



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

URL:<https://www.sxplc.com/resistance-thermometer-measuring-transducer-mcr-sl-pt100-ui-nc>

### Product data sheet

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.

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 K / 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

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
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

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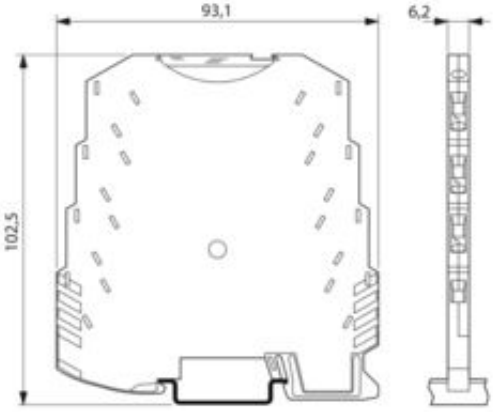
Signal: Voltage/current	
Number of outputs	1
Configurable/programmable	Yes, unconfigured
Voltage output signal	0 V ... 5 V
	1 V ... 5 V
	0 V ... 10 V
	10 V ... 0 V
Max. voltage output signal	□ 12.5 V
Non-load voltage	□ 12.5 V
Current output signal	0 mA ... 20 mA

	4 mA ... 20 mA
	20 mA ... 0 mA
	20 mA ... 4 mA
Max. current output signal	23 mA
Short-circuit current	□ 10 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)

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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

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Dimensional drawing	
Width	6.2 mm
Height	93.1 mm
Depth	101.2 mm

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

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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)

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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

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

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	10 %

value	
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 %

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Electrical isolation	3-way isolation
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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
Product type	Temperature transmitter
Product family	MINI Analog
No. of channels	1
Configuration	DIP switches
Insulation characteristics	
Overvoltage category	II
Pollution degree	2

