

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



2864286

<https://www.phoenixcontact.com/pc/products/2864286>

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MCR temperature transducer for Pt 100 temperature sensors, configured via DIP switches, with spring-cage connection, not preconfigured. Replacement part: 2902052 MINI MCR-2-RTD-UI-PT.

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
- Temperature measuring range of -150°C to +850°C
- Input and output signals can be configured via DIP switches
- 3-way isolation
- Pt 100 signals to create standard signals
- Highly-compact temperature transducer for electrical isolation, conversion, amplification, and filtering of

Commercial data

Item number	2864286
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	CK1221
Catalog page	Page 105 (C-7-2015)
GTIN	4017918974824
Weight per piece (including packing)	91.3 g
Weight per piece (excluding packing)	67.5 g

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2864286

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Customs tariff number	85437090
Country of origin	DE

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2864286

<https://www.phoenixcontact.com/pc/products/2864286>

Technical data

Product properties

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

Insulation characteristics

Overvoltage category	II
Pollution degree	2

Electrical properties

No. of channels	1
Rated insulation voltage	50 V AC/DC
Electrical isolation	Basic insulation in accordance with EN 61010
Maximum power dissipation for nominal condition	235.5 mW
Test voltage, input/output/supply	1.5 kV AC (50 Hz, 60 s)
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	$\leq 0,2 \%$

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
Input signal	Temperature

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)

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2864286

<https://www.phoenixcontact.com/pc/products/2864286>

Connection technology	2-, 3-, 4-conductor
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Output data

Signal

Number of outputs	1
Configurable/programmable	Yes, unconfigured
Voltage output signal	0 V ... 10 V
	10 V ... 0 V
	0 V ... 5 V
	1 V ... 5 V
Max. voltage output signal	approx. 12.5 V
Non-load voltage	approx. 12.5 V
Current output signal	0 mA ... 20 mA
	20 mA ... 0 mA
	20 mA ... 4 mA
	4 mA ... 20 mA
Max. current output signal	23 mA
Short-circuit current	approx. 10 mA
Load/output load voltage output	$\geq 10 \text{ k}\Omega$
Load/output load current output	$< 500 \Omega$ (at 20 mA)
Ripple	$< 20 \text{ mV}_{PP}$ (at 500 Ω)
	$< 20 \text{ mV}_{PP}$ (at 500 Ω)

Connection data

Connection method	Spring-cage connection
Stripping length	8 mm
Conductor cross section rigid	0.2 mm ² ... 2.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section AWG	24 ... 12

Dimensions

Dimensional drawing	
Width	6.2 mm
Height	93.1 mm
Depth	102.5 mm

Material specifications

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



2864286

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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

Approvals

CE

Certificate	CE-compliant
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ATEX

Identification	⊕ II 3 G Ex nA IIC T4 Gc X
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UL, USA/Canada

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

GL

Identification	GL EMC 2 D
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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
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Electrostatic discharge

Comments	Safety measures must be taken to prevent electrostatic discharge.
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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)
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2864286

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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
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Surge current load (surge)

Comments	Criterion B
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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	Basic insulation in accordance with EN 61010
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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

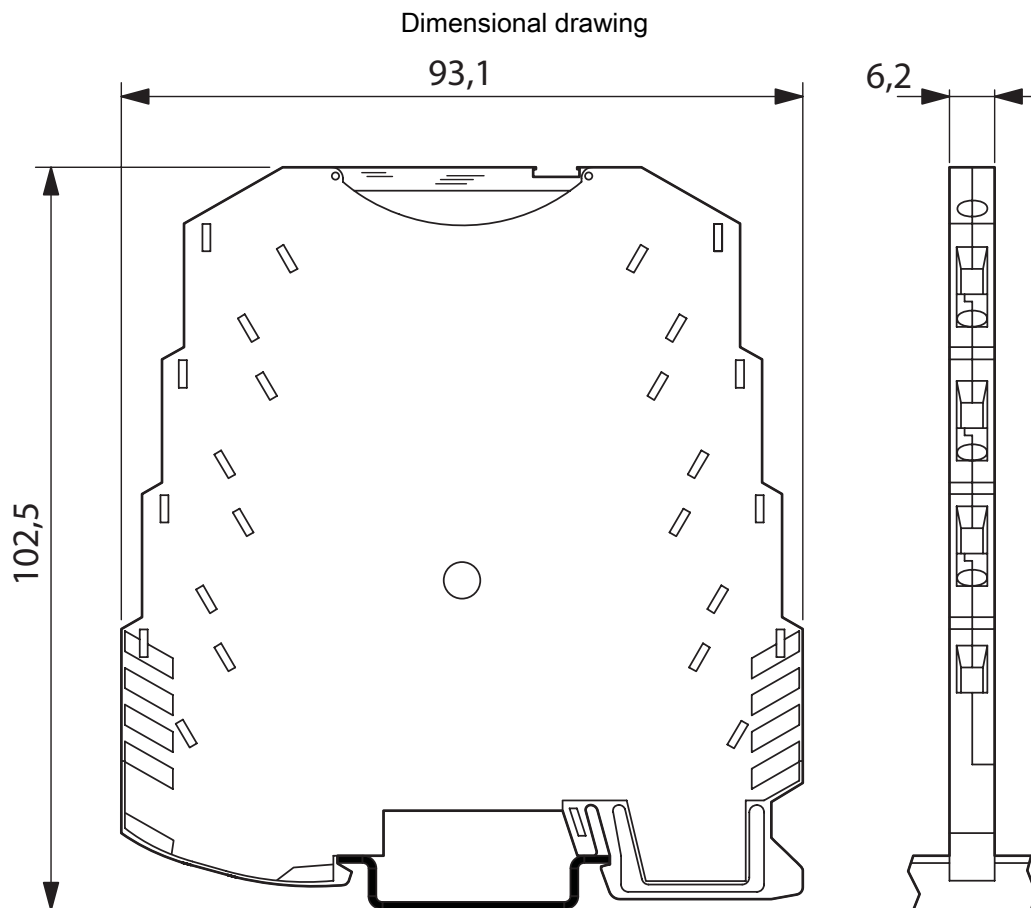
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Drawings

