

# UT 6 - Feed-through terminal block

3044131

<https://www.phoenixcontact.com/ie/products/3044131>

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Feed-through terminal block, nom. voltage: 1000 V, nominal current: 41 A, number of connections: 2, connection method: Screw connection, Rated cross section: 6 mm<sup>2</sup>, cross section: 0.2 mm<sup>2</sup> - 10 mm<sup>2</sup>, mounting type: NS 35/7,5, NS 35/15, color: gray

## 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
- Full flexibility thanks to the standardized CLIPLINE complete bridging, marking, and testing accessories
- Vibration-resistant and maintenance-free conductor connection

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## Technical data

### Product properties

|                       |                             |
|-----------------------|-----------------------------|
| Product type          | Feed-through terminal block |
| Product family        | UT                          |
| 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 | 1.31 W |

### Connection data

|                                 |                   |
|---------------------------------|-------------------|
| Number of connections per level | 2                 |
| Nominal cross section           | 6 mm <sup>2</sup> |
| Rated cross section AWG         | 8                 |

### Level 1 above 1 below 1

|                                                                                     |                                              |
|-------------------------------------------------------------------------------------|----------------------------------------------|
| Connection method                                                                   | Screw connection                             |
| Screw thread                                                                        | M4                                           |
| Tightening torque                                                                   | 1.5 ... 1.8 Nm                               |
| Stripping length                                                                    | 10 mm                                        |
| Internal cylindrical gage                                                           | A5                                           |
| Connection in acc. with standard                                                    | IEC 60947-7-1                                |
| Conductor cross-section rigid                                                       | 0.2 mm <sup>2</sup> ... 10 mm <sup>2</sup>   |
| Cross section AWG                                                                   | 24 ... 8 (converted acc. to IEC)             |
| Conductor cross-section flexible                                                    | 0.2 mm <sup>2</sup> ... 10 mm <sup>2</sup>   |
| Conductor cross-section, flexible [AWG]                                             | 24 ... 8 (converted acc. to IEC)             |
| Conductor cross-section flexible ultrasound-compressed                              | 0.34 mm <sup>2</sup> ... 10 mm <sup>2</sup>  |
| Conductor cross-section, flexible [AWG] ultrasound-compressed                       | 22 ... 8 (converted acc. to IEC)             |
| Conductor cross-section flexible (ferrule without plastic sleeve)                   | 0.25 mm <sup>2</sup> ... 6 mm <sup>2</sup>   |
| Flexible conductor cross-section (ferrule with plastic sleeve)                      | 0.25 mm <sup>2</sup> ... 6 mm <sup>2</sup>   |
| 2 conductors with same cross section, rigid                                         | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>  |
| 2 conductors with same cross section, flexible                                      | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>  |
| 2 conductors with same cross section, flexible, with ferrule without plastic sleeve | 0.25 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> ... 4 mm <sup>2</sup>                                                                                    |
| Nominal cross section                                                                     | 6 mm <sup>2</sup>                                                                                                            |
| Nominal current                                                                           | 41 A                                                                                                                         |
| Maximum load current                                                                      | 57 A (with 10 mm <sup>2</sup> conductor cross-section)                                                                       |
| Nominal voltage                                                                           | 1000 V                                                                                                                       |
| Note                                                                                      | Note: Product releases, connection cross sections and notes on connecting aluminum cables can be found in the download area. |

## Reduced nominal voltage

|                                                                                                                                |                    |
|--------------------------------------------------------------------------------------------------------------------------------|--------------------|
| Nominal voltage U <sub>N</sub> (Double-row bridging of adjacent terminals without bridges cut to length)                       | 1000 V             |
| Nominal voltage U <sub>N</sub> (Double-row bridging of non-adjacent terminals (bridging between non-adjacent terminal blocks)) | 500 V              |
| Nominal voltage U <sub>N</sub> (Bridging with cut-off contact jumping over PE)                                                 | 320 V              |
| Nominal voltage U <sub>N</sub> (Bridging with bridges cut to length separated by terminal covers)                              | 800 V              |
| Nominal voltage U <sub>N</sub> (Bridging with bridges cut to length and offsetting of bridge shafts 1 and 2)                   | 320 V              |
| Nominal voltage U <sub>N</sub> (Bridging with bridges cut to length separated by partition plate)                              | 1000 V             |
| Nominal voltage U <sub>N</sub> (Voltage distributor - bridges in multi-level terminals by vertical bridging)                   | 0 V (not relevant) |
| Nominal voltage U <sub>N</sub> (Reducing bridging in terminals with smaller cross-section (FBS-PV ...))                        | 1000 V             |
| Nominal voltage U <sub>N</sub> (Use of short-circuit bridges between adjacent potentials (SB-...))                             | 0 V (not relevant) |

