

MCR-FL-T-LP-I - Temperature measuring transducer



2864561

<https://www.phoenixcontact.com/us/products/2864561>

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 measuring transducer: programmable, loop-powered, for resistance thermometers, thermocouples, resistance-type sensors and voltage sensors.

Your advantages

- Freely programmable via MCR/PI-CONF-WIN
- Two-wire transmitter for resistance thermometers, thermocouples, resistance-type sensors, and voltage sensors

Commercial data

Item number	2864561
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	C401
Product key	DK1143
GTIN	4017918899820
Weight per piece (including packing)	103.6 g
Weight per piece (excluding packing)	103.6 g
Customs tariff number	85437090
Country of origin	DE

MCR-FL-T-LP-I - Temperature measuring transducer



2864561

<https://www.phoenixcontact.com/us/products/2864561>

Technical data

Product properties

Product type	Temperature transmitter
Configuration	Using MCR-PI-CONF-WIN configuration software package

System properties

Functionality

Configuration	Using MCR-PI-CONF-WIN configuration software package
---------------	--

Electrical properties

Switch-on delay	4 s
Maximum power dissipation for nominal condition	122.5 mW
Test voltage input/output	2 kV AC (50 Hz, 60 s)
Step response (10-90%)	< 2 s
Transmission error voltage sensor	±20 µV (-10 mV ... 100 mV)
Transmission error thermocouples	typ. 0.5 K (K, J, T, E, L, U), 1.0 K (N, C, D), 2.0 K (S, B, R)
Transmission error resistance-type sensor	±0.1 Ω (10 ... 400 Ω), ±1.5 Ω (10 ... 2000 Ω)
Transmission error resistance thermometer	0.2 K (Pt 100, Ni 100), 0.5 K (Pt 500, Ni 500), 0.3 K (Pt 1000, Ni 1000)

Supply

Designation	Loop-powered
Supply voltage range	12 V DC ... 35 V DC
Max. current consumption	< 3.5 mA

Input data

Signal

Number of inputs	1
Input signal	Temperature

Measurement

Configurable/programmable	Yes, programmable
Sensor types (RTD) that can be used	Pt, Ni (100, 500, 1000); min. measurement range 10 K
Sensor types that can be used (TC)	B, C, D, E, J, K, L, N, R, S, T, U; minimum measurement range 50 K/500 K
Temperature measuring range: Pt 100	-200 °C ... 850 °C (freely adjustable)
Temperature measuring range: Pt 500	-200 °C ... 250 °C (freely adjustable)
Temperature measuring range: Pt 1000	-200 °C ... 250 °C (freely adjustable)
Temperature measuring range: Ni 100	-60 °C ... 250 °C (freely adjustable)
Temperature measuring range: Ni 500	-60 °C ... 150 °C (freely adjustable)
Temperature measuring range: Ni 1000	-60 °C ... 150 °C (freely adjustable)
Temperature measuring range: Thermoelement Typ B	0 °C ... 1820 °C (freely adjustable)
Temperature measuring range: Thermoelement Typ C	0 °C ... 2320 °C (freely adjustable)

MCR-FL-T-LP-I - Temperature measuring transducer



2864561

<https://www.phoenixcontact.com/us/products/2864561>

Temperature measuring range: Thermoelement Typ D	0 °C ... 2495 °C (freely adjustable)
Temperature measuring range: Thermoelement Typ E	-270 °C ... 1000 °C (freely adjustable)
Temperature measuring range: Thermoelement Typ J	-210 °C ... 1200 °C (freely adjustable)
Temperature measuring range: Thermoelement Typ K	-270 °C ... 1372 °C (freely adjustable)
Temperature measuring range: Thermoelement Typ L	-200 °C ... 900 °C (freely adjustable)
Temperature measuring range: Thermoelement Typ N	-270 °C ... 1300 °C (freely adjustable)
Temperature measuring range: Thermoelement Typ R	-50 °C ... 1760 °C (freely adjustable)
Temperature measuring range: Thermoelement Typ S	-50 °C ... 1760 °C (freely adjustable)
Temperature measuring range: Thermoelement Typ T	-270 °C ... 400 °C (freely adjustable)
Temperature measuring range: Thermoelement Typ U	-200 °C ... 600 °C (freely adjustable)
Linear resistance measuring range	Resistance-type sensor from 10 Ω to 400 Ω and from 10 Ω to 2000 Ω; minimum measurement range 10 Ω/100 Ω
Linear mV signal range	-10 mV ... 100 mV (min. measurement range 5 mV)
Connection technology	2-, 3-, 4-conductor

Output data

Frequency:

Configurable/programmable	no
---------------------------	----

Signal: Current output

Number of outputs	1
Configurable/programmable	Yes
Current output signal	4 mA ... 20 mA 20 mA ... 4 mA
Output current with wire break	≤ 3.6 mA or ≥ 21 mA (adjustable)
Output current with short-circuit	≤ 3.6 mA or ≥ 21 mA (adjustable, not for thermocouples)
Output current range with overrange/underrange	≤ 20.5 mA / ≥ 3.8 mA (linear increase/decrease)
Output current limit	≤ 23 mA
Load/output load current output	max (V _{supply} -12 V) / 0.023 A (current output)

