

# QTC 1,5 BU - Feed-through terminal block



3205022

<https://www.phoenixcontact.com/us/products/3205022>

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Feed-through terminal block, nom. voltage: 800 V, nominal current: 17.5 A, number of connections: 2, connection method: Quick connection, Rated cross section: 1.5 mm<sup>2</sup>, 1 level, cross section: 0.25 mm<sup>2</sup> - 1.5 mm<sup>2</sup>, mounting type: NS 35/7,5, NS 35/15, color: blue

## Your advantages

- Fast conductor connection thanks to the elimination of conductor pretreatment
- Large-area, gas-tight contact thanks to the automated cutting of the wire insulation
- High contact quality and vibration resistance thanks to the use of high-quality spring contact material
- Secure wiring thanks to lockable swivel lever
- Full flexibility thanks to the standardized CLIPLINE complete bridging, marking, and testing accessories
- Vibration-resistant and maintenance-free conductor connection

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 3205022       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Sales key                            | BE03          |
| Product key                          | BE3111        |
| GTIN                                 | 4017918932428 |
| Weight per piece (including packing) | 8.602 g       |
| Weight per piece (excluding packing) | 7 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        | QTC                         |
| Area of application   | Railway industry            |
|                       | Machine building            |
|                       | Plant engineering           |
|                       | Process industry            |
| Number of connections | 2                           |
| Number of rows        | 1                           |
| Potentials            | 1                           |

### Insulation characteristics

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

### Electrical properties

|   |        |
|---|--------|
| Rated surge voltage                             | 8 kV   |
| Maximum power dissipation for nominal condition | 0.56 W |

### Connection data

|  |                     |
|--|---------------------|
| Number of connections per level                      | 2                   |
| Frequency of connections with the same cross section | 100                 |
| Nominal cross section                                | 1.5 mm <sup>2</sup> |

#### 1 level

|   |   |
|---|---|
| Connection method                       | Quick connection  |
| Material wire insulation                | PVC / PE  |
| Connection in acc. with standard        | IEC 60947-7-1   |
| Conductor cross-section rigid           | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>              |
| Cross section AWG                       | 24 ... 16 (converted acc. to IEC)                         |
| Conductor cross-section flexible        | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>              |
| Conductor cross-section, flexible [AWG] | 24 ... 16 (converted acc. to IEC)                         |
| Cross section, sensor conductors        | 0.25 mm <sup>2</sup> ... 0.34 mm <sup>2</sup>             |
| Nominal cross section                   | 1.5 mm <sup>2</sup>                                       |
| Nominal current                         | 17.5 A  |
| Maximum load current                    | 17.5 A (with 1.5 mm <sup>2</sup> conductor cross-section) |
| Nominal voltage                         | 800 V   |

### Ex data

#### Rated data (ATEX/IECEx)

|                             |                        |
|-----------------------------|------------------------|
| Identification              | ⊕ II 2 GD Ex eb IIC Gb |
| Operating temperature range | -45 °C ... 90 °C       |

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|  |                                      |
|--|--------------------------------------|
| Ex-certified accessories                           | 3205161 D-QTC 1,5                    |
|  | 3206209 ATP-QTC                      |
|  | 1204517 SZF 1-0,6X3,5                |
|  | 3022276 CLIPFIX 35-5                 |
|  | 3022218 CLIPFIX 35                   |
| List of bridges                                    | Plug-in bridge / FBS 2-5 / 3030161   |
|  | Plug-in bridge / FBS 3-5 / 3030174   |
|  | Plug-in bridge / FBS 4-5 / 3030187   |
|  | Plug-in bridge / FBS 5-5 / 3030190   |
|  | Plug-in bridge / FBS 10-5 / 3030213  |
| Plug-in bridge / FBS 20-5 / 3030226                |                                      |
| Bridge data  | 16.5 A (1.5 mm <sup>2</sup> )        |
| Ex temperature increase                            | 40 K (18.6 A / 1.5 mm <sup>2</sup> ) |
| for bridging with bridge                           | 550 V                                |
| - At bridging between non-adjacent terminal blocks | 352 V                                |
| - At cut-to-length bridging with cover             | 220 V                                |
| - At cut-to-length bridging with partition plate   | 275 V                                |
| Rated insulation voltage                           | 500 V                                |
| output   | (Permanent)                          |

