

# UT 2,5-QUATTRO - Feed-through terminal block



3044542

<https://www.phoenixcontact.com/sg/products/3044542>

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Feed-through terminal block, nom. voltage: 500 V, nominal current: 24 A, number of connections: 4, connection method: Screw connection, Rated cross section: 2.5 mm<sup>2</sup>, cross section: 0.14 mm<sup>2</sup> - 4 mm<sup>2</sup>, mounting type: NS 35/7,5, NS 35/15, color: gray

## Your advantages

- These versions can be used as compact potential distributors
- Tested for railway applications

## Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 3044542             |
| Packing unit                         | 50 pc               |
| Minimum order quantity               | 50 pc               |
| Sales key                            | 0183*               |
| Product key                          | BE1113              |
| Catalog page                         | Page 149 (C-1-2019) |
| GTIN                                 | 4046356055437       |
| Weight per piece (including packing) | 14.46 g             |
| Weight per piece (excluding packing) | 13.9 g              |
| Customs tariff number                | 85369010            |
| Country of origin                    | DE                  |

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## Technical data

### Product properties

|                       |                                |
|-----------------------|--------------------------------|
| Product type          | Multi-conductor terminal block |
| Product family        | UT                             |
| Area of application   | Railway industry               |
|                       | Machine building               |
|                       | Plant engineering              |
|                       | Process industry               |
| Number of connections | 4                              |
| 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 | 4                   |
| Nominal cross section           | 2.5 mm <sup>2</sup> |
| Rated cross section AWG         | 12                  |

### Level 1 above 1+2 below 1+2

|                                                                                           |                                              |
|-------------------------------------------------------------------------------------------|----------------------------------------------|
| Screw thread                                                                              | M3                                           |
| Tightening torque                                                                         | 0.5 ... 0.6 Nm                               |
| Stripping length                                                                          | 9 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> ... 4 mm <sup>2</sup>   |
| Conductor cross section, flexible [AWG]                                                   | 26 ... 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 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> |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm <sup>2</sup> ... 1 mm <sup>2</sup>    |
| Nominal current                                                                           | 24 A                                         |

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|                       |                                                                                                                                                                |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maximum load current  | 30 A (in case of a 4 mm <sup>2</sup> conductor cross section, the maximum load current must not be exceeded by the total current of all connected conductors.) |
| Nominal voltage       | 500 V                                                                                                                                                          |
| Nominal cross section | 2.5 mm <sup>2</sup>                                                                                                                                            |

## Ex data

### Rated data (ATEX/IECEx)

|                                                                          |                                     |
|--------------------------------------------------------------------------|-------------------------------------|
| Identification                                                           | Ⓔ II 2 GD Ex eb IIC Gb              |
| Operating temperature range                                              | -60 °C ... 110 °C                   |
| Ex-certified accessories                                                 | 3047170 D-UT 2,5/4-QUATTRO          |
|                                                                          | 3047109 DS-UT 2,5/4                 |
|                                                                          | 3047196 ATP-UT-QUATTRO              |
|                                                                          | 1204504 SZF 0-0,4X2,5               |
|                                                                          | 3022276 CLIPFIX 35-5                |
| List of bridges                                                          | 3022218 CLIPFIX 35                  |
|                                                                          | 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  |
| Bridge data                                                              | Plug-in bridge / FBS 10-5 / 3030213 |
|                                                                          | Plug-in bridge / FBS 20-5 / 3030226 |
|                                                                          | 22 A / 2.5 mm <sup>2</sup>          |
|                                                                          | 40 K (24 A / 2.5 mm <sup>2</sup> )  |
|                                                                          | 352 V                               |
| Ex temperature increase                                                  | 352 V                               |
| Rated voltage                                                            | 352 V                               |
| for bridging with bridge                                                 | 352 V                               |
| - At bridging between non-adjacent terminal blocks                       | 352 V                               |
| - At bridging between non-adjacent terminal blocks via PE terminal block | 275 V                               |
| - At cut-to-length bridging with cover                                   | 220 V                               |
| - At cut-to-length bridging with partition plate                         | 275 V                               |
| Rated insulation voltage                                                 | 320 V                               |
| output                                                                   | (Permanent)                         |

### Ex level General

|                      |         |
|----------------------|---------|
| Rated current        | 21 A    |
| Maximum load current | 25 A    |
| Contact resistance   | 0.75 mΩ |

### Ex connection data General

|                           |                                            |
|---------------------------|--------------------------------------------|
| Torque range              | 0.5 Nm ... 0.6 Nm                          |
| Nominal cross section     | 2.5 mm <sup>2</sup>                        |
| Rated cross section AWG   | 14                                         |
| Connection capacity rigid | 0.14 mm <sup>2</sup> ... 4 mm <sup>2</sup> |
| Connection capacity AWG   | 26 ... 12                                  |

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|                                                       |                                              |
|-------------------------------------------------------|----------------------------------------------|
| 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             | 65.4 mm |
| Depth              | 46.9 mm |
| Depth on NS 35/7,5 | 47.5 mm |
| Depth on NS 35/15  | 55 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 | 7.3 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                        |
| Result                                           | Test passed                    |

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## 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 <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

### Needle-flame test

|                  |             |
|------------------|-------------|
| Time of exposure | 30 s        |
| Result           | Test passed |

### Oscillation/broadband noise

|                        |                                                     |
|------------------------|-----------------------------------------------------|
| Specification          | DIN EN 50155 (VDE 0115-200):2008-03                 |
| Spectrum               | Service life test category 1, class B, body mounted |
| Frequency              | $f_1 = 5 \text{ Hz}$ to $f_2 = 150 \text{ Hz}$      |
| ASD level              | 1.857 (m/s <sup>2</sup> ) <sup>2</sup> /Hz          |
| Acceleration           | 0.8g                                                |
| 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                                  |

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|                                |                                   |
|--------------------------------|-----------------------------------|
| 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)                                                    |
| 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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## Drawings

Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/sg/products/3044542>

**DNV**

Approval ID: TAE00001S9



**ATEX**

Approval ID: KEMA06ATEX0017U



**cUL Recognized**

Approval ID: E192998

|             | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|-------------|-----------------------|-----------------------|-------------------|-----------------------------|
| Use group B |                       |                       |                   |                             |
|             | 150 V                 | 20 A                  | 26 - 12           | -                           |
| Use group C |                       |                       |                   |                             |
|             | 150 V                 | 20 A                  | 26 - 12           | -                           |



**EAC Ex**

Approval ID: KZ 7500525010101950



**IECEx**

Approval ID: IECEx KEM 06.0013U



**UL Recognized**

Approval ID: E192998

|             | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|-------------|-----------------------|-----------------------|-------------------|-----------------------------|
| Use group B |                       |                       |                   |                             |
|             | 150 V                 | 20 A                  | 26 - 12           | -                           |
| Use group C |                       |                       |                   |                             |
|             | 150 V                 | 20 A                  | 26 - 12           | -                           |



**CCC**

Approval ID: 2020322313000622



**UKCA-EX**

Approval ID: DEKRA 21UKEX0305U

**cULus Recognized**



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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27141120 |
| ECLASS-13.0 | 27250101 |

### 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                                | 90ca6725-2403-448d-a1ee-3b205fcb15e3 |

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PHOENIX CONTACT SEA Pte. Ltd.

105 Eunos Avenue 3, #04-00

Singapore 409836

+65 6228 4900

[marketing@phoenixcontact.com.sg](mailto:marketing@phoenixcontact.com.sg)