

# PTC 2,5-MT - Knife-disconnect terminal block



3270079

<https://www.phoenixcontact.com/us/products/3270079>

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Knife-disconnect terminal block, nom. voltage: 400 V, nominal current: 20 A, 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: 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
- Optimized for manual and automated wiring

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 3270079       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Sales key                            | BE22          |
| Product key                          | BE2231        |
| GTIN                                 | 4046356959919 |
| Weight per piece (including packing) | 7.8 g         |
| Weight per piece (excluding packing) | 7.04 g        |
| Customs tariff number                | 85369010      |
| Country of origin                    | CN            |

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## Technical data

### Product properties

|                       |                           |
|-----------------------|---------------------------|
| Product type          | Disconnect terminal block |
| Product family        | PTC                       |
| Number of connections | 2                         |
| 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                                                           | 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> ... 2.5 mm <sup>2</sup>          |
| Conductor cross-section, flexible [AWG]                                                   | 26 ... 14 (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                                                  |
| Maximum load current                                                                      | 20 A (with 4 mm <sup>2</sup> conductor cross-section) |
| Nominal voltage                                                                           | 400 V                                                 |
| Nominal cross section                                                                     | 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 |

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|                    |         |
|--------------------|---------|
| Height             | 56 mm   |
| Depth              | 35.3 mm |
| Depth on NS 35/7,5 | 36.5 mm |
| Depth on NS 35/15  | 44 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          |
| 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                         |
|                                                  | 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                             |
| 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 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 |
|                                | 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):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           | 3.12g                                          |
| 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                   | 5g                                  |
| Shock duration                 | 30 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)                                                    |

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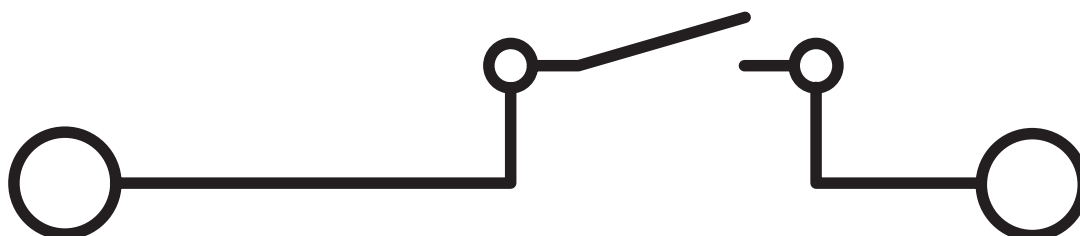


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## Drawings

Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/3270079>



**CSA**

Approval ID: 13631



**EAC**

Approval ID: RU C-DE.BL08.B.00644



**cULus Recognized**

Approval ID: E60425

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27250108 |
| ECLASS-15.0 | 27250108 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | 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% |
|-------------------------------------|----------------------------|

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