

# Temperature measuring transducer - MACX MCR-T-UI-UP-SP - 2811860

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 1 limit value relay, standard configuration, resistance thermometer in 2-, 3-, or 4-wire technology, thermocouples, galvanic isolation, wide-range power supply, spring-cage connection, SIL

The illustration shows the versions with screw connection

## 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
- Inverse output signal ranges as an option
- Plug-in screw or spring-cage connection technology (Push-in technology)
- Programming during operation and also voltage-free using IFS-USB-PROG-ADAPTER programming adapter
- Measure differential temperatures
- Input for resistance thermometers, thermocouples, resistance-type sensors, potentiometers, and mV sources
- Freely programmable input and output
- Relay switching output



## Key commercial data

<b>package_quantity</b>	1
<b>GTIN</b>	4046356629119

## Technical data

Note:

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

## Dimensions

<b>Width</b>	17.5 mm
<b>Height</b>	99 mm
<b>Depth</b>	114.5 mm

## Ambient conditions

# Temperature measuring transducer - MACX MCR-T-UI-UP-SP - 2811860

## Technical data

### Ambient conditions

<b>Ambient temperature (operation)</b>	-20 °C ... 65 °C
<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>	1 PDT
<b>Contact material</b>	AgSnO <sub>2</sub> , hard gold-plated
<b>Maximum switching voltage</b>	30 V AC (30 V DC)
<b>Maximum inrush current</b>	0.5 A (30 V AC)
<b>Maximum inrush current</b>	1 A (30 V DC)

### Power supply

<b>Supply voltage range</b>	24 V ... 230 V AC/DC (-20%/+10%, 50/60 Hz)
<b>Power consumption</b>	< 1.5 W

### Connection data

<b>Conductor cross section solid min.</b>	0.2 mm <sup>2</sup>
<b>Conductor cross section solid max.</b>	1.5 mm <sup>2</sup>
<b>Conductor cross section stranded min.</b>	0.2 mm <sup>2</sup>
<b>Conductor cross section stranded max.</b>	1.5 mm <sup>2</sup>
<b>Conductor cross section AWG/kcmil min.</b>	24
<b>Conductor cross section AWG/kcmil max</b>	16
<b>Stripping length</b>	8 mm
<b>Connection method</b>	Spring-cage conn.

# Temperature measuring transducer - MACX MCR-T-UI-UP-SP - 2811860

## Technical data

### General

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

## classifications

### eCl@ss

eCl@ss 4.0	27210107
eCl@ss 4.1	27210107
eCl@ss 5.0	27210107
eCl@ss 5.1	27210107
eCl@ss 6.0	27210107
eCl@ss 7.0	27210107
eCl@ss 8.0	27210107

### ETIM

ETIM 3.0	EC001446
ETIM 4.0	EC001596
ETIM 5.0	EC001596

### UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008
UNSPSC 11	39121008
UNSPSC 12.01	39121008

# Temperature measuring transducer - MACX MCR-T-UI-UP-SP - 2811860

## 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

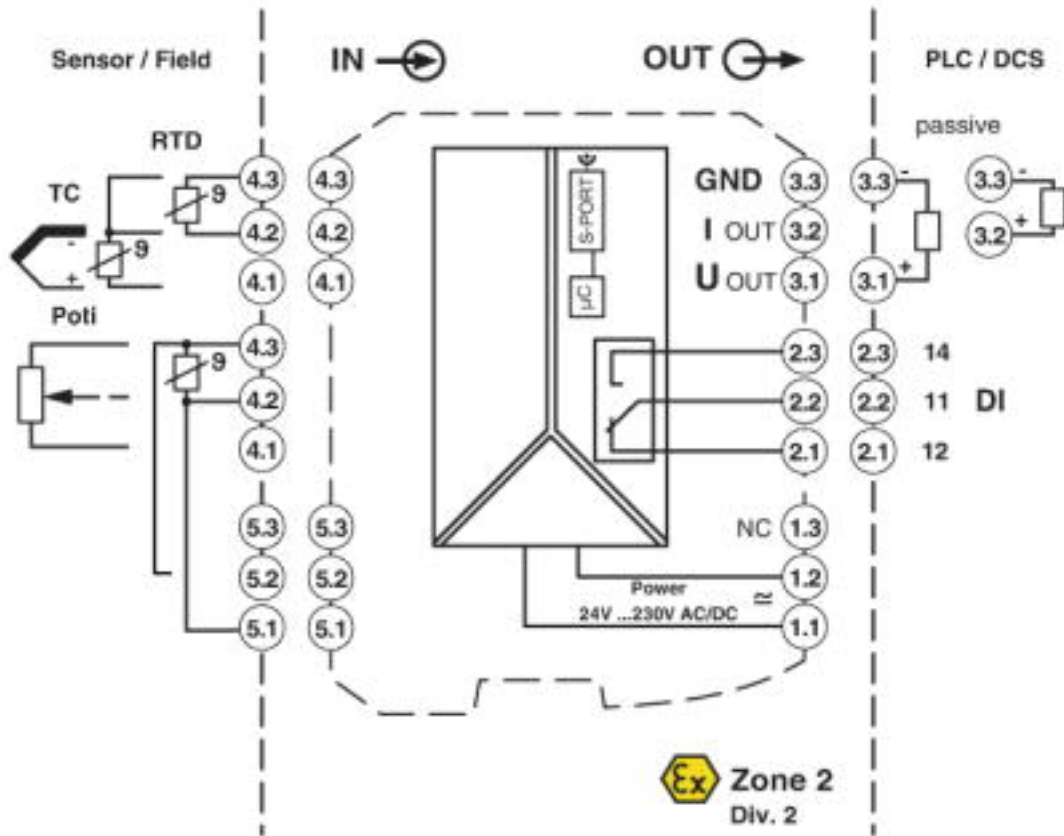
cUL Listed

cULus Listed

## Drawings

# Temperature measuring transducer - MACX MCR-T-UI-UP-SP - 2811860

Block diagram



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