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

2864299

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

Please be informed that the data shown in this PDF document is generated from our Online Catalog. Please find the complete data in the user documentation. Our General Terms of Use for Downloads are valid.



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
Minimum order quantity	1 pc
Note	Made to Order (non-returnable)
Sales Key	C01
Product Key	CK1221
Catalog Page	Page 108 (C-7-2015)
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
No. of channels	1

Insulation characteristics

Overvoltage category	II
Pollution degree	2

Electrical properties

No. of channels	1
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
Sensor type:	-150 °C ... 1200 °C (configurable)
	-150 °C ... 1350 °C

Output data

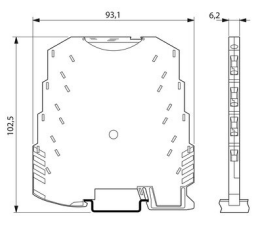
Signal:

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 solid	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

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
Housing material	PBT

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

Approval data

CE

Certificate	CE-compliant

ATEX

Identification	☐ 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 emission	EN 61000-6-4
Noise immunity	EN 61000-6-2
Note	When being exposed to interference, there may be minimal deviations.

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

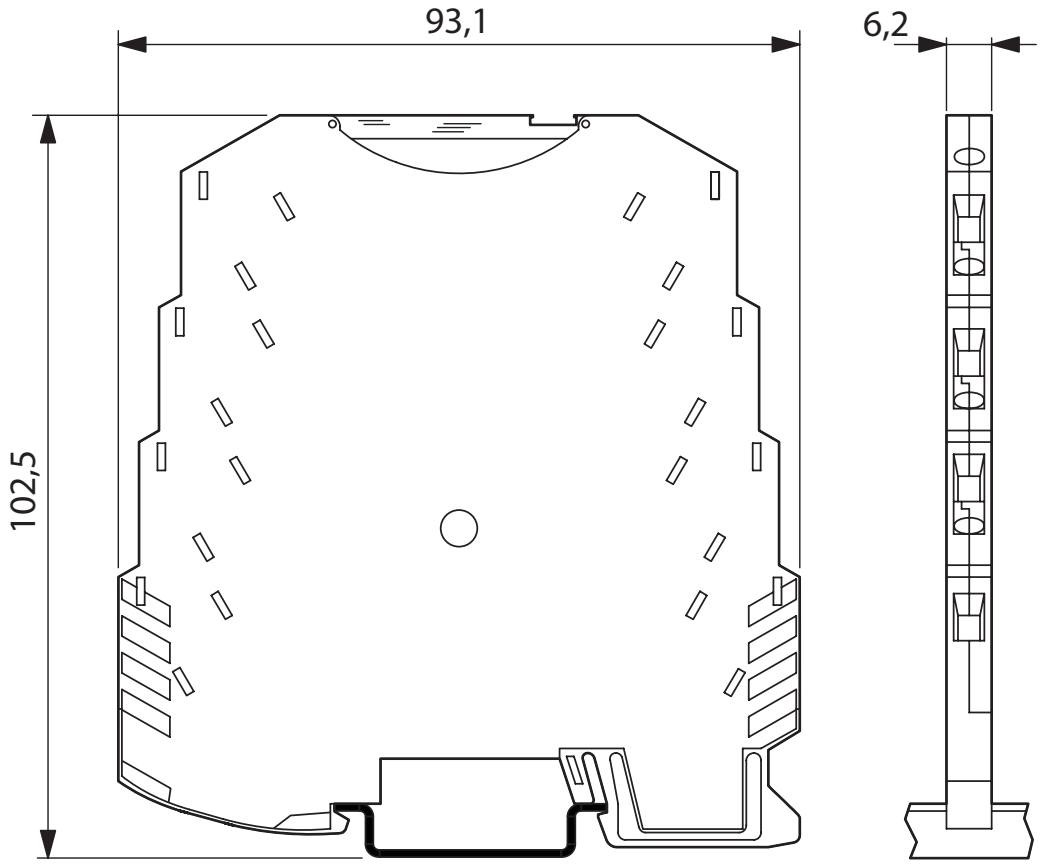
Electrical isolation	Basic insulation in accordance with EN 61010

