

Temperature measuring transducer - MACX MCR-SL-TC-I-NC - 2924346

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Temperature transducer, converts signals from thermocouples and linear mV sources into 0/4-20 mA signals. Freely programmable, 3-way electrical isolation, custom-configured.

Your advantages

- ✓ Input for thermocouples and mV sources
- ✓ Power supply possible via DIN rail connector
- ✓ Installation in zone 2, protection type "n" (EN 60079-15) permitted
- ✓ 0 ... 20 mA or 4 ... 20 mA output
- ✓ Programming during operation and also voltage-free using IFS-USB-PROG-ADAPTER programming adapter
- ✓ Status indicator for supply voltage, cable, sensor, and module errors
- ✓ 3-way electrical isolation
- ✓ Configuration via software (FDT/DTM): sensor type, connection technology, measuring range, measuring unit, filter, alarm signal, and output range



Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4046356515443

Technical data

Note

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

Width	12.5 mm
Height	99 mm
Depth	114.5 mm

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Ambient conditions

Ambient temperature (operation)	-20 °C ... 60 °C (Any mounting position)
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Maximum altitude	≤ 2000 m
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Noise immunity	EN 61000-6-2 When being exposed to interference, there may be minimal deviations.

Input data

Sensor types that can be used (TC)	E, J, K, N as per IEC / EN 60584, L as per DIN 43760
Temperature measuring range	-250 °C ... 1372 °C (Range depending on the sensor type)
Input signal range	-20 mV ... 70 mV
Measuring range span	Min. 50 K for thermocouples, 3 mV for mV sources

Output data

Signal output	Current output
Configurable/programmable	Yes
Current output signal	0 mA ... 20 mA 4 mA ... 20 mA
Load/output load current output	max. 500 Ω
Output ripple (current)	< 50 μA _{pp}
Behavior in the event of a sensor error	As per NE 43 or can be freely defined
Configurable/programmable	no

Power supply

Nominal supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (24 V DC -20%...+25%)
Max. current consumption	< 40 mA (24 V DC)
Power dissipation	< 1 W

Connection data

Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	14
Stripping length	7 mm
Screw thread	M3
Connection method	Screw connection
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm

General

No. of channels	1
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General

Temperature coefficient, typical	0.01 %/K
Typical cold point errors	± 1 K
Step response (0–99%)	typ. 700 ms
	≤ 1100 ms
Alignment zero	± 5 %
Alignment span	± 5 %
Status display	Green LED (supply voltage, PWR)
	Red LED, flashing 2.4 Hz (cable error, sensor error on input or output, ERR)
	Red LED, flashing 1.2 Hz (service operation, ERR)
	Red LED, permanently on (module error, ERR)
Flammability rating according to UL 94	V0
Degree of pollution	2
Overvoltage category	II
Electromagnetic compatibility	Conformance with EMC directive
Interference emission	EN 61000-6-4
Housing material	PA 6.6-FR
Color	gray
Designation	Input/output/power supply
Electrical isolation	300 V _{rms} (Rated insulation voltage (overvoltage category II; degree of pollution 2, safe isolation as per EN 61010-1))
	2.5 kV (50 Hz, 1 min., test voltage)
Designation	Input/output
Electrical isolation	375 V (Peak value in accordance with EN 60079-11)
Designation	Input/power supply
Electrical isolation	375 V (Peak value in accordance with EN 60079-11)
Conformance	CE-compliant, additionally EN 61326-1
ATEX	# II 3G Ex nA ic IIC T4 Gc X
UL, USA/Canada	UL 508 Listed
	UL 61010 Listed
	Class I, Div. 2, Groups A, B, C, D T4
	Class I, Zone 2, Group IIC T4
GL	C, EMC1

EMC data

Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
Designation	Fast transients (burst)
Standards/regulations	EN 61000-4-4
Designation	Conducted interferences
Standards/regulations	EN 61000-4-6

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Technical data

Standards and Regulations

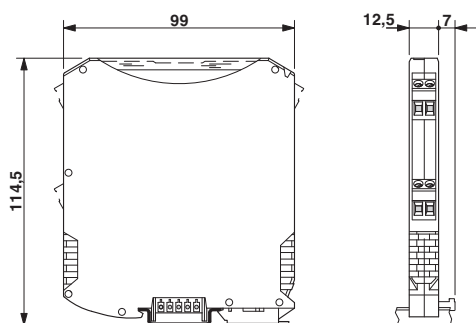
Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4
Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
	EN 61000-4-4
Designation	Conducted interferences
Standards/regulations	EN 61000-4-6
Flammability rating according to UL 94	V0
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ATEX	# II 3G Ex nA ic IIC T4 Gc X
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	Class I, Div. 2, Groups A, B, C, D T4
	Class I, Zone 2, Group IIC T4
GL	C, EMC1

Environmental Product Compliance

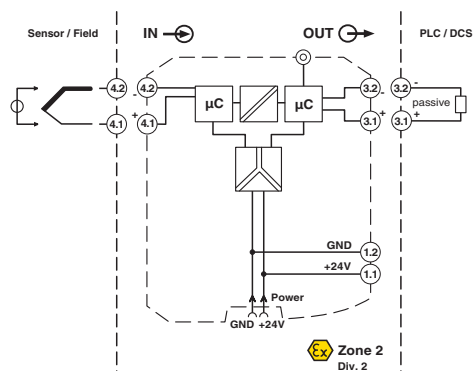
REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Drawings

Dimensional drawing



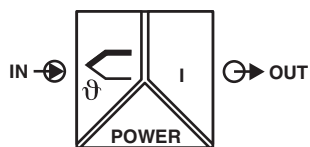
Block diagram



Zone 2 Div. 2

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Pictogram



Approvals

Approvals

Approvals

UL Listed / cUL Listed / EAC / cULus Listed

Ex Approvals

ATEX / UL Listed / cUL Listed / cULus Listed

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 330267
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cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 330267
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EAC			RU C- DE.A*30.B.01082
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cULus Listed			
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