

# MUT 2,5 - Mini feed-through terminal block



3248030

<https://www.phoenixcontact.com/us/products/3248030>

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Mini feed-through terminal block, nom. voltage: 500 V, nominal current: 24 A, number of connections: 2, number of positions: 1, connection method: Screw connection, Rated cross section: 2.5 mm<sup>2</sup>, 1 level, cross section: 0.2 mm<sup>2</sup> - 4 mm<sup>2</sup>, mounting type: NS 15, color: gray

## Your advantages

- Space saving thanks to compact design and mounting option on a 15 mm DIN rail
- Clear arrangement thanks to marking of all terminal points
- Easy potential distribution thanks to standardized plug-in bridges

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 3248030       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Sales key                            | BE01          |
| Product key                          | BE1161        |
| GTIN                                 | 4046356800761 |
| Weight per piece (including packing) | 5.184 g       |
| Weight per piece (excluding packing) | 4.779 g       |
| Customs tariff number                | 85369010      |
| Country of origin                    | TR            |

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## Technical data

### Product properties

|                       |                          |
|-----------------------|--------------------------|
| Product type          | Miniature terminal block |
| Number of positions   | 1                        |
| Number of connections | 2                        |
| 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 | 2                   |
| Nominal cross section           | 2.5 mm <sup>2</sup> |
| Rated cross section AWG         | 12                  |

### 1 level

|                                                                                           |                                                       |
|-------------------------------------------------------------------------------------------|-------------------------------------------------------|
| 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                                                             | 0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>             |
| Cross section AWG                                                                         | 24 ... 12 (converted acc. to IEC)                     |
| Conductor cross-section flexible                                                          | 0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>             |
| Conductor cross-section, flexible [AWG]                                                   | 24 ... 12 (converted acc. to IEC)                     |
| Conductor cross-section flexible (ferrule without plastic sleeve)                         | 0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>          |
| Flexible conductor cross-section (ferrule with plastic sleeve)                            | 0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>          |
| 2 conductors with same cross section, solid                                               | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>           |
| 2 conductors with same cross section, flexible                                            | 0.2 mm <sup>2</sup> ... 1.5 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>          |
| 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                                                                           | 24 A                                                  |
| Maximum load current                                                                      | 30 A (with 4 mm <sup>2</sup> conductor cross-section) |
| Nominal voltage                                                                           | 500 V                                                 |
| Nominal cross section                                                                     | 2.5 mm <sup>2</sup>                                   |

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## Ex data

### Rated data (ATEX/IECEx)

|                                                                          |                                      |
|--------------------------------------------------------------------------|--------------------------------------|
| Identification                                                           | Ex II 2 GD Ex eb IIC Gb              |
| Operating temperature range                                              | -60 °C ... 110 °C                    |
| Ex-certified accessories                                                 | 3248033 D-MUT 2,5/4                  |
|                                                                          | 1205053 SZS 0,6X3,5                  |
|                                                                          | 3022263 CLIPFIX 15                   |
| 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                                                              | 18.5 A (2.5 mm <sup>2</sup> )        |
| Ex temperature increase                                                  | 40 K (20.7 A / 2.5 mm <sup>2</sup> ) |
| for bridging with bridge                                                 | 352 V                                |
| - At bridging between non-adjacent terminal blocks                       | 220 V                                |
| - At bridging between non-adjacent terminal blocks via PE terminal block | 220 V                                |
| - At cut-to-length bridging with cover                                   | 220 V                                |
| Rated insulation voltage                                                 | 320 V                                |
| output                                                                   | (Permanent)                          |

### Ex level General

|                      |         |
|----------------------|---------|
| Rated voltage        | 352 V   |
| Rated current        | 20.5 A  |
| Maximum load current | 25.5 A  |
| Contact resistance   | 0.33 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                             | 0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>   |
| Connection capacity AWG                               | 24 ... 12                                   |
| Connection capacity flexible                          | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Connection capacity AWG                               | 24 ... 14                                   |
| 2 conductors with same cross section, solid           | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| 2 conductors with the same cross-section AWG rigid    | 24 ... 16                                   |
| 2 conductors with same cross section, stranded        | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| 2 conductors with the same cross-section AWG flexible | 24 ... 16                                   |

