

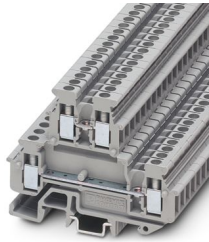
MBKKB 2,5 - Mini feed-through terminal block



1414064

<https://www.phoenixcontact.com/us/products/1414064>

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Mini feed-through terminal block, nom. voltage: 500 V, nominal current: 24 A, connection method: Screw connection, 1st and 2nd level, Rated cross section: 2.5 mm², cross section: 0.2 mm² - 4 mm², mounting type: NS 15, NS 35/7,5, NS 35/15, color: gray

Your advantages

- Fixed bridges and test sockets can be used on both levels
- 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 | 1414064 |
| Packing unit | 50 pc |
| Minimum order quantity | 50 pc |
| Sales key | BE12 |
| Product key | BE1264 |
| GTIN | 4017918021313 |
| Weight per piece (including packing) | 11.33 g |
| Weight per piece (excluding packing) | 10.413 g |
| Customs tariff number | 85369010 |
| Country of origin | CN |

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Technical data

Product properties

| | |
|-----------------------|--------------------------|
| Product type | Miniature terminal block |
| 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 ² |

1st and 2nd level

| | |
|---|---|
| Connection method | Screw connection |
| Screw thread | M3 |
| Tightening torque | 0.5 ... 0.6 Nm |
| Stripping length | 7 mm |
| Internal cylindrical gage | A3 |
| Connection in acc. with standard | IEC 60947-7-1 |
| Conductor cross-section rigid | 0.2 mm ² ... 4 mm ² |
| Cross section AWG | 24 ... 12 (converted acc. to IEC) |
| Conductor cross-section flexible | 0.25 mm ² ... 2.5 mm ² |
| Conductor cross-section, flexible [AWG] | 24 ... 14 (converted acc. to IEC) |
| Conductor cross-section flexible (ferrule without plastic sleeve) | 0.25 mm ² ... 2.5 mm ² |
| Flexible conductor cross-section (ferrule with plastic sleeve) | 0.25 mm ² ... 1.5 mm ² |
| Cross-section with insertion bridge, rigid | 2.5 mm ² |
| Cross-section with insertion bridge, flexible | 2.5 mm ² |
| 2 conductors with same cross section, rigid | 0.2 mm ² ... 1.5 mm ² |
| 2 conductors with same cross section, flexible | 0.2 mm ² ... 1.5 mm ² |
| 2 conductors with same cross section, flexible, with ferrule without plastic sleeve | 0.25 mm ² ... 1.5 mm ² |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm ² ... 1 mm ² |
| Nominal cross section | 2.5 mm ² |
| Nominal current | 24 A |
| Maximum load current | 24 A (with 4 mm ² conductor cross-section) |
| Nominal voltage | 500 V |

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Ex data

Rated data (ATEX/IECEX)

| | |
|-----------------------------|--|
| Identification | ⊕ II 2 G Ex eb IIC Gb |
| Operating temperature range | -50 °C ... 110 °C |
| Ex-certified accessories | 1413052 D-MBKKB 2,5 1413065 DP-MBKKB 2,5 1205053 SZS 0,6X3,5 3022218 CLIPFIX 35 1401637 E/MBK |
| List of bridges | Fixed bridge / FBRNI 2-5 N / 3000175 Fixed bridge / FBRNI 3-5 N / 3000162 Fixed bridge / FBRNI 4-5 N / 3000159 Fixed bridge / FBRNI 5-5 N / 3000146 Fixed bridge / FBRNI 6-5 N / 3000133 Fixed bridge / FBRNI 7-5 N / 3000230 Fixed bridge / FBRNI 8-5 N / 3000243 Fixed bridge / FBRNI 9-5 N / 3000298 Fixed bridge / FBRNI 10-5 N / 2770639 Fixed bridge / FBRNI 20-5 N / 3000609 |
| Bridge data | 19 A / 2.5 mm ² |
| Ex temperature increase | 40 K (21 A / 2.5 mm ²) |
| for bridging with bridge | 275 V |
| Rated insulation voltage | 250 V |
| output | (Permanent) |

