

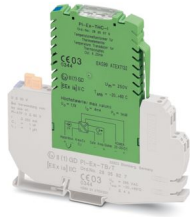
# PI-EX-THC-I-NC - Signal converter



2835600

<https://www.phoenixcontact.com/us/products/2835600>

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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. Standard configuration.

## Commercial data

Item number	2835600
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	NULL
Product key	DK1XXX
GTIN	4017918890056
Weight per piece (including packing)	102.3 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, unconfigured
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 (Output accuracy: $\pm 11 \mu\text{A}$ )
Load/output load current output	< 600 $\Omega$
Behavior in the event of a sensor error	upscale, downscale or off, LED flashes

## Connection data

Conductor cross-section rigid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section AWG	24 ... 14
Tightening torque	0.5 Nm ... 0.6 Nm

## Ex data

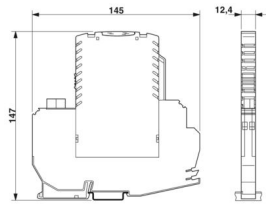
### Safety data

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 $\mu\text{F}$
IIC: Max. external inductivity $L_o$ / Max. external capacitance $C_o$	48.7 mH / 22 $\mu\text{F}$

## 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
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	"Intrinsically safe 'Entity'" Connection [AEx ia] IIC, [Ex ia] IIC
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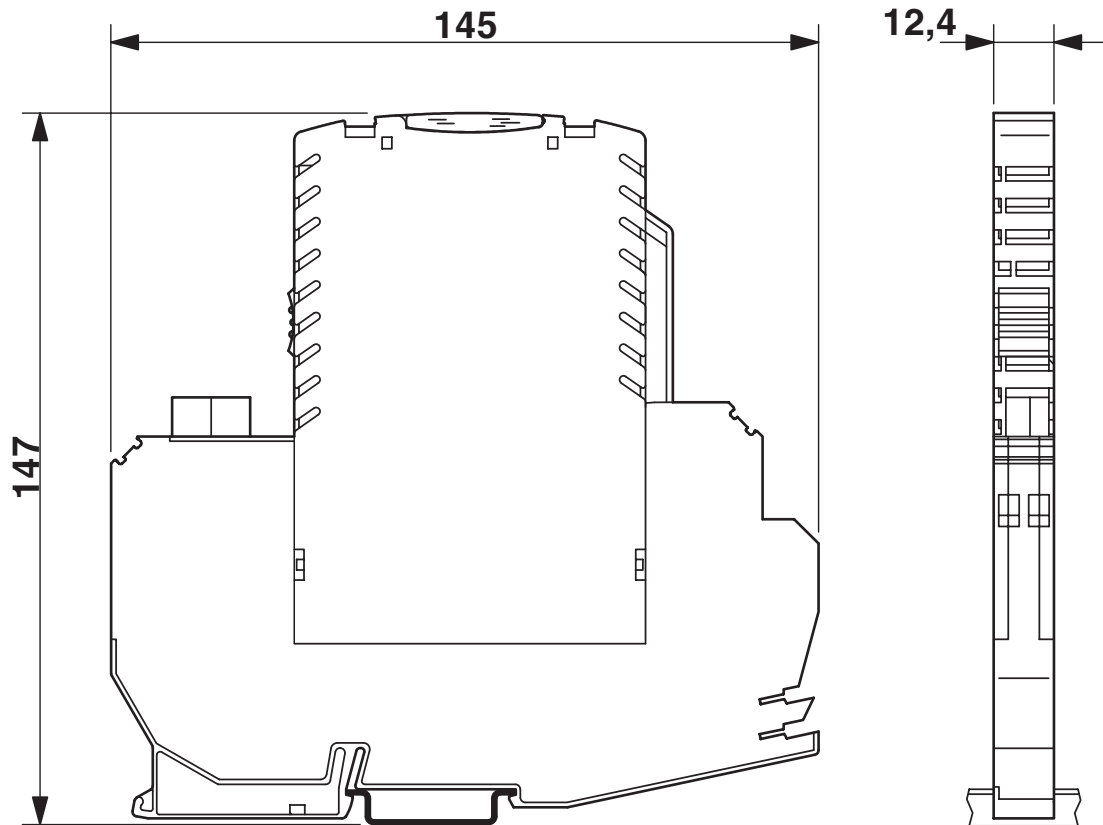
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## Drawings

Dimensional drawing

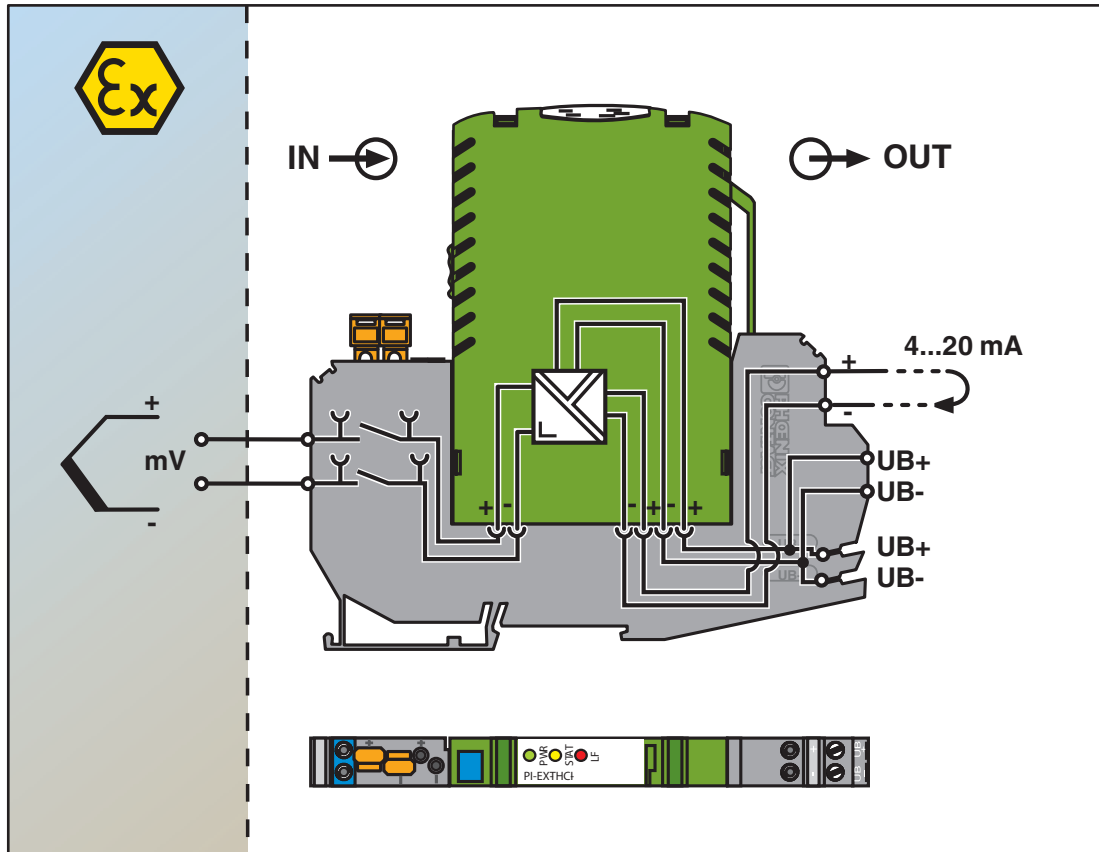


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Block diagram



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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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