

Thermocouple measuring transducer - MINI MCR-TC-UI-NC - 2902851

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Configurable temperature transducer for the connection of thermocouples. 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 thermocouples. 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 STK
GTIN	 4 046356 689229
GTIN	4046356689229
Weight per Piece (excluding packing)	114.700 g
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	93.1 mm
Depth	102.5 mm

Ambient conditions

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

Thermocouple measuring transducer - MINI MCR-TC-UI-NC - 2902851

Technical data

Ambient conditions

Degree of protection	IP20
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Input data

Configurable/programmable	Yes
Sensor types that can be used (TC)	B, E, J, K, N, R, S, T, L, U, A-1, A-2, A-3, M, L
Temperature measuring range	-250 °C ... 2500 °C (Range depends on sensor type, range can be set freely via software or in increments from -150°C to 1350°C via DIP switches)

Output data

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
Short-circuit current	< 31.5 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))
Max. current consumption	72 mA
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
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section AWG min.	26
Conductor cross section AWG max.	12
Conductor cross section flexible min.	0.2 mm ²

Thermocouple measuring transducer - MINI MCR-TC-UI-NC - 2902851

Technical data

Connection data

Conductor cross section flexible max.	2.5 mm ²
Stripping length	12 mm
Screw thread	M3

General

Transmission error thermocouples	0.1 % * 600 K / set measuring range; 0.1 % > 600 K (E, J, K, N, T, L, U, M Gost, L Gost)
	0.2 % * 600 K / set measuring range; 0.2 % > 600 K (B, R, S, A1, A2, A3)
	0.2% * 600 K / set measuring range; 0.2% > 600 K (E, J, K, N, T, L, U, M Gost, L Gost); Highspeed Mode
	0.4% * 600 K / set measuring range; 0.4% > 600 K (B, R, S, A1, A2, A3); Highspeed Mode
Maximum temperature coefficient	≤ 0.01 %/K
Cold point error, max.	< 3 K
Typical cold point errors	< 2 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
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 T4
	Class I, Zone 2, Group IIC
Certificate of classification	DNV GL 14085-15HH

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

Thermocouple measuring transducer - MINI MCR-TC-UI-NC - 2902851

Technical data

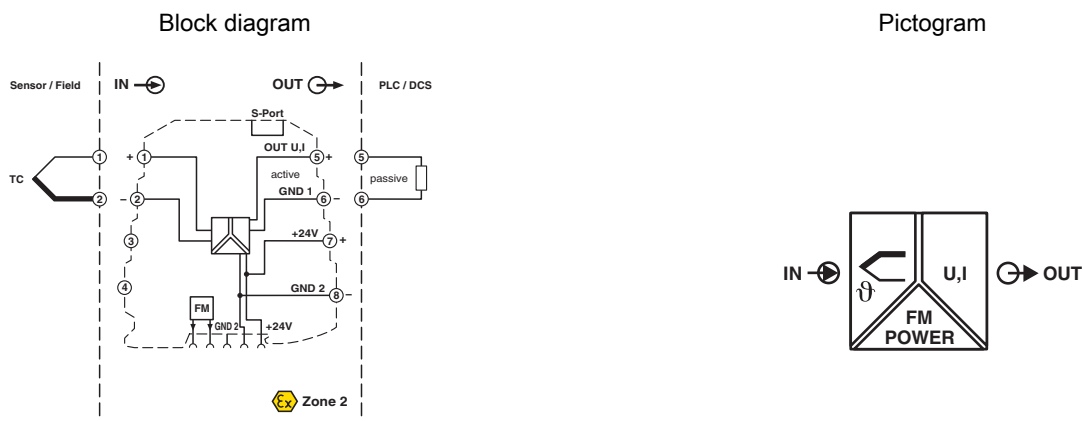
Standards and Regulations

	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	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 T4
	Class I, Zone 2, Group IIC

Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Drawings



Classifications

eCl@ss

eCl@ss 4.0	27200206
eCl@ss 4.1	27200206
eCl@ss 5.0	27200206
eCl@ss 5.1	27200206
eCl@ss 6.0	27200206
eCl@ss 7.0	27200206
eCl@ss 8.0	27200206

Thermocouple measuring transducer - MINI MCR-TC-UI-NC - 2902851

Classifications

eCl@ss

eCl@ss 9.0	27210129
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ETIM

ETIM 3.0	EC001446
ETIM 4.0	EC001446
ETIM 5.0	EC001446
ETIM 6.0	EC002568

UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008
UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	41112105

Approvals

Approvals


Approvals


UL Listed / cUL Listed / EAC / GL / ATEX / 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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EAC		EAC-Zulassung
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Thermocouple measuring transducer - MINI MCR-TC-UI-NC - 2902851

Approvals

GL		http://www.gl-group.com/newbuilding/approvals/index.html	14085-15 HH
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ATEX			PxCIF15ATEX2902849X
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cULus Listed			
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Accessories

Accessories

DIN rail connector

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



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

Evaluation unit

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

Monitoring module - MINI MCR-SL-FM-RC-SP-NC - 2902962



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. Spring-cage connection, standard configuration.

Marking material

Thermocouple measuring transducer - MINI MCR-TC-UI-NC - 2902851

Accessories

Transparent cover - MINI MCR DKL - 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 - MINI MCR-DKL-LABEL - 2810272



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

Multiplexer

Multiplexer - MINI MCR-SL-MUX-V8-FLK 16 - 2811815



MINI analog multiplexer, generates one analog output from 8 analog input signals, for MINI analog module with screw connection.

Power module

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

Power terminal block - MINI MCR-SL-PTB-FM-SP - 2902959



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. Spring-cage connection.

Power supply

Thermocouple measuring transducer - MINI MCR-TC-UI-NC - 2902851

Accessories

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



Primary-switched MINI POWER supply for DIN rail mounting, input: 1-phase, output: 24 V DC/1.5 A

Programming adapter

Programming adapter - IFS-USB-PROG-ADAPTER - 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.

Programming adapter - IFS-BT-PROG-ADAPTER - 2905872



Bluetooth programming adapter with μ USB and S-PORT interface for wireless programming and monitoring. The driver is included in the software solutions for the products to be programmed, such as measuring transducers or motor managers.

System adapter

System adapter - MINI MCR-SL-V8-FLK 16-A - 2811268



Eight MINI analog signal converters with screw connection method can be connected to a control system using a system adapter and system cabling with a minimum of wiring and very low error risk.