## Ex level General

|                      |        |
|----------------------|--------|
| Rated voltage        | 550 V  |
| Rated current        | 16.5 A |
| Maximum load current | 16.5 A |
| Contact resistance   | 1 mΩ   |

## Ex connection data General

|  |  |
|--|--|
| Nominal cross section                                | 1.5 mm <sup>2</sup>                          |
| Rated cross section AWG                              | 16   |
| Connection capacity rigid                            | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Connection capacity AWG                              | 24 ... 16                                    |
| Connection capacity flexible                         | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Connection capacity AWG                              | 24 ... 16                                    |
| Frequency of connections with the same cross section | 100  |

## Dimensions

|                    |         |
|--------------------|---------|
| Width              | 5.2 mm  |
| End cover width    | 2.2 mm  |
| Height             | 58.8 mm |
| Depth on NS 35/7,5 | 39.3 mm |
| Depth on NS 35/15  | 46.8 mm |

## Material specifications

|  |                 |
|--|-----------------|
| Color                                  | blue (RAL 5015) |
| Flammability rating according to UL 94 | V0              |

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

## Cable/line

|                                |      |
|--------------------------------|------|
| Wire diameter incl. insulation | 3 mm |
|--------------------------------|------|

## 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 1.5 mm <sup>2</sup> | 0.18 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       |
| Test force setpoint     | 1 N         |
| Result                  | Test passed |

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## Test for conductor damage and slackening

|                                |   |
|--------------------------------|---|
| Rotation speed                 | 10 rpm  |
| Revolutions                    | 135   |
| Conductor cross-section/weight | 0.25 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

### Needle-flame test

|                  |             |
|------------------|-------------|
| Time of exposure | 30 s        |
| 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<br>NS 35/15 |
|---------------|-----------------------|

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## Drawings

Circuit diagram



# QTC 1,5 BU - Feed-through terminal block





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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/3205022>

|  <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                 | 10 A                  | 24 - 16           | -                           |
| C   | 600 V                 | 10 A                  | 24 - 16           | -                           |


|  <b>EAC</b><br>Approval ID: RU C-DE.BL08.B.00539 |  |  |  |  |
|---|--|--|--|--|
|---|--|--|--|--|

|  <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                 | 10 A                  | 24 - 16           | -                           |
| C  | 600 V                 | 10 A                  | 24 - 16           | -                           |

|  <b>ClassNK</b><br>Approval ID: 09 ME 139 |  |  |  |  |
|--|--|--|--|--|
|--|--|--|--|--|

| <b>ABS</b><br>Approval ID: 22-2196825-PDA |  |  |  |  |
|---|--|--|--|--|
|---|--|--|--|--|

| <b>DNV</b><br>Approval ID: TAE000014H |  |  |  |  |
|---------------------------------------|--|--|--|--|
|---------------------------------------|--|--|--|--|

|  <b>IECEx</b><br>Approval ID: IECExKIWA19.0011U |                       |                       |                   |                             |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine  | 550 V                 | 16.5 A                | -                 | 0.25 - 1.5                  |

|  <b>ATEX</b><br>Approval ID: KIWA19ATEX0019U |  |  |  |  |
|---|--|--|--|--|
|---|--|--|--|--|

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|                              | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
| keine                        |                       |                       |                   |                             |
| Type examination certificate | 550 V                 | 16.5 A                | -                 | 0.25 - 1.5                  |



**UKCA-EX**

Approval ID: CSAE 22UKEX1429U



**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% |
|-------------------------------------|----------------------------|

### EF3.1 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 0.081 kg CO2e |
|---------|---------------|

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