

Temperature measuring transducer - MCR-FL-TS-LP-I-EX - 2864587

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MCR temperature measuring transducers, resistance thermometers, thermocouples, resistance and voltage sensors

Why buy this product

- ✓ 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
- ✓ 4
20 mA/20
4 mA output
- ✓ Loop-powered
- ✓ 1-channel
- ✓ HART-compatible (MCR-FL-TS-LP-I-EX)



Key Commercial Data

Packing unit	1 STK
GTIN	 4 017918 907266
GTIN	4017918907266

Technical data

Dimensions

Width	12.5 mm
Height	99 mm
Depth	114.5 mm

Ambient conditions

Ambient temperature (operation)	-40 °C ... 55 °C
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Input data

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Technical data

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 technology	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
Configurable/programmable	Yes
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 $U_V = 24$ V; $U_{\text{supply}} - 12$ V / 0.023 A)
Configurable/programmable	no

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 ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
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

Step response (10-90%)	< 2 s
Switch-on delay	4 s
Configuration	With HART protocol
Flammability rating according to UL 94	V0

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Technical data

General

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 T6
UL, USA/Canada	cULus
Functional Safety (SIL)	SIL 2
SIL	2

Safety data

Max. output voltage U_o	5 V DC
Max. output current I_o	5.9 mA
Max. output power P_o	7.2 mW
Max. ambient temperature	T4 = 85 °C, T5 = 70 °C, T6 = 55 °C
Group	IIA
Max. external inductivity L_o	100 mH
Max. external capacity C_o	10 μ F
Group	IIB
Max. external inductivity L_o	100 mH
Max. external capacity C_o	10 μ F
Group	IIC
Max. external inductivity L_o	100 mH
Max. external capacity C_o	2 μ 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 T6
UL, USA/Canada	cULus
Group	IIA
	IIB
	IIC

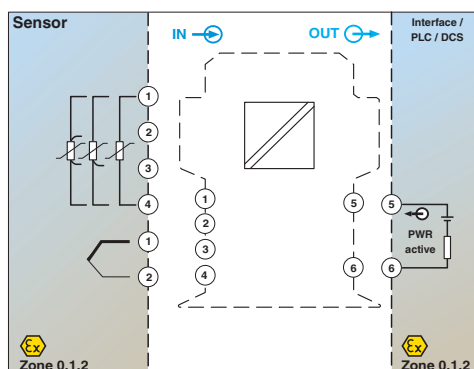
Environmental Product Compliance

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

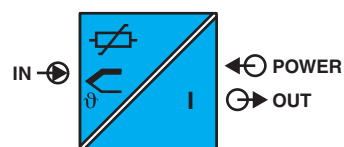
Drawings

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Block diagram

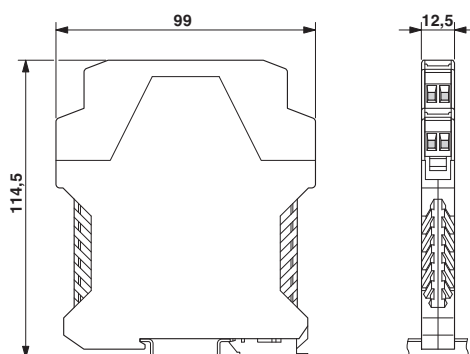


Pictogram



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

Dimensional drawing



Approvals

Approvals

Approvals

EAC

Ex Approvals

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

Approval details

EAC



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