Connection data

Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
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 ... 14

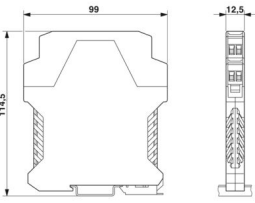
Dimensions

MCR-FL-T-LP-I - Temperature measuring transducer



2864561

<https://www.phoenixcontact.com/us/products/2864561>

Dimensional drawing	
Width	12.5 mm
Height	99 mm
Depth	114.5 mm

Material specifications

Color	green (RAL 6021)
Housing material	Polyamide PA non-reinforced

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 85 °C

Approvals

CE

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

UL, USA/Canada

Identification	Class I, Div. 2, Groups A, B, C, D
----------------	------------------------------------

EMC data

Noise immunity	EN 61326-1 (IEC 61326) and NAMUR NE 21
----------------	--

Noise emission

Standards/regulations	EN 61326-1 (IEC 61326) and NAMUR NE 21
-----------------------	--

Mounting

Mounting type	DIN rail mounting
Mounting position	any

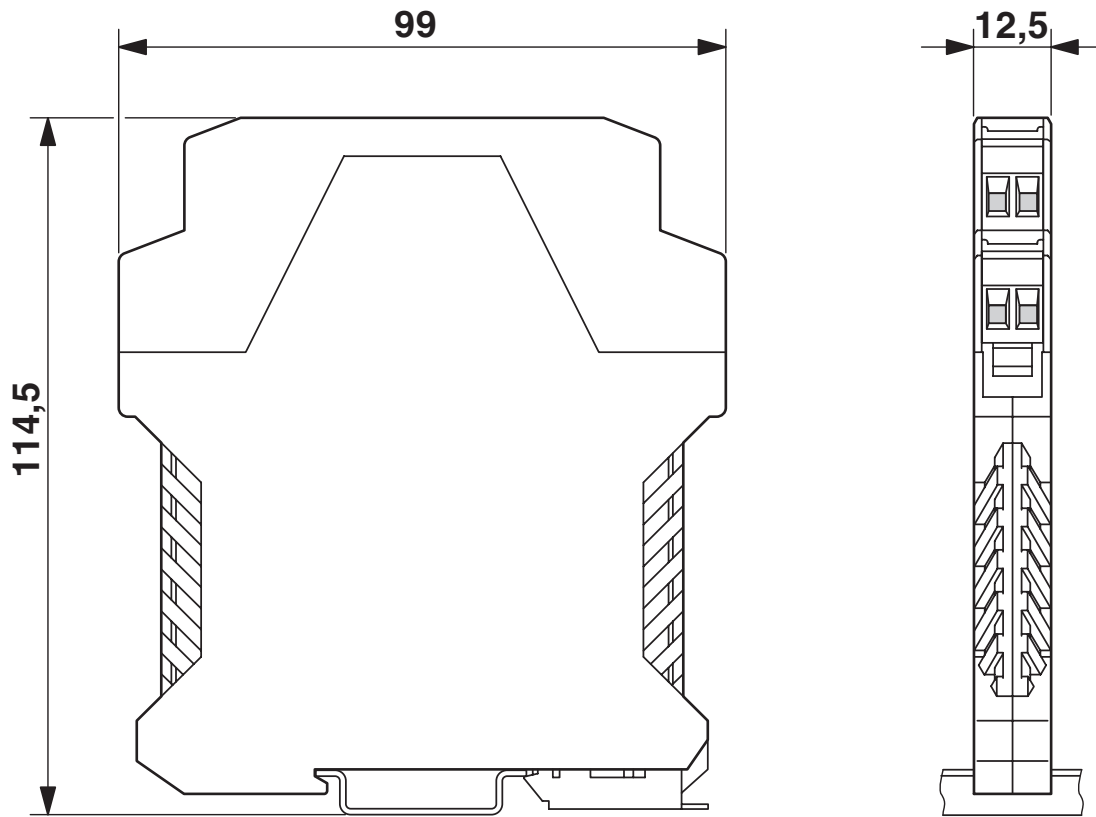
MCR-FL-T-LP-I - Temperature measuring transducer

