

# Resistance thermometer measuring transducer - MINI MCR-2-RTD-UI - 2902049

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Configurable temperature transducer with plug-in connection technology for connecting 2, 3, and 4-conductor resistance thermometers and resistance-type sensors. Configurable via DIP switch or software. Screw connection technology, standard configuration

Figure shows MINI MCR-2-RTD-UI-PT version

## Product description

Configurable, 3-way isolated temperature transducer with plug-in connection technology. The device is suitable for the connection of resistance thermometers and remote resistance-type sensors with 2, 3, and 4-conductor connection technology. The measured values are converted into a linear and freely adjustable current or voltage signal. You can configure the device using one of the free software solutions. Default settings can also be made directly on the device by simply using the DIP switches (see configuration table). The measuring transducer supports fault monitoring and NFC communication.



## Key commercial data

Packing unit	1 pc
Weight per Piece (excluding packing)	100.0 GRM
Custom tariff number	85437090
Country of origin	Germany

## Technical data

### Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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### Dimensions

Width	6.2 mm
Height	110.5 mm
Depth	120.5 mm

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## Technical data

### Ambient conditions

Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Degree of protection	IP20

### Input data

Configurable/programmable	Yes
Sensor types (RTD) that can be used	Pt, Ni, Cu sensors
Linear resistance measuring range	0 $\Omega$ ... 4000 $\Omega$ (Minimum measuring span: 10% of the selected measuring range)
Sensor input current	approx. 200 $\mu$ A
Temperature measuring range	-200 °C ... 850 °C (Range depends on sensor type, range can be set freely via software or in increments from -150°C to 850°C via DIP switches)
Connection method	2, 3, 4-wire

### Output data

Number of inputs	1
Configurable/programmable	Yes
Voltage output signal	0 V ... 5 V (via DIP switch)
	1 V ... 5 V (via DIP switch)
	0 V ... 10 V (via DIP switch)
	10 V ... 0 V (via DIP switch)
	0 V ... 10.5 V (Can be set via software)
Current output signal	0 mA ... 20 mA (via DIP switch)
	4 mA ... 20 mA (via DIP switch)
	20 mA ... 0 mA (via DIP switch)
	20 mA ... 4 mA (via DIP switch)
	0 mA ... 21 mA (Can be set via software)
Max. output voltage	approx. 12.3 V
Max. output current	24.6 mA
Short-circuit current	< 31.5 mA
Load/output load voltage output	$\geq$ 10 k $\Omega$
Load/output load current output	$\leq$ 600 $\Omega$ (at 20 mA)

### Power supply

Supply voltage range	9.6 V DC ... 30 V DC (The DIN rail bus connector (ME 6,2 TBUS-2 1,5/5-ST-3,81 GN, Order No. 2869728) can be used to bridge the supply voltage. It can be snapped onto a 35 mm DIN rail according to EN 60715))
Typical current consumption	32 mA (24 V DC)
	63 mA (12 V DC)

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## Technical data

### Power supply

Power consumption	$\leq 850 \text{ mW}$ (at $I_{OUT} = 20 \text{ mA}$ , $9.6 \text{ V DC}$ , $600 \Omega$ load)
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### Connection data

Connection method	Screw connection
Single conductor/terminal point, solid, with ferrule, min.	$0.2 \text{ mm}^2$
Single conductor/terminal point, solid, with ferrule, max.	$1.5 \text{ mm}^2$
Single conductor/terminal point, solid, without ferrule, min.	$0.2 \text{ mm}^2$
Single conductor/terminal point, solid, without ferrule, max.	$2.5 \text{ mm}^2$
Conductor cross section flexible min.	$0.2 \text{ mm}^2$
Conductor cross section flexible max.	$1.5 \text{ mm}^2$
Min. AWG conductor cross section, flexible	24
Max. AWG conductor cross section, flexible	12
Stripping length	10 mm
Screw thread	M3

### General

Maximum temperature coefficient	0.01 %/K
Protective circuit	Transient protection
Electrical isolation	Reinforced insulation in accordance with IEC 61010-1
Surge voltage category	II
Pollution degree	2
Rated insulation voltage	300 V
Test voltage, input/output/supply	3 kV (50 Hz, 1 min.)
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2 When being exposed to interference, there may be minimal deviations.
Housing material	PBT
Mounting position	any
Assembly instructions	The T connector can be used to bridge the supply voltage. It can be snapped onto a 35 mm DIN rail according to EN 60715.
Conformance	CE-compliant
ATEX	# II 3 G Ex nA IIC T4 Gc X
UL, USA / Canada	UL 508 Listed
	Class I, Div. 2, Groups A, B, C, D T6
	Class I, Zone 2, Group IIC T6

### EMC data

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## Technical data

### EMC data

Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
Typical deviation from the measuring range final value	0.06 %
Designation	Fast transients (burst)
Standards/regulations	EN 61000-4-4
Typical deviation from the measuring range final value	0.1 %
Designation	Conducted interferences
Standards/regulations	EN 61000-4-6
Typical deviation from the measuring range final value	0.07 %

## Classifications

### eCl@ss

eCl@ss 4.0	27210120
eCl@ss 4.1	27210120
eCl@ss 5.0	27210120
eCl@ss 5.1	27210120
eCl@ss 6.0	27210120
eCl@ss 7.0	27210120
eCl@ss 8.0	27371503

### ETIM

ETIM 3.0	EC001485
ETIM 4.0	EC001485
ETIM 5.0	EC002568

### UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008
UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	39121008

## Approvals

### Approvals

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## Approvals

### Approvals

UL Listed / cUL Listed / GL / cULus Listed

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### Ex Approvals

ATEX / UL Listed / cUL Listed / cULus Listed

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### Approvals submitted

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## Approval details

UL Listed 

cUL Listed 

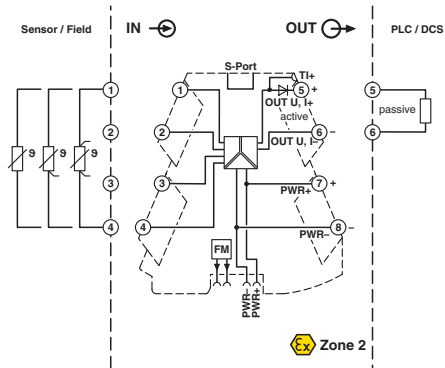
GL

cULus Listed 

## Drawings

## Resistance thermometer measuring transducer - MINI MCR-2-RTD-UI - 2902049

Block diagram



Pictogram

