

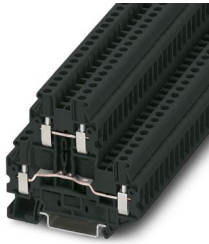
# UTT 2,5 BK - Double-level terminal block



3044637

<https://www.phoenixcontact.com/us/products/3044637>

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Double-level terminal block, nom. voltage: 500 V, nominal current: 24 A, 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: black

## Your advantages

- Globally recognized: Internationally proven screw connection
- Maintenance-free and vibration-resistant thanks to the patented Reakdyn principle
- Space savings and flexibility with the connection of two identical conductors
- Long-term stable connections with the use of high-quality materials
- Low self-heating due to high contact forces
- Maximum efficiency in the smallest space - thanks to integrated level bridging, the connections are connected across levels
- High space savings thanks to the compact integration of two separate circuits in a single terminal block

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 3044637       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Sales key                            | BE01          |
| Product key                          | BE1114        |
| GTIN                                 | 4046356694230 |
| Weight per piece (including packing) | 15.802 g      |
| Weight per piece (excluding packing) | 15.77 g       |
| Customs tariff number                | 85369010      |
| Country of origin                    | DE            |

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## Technical data

### Product properties

|                       |                            |
|-----------------------|----------------------------|
| Product type          | Multi-level terminal block |
| Product family        | UT                         |
| Number of connections | 4                          |
| Number of rows        | 2                          |
| Potentials            | 2                          |

### 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> |

### Level 1+2

|   |  |
|---|--|
| Connection method   | Screw connection   |
| 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, rigid   | 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> ... 1.5 mm <sup>2</sup>  |
| Nominal cross section   | 2.5 mm <sup>2</sup>  |
| Nominal current   | 24 A   |
| Maximum load current  | 28 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.) |

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|                 |       |
|-----------------|-------|
| Nominal voltage | 500 V |
|-----------------|-------|

## Ex data

### Rated data (ATEX/IECEX)

|  |                                      |
|--|--------------------------------------|
| Identification   | ⊕ II 2 GD Ex eb IIC Gb               |
| Operating temperature range  | -60 °C ... 110 °C                    |
| Ex-certified accessories   | 3047293 D-UTT 2,5/4                  |
|  | 3047303 DP-UTT 2,5/4                 |
|  | 3047316 ATP-UTT 2,5/4                |
|  | 1205053 SZS 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  | 20 A / 2.5 mm <sup>2</sup>           |
| Ex temperature increase  | 40 K (22.5 A / 2.5 mm <sup>2</sup> ) |
| 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                         | 176 V                                |
| Rated insulation voltage   | 320 V                                |
| output   | (Permanent)                          |

### Ex level General

|                      |       |
|----------------------|-------|
| Rated voltage        | 352 V |
| Rated current        | 20 A  |
| Maximum load current | 24 A  |

### 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                                    |
| 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> |

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|   |             |
|---|-------------|
| 2 conductors with the same cross-section AWG flexible | 26 ... 16   |
| output  | (Permanent) |

## Ex level Level 1

|                    |             |
|--------------------|-------------|
| Contact resistance | 0.6 mΩ      |
| output             | (Permanent) |

## Ex level Level 2

|                    |        |
|--------------------|--------|
| Contact resistance | 0.4 mΩ |
|--------------------|--------|

## Dimensions

|                    |         |
|--------------------|---------|
| Width              | 5.2 mm  |
| End cover width    | 2.2 mm  |
| Height             | 69.9 mm |
| Depth              | 64.4 mm |
| Depth on NS 35/7,5 | 65 mm   |
| Depth on NS 35/15  | 72.5 mm |

## Material specifications

|  |                  |
|--|------------------|
| Color  | black (RAL 9005) |
| 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                              |
|  | 0.3 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 (+/- 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

### 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  | 30g                                 |

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

Circuit diagram



# UTT 2,5 BK - Double-level terminal block



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/3044637>

|                                       |
|---------------------------------------|
| <b>DNV</b><br>Approval ID: TAE00001S9 |
|---------------------------------------|

|                                  |                       |                       |                   |                      |
|----------------------------------|-----------------------|-----------------------|-------------------|----------------------|
| <b>CSA</b><br>Approval ID: 13631 | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
| B                                | 300 V                 | 20 A                  | 26 - 12           | -                    |
| C                                | 300 V                 | 20 A                  | 26 - 12           | -                    |
| D                                | 600 V                 | 5 A                   | 26 - 12           | -                    |

|  |                       |                       |                   |                      |
|--|-----------------------|-----------------------|-------------------|----------------------|
| <b>cULus Recognized</b><br>Approval ID: E60425 | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
| B  | 300 V                 | 20 A                  | 26 - 12           | -                    |
| Multi-conductor connection                     | 300 V                 | 20 A                  | 26 - 16           | -                    |
| C  | 300 V                 | 20 A                  | 26 - 12           | -                    |
| Multi-conductor connection                     | 300 V                 | 20 A                  | 26 - 16           | -                    |
| D  | 600 V                 | 5 A                   | 26 - 12           | -                    |
| Multi-conductor connection                     | 600 V                 | 5 A                   | 26 - 16           | -                    |

|   |
|---|
| <b>ATEX</b><br>Approval ID: KEMA06ATEX0017U |
|---|

|   |                       |                       |                   |                      |
|---|-----------------------|-----------------------|-------------------|----------------------|
| <b>cUL Recognized</b><br>Approval ID: E192998 | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
| B   | 300 V                 | 20 A                  | 26 - 12           | -                    |
| C   | 300 V                 | 20 A                  | 26 - 12           | -                    |

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## 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 $\text{mm}^2$ |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| B | 300 V                 | 20 A                  | 26 - 12           | -                           |
| C | 300 V                 | 20 A                  | 26 - 12           | -                           |



## CCC

Approval ID: 2020322313000622



## UKCA-EX

Approval ID: DEKRA 21UKEX0305U

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27250102 |
| ECLASS-15.0 | 27250102 |

### 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  |
| 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                                | d5c6426a-496e-4d52-a7e7-8bfc4708c8e5 |

### EF3.1 Climate Change

|         |              |
|---------|--------------|
| CO2e kg | 0.02 kg CO2e |
|---------|--------------|

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