------------------|
| Pulse shape                    | Half-sine                         |
| Acceleration                   | 30g                               |
| 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  |
| Ambient temperature (actuation)          | -5 °C ... 70 °C  |
| Permissible humidity (operation)         | 20 % ... 90 %  |
| Permissible humidity (storage/transport) | 30 % ... 70 %  |

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## 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



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1291485>

|  <b>CSA</b><br>Approval ID: 158887 |                       |                       |                   |                             |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
|   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B   | 600 V                 | 20 A                  | 26 - 12           | -                           |
| C   | 600 V                 | 20 A                  | 26 - 12           | -                           |

|  <b>IECEE CB Scheme</b><br>Approval ID: DE1-67139 |                       |                       |                   |                             |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine  | 800 V                 | 24 A                  | -                 | 0.2 - 4                     |

|  <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  | 600 V                 | 20 A                  | 26 - 12           | -                           |
| C  | 600 V                 | 20 A                  | 26 - 12           | -                           |
| F  | 800 V                 | 20 A                  | 26 - 12           | -                           |

|  <b>VDE Zeichengenehmigung</b><br>Approval ID: 40056318 |                       |                       |                   |                             |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine  | 800 V                 | 24 A                  | -                 | 0.2 - 4                     |

|  <b>IECEx</b><br>Approval ID: IECExPTB20.0037U |  |  |  |  |
|---|--|--|--|--|
|---|--|--|--|--|

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**IECEx**

Approval ID: IECExPTB20.0037U



**ATEX**

Approval ID: PTB20ATEX1016U



**CCC**

Approval ID: 2021122313114374



**UKCA-EX**

Approval ID: CSAE 22UKEX1099U



**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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