

# Temperature measuring transducer - MACX MCR-T-UI-UP - 2811394

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://phoenixcontact.com/download>)



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



## Key commercial data

Packing unit	1 pc
Weight per Piece (excluding packing)	180.0 GRM
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
-------------------------	---

# Temperature measuring transducer - MACX MCR-T-UI-UP - 2811394

## Technical data

### Dimensions

Width	17.5 mm
Height	99 mm
Depth	114.5 mm

### Ambient conditions

Ambient temperature (operation)	-20 °C ... 65 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Maximum altitude	≤ 2000 m
Permissible humidity (operation)	typ. 5 % ... 95 % (non-condensing)
Noise immunity	EN 61000-6-2 When being exposed to interference, there may be minimal deviations.

### Input data

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

### Output data

Max. voltage output signal	± 11 V
Current output signal	0 mA ... 20 mA ±10 V (in the case of SIL; further free configuration without SIL)
Max. current output signal	22 mA
Load/output load voltage output	≥ 10 kΩ
Load/output load current output	≤ 600 Ω (20 mA)
Behavior in the event of a sensor error	According to NE 43 or freely configurable
Output name	Relay output
Contact type	1 PDT
Contact material	AgSnO <sub>2</sub> , hard gold-plated
Maximum switching voltage	30 V AC (30 V DC)
Maximum inrush current	0.5 A (30 V AC)
	1 A (30 V DC)

### Power supply

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

### Connection data

Conductor cross section solid min.	0.2 mm <sup>2</sup>
------------------------------------	---------------------

# Temperature measuring transducer - MACX MCR-T-UI-UP - 2811394

## Technical data

### Connection data

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

### General

Maximum temperature coefficient	0.01 %/K
Inflammability class according to UL 94	V0
Pollution degree	2
Surge voltage category	II
Electromagnetic compatibility	2004/108/EC
Housing material	PA 66-FR
Color	green
Designation	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))
	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)
Designation	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
UL, USA / Canada	UL 508 Listed
	Class I, Div. 2, Groups A, B, C, D T6
	Class I, Zone 2, Group IIC T6
Functional Safety (SIL)	SIL 2

# Temperature measuring transducer - MACX MCR-T-UI-UP - 2811394

## 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 4.0	EC001596
ETIM 5.0	EC002653

### UNSPSC

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

## Approvals

### Approvals

---

#### Approvals

Functional Safety / UL Listed / cUL Listed / cULus Listed

---

#### Ex Approvals

IECEX / ATEX

---

Approvals submitted

---

### Approval details

Functional Safety
-------------------

# Temperature measuring transducer - MACX MCR-T-UI-UP - 2811394

## Approvals

UL Listed

cUL Listed

cULus Listed

## Drawings

Block diagram

