

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	DK1135
GTIN	4017918956561
Weight per piece (including packing)	97.7 g
Weight per piece (excluding packing)	99.2 g

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



2864273

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

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

System properties

Functionality

Configuration	DIP switches
---------------	--------------

Electrical properties

Electrical isolation	3-way isolation
Electrical isolation between input and output	yes
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	$\leq 0,2 \%$

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

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



2864273

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

Input data

Signal

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

Measurement

Configurable/programmable	Yes
Sensor types (RTD) that can be used	Pt 100 (IEC 60751/EN 60751)
Temperature measuring range	min. 50 K
:	-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
Open-circuit 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 _{PP} (at 10 kΩ) < 20 mV _{PP} (at 500 Ω)

Connection data

Connection method	Screw connection
Stripping length	12 mm
Screw thread	M3
Conductor cross-section rigid	0.2 mm² ... 2.5 mm²
Conductor cross-section flexible	0.2 mm² ... 2.5 mm²
Conductor cross-section AWG	26 ... 12

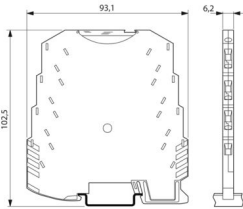
MINI MCR-SL-PT100-UI-NC - Resistance thermometer measuring transducer



2864273

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

Dimensions

Dimensional drawing	
Width	6.2 mm
Height	93.1 mm
Depth	101.2 mm

Material specifications

Color	green (RAL 6021)
Housing material	PBT
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

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
-------------	-------------------

Shipbuilding data

Temperature	B
-------------	---

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



2864273

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

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

EMC data

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

Noise emission

Standards/regulations	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

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



2864273

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

Mounting type	DIN rail mounting
Assembly note	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

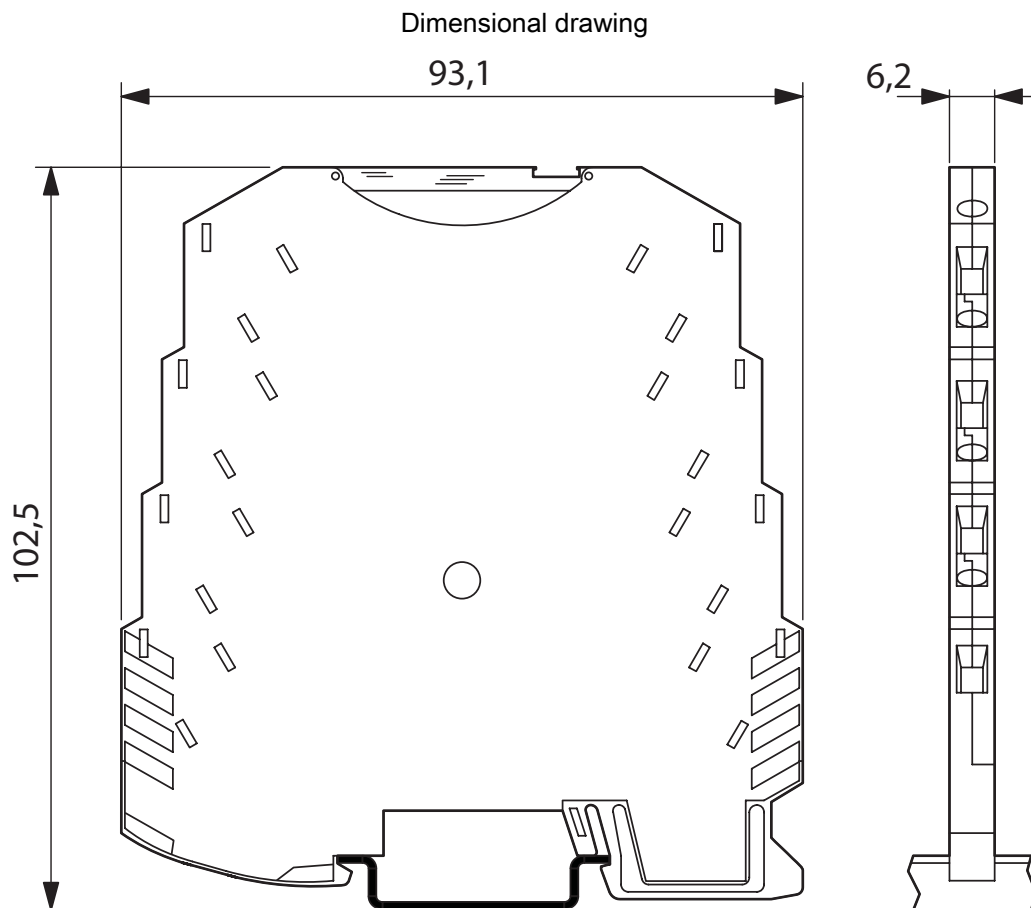
MINI MCR-SL-PT100-UI-NC - Resistance thermometer measuring transducer



