

MCR-TE-JK-I-E - Thermocouple measuring transducer



2810528

<https://www.phoenixcontact.com/us/products/2810528>

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MCR temperature measuring transducer, for thermocouples type J, K input: 0 - 400°C, 0 - 800°C, 0 - 1000°C, 0 - 1200°C, input electrically isolated, output signal 0(4)...20 mA

Commercial data

Item number	2810528
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	NULL
Product key	CK1821
Catalog page	Page 324 (IF-2007)
Weight per piece (including packing)	139.5 g
Weight per piece (excluding packing)	138.4 g
Customs tariff number	85437090
Country of origin	DE

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Technical data

Notes

Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area
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Product properties

Product type	Temperature transmitter
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Electrical properties

Alignment span	$\pm 5\%$ (of final value)
Alignment zero	$\pm 60\text{ K}$
Limit frequency (3 dB)	30 Hz
Typical cold point errors	$\pm 2.5\text{ K}$
Cold point error, max.	$\pm 4\text{ K}$
Test voltage input/output	1.5 kV AC (50 Hz, 60 s)
Test voltage input/power supply	1.5 kV AC (50 Hz, 60 s)
Step response (10-90%)	\approx  ms
Maximum temperature coefficient	$< 0.02\%/K$
Maximum transmission error	$\leq 1.2\%$ (of end value, for type K) $< 2\%$ (of end value, for type J, $0\text{ }^\circ\text{C} \dots 400\text{ }^\circ\text{C}$ and $0\text{ }^\circ\text{C} \dots 800\text{ }^\circ\text{C}$) $< 2.5\%$ (of end value, for type J, $0\text{ }^\circ\text{C} \dots 1000\text{ }^\circ\text{C}$ and $0\text{ }^\circ\text{C} \dots 1200\text{ }^\circ\text{C}$)

Supply

Supply voltage range	18 V DC ... 30 V DC
Max. current consumption	50 mA

Input data

Signal

Input signal	Temperature
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Measurement

Configurable/programmable	Yes
Sensor types that can be used (TC)	J, K
Temperature measuring range	$0\text{ }^\circ\text{C} \dots 400\text{ }^\circ\text{C}$ $0\text{ }^\circ\text{C} \dots 800\text{ }^\circ\text{C}$ $0\text{ }^\circ\text{C} \dots 1000\text{ }^\circ\text{C}$ $0\text{ }^\circ\text{C} \dots 1200\text{ }^\circ\text{C}$
Sensor type:	$0\text{ }^\circ\text{C} \dots 400\text{ }^\circ\text{C}$ (fixed setting) $0\text{ }^\circ\text{C} \dots 800\text{ }^\circ\text{C}$ (fixed setting) $0\text{ }^\circ\text{C} \dots 1000\text{ }^\circ\text{C}$ (fixed setting) $0\text{ }^\circ\text{C} \dots 1200\text{ }^\circ\text{C}$ (fixed setting)

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	0 °C ... 400 °C (fixed setting)
	0 °C ... 800 °C (fixed setting)
	0 °C ... 1000 °C (fixed setting)
	0 °C ... 1200 °C (fixed setting)

Output data

Signal: Current output

Configurable/programmable	Yes
Current output signal	0 mA ... 20 mA 4 mA ... 20 mA
Max. current output signal	30 mA
Output current with wire break	> 22 mA
Load/output load current output	≤ 500 Ω

Connection data

Connection method	Pluggable 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

Dimensional drawing	
Width	17.5 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

Ambient temperature (operation)	-20 °C ... 65 °C
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Approvals

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CE

Certificate	CE-compliant
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UL, USA/Canada

