

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



2864561

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

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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
Minimum order quantity	1 pc
Note	Made to Order (non-returnable)
Sales Key	C01
Product Key	CK1322
Catalog Page	Page 196 (C-5-2017)
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

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Technical Data

Product properties

Product type	Temperature transmitter
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...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); minimum 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
Sensor type:	-200 °C ... 850 °C (freely adjustable)
	-200 °C ... 250 °C (freely adjustable)
	-200 °C ... 250 °C (freely adjustable)
	-60 °C ... 250 °C (freely adjustable)
	-60 °C ... 150 °C (freely adjustable)
	-60 °C ... 150 °C (freely adjustable)
	0 °C ... 1820 °C (freely adjustable)
	0 °C ... 2320 °C (freely adjustable)
	0 °C ... 2495 °C (freely adjustable)
	-270 °C ... 1000 °C (freely adjustable)
	-210 °C ... 1200 °C (freely adjustable)
	-270 °C ... 1372 °C (freely adjustable)

	-200 °C ... 900 °C (freely adjustable)
	-270 °C ... 1300 °C (freely adjustable)
	-50 °C ... 1760 °C (freely adjustable)
	-50 °C ... 1760 °C (freely adjustable)
	-270 °C ... 400 °C (freely adjustable)
	-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
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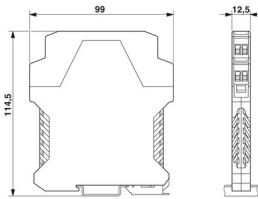
Signal:

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 solid	0.2 mm² ... 2.5 mm²
Conductor cross section flexible	0.2 mm² ... 2.5 mm²
Conductor cross section AWG	24 ... 14

Dimensions

Dimensional drawing	
Width	12.5 mm
Height	99 mm
Depth	114.5 mm

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Material specifications

Housing material	Polyamide PA non-reinforced
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Environmental and real-life conditions

Ambient conditions

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

Approval data

CE

Certificate	CE-compliant
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UL, USA / Canada

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

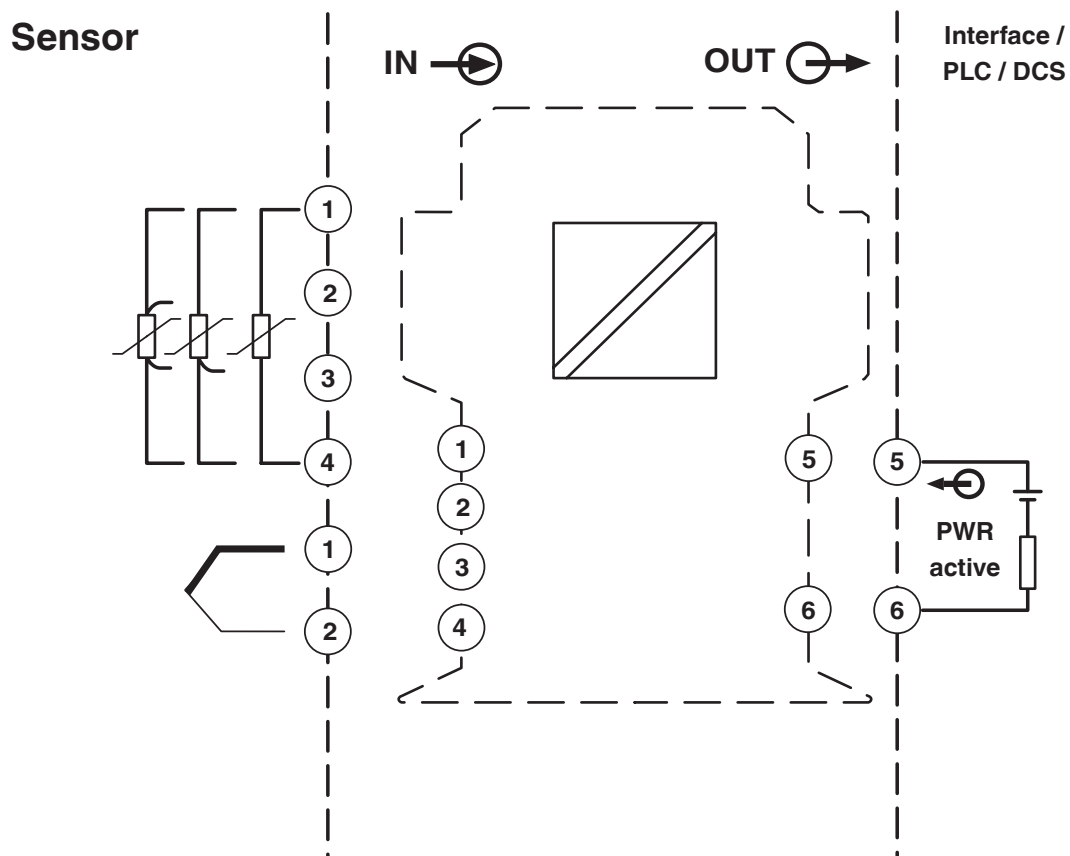
Noise emission	EN 61326-1 (IEC 61326) and NAMUR NE 21
Noise immunity	EN 61326-1 (IEC 61326) and NAMUR NE 21