## Dimensions

|       |        |
|-------|--------|
| Width | 5.2 mm |
|-------|--------|

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|                 |         |
|-----------------|---------|
| End cover width | 2.2 mm  |
| Height          | 29.9 mm |
| Depth on NS 15  | 34 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)) | 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          |

## 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                              |
| Short-time withstand current 4 mm <sup>2</sup>   | 0.48 kA                             |
| Result                                           | Test passed                         |

### Power-frequency withstand voltage

|                       |             |
|-----------------------|-------------|
| Test voltage setpoint | 1.89 kV     |
| Result                | Test passed |

## Mechanical properties

### Mechanical data

|                 |     |
|-----------------|-----|
| Open side panel | Yes |
|-----------------|-----|

## Mechanical tests

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## Mechanical strength

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

## Attachment on the carrier

|                         |             |
|-------------------------|-------------|
| DIN rail/fixing support | NS 15       |
| Test force setpoint     | 1 N         |
| Result                  | Test passed |

## Test for conductor damage and slackening

|                                |                              |
|--------------------------------|------------------------------|
| Rotation speed                 | 10 rpm                       |
| Revolutions                    | 135                          |
| Conductor cross-section/weight | 0.2 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               | 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                                 |
| 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                                                                                                              |

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|                                          |                 |
|------------------------------------------|-----------------|
| 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 15 |
|---------------|-------|

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## Drawings

Circuit diagram



# MUT 2,5 - Mini feed-through terminal block



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/3248030>

| CSA<br>Approval ID: 13631 |                       |                       |                   |                             |
|---------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                           | 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           | -                           |
| D                         | 600 V                 | 5 A                   | 26 - 12           | -                           |

| CB<br>IECEE CB Scheme<br>Approval ID: DE1-65791 |  |  |  |  |
|-------------------------------------------------|--|--|--|--|
|-------------------------------------------------|--|--|--|--|

| cULus Recognized<br>Approval ID: E60425 |                       |                       |                   |                             |
|-----------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                         | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B                                       | 300 V                 | 20 A                  | 24 - 12           | -                           |
| C                                       | 300 V                 | 20 A                  | 24 - 12           | -                           |

| VDE Zeichengenehmigung<br>Approval ID: 40038907 |  |  |  |  |
|-------------------------------------------------|--|--|--|--|
|-------------------------------------------------|--|--|--|--|

| DNV<br>Approval ID: TAE00003J4 |  |  |  |  |
|--------------------------------|--|--|--|--|
|--------------------------------|--|--|--|--|

| IECEx<br>Approval ID: IECEx SEV13.0012U |                       |                       |                   |                             |
|-----------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                         | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine                                   |                       |                       |                   |                             |
| Only flexible conductors                | 352 V                 | 20.5 A                | -                 | 0.2 - 2.5                   |
| Only rigid conductors                   | 352 V                 | 20.5 A                | -                 | 0.2 - 4                     |

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|  <b>ATEX</b><br>Approval ID: SEV13ATEX0178U |                       |                       |                   |                             |
|------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                              | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine                                                                                                                        |                       |                       |                   |                             |
| Only flexible conductors                                                                                                     | 352 V                 | 20.5 A                | -                 | 0.2 - 2.5                   |
| Only rigid conductors                                                                                                        | 352 V                 | 20.5 A                | -                 | 0.2 - 4                     |

|                                                                                                                                  |  |  |  |  |
|----------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
|  <b>UKCA-EX</b><br>Approval ID: CML 22UKEX1226U |  |  |  |  |
|----------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|

|                                                                                                                                     |  |  |  |  |
|-------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
|  <b>EAC Ex</b><br>Approval ID: KZ 7500525010101950 |  |  |  |  |
|-------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|

|                                                                                                                                 |  |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
|  <b>CCC</b><br>Approval ID: 2020322313000629 |  |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27250101 |
| ECLASS-15.0 | 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                                | ec1c4e20-7a1d-431c-88a7-19d9e3b52793 |

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