

# Temperature measuring transducer - MCR-FL-T-LP-I-EX - 2864574

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MCR head-mounted temperature transducers: Programmable loop-powered temperature transducers. Resistance thermometers, thermocouples, resistance-type sensors and voltage sensors.

## Product Features

- Input for resistance thermometers, thermocouples, and linear mV signals, Ex ia IIC
- Configuration via software
- Can be installed in zone 1
- 2-way electrical isolation
- Single-channel
- Loop-powered
- HART-compatible (MCR-FL-TS-LP-I-EX)
- 4  
20 mA/20  
4 mA output



## Key Commercial Data

Packing unit	1 pc
Weight per Piece (excluding packing)	106.6 g
Custom tariff number	85437090
Country of origin	Germany

## Technical data

### Dimensions

Width	12.5 mm
Height	99 mm
Depth	114.5 mm

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## Technical data

### Ambient conditions

Degree of protection	IP20
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### Input data

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; min. measurement range 50 K/500 K
Connection method	2, 3, 4-wire
Input signal range	10 Ω ... 400 Ω (min. measurement range 10 Ω)
	10 Ω ... 2000 Ω (min. measurement range 100 Ω)
	-10 mV ... 100 mV (min. measurement range 5 mV)

### Output data

Signal output	Current output
Current output signal	4 mA ... 20 mA
	20 mA ... 4 mA
Max. current output signal	≤ 23 mA
Output current with short-circuit	≤ 3.6 mA or ≥ 21 mA (adjustable, not for thermocouples)
Output current with wire break	≤ 3.6 mA or ≥ 21 mA (adjustable)
Output current range with overrange/underrange	3.8 mA ... 20.5 mA
Load/output load current output	≤ 520 Ω (At $U_V = 24\text{ V}$ ; $U_{\text{supply}} = 12\text{ V} / 0.023\text{ A}$ )

### Power supply

Designation	Loop-powered
Supply voltage range	12 V DC ... 30 V DC
Max. current consumption	< 3.5 mA

### Connection data

Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	14
Stripping length	8 mm
Screw thread	M3
Connection method	Screw connection
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm

### General

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## Technical data

### General

Step response (10-90%)	< 2 s
Switch-on delay	4 s
Configuration	Using MCR-PI-CONF-WIN configuration software package
Flammability rating according to UL 94	V0
Standards/regulations	NAMUR recommendation NE 21
Housing material	Polyamide PA non-reinforced
Color	green
Line monitoring	NE 43
Conformance	CE-compliant
ATEX	# II 2(1) G Ex ia IIC T4...T6
UL, USA / Canada	cULus

### Safety data

Max. output voltage $U_o$	4.4 V DC
Max. output current $I_o$	9.6 mA
Max. output power $P_o$	10.6 mW
Max. ambient temperature	T4 = 85 °C, T5 = 65 °C, T6 = 50 °C
Group	IIA
Max. external inductivity $L_o$	100 mH
Max. external capacity $C_o$	12 $\mu$ F
Group	IIB
Max. external inductivity $L_o$	100 mH
Max. external capacity $C_o$	12 $\mu$ F
Group	IIC
Max. external inductivity $L_o$	100 mH
Max. external capacity $C_o$	2.4 $\mu$ F
Safety-related maximum voltage $U_m$	250 V

### Standards and Regulations

Standards/regulations	NAMUR recommendation NE 21
Flammability rating according to UL 94	V0
Conformance	CE-compliant
ATEX	# II 2(1) G Ex ia IIC T4...T6
UL, USA / Canada	cULus
Group	IIA
	IIB
	IIC

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## Classifications

### eCl@ss

eCl@ss 4.0	27200206
eCl@ss 4.1	27200206
eCl@ss 5.0	27200206
eCl@ss 5.1	27200206
eCl@ss 6.0	27200206
eCl@ss 7.0	27200206
eCl@ss 8.0	27371503

### ETIM

ETIM 2.0	EC001446
ETIM 3.0	EC001446
ETIM 4.0	EC001446
ETIM 5.0	EC002568

### UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008
UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	39121008

## Approvals

### Approvals

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Approvals

EAC / EAC

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Ex Approvals

ATEX / UL Listed / UL Listed / cUL Listed / cUL Listed / cULus Listed

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Approvals submitted

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### Approval details

EAC
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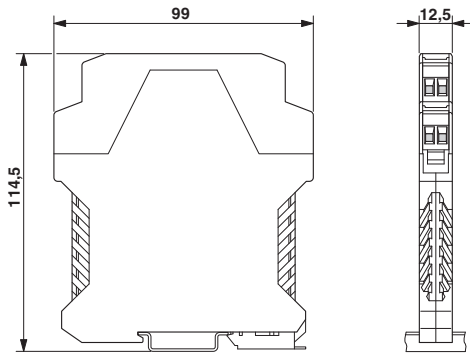
# Temperature measuring transducer - MCR-FL-T-LP-I-EX - 2864574

## Approvals

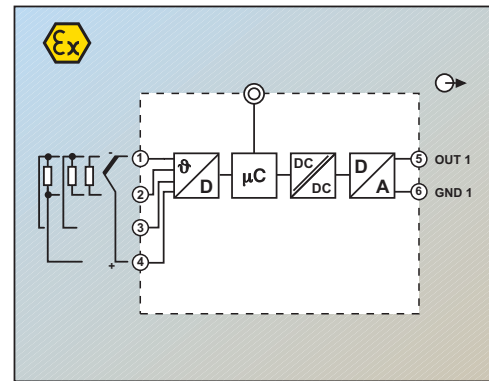
EAC

## Drawings

Dimensional drawing



Block diagram



Block diagram MCR-FL-T-LP-I-EX