Mounting

Mounting type	DIN rail mounting
Mounting position	any

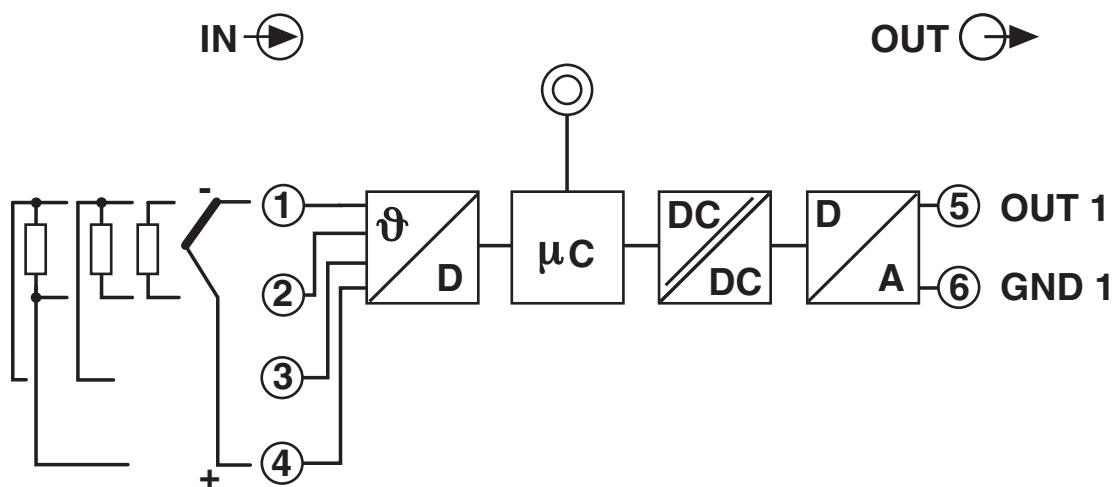
Drawings

Block diagram



Block diagram MCR-FL-T-LP-I

Circuit diagram



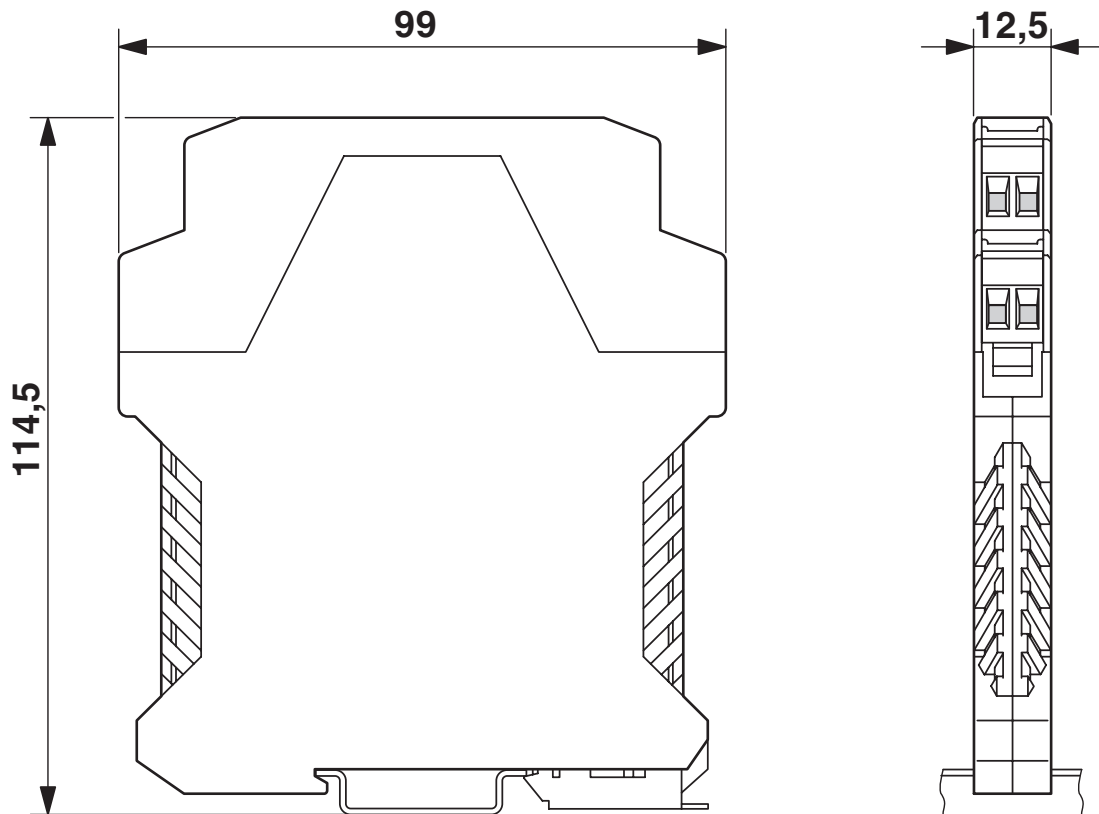
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Dimensional drawing



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Approvals



cUL Recognized
Approval ID: FILE E 198586



UL Recognized
Approval ID: FILE E 198586



EAC
Approval ID: RU C-DE.A*30.B.01082



cUL Listed
Approval ID: FILE E 199827



UL Listed
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cULus Recognized

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Classifications

ECLASS

ECLASS-9.0	27210129
ECLASS-10.0.1	27210129
ECLASS-11.0	27210129

ETIM

ETIM 7.0	EC002919
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UNSPSC

UNSPSC 21.0	41112105
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Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

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Accessories

Programming adapter

Programming adapter - MCR-PAC-T-USB - 2309000

<https://www.phoenixcontact.com/us/products/2309000>

Programming adapter with USB and T port interface, 2.4 m for programming FA MCR-..., MCR-...-LP-..., and MCR-...-HT-... modules



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