MINI MCR-SL-TC-UI-NC - Thermocouple measuring transducer

2864299

https://www.phoenixcontact.com/us/products/2864299

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MCR temperature transducer for thermocouples, can be configured via DIP switches, with screw connection, standard configuration

Product description

The configurable temperature transducer with 3-way isolation is suitable for the connection of thermocouples.
The measured values are converted into a linear current or voltage signal.
The device can either be configured via DIP switches or, with extended functionality, via the S-PORT using the software (FDT/DTM). The measuring transducer supports fault monitoring.

Your advantages

- Power supply possible via the foot element (TBUS)
- For J and K thermocouples according to IEC 60584
- Error indication via diagnostic LED and analog signal
- Temperature measuring range of -150°C to +1350°C
- Highly-compact temperature transducer for electrical isolation, conversion, amplification, and filtering of thermocouple signals to create standard signals
- Internal cold junction compensation
- Input and output signals can be configured via DIP switches
- 3-way isolation

Commercial data

Item number	2864299
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	C403
Product key	DK1135
GTIN	4017918956554
Weight per piece (including packing)	88.9 g
Weight per piece (excluding packing)	69.4 g
Customs tariff number	85437090
Country of origin	DE

Technical data

Notes

Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area

Product properties

Product type	Temperature transmitter
Product family	MINI Analog
No. of channels	1

Insulation characteristics

Overvoltage category	II
Pollution degree	2

Electrical properties

Rated insulation voltage	50 V AC/DC
Electrical isolation	Basic insulation in accordance with EN 61010
Typical cold point errors	< 2 K
Cold point error, max.	< 3 K
Maximum power dissipation for nominal condition	235.5 mW
Test voltage, input/output/supply	1.5 kV AC (50 Hz, 60 s)
Protective circuit	Transient protection
Step response (0–99%)	< 30 ms
Maximum temperature coefficient	< 0.02 %/K
Transmission error in the set measuring range	((150 K / set measurement range [K]) + 0.1)%
Transmission error in the full measuring range	≤ 0,2 %

Supply

Nominal supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (The DIN rail connector (ME 6,2 TBUS-2 1,5/5-ST-3,81 GN, item no. 2869728) can be used to bridge the supply voltage. It can be snapped onto a 35 mm DIN rail in accordance with EN 60715)
Max. current consumption	< 25 mA (at 24 V DC)
Power consumption	< 500 mW

Input data

Signal

Number of inputs	1
Input signal	Temperature

Measurement

Sensor types that can be used (TC)	Thermocouples type J, K (IEC 584-1)
Temperature measuring range	min. 50 K
:	-150 °C ... 1200 °C (configurable)
	-150 °C ... 1350 °C

Output data

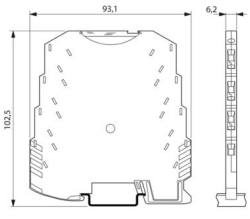
Signal

Number of outputs	1
Voltage output signal	0 V ... 10 V
	10 V ... 0 V
	0 V ... 5 V
	1 V ... 5 V
Max. voltage output signal	12.5 V
Non-load voltage	approx. 12.5 V
Current output signal	0 mA ... 20 mA
	4 mA ... 20 mA
	20 mA ... 0 mA
	20 mA ... 4 mA
Max. current output signal	23 mA
Short-circuit current	approx. 10 mA
Load/output load voltage output	≥ 10 kΩ
Load/output load current output	< 500 Ω (at 20 mA)
Ripple	< 20 mV_{PP} (at 500 Ω)
	< 20 mV_{PP} (at 10 kΩ)

Connection data

Connection method	Screw connection
Stripping length	12 mm
Screw thread	M3
Conductor cross section rigid	0.2 mm² ... 2.5 mm²
Conductor cross section flexible	0.2 mm² ... 2.5 mm²
Conductor cross section AWG	26 ... 12

