

# Temperature measuring transducer - MACX MCR-T-UIREL-UP - 2811378

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://download.phoenixcontact.com>)



Freely programmable temperature transducer with analog output and 3 limit value relays, standard configuration, resistance thermometer in 2-, 3-, or 4-wire technology, thermocouples, galvanic isolation, wide-range power supply, screw connection, SIL

## Product Features

- ✔ Cold junction compensation with separate plug
- ✔ Configuration via software (FDT/DTM) or IFS-OP-UNIT operator interface and display unit
- ✔ Up to SIL 2 according to EN 61508
- ✔ Installation in zone 2, protection type "n" (EN 60079-15) permitted
- ✔ Programming during operation and also voltage-free using IFS-USB-PROG-ADAPTER programming adapter
- ✔ Plug-in screw or spring-cage connection technology (Push-in technology)
- ✔ Freely programmable input and output
- ✔ Input for resistance thermometers, thermocouples, resistance-type sensors, potentiometers, and mV sources
- ✔ Measure differential temperatures
- ✔ Three limit value relays, can be used in combination as a safe limit value relay
- ✔ Inverse output signal ranges as an option



## Key commercial data

package_quantity	1
GTIN	4046356288903

## Technical data

Note:

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

## Dimensions

Width	35 mm
Height	99 mm
Depth	114.5 mm

## Ambient conditions

Ambient temperature (operation)	-20 °C ... 65 °C
---------------------------------	------------------

# Temperature measuring transducer - MACX MCR-T-UIREL-UP - 2811378

## Technical data

### Ambient conditions

<b>Ambient temperature (storage/transport)</b>	-40 °C ... 85 °C
<b>Maximum altitude</b>	≤ 2000 m
<b>Permissible humidity (operation)</b>	typ. 5 % ... 95 % (no condensation)
<b>Noise immunity</b>	EN 61000-6-2 When being exposed to interference, there may be minimal deviations.

### Input data

<b>Sensor types (RTD) that can be used</b>	Pt, Ni, Cu sensors: 2, 3, 4-wire
<b>Sensor types that can be used (TC)</b>	B, E, J, K, N, R, S, T, L, U, CA, DA, A1G, A2G, A3G, MG, LG
<b>Temperature measuring range</b>	-250 °C ... 2500 °C (Range depending on the sensor type)
<b>Input signal range</b>	0 Ω ... 50 kΩ
<b>Potentiometer resistance range</b>	0 Ω ... 50 kΩ
<b>Input signal range</b>	-1000 mV ... 1000 mV

### Output data

<b>Max. voltage output signal</b>	± 11 V
<b>Current output signal</b>	4 mA ... 20 mA (in the case of SIL; further free configuration without SIL)
<b>Max. current output signal</b>	22 mA
<b>Load/output load voltage output</b>	≥ 10 kΩ
<b>Load/output load current output</b>	≤ 600 Ω (at 20 mA)
<b>Behavior in the event of a sensor error</b>	According to NE 43 or freely configurable
<b>Output name</b>	Relay output
<b>Contact type</b>	3 PDTs
<b>Contact material</b>	AgSnO <sub>2</sub> , hard gold-plated
<b>Maximum switching voltage</b>	250 V AC (250 V DC)
<b>Maximum inrush current</b>	2 A (250 V AC)
<b>Maximum inrush current</b>	2 A (28 V DC)

### Power supply

<b>Supply voltage range</b>	24 V ... 230 V AC/DC (-20%/+10%, 50/60 Hz)
<b>Power consumption</b>	< 2.4 W

### Connection data

<b>Conductor cross section solid min.</b>	0.2 mm <sup>2</sup>
<b>Conductor cross section solid max.</b>	2.5 mm <sup>2</sup>
<b>Conductor cross section stranded min.</b>	0.2 mm <sup>2</sup>
<b>Conductor cross section stranded max.</b>	2.5 mm <sup>2</sup>
<b>Conductor cross section AWG/kcmil min.</b>	24
<b>Conductor cross section AWG/kcmil max</b>	14
<b>Stripping length</b>	7 mm
<b>Screw thread</b>	M3
<b>Connection method</b>	Screw connection

# Temperature measuring transducer - MACX MCR-T-UIREL-UP - 2811378

## Technical data

### General

<b>Maximum transmission error</b>	0.1 % (e.g. for Pt 100, 300 K span, 4 ... 20 mA)
<b>Maximum temperature coefficient</b>	0.01 %/K
<b>Inflammability class according to UL 94</b>	V0
<b>Pollution degree</b>	2
<b>Surge voltage category</b>	II
<b>Housing material</b>	PA 66-FR
<b>Color</b>	green
<b>Name</b>	Input/output/power supply
<b>Electrical isolation</b>	300 V <sub>rms</sub> (Rated insulation voltage (surge voltage category II; pollution degree 2, safe isolation as per EN 61010-1))
<b>Electrical isolation</b>	2.5 kV (50 Hz, 1 min., test voltage)
<b>Name</b>	Input/output
<b>Electrical isolation</b>	375 V (Peak value in accordance with EN 60079-11)
<b>Name</b>	Input/power supply
<b>Electrical isolation</b>	375 V (Peak value in accordance with EN 60079-11)
<b>Name</b>	Input/switching output
<b>Electrical isolation</b>	375 V (Peak value in accordance with EN 60079-11)
<b>Conformance</b>	CE-compliant
<b>ATEX</b>	# II 3 G Ex nA nC ic IIC T4 Gc X
<b>IECEX</b>	Ex nA nC ic IIC T4 Gc X
<b>Functional safety (SIL)</b>	SIL 2

