

# Thermocouple measuring transducer - MINI MCR-2-TC-UI - 2902055

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>)




Configurable temperature transducer with plug-in connection technology for connecting thermocouples. Configurable via DIP switch or software. Screw connection technology, standard configuration

## Product Description

Configurable, 3-way isolated temperature transducer with plug-in connection technology. The device is suitable for the connection of thermocouples. The measured values are converted into a linear and freely adjustable current or voltage signal. You can configure the device using one of the free software solutions. Default settings can also be made directly on the device by simply using the DIP switches (see configuration table). The measuring transducer supports fault monitoring and NFC communication.



## Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 649766
GTIN	4046356649766
Weight per Piece (excluding packing)	116.000 g
Custom tariff number	85437090
Country of origin	Germany
Sales Key	CK1421

## Technical data

### Note

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

### Dimensions

Width	6.2 mm
Height	109.81 mm
Depth	119.2 mm

### Ambient conditions

Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C

# Thermocouple measuring transducer - MINI MCR-2-TC-UI - 2902055

## Technical data

### Ambient conditions

Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Degree of protection	IP20 (not assessed by UL)
Noise immunity	EN 61000-6-2 When being exposed to interference, there may be minimal deviations.

### Input data

Configurable/programmable	Yes
Sensor types that can be used (TC)	B, C, E, J, K, N, R, S, T, L, U, A-1, A-2, A-3, M, L
Temperature measuring range	-250 °C ... 2500 °C (Range depends on sensor type, range can be set freely via software or in increments from -150°C to 1350°C via DIP switches)

### Output data

Number of outputs	1
Configurable/programmable	Yes
Voltage output signal	0 V ... 5 V (via DIP switch)
	1 V ... 5 V (via DIP switch)
	0 V ... 10 V (via DIP switch)
	10 V ... 0 V (via DIP switch)
	0 V ... 10.5 V (can be set via software)
Current output signal	0 mA ... 20 mA (via DIP switch)
	4 mA ... 20 mA (via DIP switch)
	20 mA ... 0 mA (via DIP switch)
	20 mA ... 4 mA (via DIP switch)
	0 mA ... 21 mA (can be set via software)
Max. output voltage	approx. 12.3 V
Max. output current	24.6 mA
Short-circuit current	< 31.5 mA
Load/output load voltage output	≥ 10 kΩ
Load/output load current output	≤ 600 Ω (at 20 mA)
Ripple	< 10 mV <sub>rms</sub>
	< 10 mV <sub>rms</sub> (at 600 Ω)

### Power supply

Supply voltage range	9.6 V DC ... 30 V DC (The DIN rail bus connector (ME 6,2 TBUS-2 1,5/5-ST-3,81 GN, Order No. 2869728) can be used to bridge the supply voltage. It can be snapped onto a 35 mm DIN rail according to EN 60715))
Typical current consumption	32.7 mA (24 V DC)
	66.8 mA (12 V DC)
Power consumption	≤ 850 mW (at I <sub>OUT</sub> = 20 mA, 9.6 V DC, 600 Ω load)

### Connection data

Connection method	Screw connection
Stripping length	10 mm

# Thermocouple measuring transducer - MINI MCR-2-TC-UI - 2902055

## Technical data

### Connection data

Screw thread	M3
Conductor cross section solid	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (with ferrule)
	0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> (without ferrule)
Conductor cross section flexible	0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 12 (flexible)
Torque	0.5 Nm ... 0.6 Nm

### General

Transmission error thermocouples	0.1% * 600 K / set measuring range; 0.1% > 600 K (C, E, J, K, N, T, L, U, M Gost, L Gost)
	0.2 % * 600 K / set measuring range; 0.2 % > 600 K (B, R, S, A1, A2, A3)
	0.2% * 600 K / set measuring range; 0.2% > 600 K (E, J, K, N, T, L, U, M Gost, L Gost); Highspeed Mode
	0.4% * 600 K / set measuring range; 0.4% > 600 K (B, R, S, A1, A2, A3); Highspeed Mode
Maximum temperature coefficient	≤ 0.01 %/K
Typical cold point errors	2 K (2 K + (0,2 K * ΔT))
Protective circuit	Transient protection
Electrical isolation	Reinforced insulation in accordance with IEC 61010-1
Overvoltage category	II
Degree of pollution	2
Rated insulation voltage	300 V (effective)
Test voltage, input/output/supply	3 kV (50 Hz, 1 min.)
Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2 When being exposed to interference, there may be minimal deviations.
Housing material	PBT
Mounting position	any
Assembly instructions	The T connector can be used to bridge the supply voltage. It can be snapped onto a 35 mm DIN rail according to EN 60715.
Fire protection for rail vehicles (DIN EN 45545-2) R22	HL 1 - HL 2
Fire protection for rail vehicles (DIN EN 45545-2) R23	HL 1 - HL 2
Fire protection for rail vehicles (DIN EN 45545-2) R24	HL 1 - HL 2

### EMC data

Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
Typical deviation from the measuring range final value	0.06 %
Designation	Fast transients (burst)
Standards/regulations	EN 61000-4-4
Typical deviation from the measuring range final value	0.1 %
Designation	Conducted interferences

# Thermocouple measuring transducer - MINI MCR-2-TC-UI - 2902055

## Technical data

### EMC data

Standards/regulations	EN 61000-4-6
Typical deviation from the measuring range final value	0.05 %

### Standards and Regulations

Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4
Standards/regulations	EN 61000-4-2
Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
	EN 61000-4-4
	EN 61000-4-5
Designation	Conducted interferences
Standards/regulations	EN 61000-4-6
Electrical isolation	Reinforced insulation in accordance with IEC 61010-1
Conformance	CE-compliant
ATEX	# II 3 G Ex nA 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

### Conformance/approvals

Designation	CE
Identification	CE-compliant
Designation	ATEX
Identification	# II 3 G Ex nA IIC T4 Gc X
Designation	UL, USA/Canada
Identification	UL 508 Listed
	Class I, Div. 2, Groups A, B, C, D T6
	Class I, Zone 2, Group IIC T6
Designation	Shipbuilding approval
Identification	C, EMC2
Certificate	DNV GL 14445-15HH

### 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"



# 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)