

PT 2,5-TWIN-MTB - Knife-disconnect terminal block



3210170

<https://www.phoenixcontact.com/us/products/3210170>

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Knife-disconnect terminal block, nom. voltage: 400 V, nominal current: 16 A, connection method: Push-in connection, Rated cross section: 2.5 mm², cross section: 0.14 mm² - 4 mm², 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 | 3210170 |
| Packing unit | 50 pc |
| Minimum order quantity | 50 pc |
| Sales key | BE22 |
| Product key | BE2231 |
| GTIN | 4046356693745 |
| Weight per piece (including packing) | 10.356 g |
| Weight per piece (excluding packing) | 9.726 g |
| Customs tariff number | 85369010 |
| Country of origin | PL |

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Technical data

Notes

General

| | |
|------|--|
| Note | The max. load current must not be exceeded by the total current of all connected conductors. |
|------|--|

Product properties

| | |
|-----------------------|---------------------------|
| Product type | Disconnect 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 | 0.77 W |

Connection data

| | |
|---|--|
| Number of connections per level | 3 |
| Nominal cross section | 2.5 mm ² |
| 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 ² ... 4 mm ² |
| Cross section AWG | 26 ... 12 (converted acc. to IEC) |
| Conductor cross-section flexible | 0.14 mm ² ... 4 mm ² |
| Conductor cross-section, flexible [AWG] | 26 ... 12 (converted acc. to IEC) |
| Conductor cross-section flexible ultrasound-compressed | 0.34 mm ² ... 4 mm ² |
| Conductor cross-section, flexible [AWG] ultrasound-compressed | 22 ... 12 (converted acc. to IEC) |
| Conductor cross-section flexible (ferrule without plastic sleeve) | 0.14 mm ² ... 2.5 mm ² |
| Flexible conductor cross-section (ferrule with plastic sleeve) | 0.14 mm ² ... 2.5 mm ² |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm ² |
| Nominal cross section | 2.5 mm ² |
| Nominal current | 16 A |

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| | |
|----------------------|--|
| Maximum load current | 16 A (with 4 mm ² conductor cross-section, rigid) |
| Nominal voltage | 400 V |

Connection cross sections directly pluggable

| | |
|---|--|
| Conductor cross-section rigid | 0.34 mm ² ... 4 mm ² |
| Conductor cross-section flexible (ferrule without plastic sleeve) | 0.5 mm ² ... 2.5 mm ² |
| Flexible conductor cross-section (ferrule with plastic sleeve) | 0.34 mm ² ... 2.5 mm ² |

Dimensions

| | |
|--------------------|---------|
| Width | 5.2 mm |
| End cover width | 2.2 mm |
| Height | 81.9 mm |
| Depth | 35.2 mm |
| Depth on NS 35/7,5 | 36.7 mm |
| Depth on NS 35/15 | 44.2 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 |
| 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 ≤ 45 K |
| Result | Test passed |
| | Test passed |
| Short-time withstand current 1.5 mm ² | 0.18 kA |
| Short-time withstand current 2.5 mm ² | 0.3 kA |

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| | |
|-----------------------------------|-------------|
| 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 slackening

| | |
|--------------------------------|-------------------------------|
| Rotation speed | 10 rpm |
| Revolutions | 135 |
| Conductor cross-section/weight | 0.14 mm ² / 0.2 kg |
| | 2.5 mm ² / 0.7 kg |
| | 4 mm ² / 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 ²) ² /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):2018-05 |
| 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 |
|----------------------------------|---------------|

Mounting

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

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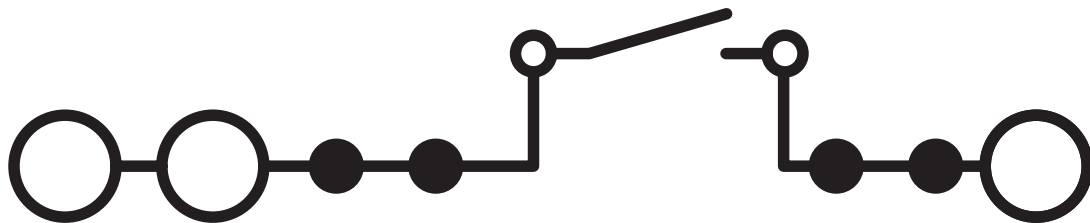


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Drawings

Circuit diagram



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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/3210170>

DNV

Approval ID: TAE000010T



IECEE CB Scheme

Approval ID: DE1-61292

| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
|-------|-----------------------|-----------------------|-------------------|-----------------------------|
| keine | | | | |
| | 400 V | 16 A | - | - 2.5 |



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 mm^2 |
|--------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
| B | | | | |
| Only flexible conductors | 300 V | 20 A | 26 - 12 | - |
| Only rigid conductors | 300 V | 16 A | 26 - 12 | - |
| C | | | | |
| Only flexible conductors | 300 V | 20 A | 26 - 12 | - |
| Only rigid conductors | 300 V | 16 A | 26 - 12 | - |
| D | | | | |
| | 600 V | 5 A | 26 - 12 | - |
| F | | | | |
| | 400 V | 20 A | 26 - 12 | - |



LR

Approval ID: LR2371832TA



BV

Approval ID: 25278/C1 BV



VDE Zeichengenehmigung

Approval ID: 40037618

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| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
|-------|-----------------------|-----------------------|-------------------|-----------------------------|
| keine | | | | |
| | 400 V | 16 A | - | 0.2 - 2.5 |



EAC

Approval ID: KZ7500651131219505

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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 | 0.069 kg CO2e |
|---------|---------------|

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