

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



3100047

<https://www.phoenixcontact.com/us/products/3100047>

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Thermoelectric voltage terminal block pair, TC type J, 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<sup>2</sup> - 4 mm<sup>2</sup>, mounting type: NS 35/7,5, NS 35/15, NS 32, color: gray

The figure shows version  
MTKD-CU/CUNI

## 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	3100047
Packing unit	50 pc
Minimum order quantity	50 pc
Sales key	BE12
Product key	BE1211
GTIN	4046356678148
Weight per piece (including packing)	16.41 g
Weight per piece (excluding packing)	16.41 g
Customs tariff number	85369010
Country of origin	PL

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## 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
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### Connection data

Number of connections per level	4
Nominal cross section	2.5 mm <sup>2</sup>

#### 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 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> ... 2.5 mm <sup>2</sup>
Conductor cross-section, flexible [AWG]	24 ... 14 (converted acc. to IEC)
Conductor cross-section flexible (ferrule without plastic sleeve)	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Flexible conductor cross-section (ferrule with plastic sleeve)	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Nominal current	1 A
Maximum load current	1 A (with 4 mm <sup>2</sup> conductor cross-section)
Nominal voltage	400 V (Voltage to the neighboring feed-through terminal block MTK.)

### Ex data

#### Rated data (ATEX/IECEx)

Identification	⊕ 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

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	1201442 E/UK
Ex temperature increase	5 K (1.1 A / 1 mm <sup>2</sup> )
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 mm <sup>2</sup>
Rated cross section AWG	16
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

## 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

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## Mechanical properties

### Mechanical data

Open side panel	Yes
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## 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
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## Mounting

Mounting type	NS 35/7,5
	NS 35/15
	NS 32

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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/3100047>

 <b>cULus Recognized</b> 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	-

 <b>EAC Ex</b> Approval ID: RU C-DE.Ax07.B.03227				
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 <b>IEC Ex</b> 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

 <b>ATEX</b> 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

 <b>UKCA-EX</b> Approval ID: CML 22UKEX1229U				
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 <b>EAC Ex</b> Approval ID: KZ 7500525010101950				
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 <b>CCC</b> Approval ID: 2020322313000629				
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## Classifications

### ECLASS

ECLASS-13.0	27250115
ECLASS-15.0	27250115

### ETIM

ETIM 10.0	EC000904
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### UNSPSC

UNSPSC 21.0	39121400
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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### 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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### EF3.1 Climate Change

CO2e kg	0.093 kg CO2e
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