## classifications

### eCl@ss

<b>eCl@ss 4.0</b>	27210121
<b>eCl@ss 4.1</b>	27210121
<b>eCl@ss 5.0</b>	27210121
<b>eCl@ss 5.1</b>	27210121
<b>eCl@ss 6.0</b>	27210121
<b>eCl@ss 7.0</b>	27210121
<b>eCl@ss 8.0</b>	27210121

### ETIM

<b>ETIM 4.0</b>	EC002653
<b>ETIM 5.0</b>	EC002653

### UNSPSC

<b>UNSPSC 6.01</b>	30211506
<b>UNSPSC 7.0901</b>	39121008
<b>UNSPSC 11</b>	39121008
<b>UNSPSC 12.01</b>	39121008

# Temperature measuring transducer - MACX MCR-T-UIREL-UP - 2811378

## classifications

UNSPSC

UNSPSC 13.2	39121008
-------------	----------

## approvals

IECEX / ATEX / Functional Safety / UL Listed / cUL Listed / cULus Listed /

## Approval details

IECEX

ATEX

Functional Safety

UL Listed

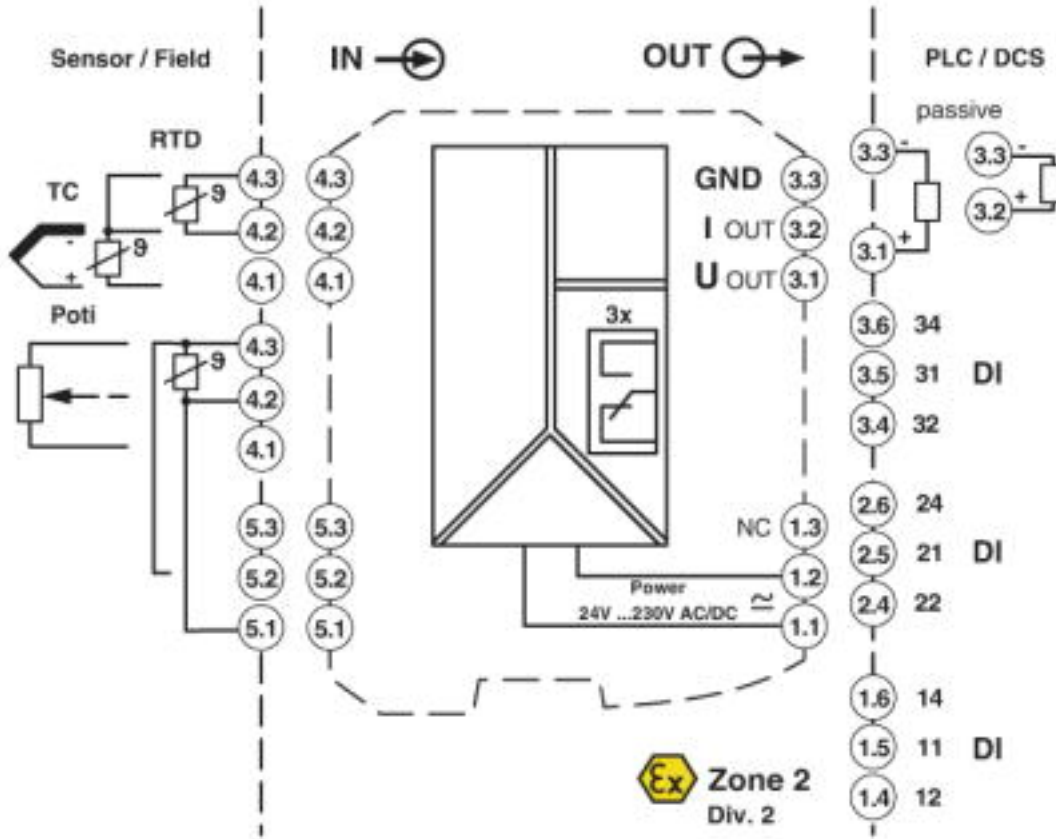
cUL Listed

cULus Listed

## Drawings

# Temperature measuring transducer - MACX MCR-T-UIREL-UP - 2811378

Block diagram



© Phoenix Contact 2013 - all rights reserved  
<http://www.phoenixcontact.com>