Dimensions

Dimensional drawing	
Width	6.2 mm
Height	93.1 mm

Depth	102.5 mm

Material specifications

Color	green (RAL 6021)
Housing material	PBT
Fire protection for rail vehicles (DIN EN 45545-2) R22	HL 1 - HL 2
Fire protection for rail vehicles (DIN EN 45545-2) R23	HL 1 - HL 2
Fire protection for rail vehicles (DIN EN 45545-2) R24	HL 1 - HL 2

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-20 °C ... 65 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C

Approvals

CE

Certificate	CE-compliant

ATEX

Identification	Ⓔx II 3 G Ex nA IIC T4 Gc X

UL, USA/Canada

Identification	UL 508 Recognized
	Class I, Div. 2, Groups A, B, C, D T5

GL

Identification	GL EMC 2 D

EMC data

Electromagnetic compatibility	Conformance with EMC directive
Noise immunity	EN 61000-6-2
Note	When being exposed to interference, there may be minimal deviations.

Noise emission

Standards/regulations	EN 61000-6-4

Electrostatic discharge

Standards/regulations	EN 61000-4-2

Electrostatic discharge

Comments	Safety measures must be taken to prevent electrostatic discharge.

Electromagnetic HF field

Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
Typical deviation from the measuring range final value	10 %

Fast transients (burst)

Designation	Fast transients (burst)
Standards/regulations	EN 61000-4-4
Typical deviation from the measuring range final value	10 %

Surge current load (surge)

Standards/regulations	EN 61000-4-5

Surge current load (surge)

Comments	Criterion B

Conducted interference

Designation	Conducted interferences
Standards/regulations	EN 61000-4-6
Typical deviation from the measuring range final value	10 %

Standards and regulations

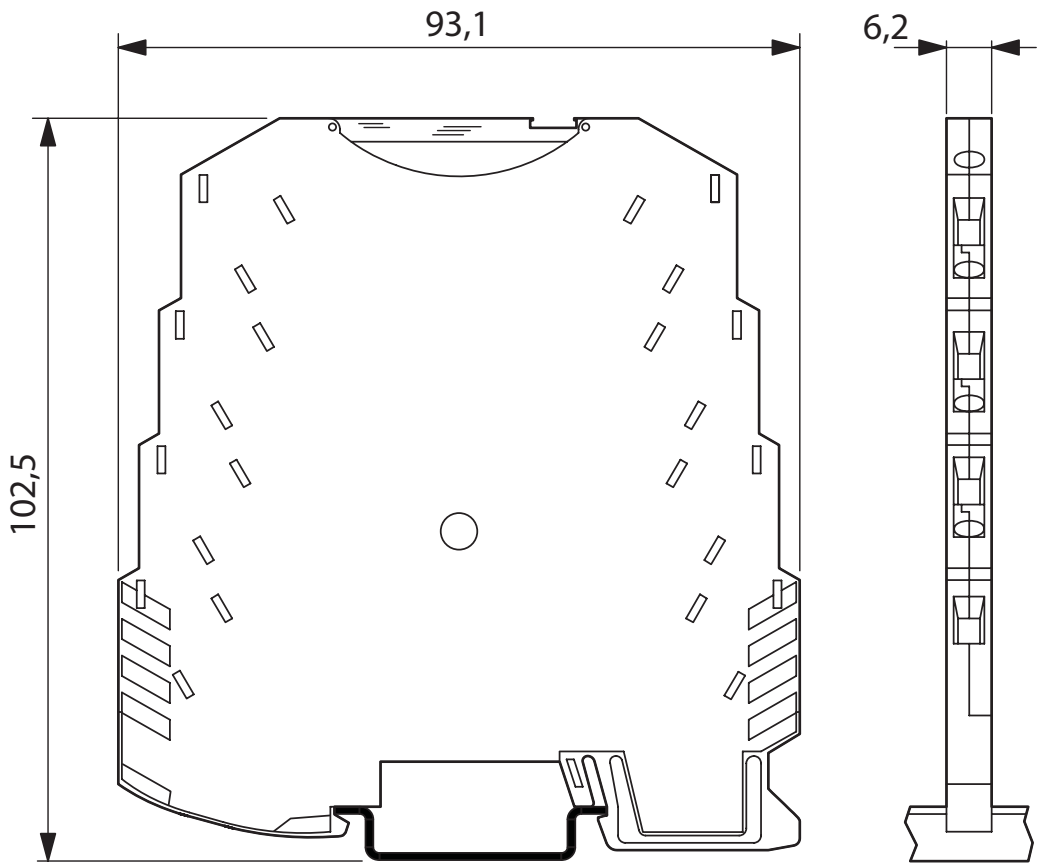
Electrical isolation	Basic insulation in accordance with EN 61010