2864273

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

Drawings



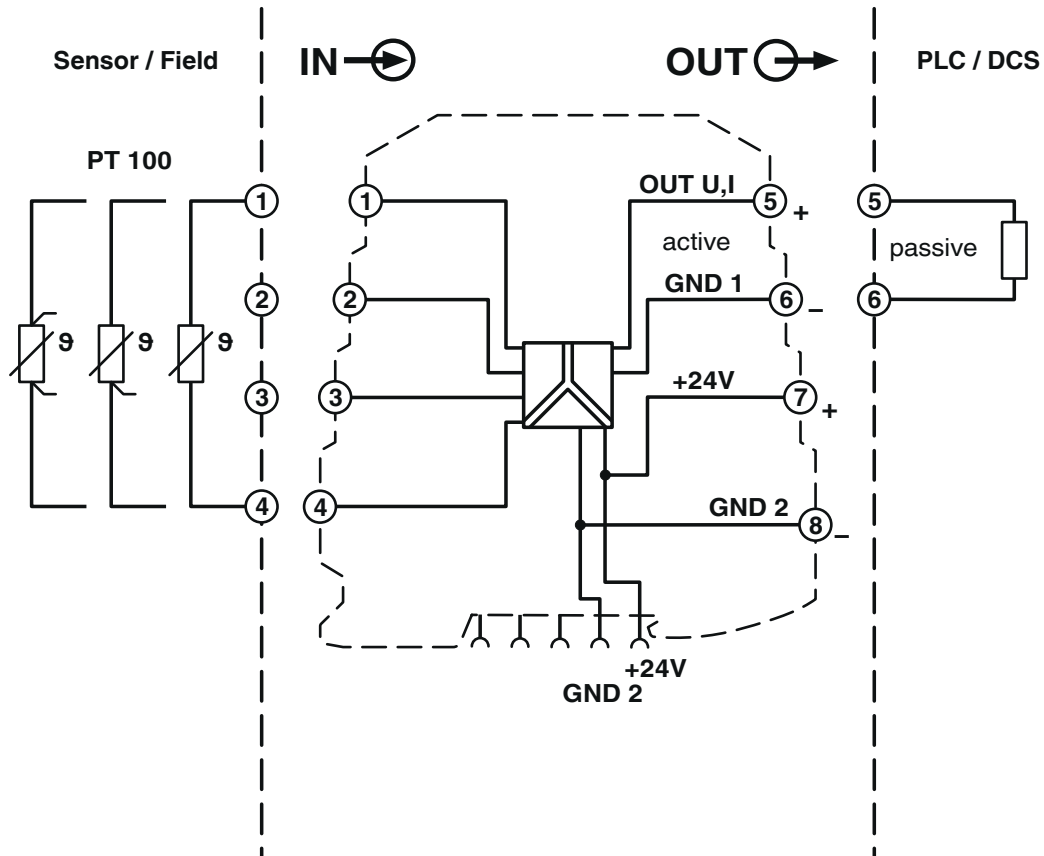
MINI MCR-SL-PT100-UI-NC - Resistance thermometer measuring transducer



2864273

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

Block diagram



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



2864273

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

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2864273>



cUL Recognized
Approval ID: E238705



UL Recognized
Approval ID: E238705

DNV

Approval ID: TAA00002R0



cUL Listed
Approval ID: E199827



UL Listed
Approval ID: E199827

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



2864273

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

Classifications

ECLASS

ECLASS-15.0	27210129
ECLASS-13.0	27210129

ETIM

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

UNSPSC

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

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

Environmental product compliance

EU RoHS	
Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I
China RoHS	
Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.
EU REACH SVHC	
REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	6a31acdc-1425-418f-9b19-c945668e11e5

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



2864273

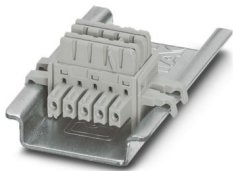
<https://www.phoenixcontact.com/us/products/2864273>

Accessories

ME 6,2 TBUS-2 1,5/5-ST-3,81 GY - DIN rail bus connector

2695439

<https://www.phoenixcontact.com/us/products/2695439>

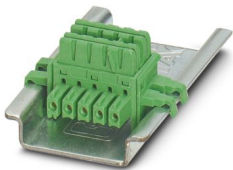


DIN rail bus connector (TBUS), 5-pos., for bridging the supply voltage, can be snapped onto NS 35/... DIN rail in accordance with EN 60715

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

2869728

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



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

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



2864273

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

TC-D37SUB-AIO16-M-PS-UNI - Module carrier

2902934

<https://www.phoenixcontact.com/us/products/2902934>



Universal termination carrier for connecting 16 MINI Analog signal conditioners to digital or analog I/O cards, via D-SUB connector, 37-pos. (1:1 connection), with HART multiplexer connection

TC-D37SUB-ADIO16-M-P-UNI - Module carrier

2902933

<https://www.phoenixcontact.com/us/products/2902933>



Universal termination carrier for connecting 16 MINI Analog signal conditioners to digital or analog I/O cards, via D-SUB connector, 37-pos. (1:1 connection)

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



2864273

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

MINI MCR DKL - Transparent cover

2308111

<https://www.phoenixcontact.com/us/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

MINI MCR-DKL-LABEL - Marking label

2810272

<https://www.phoenixcontact.com/us/products/2810272>



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

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



2864273

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

MINI MCR-SL-PTB - Power terminal block

2864134

<https://www.phoenixcontact.com/us/products/2864134>



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

QUINT4-SYS-PS/1AC/24DC/2.5/SC - Power supply

2904614

<https://www.phoenixcontact.com/us/products/2904614>



Primary-switched power supply, QUINT POWER, screw connection, DIN rail mounting, supply of devices possible via the TBUS DIN rail connector, protective coating, input: single-phase, output: 24 V DC/2.5 A

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



2864273

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

SZS 0,6X3,5 - Screwdriver

1205053

<https://www.phoenixcontact.com/us/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

Phoenix Contact 2025 © - 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