

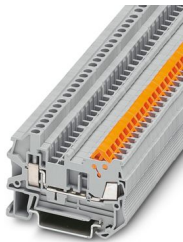
# QTCU 1,5 - Feed-through terminal block



3050015

<https://www.phoenixcontact.com/pc/products/3050015>

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Feed-through terminal block, nom. voltage: 800 V, nominal current: 17.5 A, connection method: Quick connection, Rated cross section: 1.5 mm<sup>2</sup>, cross section: 0.25 mm<sup>2</sup> - 1.5 mm<sup>2</sup>, connection method: Screw connection, Rated cross section: 1.5 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

- The hybrid versions combine the advantages of the different connection technologies
- The time-saving QUICKON fast connection is used on the control cabinet side
- The screw connection is used on the connection side

## Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 3050015             |
| Packing unit                         | 50 pc               |
| Minimum order quantity               | 50 pc               |
| Product key                          | BE3119              |
| Catalog page                         | Page 260 (C-1-2019) |
| GTIN                                 | 4017918975722       |
| Weight per piece (including packing) | 9.047 g             |
| Weight per piece (excluding packing) | 9.047 g             |
| Customs tariff number                | 85369010            |
| Country of origin                    | CN                  |

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## Technical data

### Product properties

|                       |                       |
|-----------------------|-----------------------|
| Product type          | Hybrid terminal block |
| 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>                                       |
| 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 current                                                                     | 17.5 A                                                    |
| Maximum load current                                                                | 17.5 A (with 1.5 mm <sup>2</sup> conductor cross section) |
| Nominal voltage                                                                     | 800 V                                                     |
| Nominal cross section                                                               | 1.5 mm <sup>2</sup>                                       |
| Screw thread                                                                        | M3                                                        |
| Tightening torque                                                                   | 0.5 ... 0.6 Nm                                            |
| Stripping length                                                                    | 9 mm                                                      |
| 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 (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 same cross section, solid                                         | 0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>              |
| 2 conductors with same cross section, flexible                                      | 0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>              |
| 2 conductors with same cross section, flexible, with ferrule without plastic sleeve | 0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>              |

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|                                                                                           |                                                           |
|-------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| 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 current                                                                           | 17.5 A                                                    |
| Maximum load current                                                                      | 17.5 A (with 1.5 mm <sup>2</sup> conductor cross section) |
| Nominal voltage                                                                           | 800 V                                                     |
| Nominal cross section                                                                     | 1.5 mm <sup>2</sup>                                       |

## Ex data

### Rated data (ATEX/IECEx)

|                                                    |                                     |
|----------------------------------------------------|-------------------------------------|
| Identification                                     | Ⓔ II 2 GD Ex eb IIC Gb              |
| Operating temperature range                        | -45 °C ... 90 °C                    |
| Ex-certified accessories                           | 3206283 D-QTCU 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                                        | 17 A / 1.5 mm <sup>2</sup>          |
| Ex temperature increase                            | 40 K (19.1 A/2.5 mm <sup>2</sup> )  |
| Rated voltage                                      | 550 V                               |
| for bridging with bridge                           | 550 V                               |
| - At bridging between non-adjacent terminal blocks | 275 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 current        | 17 A    |
| Maximum load current | 17 A    |
| Contact resistance   | 1.08 mΩ |

### Ex connection data Fast connection

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

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## Ex connection data Screw connection

|                                                       |                                              |
|-------------------------------------------------------|----------------------------------------------|
| Stripping length                                      | 9 mm                                         |
| Torque range                                          | 0.5 Nm ... 0.6 Nm                            |
| Nominal cross section                                 | 1.5 mm <sup>2</sup>                          |
| Rated cross section AWG                               | 16                                           |
| 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> ... 2.5 mm <sup>2</sup> |
| Connection capacity AWG                               | 26 ... 14                                    |
| 2 conductors with same cross section, solid           | 0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| 2 conductors with the same cross-section AWG rigid    | 26 ... 16                                    |
| 2 conductors with same cross section, stranded        | 0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| 2 conductors with the same cross-section AWG flexible | 26 ... 16                                    |