## Ex data

### Rated data (ATEX/IECEX)

|                                                    |                                     |
|----------------------------------------------------|-------------------------------------|
| Identification                                     | ⊕ II 2 GD Ex eb IIC Gb              |
| Operating temperature range                        | -60 °C ... 110 °C                   |
| Ex-certified accessories                           | 3047028 D-UT 2,5/10                 |
|                                                    | 3047167 ATP-UT                      |
|                                                    | 1205066 SZS 1,0X4,0 VDE             |
|                                                    | 3022276 CLIPFIX 35-5                |
|                                                    | 3022218 CLIPFIX 35                  |
| List of bridges                                    | Plug-in bridge / FBS 2-8 / 3030284  |
|                                                    | Plug-in bridge / FBS 3-8 / 3030297  |
|                                                    | Plug-in bridge / FBS 4-8 / 3030307  |
|                                                    | Plug-in bridge / FBS 5-8 / 3030310  |
|                                                    | Plug-in bridge / FBS 10-8 / 3030323 |
| Bridge data                                        | 39 A (6 mm <sup>2</sup> )           |
| Ex temperature increase                            | 40 K (44.9 A / 6 mm <sup>2</sup> )  |
| for bridging with bridge                           | 690 V                               |
| - At bridging between non-adjacent terminal blocks | 275 V                               |

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|                                                                          |             |
|--------------------------------------------------------------------------|-------------|
| - At bridging between non-adjacent terminal blocks via PE terminal block | 176 V       |
| - At cut-to-length bridging with cover                                   | 220 V       |
| - At cut-to-length bridging with partition plate                         | 275 V       |
| Rated insulation voltage                                                 | 630 V       |
| output                                                                   | (Permanent) |

## Ex level General

|                      |        |
|----------------------|--------|
| Rated voltage        | 690 V  |
| Rated current        | 40 A   |
| Maximum load current | 50 A   |
| Contact resistance   | 0.2 mΩ |

## Ex connection data General

|                                                       |                                             |
|-------------------------------------------------------|---------------------------------------------|
| Torque range                                          | 1.5 Nm ... 1.8 Nm                           |
| Nominal cross section                                 | 6 mm <sup>2</sup>                           |
| Rated cross section AWG                               | 10                                          |
| Connection capacity rigid                             | 0.2 mm <sup>2</sup> ... 10 mm <sup>2</sup>  |
| Connection capacity AWG                               | 24 ... 8                                    |
| Connection capacity flexible                          | 0.2 mm <sup>2</sup> ... 6 mm <sup>2</sup>   |
| Connection capacity AWG                               | 24 ... 10                                   |
| 2 conductors with same cross section, solid           | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| 2 conductors with the same cross-section AWG rigid    | 24 ... 14                                   |
| 2 conductors with same cross section, stranded        | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| 2 conductors with the same cross-section AWG flexible | 24 ... 14                                   |

## Dimensions

|                    |         |
|--------------------|---------|
| Width              | 8.2 mm  |
| End cover width    | 2.2 mm  |
| Height             | 47.7 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     |

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|                                                         |             |
|---------------------------------------------------------|-------------|
| 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 | 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 6 mm <sup>2</sup>  | 0.72 kA                             |
| Short-time withstand current 10 mm <sup>2</sup> | 1.2 kA                              |
| Result                                          | Test passed                         |

### Power-frequency withstand voltage

|                       |             |
|-----------------------|-------------|
| Test voltage setpoint | 2.2 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     | 5 N         |
| Result                  | Test passed |

### Test for conductor damage and slackening

|                                |                              |
|--------------------------------|------------------------------|
| Rotation speed                 | 10 rpm                       |
| Revolutions                    | 135                          |
| Conductor cross-section/weight | 0.2 mm <sup>2</sup> / 0.2 kg |
|                                | 6 mm <sup>2</sup> / 1.4 kg   |
|                                | 10 mm <sup>2</sup> / 2 kg    |
| Result                         | Test passed                  |

## Environmental and real-life conditions

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## Needle-flame test

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

## Oscillation/broadband noise

|                        |                                                  |
|------------------------|--------------------------------------------------|
| Specification          | DIN EN 50155 (VDE 0115-200):2008-03              |
| Spectrum               | Long 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> )/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                                  |
| 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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