Mounting

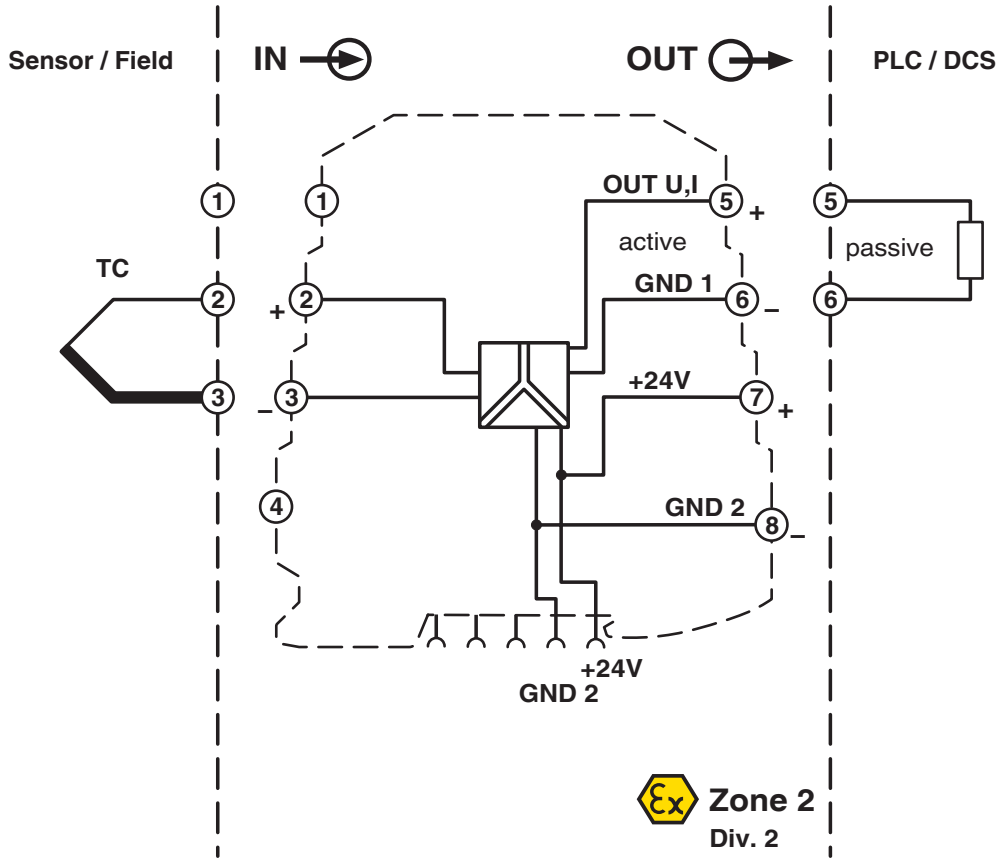
Mounting type	DIN rail mounting
Assembly note	The DIN rail connector can be used for bridging the supply voltage. It can be snapped onto a 35 mm EN 60715 DIN rail.
Mounting position	any

Drawings

Dimensional drawing



Block diagram



Environmental product compliance

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.)	No substance above 0.1 wt%

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