

# MINI MCR-SL-PT100-UI-NC - Resistance thermometer measuring transducer



2864273

<https://www.phoenixcontact.com/us/products/2864273>

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 documentation. Our general terms of use for downloads are valid.



MCR temperature transducer for Pt 100 temperature sensors, configured via DIP switches, with screw connection, not preconfigured

## Product description

The narrow, 6.2 mm wide MINI MCR-SL-PT100-UI... is a configurable, 3-way isolated temperature transducer. It is suitable for connecting Pt 100 resistance thermometers in accordance with IEC 60751 in 2-, 3-, and 4-conductor connection technology.

Electrically isolated 0 ... 20 mA, 4 ... 20 mA, 0 ... 10 V, 0 ... 5 V, 1 ... 5 V, 10 ... 0 V, 20 ... 0 mA, or 20 ... 4 mA standard analog signals are available on the output side.

The DIP switches, which can be accessed on the side of the housing, are used to configure the following parameters:

- Connection technology
- Temperature range to be measured
- Output signal
- Type of error evaluation

Power (19.2 V DC to 30 V DC) can either be supplied via the connection terminal blocks of the modules or in conjunction with the DIN rail connector.

## Your advantages

- Power supply possible via the foot element (TBUS)
- For 2-, 3-, 4-conductor Pt 100 sensors in accordance with IEC 60751
- Error indication via diagnostic LED and analog signal
- Input and output signals can be configured via DIP switches
- Highly-compact temperature transducer for electrical isolation, conversion, amplification, and filtering of
- 3-way isolation
- Pt 100 signals to create standard signals
- Temperature measuring range of -150°C to +850°C

## Commercial data

Item number	2864273
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C403
Product key	CK1221
Catalog page	Page 105 (C-7-2015)
GTIN	4017918956561
Weight per piece (including packing)	97.7 g

# MINI MCR-SL-PT100-UI-NC - Resistance thermometer measuring transducer



2864273

<https://www.phoenixcontact.com/us/products/2864273>

Weight per piece (excluding packing)	97.7 g
Customs tariff number	85437090
Country of origin	DE

# MINI MCR-SL-PT100-UI-NC - Resistance thermometer measuring transducer



2864273

<https://www.phoenixcontact.com/us/products/2864273>

## Technical data

### Notes

#### Utilization restriction

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

### Product properties

Product type	Temperature transmitter
Product family	MINI Analog
No. of channels	1
Configuration	DIP switches

#### Insulation characteristics

Overvoltage category	II
Pollution degree	2

### Electrical properties

Electrical isolation	3-way isolation
Maximum power dissipation for nominal condition	235.5 mW
Protective circuit	Transient protection
Step response (0–99%)	< 160 ms
Maximum temperature coefficient	< 0.02 %/K
Transmission error in the set measuring range	$((100 \text{ K} / \text{set measurement range [K]}) + 0.1)\%$
Transmission error in the full measuring range	≤ 0,2 %

#### Electrical isolation Input/output/power supply

Rated insulation voltage	50 V AC/DC
Test voltage	1.5 kV AC (50 Hz, 60 s)
Insulation	Basic insulation in accordance with IEC/EN 61010

#### Supply

Nominal supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (The DIN rail connector (ME 6,2 TBUS-2 1,5/5-ST-3,81 GN, item no. 2869728) can be used to bridge the supply voltage. It can be snapped onto a 35 mm DIN rail in accordance with EN 60715)
Max. current consumption	< 21 mA (at 24 V DC)
Power consumption	< 500 mW

### Input data

#### Signal

Number of inputs	1
------------------	---

# MINI MCR-SL-PT100-UI-NC - Resistance thermometer measuring transducer



2864273




<https://www.phoenixcontact.com/us/products/2864273>

## Measurement

Configurable/programmable	Yes
Sensor types (RTD) that can be used	Pt 100 (IEC 60751/EN 60751)
Temperature measuring range	min. 50 K
Sensor type:	-150 °C ... 850 °C (configurable)
Sensor input current	1 mA (constant)
Max. permissible overall conductor resistance	10 Ω (Per cable)
Connection technology	2-, 3-, 4-conductor

