

PI-EX-THC-I - Signal converter



2835079

<https://www.phoenixcontact.com/us/products/2835079>

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Ex i thermocouple with mV input: converts signals from thermocouples installed in the Ex area and mV sources and transmits a 4 - 20 mA signal to a load in a safe area. Freely programmable. 3-way electrical isolation. Custom-configured.

Commercial data

Item number	2835079
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	C430
Product key	DK1XXX
Weight per piece (including packing)	98 g
Weight per piece (excluding packing)	80 g
Customs tariff number	85437090
Country of origin	GB

Technical data

Notes

Order information:	The electronics module is plugged into a basic terminal block.
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Product properties

Product type	Temperature transmitter
Application	Temperature
No. of channels	1

Electrical properties

Typical cold point errors	1.5 °C
Temperature coefficient, typical	± 0.003 % (of input value / °C)
Maximum transmission error	< 0.12 % (of end value 20 mA, at 20°C, -75 mV ... 75 mV input range)

Electrical isolation Input/output

Electrical isolation	250 V
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Electrical isolation Input/power supply

Electrical isolation	250 V
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Electrical isolation Output/supply

Test voltage	1.5 kV AC (50 Hz, 60 s)
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Supply

Supply voltage range	20 V DC ... 35 V DC
Max. current consumption	64 mA (24 V DC / 20 mA)
Power dissipation	1.5 W (24 V DC / 20 mA)

Input data

Measurement

Description of the input	intrinsically safe
Configurable/programmable	Freely programmable, configured
Sensor types that can be used (TC)	J, K, T, E, R, S, B, N
Temperature measuring range: Thermoelement Typ J	-210 °C ... 1200 °C
Temperature measuring range: Thermoelement Typ K	-200 °C ... 1372 °C
Temperature measuring range: Thermoelement Typ T	-200 °C ... 400 °C
Temperature measuring range: Thermoelement Typ E	-226 °C ... 1000 °C
Temperature measuring range: Thermoelement Typ R	-50 °C ... 1768 °C
Temperature measuring range: Thermoelement Typ S	-50 °C ... 1768 °C
Temperature measuring range: Thermoelement Typ B	500 °C ... 1820 °C
Temperature measuring range: Thermoelement Typ N	-200 °C ... 1300 °C
Linear mV signal range	-75 mV ... 75 mV (minimum measuring range span 3 mV)
Measuring accuracy	±15 µV or ± 0.05% of the input value, if this result is greater, at

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20°C

Output data

Signal

Output description	Current output
Current output signal	4 mA ... 20 mA
Load/output load current output	$\leq 600 \Omega$
Behavior in the event of a sensor error	upscale, downscale or off, LED flashes
Measuring accuracy	$\pm 11 \mu\text{A}$

Connection data

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
Tightening torque	0.5 Nm ... 0.6 Nm

Ex data

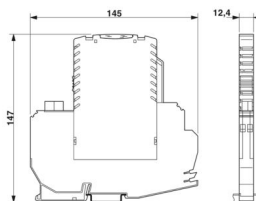
Safety data

Max. output voltage U_o	1.1 V
Max. output current I_o	4 mA
Max. output power P_o	1 mW
Safety-related maximum voltage U_m	250 V AC
IIB: Max. external inductivity L_o / Max. external capacitance C_o	178.4 mH / 500 μF
IIC: Max. external inductivity L_o / Max. external capacitance C_o	48.7 mH / 22 μF

Signaling

Status display	Green LED, for power supply, flashes in the case of sensor defect
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Dimensions

Dimensional drawing	
Width	12.4 mm
Height	145 mm
Depth	147 mm

Material specifications

Color	green (RAL 6021)
Flammability rating according to UL 94	V0

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Housing material	PBT and polyamide PA non-reinforced
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Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-20 °C ... 55 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C

Approvals

CE

Certificate	CE-compliant
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ATEX

Identification	Ⓔ II (1) GD [Ex ia] IIC
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UL, USA/Canada