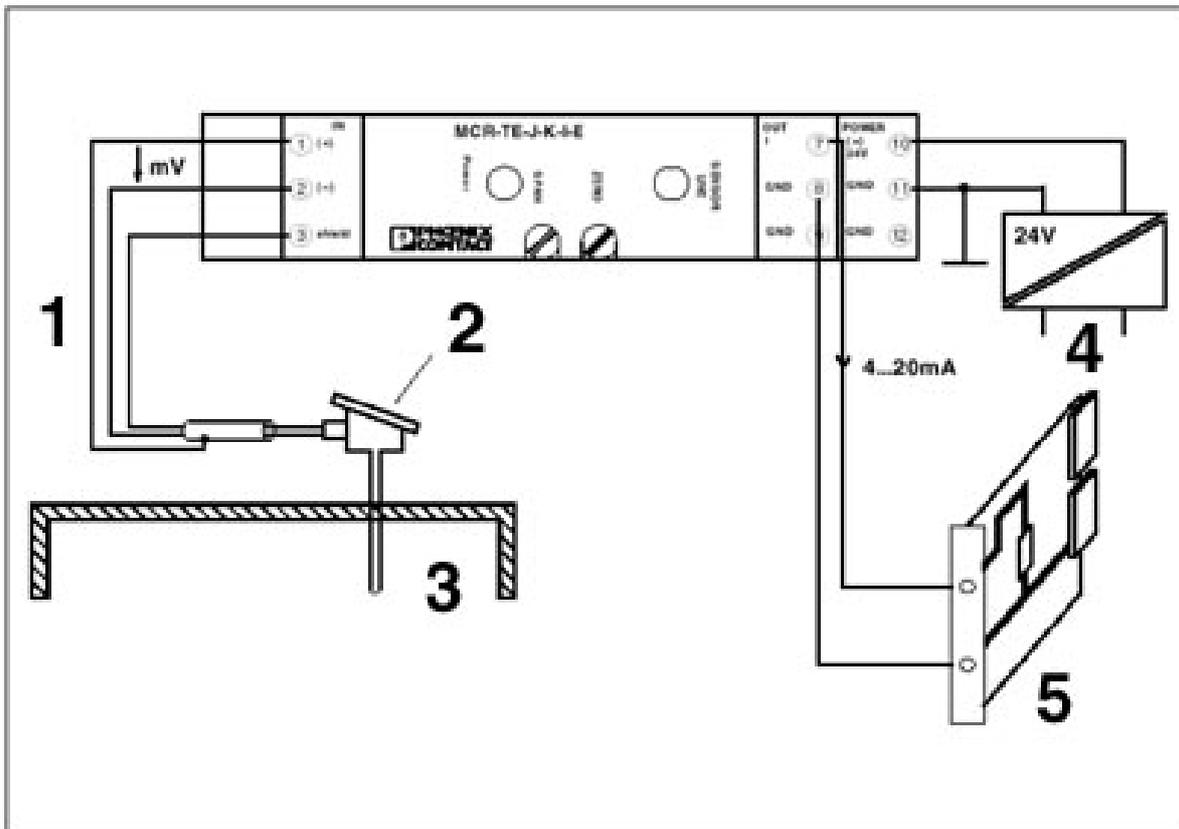
Identification	cULus
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Mounting

Mounting position	any
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Drawings

