

Resistance thermometer measuring transducer - MINI MCR-RTD-UI-NC - 2902849

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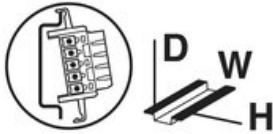
Configurable temperature transducer for the connection of 2, 3, and 4-conductor resistance thermometers and resistance-type sensors. Can be configured via DIP switches or, with extended functionality, using the software. Screw connection, standard configuration.

Product Description


The configurable temperature transducer with 3-way isolation 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 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.



Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 689205
GTIN	4046356689205
Weight per Piece (excluding packing)	93.700 g
Custom tariff number	85437090
Country of origin	Germany
Sales Key	CK1221

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	93.1 mm
Depth	101.2 mm

Ambient conditions

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Technical data

Ambient conditions

Ambient temperature (operation)	-20 °C ... 65 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Maximum altitude	≤ 2000 m
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Degree of protection	IP20
Noise immunity	EN 61000-6-2 When being exposed to interference, there may be minimal deviations.

Input data

Configurable/programmable	Yes
Sensor types (RTD) that can be used	Pt, Ni, Cu sensors
Linear resistance measuring range	0 Ω ... 4000 Ω (Minimum measuring span: 10% of the selected measuring range)
Sensor input current	approx. 200 μA
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 technology	2-, 3-, 4-conductor

Output data

Output name	Voltage output / current output
Number of outputs	1
Configurable/programmable	Yes
Voltage output signal	0 V ... 10 V 10 V ... 0 V 0 V ... 5 V 1 V ... 5 V
Current output signal	0 mA ... 20 mA 4 mA ... 20 mA 20 mA ... 0 mA 20 mA ... 4 mA
Max. output voltage	approx. 12.3 V
Max. output current	24.6 mA
Load/output load voltage output	10 kΩ
Load/output load current output	500 Ω (at 20 mA)
Ripple	< 20 mV _{PP} < 20 mV _{PP} (at 500 Ω)

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))
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Technical data

Power supply

Typical current consumption	< 27 mA (at 24 V DC)
Power consumption	≤ 700 mW (at I _{OUT} = 20 mA, 9.6 V DC, load 500 Ω)

Connection data

Connection method	Screw connection
Stripping length	12 mm
Screw thread	M3
Conductor cross section solid	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

General

Transmission error resistance thermometer	0.1 % * 350 K / set measuring range; 0.1 % > 350 K (Pt/Ni)
	0.3 % * 200 K / set measuring range; 0.3 % > 200 K (Cu)
Transmission error resistance-type sensor	2 Ω
Maximum temperature coefficient	0.01 %/K
Status display	LED red
Protective circuit	Transient protection
Electrical isolation	Basic insulation according to EN 61010
Overvoltage category	II
Degree of pollution	2
Rated insulation voltage	50 V AC/DC
Test voltage, input/output/supply	1.5 kV (50 Hz, 1 min.)
Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2 When being exposed to interference, there may be minimal deviations.
Color	green
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.
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

EMC data

Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
Typical deviation from the measuring range final value	0.04 %
Designation	Fast transients (burst)
Standards/regulations	EN 61000-4-4

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Technical data

EMC data

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	0.02 %

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4
Standards/regulations	EN 61000-4-2
Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
	EN 61000-4-4
	EN 61000-4-5
Designation	Conducted interferences
Standards/regulations	EN 61000-4-6
Electrical isolation	Basic insulation according to EN 61010

Conformance/approvals

Designation	CE
Certificate	CE-compliant
Designation	UKCA
Certificate	UKCA-compliant
Designation	UL, USA / Canada
Identification	UL 508 Listed
	Class I, Div. 2, Groups A, B, C, D T4
	Class I, Zone 2, Group IIC
Designation	Shipbuilding approval
Certificate	DNV GL TAA00002R0
Temperature	B
Humidity	B
Vibration	B
EMC	B
Enclosure	Required protection according to the Rules shall be provided upon installation on board

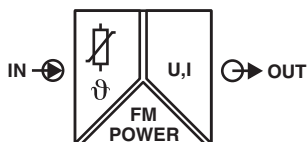
Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

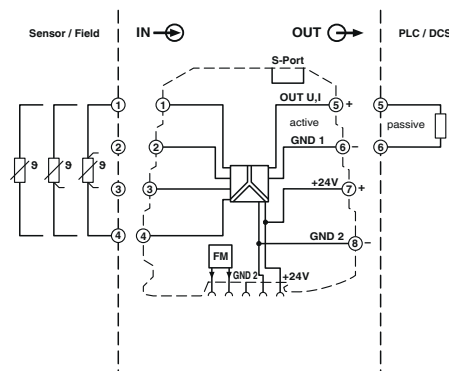
Drawings

Resistance thermometer measuring transducer - MINI MCR-RTD-UI-NC - 2902849

Pictogram



Block diagram



Classifications

eCl@ss

eCl@ss 10.0.1	27210129
eCl@ss 11.0	27210129
eCl@ss 4.0	27200200
eCl@ss 4.1	27200200
eCl@ss 5.0	27200200
eCl@ss 5.1	27200200
eCl@ss 6.0	27200200
eCl@ss 7.0	27200206
eCl@ss 9.0	27210129

ETIM

ETIM 2.0	EC001446
ETIM 3.0	EC001446
ETIM 4.0	EC001446
ETIM 6.0	EC002919
ETIM 7.0	EC002919

UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008
UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	41112105
UNSPSC 18.0	41112105
UNSPSC 19.0	41112105
UNSPSC 20.0	41112105

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Classifications

UNSPSC

UNSPSC 21.0	41112105
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Approvals

Approvals


Approvals

UL Listed / cUL Listed / DNV GL / cULus Listed

Ex Approvals


UL Listed / cUL Listed / cULus Listed

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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DNV GL		https://approvalfinder.dnvgl.com/	TAA00002R0
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cULus Listed			
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