

# PT 2,5-PE/3L - Multi-level terminal block



3210542

<https://www.phoenixcontact.com/us/products/3210542>

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Motor terminal block, four-level, connection method: push-in connection, cross section: 0.14 mm<sup>2</sup> - 4 mm<sup>2</sup>, AWG: 26- 12, width: 5.2 mm, height: 91.1 mm, color: gray, mounting type: NS 35/7,5, NS 35/15

## Your advantages

- The compact design and front connection enable wiring in a confined space<br/>
- In addition to the testing option in the double function shaft, all terminal blocks provide an additional test pick-off
- 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

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 3210542       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Sales key                            | BE22          |
| Product key                          | BE2216        |
| GTIN                                 | 4046356867108 |
| Weight per piece (including packing) | 26.518 g      |
| Weight per piece (excluding packing) | 26.518 g      |
| Customs tariff number                | 85369010      |
| Country of origin                    | PL            |

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## Technical data

### Product properties

|                       |                      |
|-----------------------|----------------------|
| Product type          | Motor terminal block |
| Product family        | PT                   |
| Number of connections | 7                    |
| Number of rows        | 4                    |
| Potentials            | 4                    |

### 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> |

### 1st, 2nd, 3rd and 4th level

|                                                                                           |                                                                |
|-------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| Connection method                                                                         | Push-in connection                                             |
| Note                                                                                      | Please observe the current carrying capacity of the DIN rails. |
| Stripping length                                                                          | 8 mm ... 10 mm                                                 |
| Internal cylindrical gage                                                                 | A3                                                             |
| Connection in acc. with standard                                                          | IEC 60947-7-1/IEC 60947-7-2                                    |
| 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 ultrasound-compressed                                    | 0.34 mm <sup>2</sup> ... 4 mm <sup>2</sup>                     |
| Conductor cross-section, flexible [AWG] ultrasound-compressed                             | 22 ... 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>                                            |
| Nominal current                                                                           | 20 A (with a 2.5 mm <sup>2</sup> conductor cross-section)      |
| Maximum load current                                                                      | 25 A (with 4 mm <sup>2</sup> conductor cross-section, rigid)   |
| Nominal voltage                                                                           | 800 V                                                          |
| Nominal cross section                                                                     | 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>                                            |

1st, 2nd, 3rd and 4th level Connection cross sections directly pluggable

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|                                                                   |                                              |
|-------------------------------------------------------------------|----------------------------------------------|
| Conductor cross-section rigid                                     | 0.34 mm <sup>2</sup> ... 4 mm <sup>2</sup>   |
| Conductor cross-section flexible (ferrule without plastic sleeve) | 0.5 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> |

## 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> |

## Dimensions

|                    |          |
|--------------------|----------|
| Width              | 5.2 mm   |
| End cover width    | 2.2 mm   |
| Height             | 99.5 mm  |
| Depth              | 91.1 mm  |
| Depth on NS 35/7,5 | 92.6 mm  |
| Depth on NS 35/15  | 100.1 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)) | 125 °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)                        | 27,5 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 | 9.8 kV      |
| Result                | Test passed |

### Temperature-rise test

|                                                  |                                |
|--------------------------------------------------|--------------------------------|
| Requirement temperature-rise test                | Increase in temperature ≤ 45 K |
| Result                                           | Test passed                    |
| Short-time withstand current 2.5 mm <sup>2</sup> | 0.3 kA                         |
| Short-time withstand current 4 mm <sup>2</sup>   | 0.48 kA                        |

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|                                   |             |
|-----------------------------------|-------------|
| 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       |
| Test force setpoint       | 1 N         |
| 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):2008-03            |
| 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                                    |

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## Shocks

|                                |                                     |
|--------------------------------|-------------------------------------|
| Specification                  | DIN EN 50155 (VDE 0115-200):2008-03 |
| 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 %                                                                                                                |

## Standards and regulations

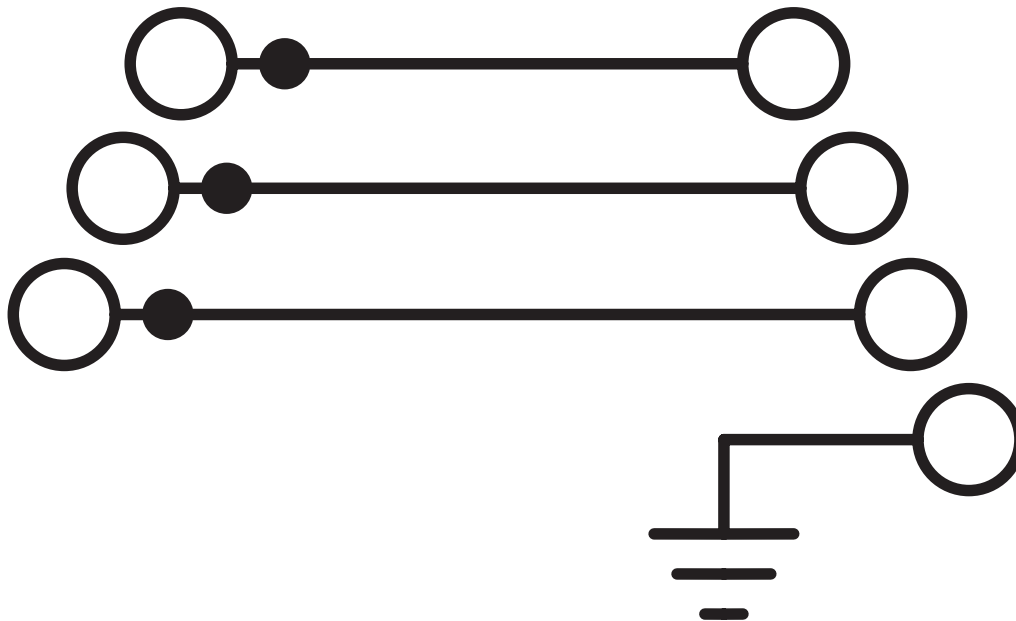
|                                  |                             |
|----------------------------------|-----------------------------|
| Connection in acc. with standard | IEC 60947-7-1/IEC 60947-7-2 |
|----------------------------------|-----------------------------|

## Mounting

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

## Drawings

Circuit diagram



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## Approvals

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### DNV

Approval ID: TAE000041N



### CSA

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           | -                           |



### 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 $\text{mm}^2$ |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| D |                       |                       |                   |                             |
|   | -                     | -                     | 26 - 12           | -                           |

### DNV

Approval ID: TAE000010T



### EAC

Approval ID: KZ7500651131219505

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27250110 |
| ECLASS-15.0 | 27250110 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC001329 |
|----------|----------|

### 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% |
|-------------------------------------|----------------------------|

### EF3.0 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 0.148 kg CO2e |
|---------|---------------|

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