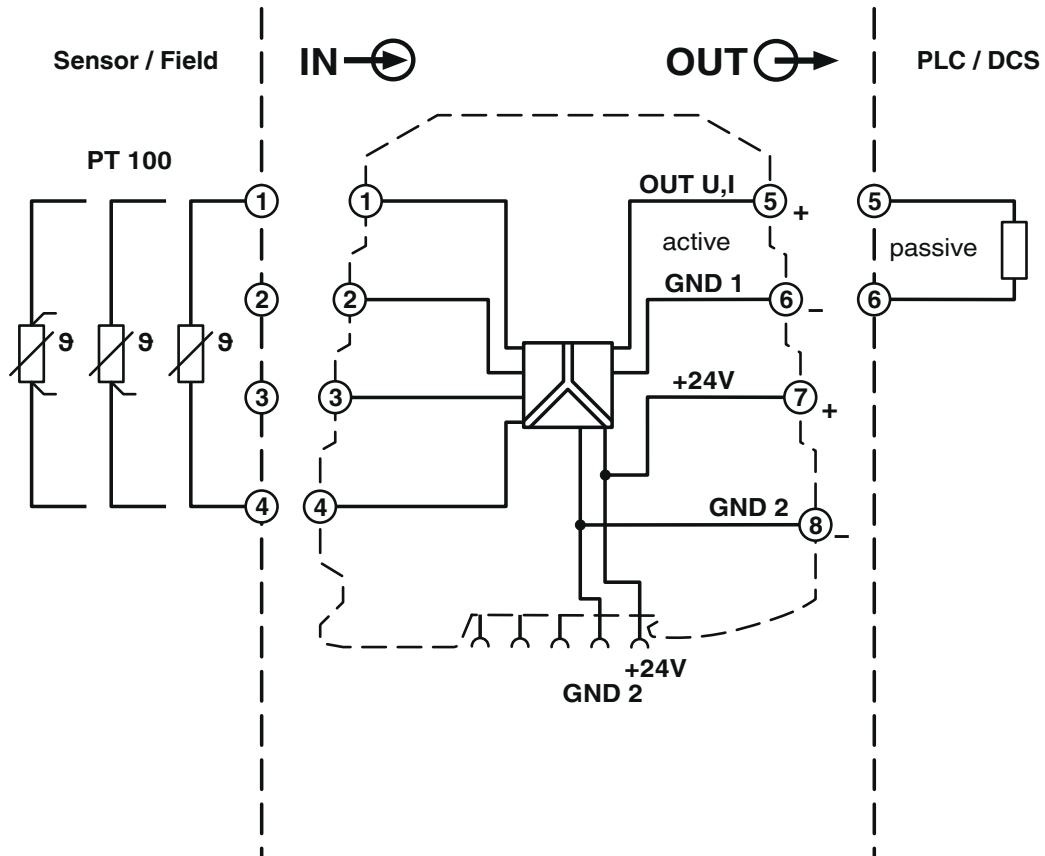


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Block diagram



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Classifications

ECLASS

ECLASS-11.0	27210129
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ETIM

ETIM 7.0	EC002919
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Environmental product compliance

China RoHS

Environmentally Friendly Use Period = 50 years

For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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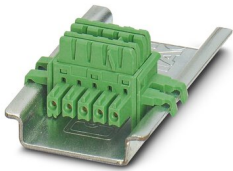
Accessories

ME 6,2 TBUS-2 1,5/5-ST-3,81 GN - DIN rail bus connectors

2869728

<https://www.phoenixcontact.com/pc/products/2869728>

DIN rail connector for DIN rail mounting. Universal for TBUS housing. Gold-plated contacts, 5-pos.



MINI MCR-SL-PTB - Power terminal block

2864134

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MCR power terminal block for supplying several MINI Analog modules via the DIN rail connector, with screw connection, maximum current consumption of up to 2 A



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MINI-SYS-PS-100-240AC/24DC/1.5 - Power supply unit

2866983

<https://www.phoenixcontact.com/pc/products/2866983>



Please use the following item in new systems: 2904614
Primary-switched MINI POWER power supply for DIN rail mounting, input: 1-phase, output: 24 V DC/1.5 A

MINI MCR DKL - Transparent cover

2308111

<https://www.phoenixcontact.com/pc/products/2308111>



Fold up transparent cover for MINI MCR modules with additional labeling option using insert strips and flat Zack marker strip 6.2 mm

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MINI MCR-DKL-LABEL - Marking label

2810272

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Label for extended marking of MINI MCR modules in connection with the MINI MCR-DKL



SZS 0,6X3,5 - Screwdriver

1205053

<https://www.phoenixcontact.com/pc/products/1205053>

Actuation tool, for ST terminal blocks, insulated, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip



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