Identification	cULus
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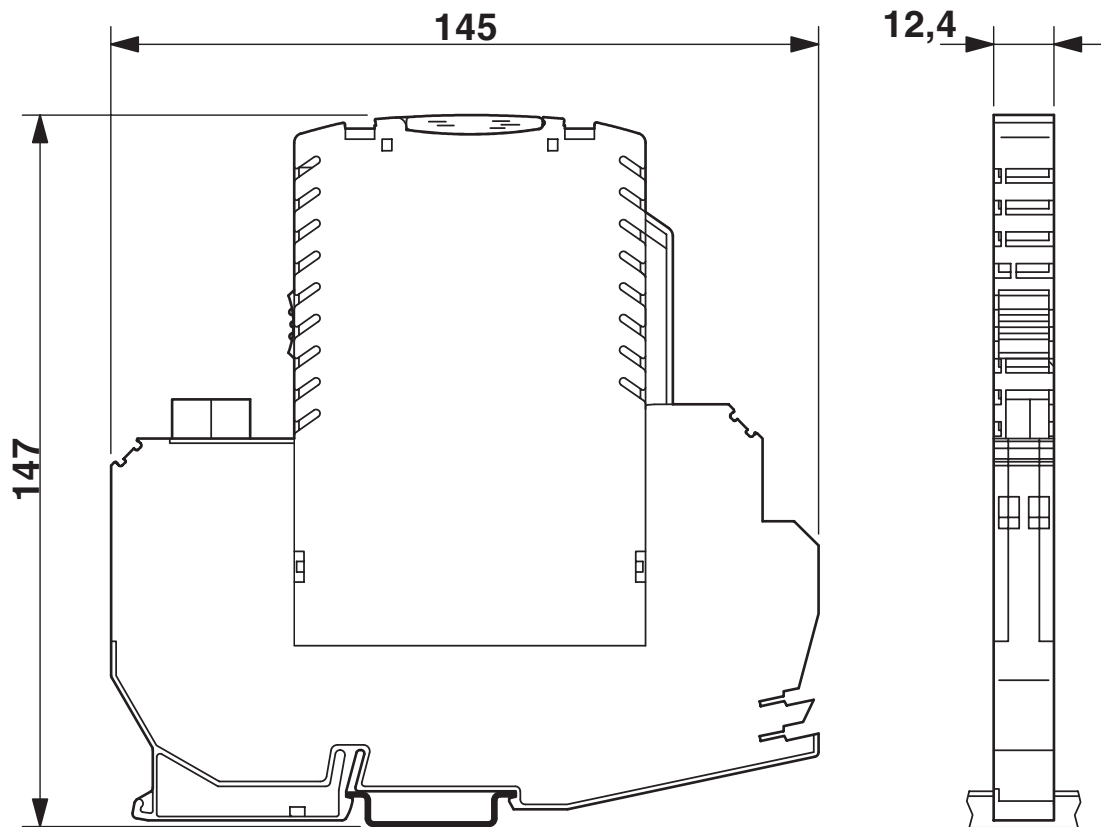
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Drawings

Dimensional drawing



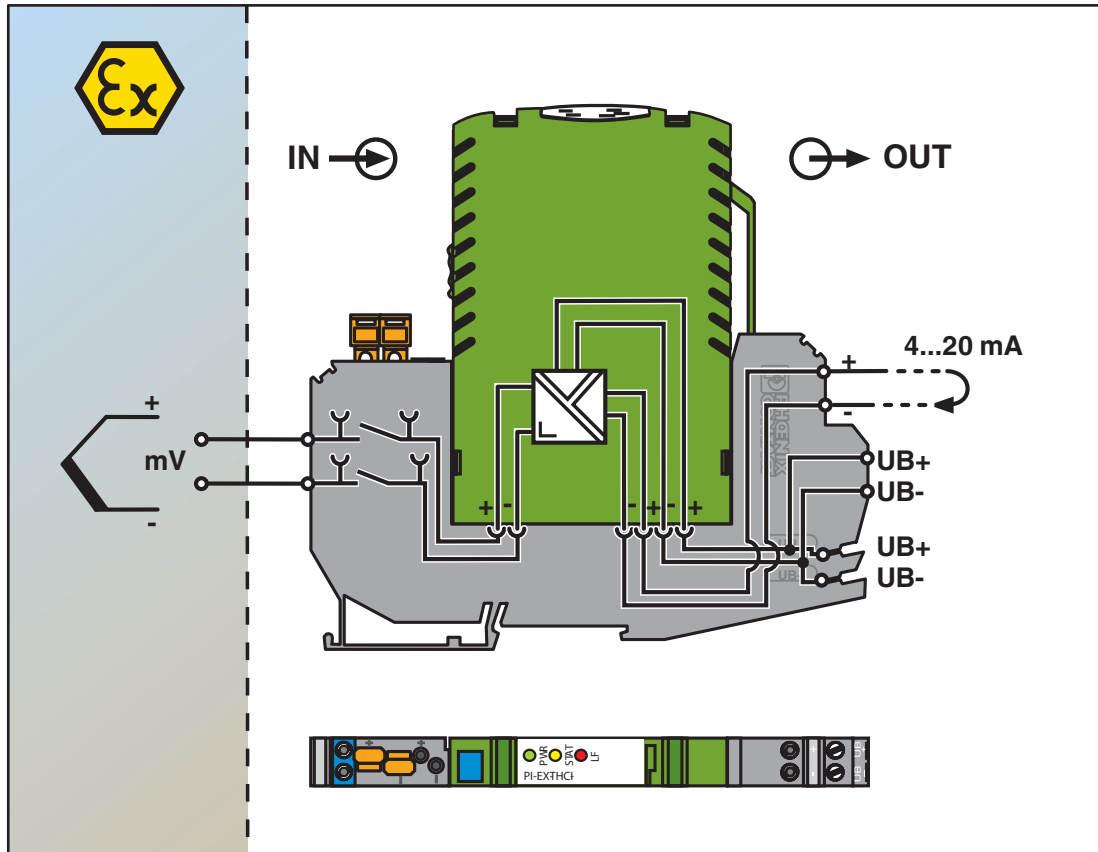
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Block diagram



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Environmental product compliance

EU REACH SVHC

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