## Dimensions

|                    |         |
|--------------------|---------|
| Width              | 5.2 mm  |
| End cover width    | 2.2 mm  |
| Height             | 58.8 mm |
| Depth on NS 35/7,5 | 42.8 mm |
| Depth on NS 35/15  | 50.3 mm |

## Material specifications

|                                                                  |             |
|------------------------------------------------------------------|-------------|
| Color                                                            | gray        |
| 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      |

## Cable/line

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

## Electrical tests

### Surge voltage test

|        |             |
|--------|-------------|
| Result | Test passed |
|--------|-------------|

### Temperature-rise test

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

### 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 |
|                                | 1.5 mm <sup>2</sup> / 0.4 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      | Service life test category 2, bogie-mounted |
| Frequency     | $f_1 = 5$ Hz to $f_2 = 250$ Hz              |
| ASD level     | 6.12 (m/s <sup>2</sup> ) <sup>2</sup> /Hz   |
| Acceleration  | 3.12g                                       |

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|                        |                   |
|------------------------|-------------------|
| Test duration per axis | 5 h               |
| Test directions        | X-, Y- and Z-axis |

## 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.) |

## 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 60947-7-1 |

## Mounting

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

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## Drawings

Circuit diagram



# QTCU 1,5 - Feed-through terminal block



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/pc/products/3050015>



**CSA**  
Approval ID: 2030668



**CSA**  
Approval ID: 2030668

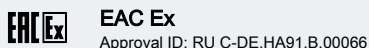


**cULus Recognized**  
Approval ID: E60425

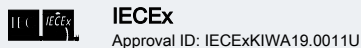
|                  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|------------------|-----------------------|-----------------------|-------------------|-----------------------------|
| Use group B      |                       |                       |                   |                             |
| Screw connection | 600 V                 | 0 A                   | 26 - 12           | -                           |
| Fast connection  | 600 V                 | 10 A                  | 24 - 16           | -                           |
| Use group C      |                       |                       |                   |                             |
| Screw connection | 600 V                 | 0 A                   | 26 - 12           | -                           |
| Fast connection  | 600 V                 | 10 A                  | 24 - 16           | -                           |



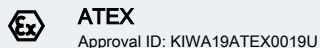
**DNV GL**  
Approval ID: TAE00003J6



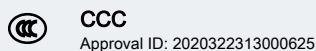
**EAC Ex**  
Approval ID: RU C-DE.HA91.B.00066



**IECEx**  
Approval ID: IECExKIWA19.0011U



**ATEX**  
Approval ID: KIWA19ATEX0019U



**CCC**  
Approval ID: 2020322313000625



**UKCA-EX**  
Approval ID: CSAE 22UKEX1429U



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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27141120 |
| ECLASS-13.0 | 27250201 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC000897 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 39121400 |
|-------------|----------|

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## Environmental product compliance

|                                         |                                                                                                                                                                                                                                   |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EU RoHS                                 |                                                                                                                                                                                                                                   |
| Fulfills EU RoHS substance requirements | Yes                                                                                                                                                                                                                               |
| Exemption                               | 6(c)                                                                                                                                                                                                                              |
| China RoHS                              |                                                                                                                                                                                                                                   |
| Environment friendly use period (EFUP)  | EFUP-50                                                                                                                                                                                                                           |
|                                         | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |
| EU REACH SVHC                           |                                                                                                                                                                                                                                   |
| REACH candidate substance (CAS No.)     | Lead(CAS: 7439-92-1)                                                                                                                                                                                                              |
| SCIP                                    | 054fedc4-032d-4c70-b6fb-f5413a56adf5                                                                                                                                                                                              |

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