

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

2864448

<https://www.phoenixcontact.com/in/products/2864448>

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

Product Description

The narrow, 6.2 mm wide MINI MCR-SL-TC-UI... is a configurable, 3-way isolated temperature transducer. It is suitable for the connection of thermocouple types J and K in accordance with IEC 60584-1.

Electrically isolated 0 ... 20 mA, 4 ... 20 mA, 0 ... 10 V, 0 ... 5 V, 1 ... 5 V, 10 ... 0 V, 20 ... 0 mA, or 20 ... 4 mA standard analog signals are available on the output side.

The DIP switches, which can be accessed on the side of the housing, are used to configure the following parameters:

- Sensor type
- Temperature range to be measured
- Cold junction compensation on/off
- Output signal
- Type of error evaluation

Power (19.2 V DC to 30 V DC) can either be supplied via the connection terminal blocks of the modules or in conjunction with the DIN rail connector.

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
- Internal cold junction compensation
- Highly-compact temperature transducer for electrical isolation, conversion, amplification, and filtering of thermocouple signals to create standard signals
- Temperature measuring range of -150°C to +1350°C
- Input and output signals can be configured via DIP switches
- 3-way isolation

Commercial Data

Item number	2864448
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to Order (non-returnable)
Product Key	CK1221
Catalog Page	Page 108 (C-7-2015)
GTIN	4017918974862
Weight per Piece (including packing)	90.3 g

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Weight per Piece (excluding packing)	40 g
Country of origin	DE

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Technical Data

Notes

Utilization restriction

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

Product type	Temperature transmitter
Product family	MINI Analog
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
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	$((150 \text{ K} / \text{set measurement range [K]} + 0.1)\%$
Transmission error in the full measuring range	$\leq 0,2 \%$

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)
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Temperature measuring range	min. 50 K
Sensor type:	-150 °C ... 1200 °C (configurable)
	-150 °C ... 1350 °C

Output data

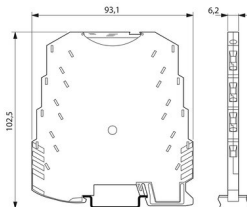
Signal

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	approx. 12.5 V
Non-load voltage	approx. 12.5 V
Current output signal	0 mA ... 20 mA (please indicate if different setting when ordering)
	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	$\geq 10 \text{ k}\Omega$
Load/output load current output	$< 500 \Omega$ (at 20 mA)
Ripple	$< 20 \text{ mV}_{PP}$ (at 500 Ω)
	$< 20 \text{ mV}_{PP}$ (at 10 k Ω)

Connection data

Connection method	Screw connection
Stripping length	12 mm
Screw thread	M3
Conductor cross section rigid	0.2 mm ² ... 2.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section AWG	26 ... 12

Dimensions

Dimensional drawing	
Width	6.2 mm
Height	93.1 mm
Depth	102.5 mm

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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

Approvals

CE

Certificate	CE-compliant
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ATEX

Identification	<input type="checkbox"/> II 3 G Ex nA IIC T4 Gc X
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UL, USA/Canada

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

GL

Identification	GL EMC 2 D
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EMC data

Noise immunity	EN 61000-6-2
Note	When being exposed to interference, there may be minimal deviations.
Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4

Electrostatic discharge

Standards/regulations	EN 61000-4-2
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Electrostatic discharge

Comments	Safety measures must be taken to prevent electrostatic discharge.
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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)

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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
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Surge current load (surge)

Comments	Criterion B
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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
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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

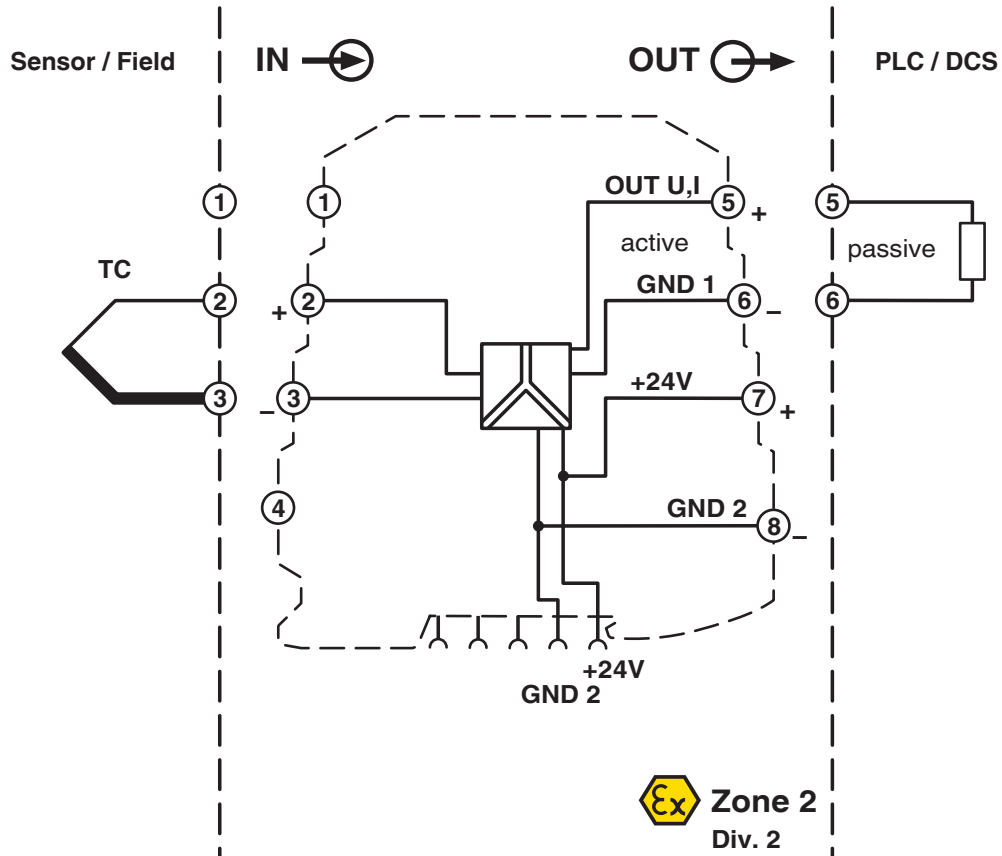
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Drawings