Ex level General

| | |
|----------------------|-------|
| Rated voltage | 275 V |
| Rated current | 21 A |
| Maximum load current | 26 A |

Ex connection data General

| | |
|---|---|
| Torque range | 0.5 Nm ... 0.6 Nm |
| Nominal cross section | 2.5 mm ² |
| Rated cross section AWG | 14 |
| Connection capacity rigid | 0.2 mm ² ... 4 mm ² |
| Connection capacity AWG | 24 ... 12 |
| Connection capacity flexible | 0.2 mm ² ... 2.5 mm ² |
| Connection capacity AWG | 24 ... 14 |
| 2 conductors with same cross section, solid | 0.2 mm ² ... 1.5 mm ² |
| 2 conductors with the same cross-section AWG rigid | 24 ... 16 |
| 2 conductors with same cross section, stranded | 0.2 mm ² ... 1.5 mm ² |
| 2 conductors with the same cross-section AWG flexible | 24 ... 16 |
| output | (Permanent) |

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Ex level Level 1

| | |
|--------------------|-------------|
| Contact resistance | 0.5 mΩ |
| output | (Permanent) |

Ex level Level 2

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

Dimensions

| | |
|--------------------|---------|
| Width | 5.2 mm |
| End cover width | 2.5 mm |
| Height | 62 mm |
| Depth on NS 15 | 47.5 mm |
| Depth on NS 35/7,5 | 48 mm |
| Depth on NS 35/15 | 55.5 mm |

Material specifications

| | |
|--|-----------------|
| Color | gray (RAL 7042) |
| Flammability rating according to UL 94 | V2 |
| Insulating material group | I |
| Insulating material | PA |
| Static insulating material application in cold | -40 °C |
| Relative insulation material temperature index (Elec., UL 746 B) | 125 °C |

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 ² | 0.3 kA |
| | 0.3 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 35/NS 15 |
| 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 | 0.25 mm ² / 0.2 kg |
| | 2.5 mm ² / 0.7 kg |
| | 4 mm ² / 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):2018-05 |
| 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 ²) ² /Hz |
| Acceleration | 3.12g |
| Test duration per axis | 5 h |
| Test directions | X-, Y- and Z-axis |
| Result | Test passed |

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.) |
| Result | Test passed |

Ambient conditions

| | |
|---|--|
| Ambient temperature (operation) | -40 °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 |

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

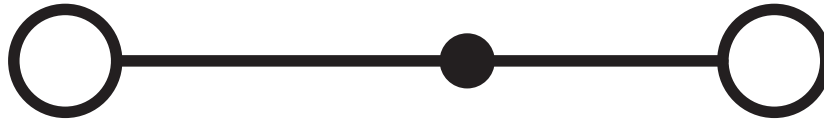
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Drawings

Circuit diagram



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Approvals


To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1414064>

|  CSA Approval ID: 13631 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | | | | |
| | 300 V | 20 A | 28 - 12 | - |

|  cULus Recognized Approval ID: E60425 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| B | | | | |
| | 300 V | 20 A | 30 - 12 | - |
| C | | | | |
| | 300 V | 20 A | 30 - 12 | - |

| DNV Approval ID: TAE00001CT | | | | |
|---------------------------------------|--|--|--|--|
|---------------------------------------|--|--|--|--|

|  ATEX Approval ID: KEMA 03ATEX2082 U | | | | |
|---|--|--|--|--|
|---|--|--|--|--|

|  EAC Ex Approval ID: KZ 7500525010101950 | | | | |
|---|--|--|--|--|
|---|--|--|--|--|

|  IECEX Approval ID: IECEX KEM 07.0018U | | | | |
|---|--|--|--|--|
|---|--|--|--|--|

|  CCC Approval ID: 2020322313000629 | | | | |
|---|--|--|--|--|
|---|--|--|--|--|

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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 | 7970fac1-2a1e-40ad-b860-1332a1d893e2 |

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