2864561

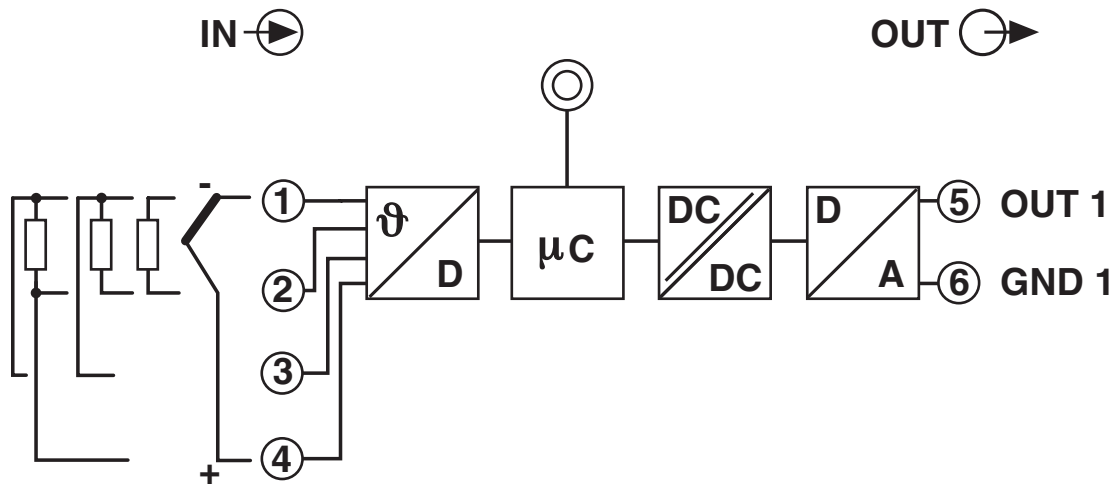
<https://www.phoenixcontact.com/us/products/2864561>

Drawings

Dimensional drawing



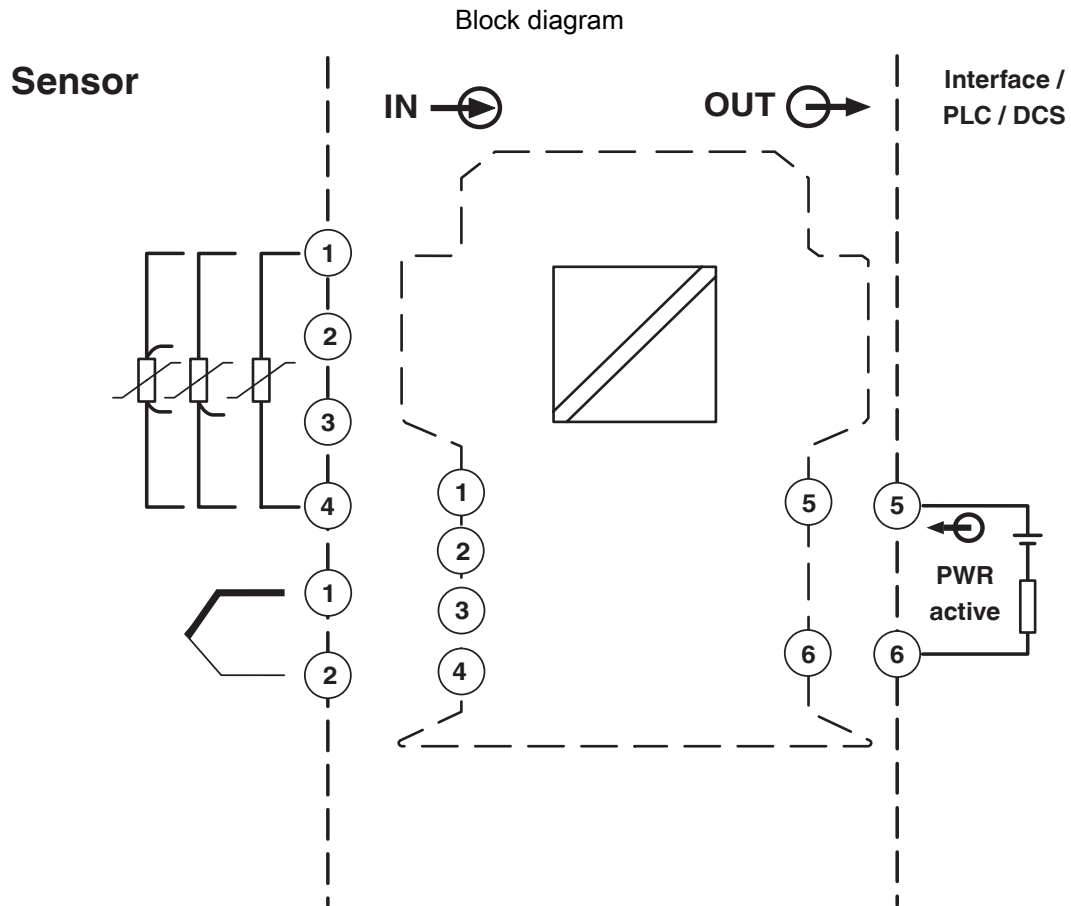
Circuit diagram



MCR-FL-T-LP-I - Temperature measuring transducer

2864561

<https://www.phoenixcontact.com/us/products/2864561>



Block diagram MCR-FL-T-LP-I

MCR-FL-T-LP-I - Temperature measuring transducer



2864561

<https://www.phoenixcontact.com/us/products/2864561>

Classifications

UNSPSC

UNSPSC 21.0	41112105
-------------	----------

MCR-FL-T-LP-I - Temperature measuring transducer



2864561

<https://www.phoenixcontact.com/us/products/2864561>

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
---	--------------------

China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
-------------------------------------	----------------------------

Phoenix Contact 2026 © - 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