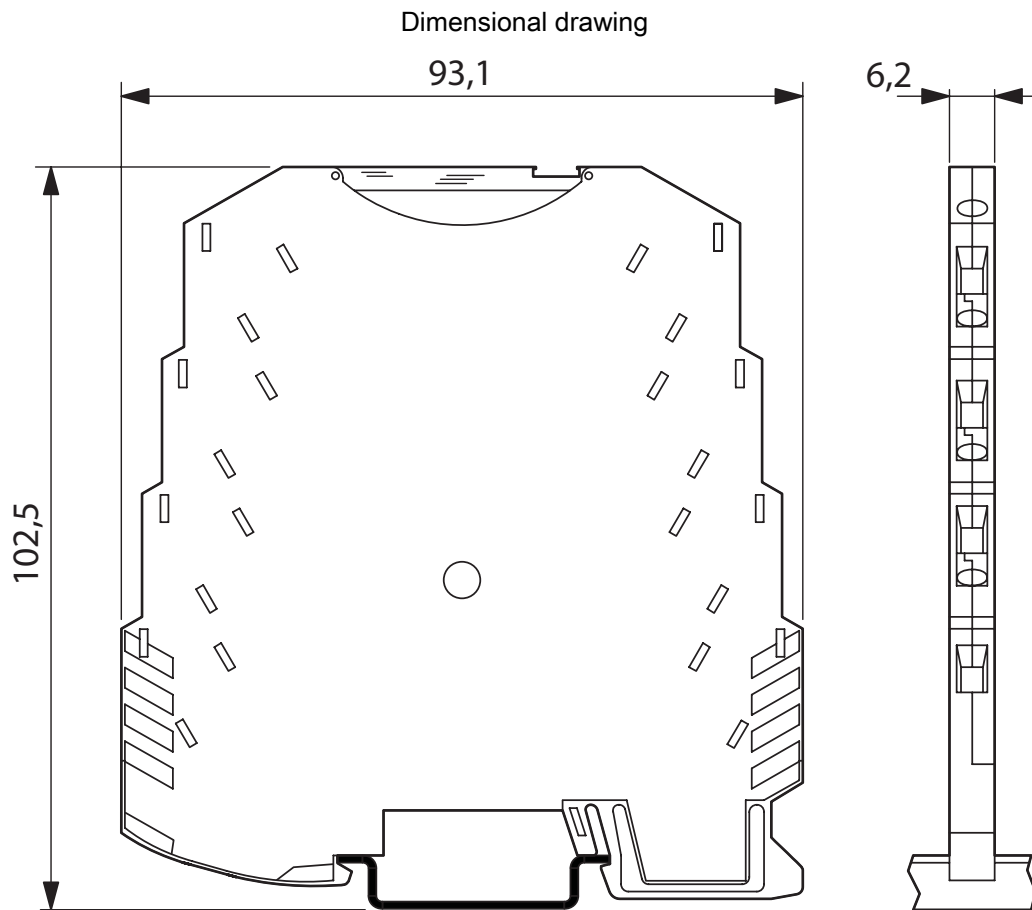
Block diagram



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Classifications

ECLASS

ECLASS-11.0	27210129
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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"

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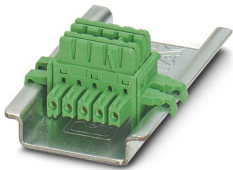
Accessories

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

2869728

<https://www.phoenixcontact.com/in/products/2869728>

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



MINI MCR-SL-PTB - Power terminal block

2864134

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MCR power terminal block for supplying several MINI Analog modules via the DIN rail connector, with screw connection, maximum current consumption of up to 2 A



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

2866983

<https://www.phoenixcontact.com/in/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

MINI MCR DKL - Transparent cover

2308111

<https://www.phoenixcontact.com/in/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

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MINI MCR-DKL-LABEL - Marking label

2810272

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



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