

## Temperature measuring transducer - MACX MCR-RTD-I - 1050192

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>)




Temperature transducer, converts signals from resistance temperature detectors and resistors into analog 0/4 - 20 mA signals. Freely programmable, screw connection, SIL, 3-way electrical isolation, standard configuration.

### Your advantages

- Power supply possible via DIN rail connector
- Programming possible during operation, when measuring circuit is connected, and also when power is switched off using the IFS-USB-PROG-ADAPTER programming adapter
- Installation in zone 2, protection type "ec" (EN 60079-7) permitted
- 3-way electrical isolation
- Status indicator for supply voltage, cable, sensor, and module errors
- Configuration via software (FDT/DTM): sensor type, connection technology, measuring range, measuring unit, filter, alarm signal, and output range
- 0 ... 20 mA or 4 ... 20 mA output



### Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 666105
GTIN	4055626666105
Weight per Piece (excluding packing)	150.000 g
Custom tariff number	85437090
Country of origin	Germany
Sales Key	CK1121

### Technical data

#### Note

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

#### Dimensions

Width	12.5 mm
-------	---------

# Temperature measuring transducer - MACX MCR-RTD-I - 1050192

## Technical data

### Dimensions

Height	112.5 mm
Depth	114.5 mm

### Ambient conditions

Ambient temperature (operation)	-40 °C ... 70 °C (Any mounting position)
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Degree of protection	IP20
Noise immunity	EN 61000-6-2 When being exposed to interference, there may be minimal deviations.
Altitude	≤ 2000 m (For use at altitudes ≥2000 m above sea level, see data sheet.)
Ambient temperature (operation)	70 °C
Test voltage	2.5 kV
Rated insulation voltage	300 V <sub>rms</sub>
Altitude	≤ 3000 m
Ambient temperature (operation)	63 °C
Test voltage	2.25 kV
Rated insulation voltage	150 V <sub>rms</sub>
Altitude	≤ 4000 m
Ambient temperature (operation)	56 °C
Test voltage	2 kV
Rated insulation voltage	150 V <sub>rms</sub>
Altitude	≤ 5000 m
Ambient temperature (operation)	49 °C
Test voltage	1.75 kV
Rated insulation voltage	150 V <sub>rms</sub>

### Input data

Sensor types (RTD) that can be used	Pt, Ni, Cu sensors: 2, 3, 4-wire
Temperature measuring range	-200 °C ... 850 °C (Range depending on the sensor type)
Input signal range	0 Ω ... 50 kΩ
Potentiometer resistance range	0 Ω ... 50 kΩ
Max. permissible overall conductor resistance	50 Ω (Per cable)
Sensor input current	10 μA ... 210 μA (Up to 2x 210 μA with 3-conductor technology)
Measuring range span	≥ 50 K

### Output data

Signal output	Current output
Configurable/programmable	Yes
Current output signal	0 mA ... 20 mA
	4 mA ... 20 mA (SIL)
Max. current output signal	≥ 21 mA

# Temperature measuring transducer - MACX MCR-RTD-I - 1050192

## Technical data

### Output data

Load/output load current output	$\leq 600 \Omega$
Output ripple (current)	$< 15 \mu A_{pp}$
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%)
Power dissipation	$\leq 0.76 \text{ W}$
Power consumption	$\leq 1 \text{ W}$

### Connection data

Connection method	Screw connection
Stripping length	7 mm
Screw thread	M3
Conductor cross section solid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 14
Torque	0.5 Nm ... 0.6 Nm

### General

No. of channels	1
Transmission error, typical	0.1 % (e.g. for Pt 100, 300 K span, 4 ... 20 mA)
Temperature coefficient, typical	0.01 %/K
Step response (0–99%)	typ. 1 s
	$\leq 1.7 \text{ s}$
Alignment zero	$\pm 5 \%$
Alignment span	$\pm 5 \%$
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)
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
	Input/output
Electrical isolation	375 V (Peak value in accordance with IEC/EN 60079-11)
Designation	Input/power supply
Electrical isolation	375 V (Peak value in accordance with IEC/EN 60079-11)

### EMC data

# Temperature measuring transducer - MACX MCR-RTD-I - 1050192

## Technical data

### EMC data

Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
Typical deviation from the measuring range final value	1 %
Designation	Fast transients (burst)
Standards/regulations	EN 61000-4-4
Typical deviation from the measuring range final value	1 %
Designation	Conducted interferences
Standards/regulations	EN 61000-4-6
Typical deviation from the measuring range final value	1 %

### 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
Designation	GB Standard
Standards/regulations	GB 3836.1
	GB 3836.4
	GB 3836.8
Conformance	CE-compliant, additionally EN 61326
ATEX	# II 3 G Ex ec ic IIC T4 Gc
IECEX	Ex ec ic IIC T4 Gc
DNV GL-Temperature	B
DNV GL-Humidity	B
DNV GL-Vibration	A
DNV GL-EMC	B
DNV GL-Enclosure	Required protection according to the Rules shall be provided upon installation on board

### Conformance/approvals

Designation	CE
Identification	CE-compliant
Additional text	and EN 61326
Designation	ATEX
Identification	# II 3 G Ex ec ic IIC T4 Gc
Certificate	PxCIF19ATEX1050192X
Designation	IECEX
Identification	Ex ec ic IIC T4 Gc
Certificate	IECEX IBE 19.0001 X

<https://www.phoenixcontact.com/gb/products/1050192>



## Temperature measuring transducer - MACX MCR-RTD-I - 1050192

### Technical data

#### Conformance/approvals

Designation	CCC / China-Ex
Identification	Ex nA ic IIC T4 Gc
Certificate	NEPSI GYJ20.1305X
Designation	UL, USA/Canada
Identification	UL 61010 Listed
	Class I, Div. 2, Groups A, B, C, D T4
	Class I, Zone 2, Group IIC T4
Designation	Shipbuilding approval
Certificate	DNV GL TAA00000AG
Designation	Safety Integrity Level (SIL, IEC 61508)
Identification	2
Temperature	B
Humidity	B
Vibration	A
EMC	B
Enclosure	Required protection according to the Rules shall be provided upon installation on board

#### Environmental Product Compliance

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

Phoenix Contact 2021 © - all rights reserved  
<http://www.phoenixcontact.com>



# SCATTERGOOD & JOHNSON LTD

ELECTRICAL ENGINEERING & FLUID CONTROL DISTRIBUTORS

Est.1899

At Scattergood & Johnson Ltd, we pride ourselves on being a technical distributor to specialist industries.

Working with a range of quality product suppliers across a number of specialist markets, we are not your average 'box shifter' - we are your technical and supply chain partner.

We fully support every product we sell - for free! Our internal team and external sales engineers can answer any product or application question, no matter the complexity.

Backing up this technical ability is a range of 50,000+ products available from stock for nationwide next day delivery (same day if required!), or you can collect what you need from any of our trade counters around the UK.

Select your specialist interest below to learn more about how we can help.



Online, In Branch and On the Road - Scattergood & Johnson Ltd, there when you need us.

# [www.scatts.co.uk](http://www.scatts.co.uk)