## Output data

Signal: Voltage/current

Number of outputs	1
Configurable/programmable	Yes, unconfigured
Voltage output signal	0 V ... 5 V
	1 V ... 5 V
	0 V ... 10 V
	10 V ... 0 V
Max. voltage output signal	≈  V
Non-load voltage	≈  V
Current output signal	0 mA ... 20 mA
	4 mA ... 20 mA
	20 mA ... 0 mA
	20 mA ... 4 mA
Max. current output signal	23 mA
Short-circuit current	≈  mA
Load/output load voltage output	≥ 10 kΩ
Load/output load current output	< 500 Ω (at 20 mA)
Ripple	< 20 mV <sub>PP</sub> (at 10 kΩ)
	< 20 mV <sub>PP</sub> (at 500 Ω)

## Connection data

Connection method	Screw connection
Stripping length	12 mm
Screw thread	M3
Conductor cross section rigid	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	26 ... 12

## Dimensions

# MINI MCR-SL-PT100-UI-NC - Resistance thermometer measuring transducer



2864273

<https://www.phoenixcontact.com/us/products/2864273>

Dimensional drawing	
Width	6.2 mm
Height	93.1 mm
Depth	101.2 mm

## Material specifications

Color	green (RAL 6021)
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
Housing material	PBT

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-20 °C ... 65 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	≤ 2000 m
Permissible humidity (operation)	5 % ... 95 % (non-condensing)

## Approvals

### CE

Certificate	CE-compliant
-------------	--------------

### UKCA

Certificate	UKCA-compliant
-------------	----------------

### UL, USA/Canada

Identification	UL 508 Recognized Class I, Div. 2, Groups A, B, C, D T5
----------------	--

### Shipbuilding approval

Certificate	DNV GL TAA00002R0
-------------	-------------------

### DNV GL data

Temperature	B
Humidity	B
Vibration	B

# MINI MCR-SL-PT100-UI-NC - Resistance thermometer measuring transducer



2864273

<https://www.phoenixcontact.com/us/products/2864273>

EMC	A
Enclosure	Required protection according to the Rules shall be provided upon installation on board

## EMC data

Noise immunity	EN 61000-6-2
Note	When being exposed to interference, there may be minimal deviations.
Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4

## Electrostatic discharge

Standards/regulations	EN 61000-4-2
-----------------------	--------------

## Electrostatic discharge

Comments	Safety measures must be taken to prevent electrostatic discharge.
----------	---

## Electromagnetic HF field

Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
Typical deviation from the measuring range final value	10 %

## Fast transients (burst)

Designation	Fast transients (burst)
Standards/regulations	EN 61000-4-4
Typical deviation from the measuring range final value	10 %

## Surge current load (surge)

Standards/regulations	EN 61000-4-5
-----------------------	--------------

## Surge current load (surge)

Comments	Criterion B
----------	-------------

## Conducted interference

Designation	Conducted interferences
Standards/regulations	EN 61000-4-6
Typical deviation from the measuring range final value	10 %

## Standards and regulations

Electrical isolation	3-way isolation
----------------------	-----------------

## Mounting

Mounting type	DIN rail mounting
Assembly instructions	The DIN rail connector can be used for bridging the supply voltage. It can be snapped onto a 35 mm EN 60715 DIN rail.
Mounting position	any

# MINI MCR-SL-PT100-UI-NC - Resistance thermometer measuring transducer



2864273

<https://www.phoenixcontact.com/us/products/2864273>

## Classifications

### ECLASS

ECLASS-11.0	27210129
ECLASS-12.0	27210129
ECLASS-13.0	27210129

### ETIM

ETIM 9.0	EC002919
----------	----------

### UNSPSC

UNSPSC 21.0	41112100
-------------	----------

# MINI MCR-SL-PT100-UI-NC - Resistance thermometer measuring transducer



2864273

<https://www.phoenixcontact.com/us/products/2864273>

## Environmental product compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

Phoenix Contact 2024 © - all rights reserved  
<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)