Mounting

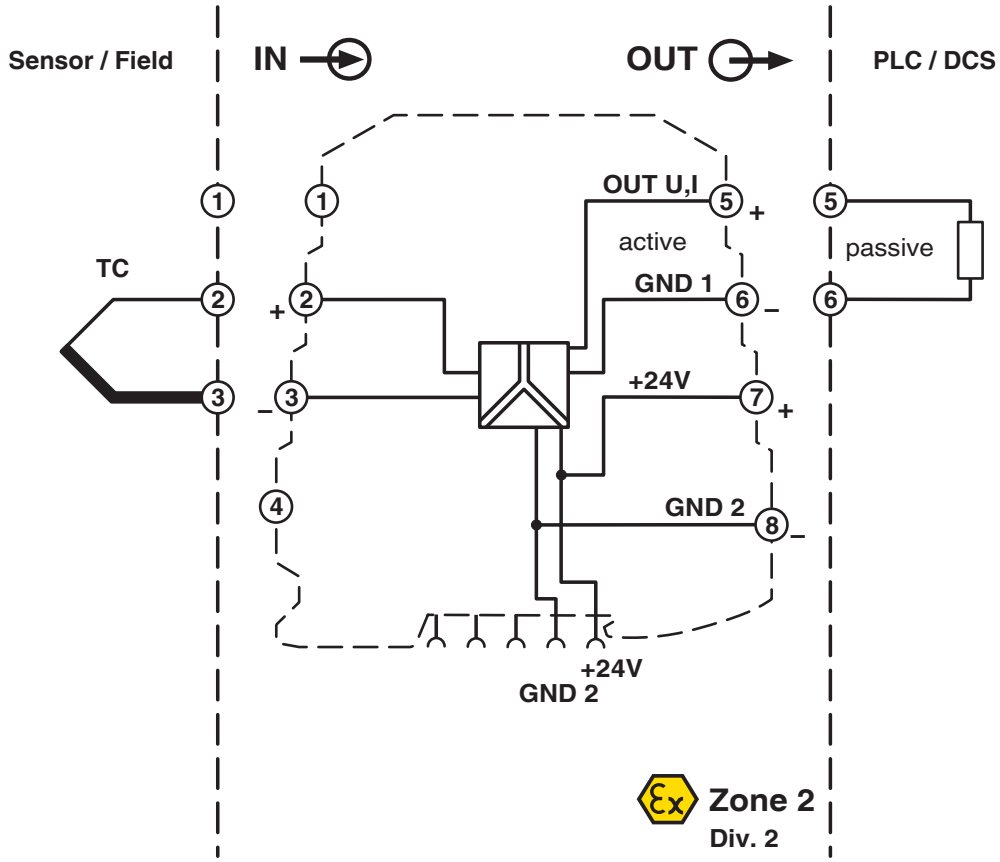
Mounting type	DIN rail mounting
Assembly instructions	The DIN rail connector can be used for bridging the supply voltage. It can be snapped onto a 35 mm EN 60715 DIN rail.
Mounting position	any

Drawings

Dimensional drawing



Block diagram



Classifications

ECLASS

ECLASS-9.0	27210129
ECLASS-10.0.1	27210129
ECLASS-11.0	27210129

Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer’s declaration available under “Downloads”

Accessories

Programming adapter

Programming adapter - IFS-USB-PROG-ADAPTER - 2811271

https://www.phoenixcontact.com/us/products/2811271



Programming adapter with USB interface, for programming with software. The USB driver is included in the software solutions for the products to be programmed, such as measuring transducers or motor managers.

Power terminal block

Power terminal block - MINI MCR-SL-PTB-FM - 2902958

https://www.phoenixcontact.com/us/products/2902958



The MINI MCR-SL-PTB-FM(-SP) power terminal block is used to supply the supply voltage to the DIN rail connector. The FM power terminal block offers the additional function of monitoring in combination with the fault monitoring module. Screw connection.

Monitoring module

Monitoring module - MINI MCR-SL-FM-RC-NC - 2902961

https://www.phoenixcontact.com/us/products/2902961

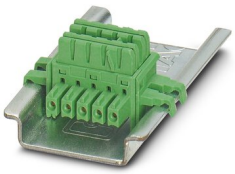


The fault monitoring module is used to evaluate and report group errors from the fault monitoring system and to monitor the supply voltages. The error is reported via an N/O contact. Screw connection, standard configuration.

DIN rail bus connectors

DIN rail bus connectors - ME 6,2 TBUS-2 1,5/5-ST-3,81 GN - 2869728

https://www.phoenixcontact.com/us/products/2869728



DIN rail connector for DIN rail mounting. Universal for TBUS housing. Gold-plated contacts, 5-pos.

Power supply unit

Power supply unit - MINI-SYS-PS-100-240AC/24DC/1.5 - 2866983

https://www.phoenixcontact.com/us/products/2866983



Please use the following item in new systems: 2904614
Primary-switched MINI POWER power supply for DIN rail mounting, input: 1-phase, output: 24 V DC/1.5 A

Transparent cover

Transparent cover - MINI MCR DKL - 2308111

https://www.phoenixcontact.com/us/products/2308111



Fold up transparent cover for MINI MCR modules with additional labeling option using insert strips and flat Zack marker strip 6.2 mm

Marking label

Marking label - MINI MCR-DKL-LABEL - 2810272

https://www.phoenixcontact.com/us/products/2810272

Label for extended marking of MINI MCR modules in connection with the MINI MCR-DKL



Phoenix Contact 2022 © - all rights reserved
https://www.phoenixcontact.com

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com