Application drawing



Application example: Temperature measurement of a climatic chamber

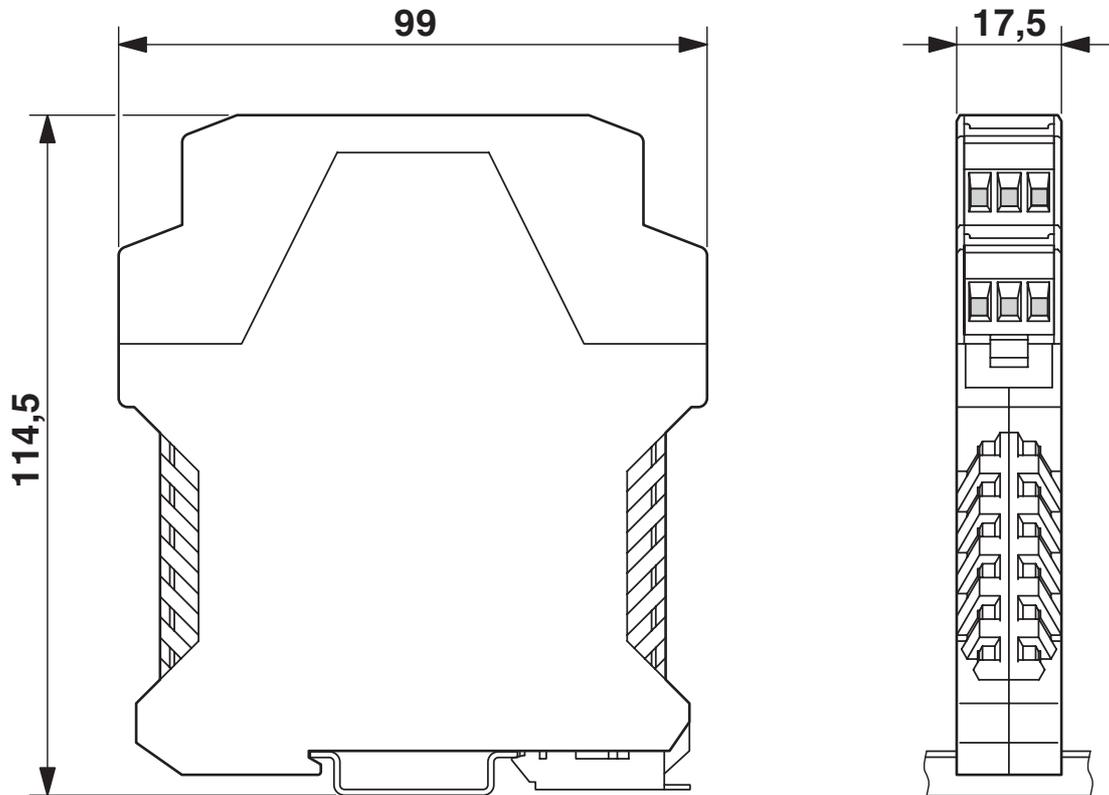
- 1 = shielded conductor
- 2 = thermocouple
- 3 = climatic chamber
- 4 = mains voltage
- 5 = control

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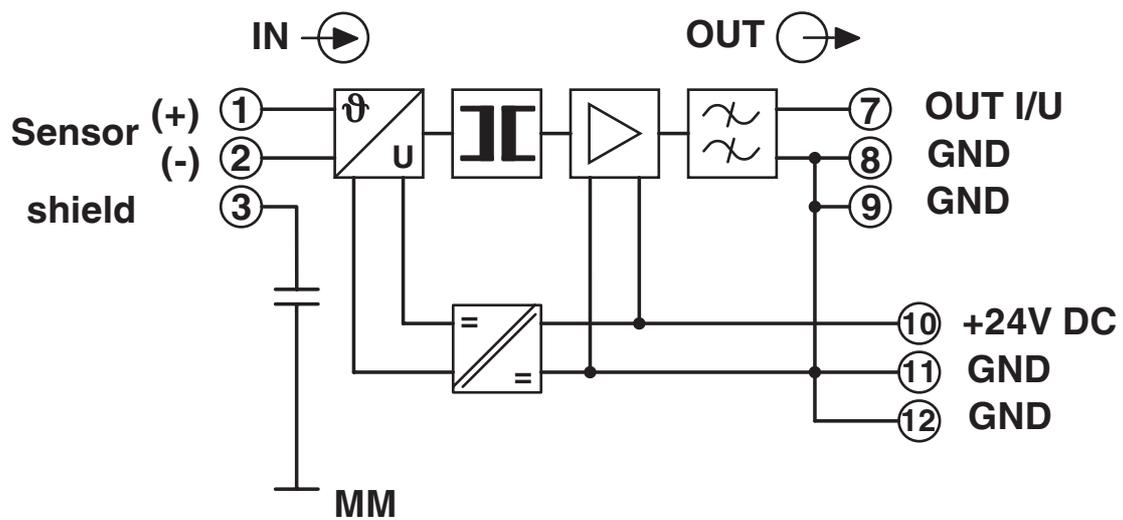
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Dimensional drawing



Circuit diagram



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Classifications

ECLASS

ECLASS-11.0	27210129
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Environmental product compliance

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
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Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com