# MTKD-CU/CUNI EX - Thermoelectric voltage terminal block pair

3100060

https://www.phoenixcontact.com/us/products/3100060

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Thermoelectric voltage terminal block pair, TC type T, nom. voltage: 400 V, nominal current: 1 A, number of connections: 4, number of positions: 2, connection method: Screw connection, 1 level, cross section: 0.2 mm$^2$ - 4 mm$^2$, mounting type: NS 35/7,5, NS 35/15, NS 32, color: gray

## Your advantages

- These special terminal blocks are used to extend thermocouple equalizing conductors in corresponding measuring circuits
- The equalizing conductors are made from materials which, up to temperatures of 200°C, have the same thermal characteristics as the corresponding thermocouples

## Commercial data

| | |
|---|---|
| Item number | 3100060 |
| Packing unit | 50 pc |
| Minimum order quantity | 50 pc |
| Sales key | BE12 |
| Product key | BE1211 |
| GTIN | 4046356678124 |
| Weight per piece (including packing) | 16.354 g |
| Weight per piece (excluding packing) | 16.354 g |
| Customs tariff number | 85369010 |
| Country of origin | PL |

## Technical data

### Product properties

| | |
|---|---|
| Product type | Feed-through terminal block |
| Product family | MTK |
| Number of positions | 2 |
| Number of connections | 4 |
| Number of rows | 1 |
| Potentials | 1 |

### Electrical properties

| | |
|---|---|
| Maximum power dissipation for nominal condition | 0.77 W |

### Connection data

| | |
|---|---|
| Number of connections per level | 4 |
| Nominal cross section | 2.5 mm² |

1 level

| | |
|---|---|
| Connection method | Screw connection |
| Screw thread | M3 |
| Tightening torque | 0.6 ... 0.8 Nm |
| Stripping length | 7 mm |
| Internal cylindrical gage | A3 |
| Connection in acc. with standard | IEC 60947-7-1 |
| Conductor cross-section rigid | 0.2 mm² ... 4 mm² |
| Cross section AWG | 24 ... 12 (converted acc. to IEC) |
| Conductor cross-section flexible | 0.2 mm² ... 2.5 mm² |
| Conductor cross-section, flexible [AWG] | 24 ... 14 (converted acc. to IEC) |
| Conductor cross-section flexible (ferrule without plastic sleeve) | 0.2 mm² ... 1.5 mm² |
| Flexible conductor cross-section (ferrule with plastic sleeve) | 0.2 mm² ... 1.5 mm² |
| Nominal current | 1 A |
| Maximum load current | 1 A (with 4 mm² conductor cross-section) |
| Nominal voltage | 400 V (Voltage to the neighboring feed-through terminal block MTK.) |

### Ex data

Rated data (ATEX/IECEx)

| | |
|---|---|
| Identification | Ⓔx II 2 G Ex eb IIC Gb |
| Operating temperature range | -50 °C ... 110 °C |
| Ex-certified accessories | 3101029 D-MTK |
| | 3101223 ATS-MTK |
| | 1205066 SZS 1,0X4,0 VDE |

| | |
|---|---|
| | 1201442 E/UK |
| Ex temperature increase | 5 K (1.1 A / 1 mm²) |
| Rated insulation voltage | 250 V |
| output | (Permanent) |

Ex level General

| | |
|---|---|
| Rated voltage | 275 V |
| Maximum load current | 1 A |
| Contact resistance | 11 mΩ |

Ex connection data General

| | |
|---|---|
| Torque range | 0.6 Nm ... 0.8 Nm |
| Nominal cross section | 1 mm² |
| Rated cross section AWG | 16 |
| Connection capacity rigid | 0.2 mm² ... 4 mm² |
| Connection capacity AWG | 24 ... 12 |
| Connection capacity flexible | 0.2 mm² ... 2.5 mm² |
| Connection capacity AWG | 24 ... 14 |

## Dimensions

| | |
|---|---|
| Width | 10.4 mm |
| End cover width | 1 mm |
| Height | 46.2 mm |
| Depth on NS 32 | 44.9 mm |
| Depth on NS 35/7,5 | 39.9 mm |
| Depth on NS 35/15 | 47.4 mm |

## Material specifications

| | |
|---|---|
| Color | gray (RAL 7042) |
| Flammability rating according to UL 94 | V0 |
| 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 |

## Mechanical properties

Mechanical data

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

## Environmental and real-life conditions

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 |
| | NS 32 |

## Drawings

Circuit diagram



## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/3100060

**cULus Recognized**
Approval ID: E60425

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| B | | | | |
| | 250 V | 10 A | 28 - 12 | - |
| D | | | | |
| | 300 V | 10 A | 28 - 12 | - |

**EAC Ex**
Approval ID: RU C-DE.Ax07.B.03227

**IECEx**
Approval ID: IECExSEV19.0061U

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| keine | | | | |
| | 275 V | 1 A | - | 0.2 - 4 |
| Only flexible conductors | 275 V | 1 A | - | 0.2 - 2.5 |

**ATEX**
Approval ID: SEV19ATEX0335U

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| keine | | | | |
| | 275 V | 1 A | - | 0.2 - 4 |
| Only flexible conductors | 275 V | 1 A | - | 0.2 - 2.5 |

**UKCA-EX**
Approval ID: CML 22UKEX1229U

**EAC Ex**
Approval ID: KZ 7500525010101950

**CCC**
Approval ID: 2020322313000629

## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-13.0 | 27250115 |
| ECLASS-15.0 | 27250115 |

### ETIM

| | |
|---|---|
| ETIM 10.0 | EC000904 |

### UNSPSC

| | |
|---|---|
| UNSPSC 21.0 | 39121400 |

## Environmental product compliance

EU RoHS

| | |
|---|---|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |

China RoHS

| | |
|---|---|
| Environment friendly use period (EFUP) | EFUP-E |
| | No hazardous substances above the limits |

EU REACH SVHC

| | |
|---|---|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |


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