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# 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.

## Why buy this product

- 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 STK
GTIN	 4 046356 515443

## 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

### Ambient conditions

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## Technical data

### 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.
Degree of protection	IP20

### 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
Current output signal	0 mA ... 0.02 A
	4 mA ... 0.02 A
Load/output load current output	max. 500 Ω
Output ripple (current)	< 50 μA <sub>pp</sub>
Behavior in the event of a sensor error	As per NE 43 or can be freely defined

### 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 consumption	< 1 W

### Connection data

Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
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
Temperature coefficient, typical	0.01 %/K

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### General

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 (line, sensor error, ERR)
	Red LED (module error, ERR)
Flammability rating according to UL 94	V0
Degree of pollution	2
Overvoltage category	II
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC (valid until 19.04.2016) / 2014/30/EU (valid from 20.04.2016)
Emitted interference	EN 61000-6-4
Housing material	PA 66-FR
Color	green
Designation	Input/output/power supply
Electrical isolation	300 V <sub>rms</sub> (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

### Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC (valid until 19.04.2016) / 2014/30/EU (valid from 20.04.2016)
Noise emission	EN 61000-6-4
Flammability rating according to UL 94	V0
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

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## Technical data

### Standards and Regulations

	Class I, Zone 2, Group IIC T4
GL	C, EMC1

## Classifications

### eCl@ss

eCl@ss 4.0	27200206
eCl@ss 4.1	27200206
eCl@ss 5.0	27200206
eCl@ss 5.1	27210121
eCl@ss 6.0	27200206
eCl@ss 7.0	27200206
eCl@ss 8.0	27371503

### ETIM

ETIM 2.0	EC001446
ETIM 3.0	EC001446
ETIM 4.0	EC001446
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

UL Listed / cUL Listed / cULus Listed

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Ex Approvals

UL Listed / cUL Listed / cULus Listed

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Approvals submitted

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

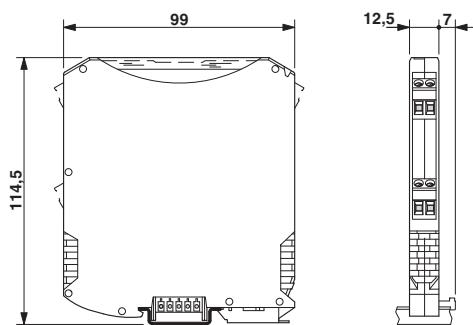
## Approvals

### Approval details

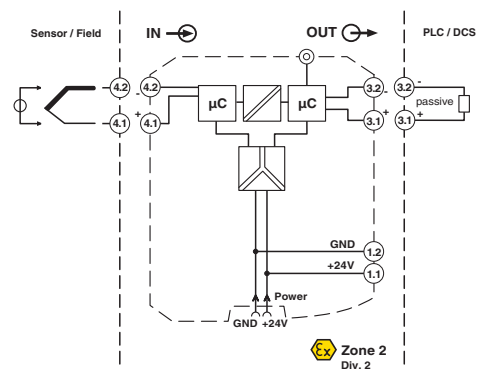


## Drawings

Dimensional drawing



Block diagram



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Product	Code	Reference	Product link
Temperature transducer, converts signals from thermocouples and linear mV sources into 0/4-20 mA signals. Freely programmable, 3-way electrical isolation, custom-configured.	2924346	MACX MCR-SL-TC-I-NC	<a href="#">Buy on EAN</a>