

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



2835590

<https://www.phoenixcontact.com/us/products/2835590>

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Ex i temperature measuring transducer: Converts signals from Pt 100 resistance thermometers installed in Ex areas and transmits a 4 - 20 mA signal to a load in a safe area. Freely programmable. Galvanic 3-way isolation. Configurable.

## Commercial data

Item number	2835590
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	NULL
Product key	DK1XXX
GTIN	4017918890797
Weight per piece (including packing)	108.8 g
Weight per piece (excluding packing)	97 g
Customs tariff number	85389091
Country of origin	DE

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## 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

Maximum transmission error	< 0.1 % (of end value 20 mA, at 0 Ω ... 400 Ω input range, 20°C)
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#### 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 ... 30 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 (RTD) that can be used	2 or 3-conductor Pt 100 sensors as well as resistance-type sensors
Temperature measuring range	-200 °C ... 850 °C (Range depending on the sensor type)
Temperature measuring range: Pt 100	-200 °C ... 850 °C
Connection technology	2-, 3-conductor
Linear resistance measuring range	0 Ω ... 400 Ω (Minimum measuring range 10 Ω)
Measuring accuracy	±80 mΩ

### Output data

#### Signal

Output description	Current output
Current output signal	4 mA ... 20 mA
Load/output load current output	≤ 600 Ω
Behavior in the event of a sensor error	upscale, downscale or off, LED flashes

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Measuring accuracy	$\pm 11 \mu\text{A}$
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## 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

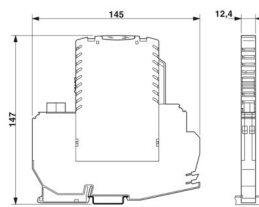
### Safety data

Max. output voltage $U_o$	6.6 V
Max. output current $I_o$	27 mA
Max. output power $P_o$	50 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

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-20 °C ... 55 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C

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## Approvals

CE

Certificate	CE-compliant
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ATEX

Identification	Ⓜ II (1) GD [EEx ia] IIC
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UL, USA/Canada

Identification	"Intrinsically safe 'Entity'" Connection [AEx ia] IIC, [Ex ia] IIC
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# PI-EX-RTD-I-NC - Signal converter

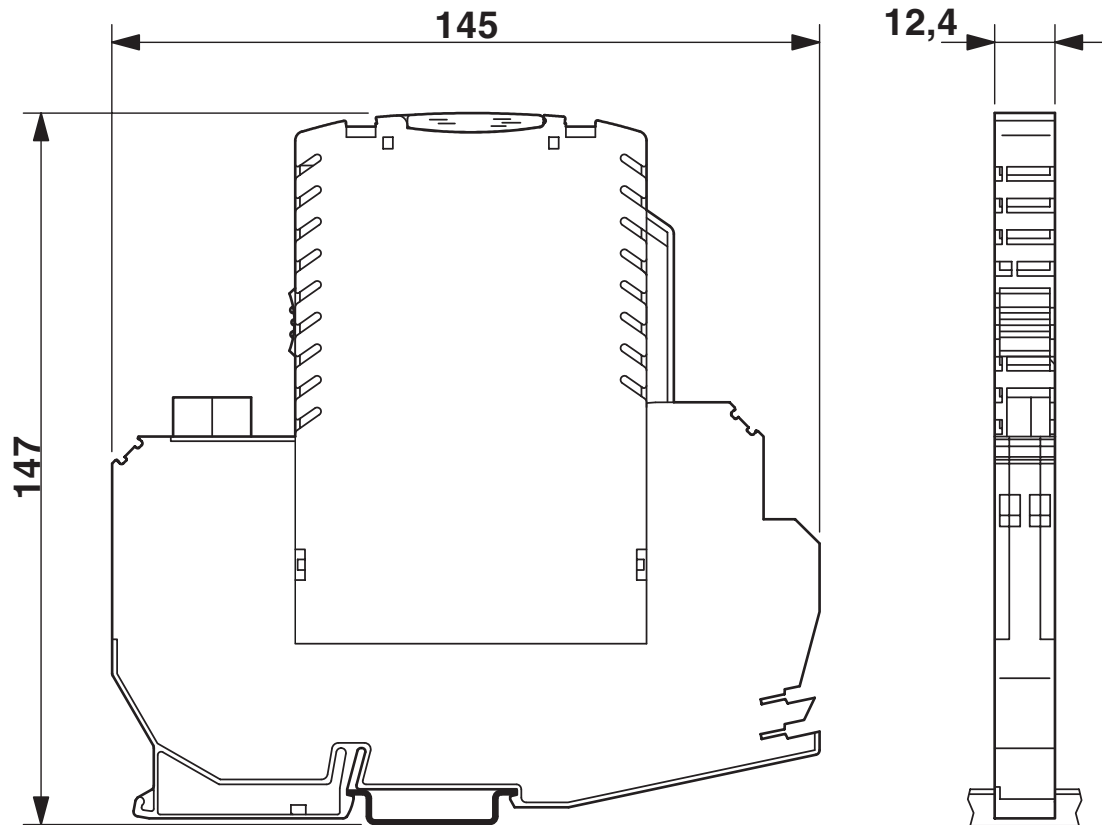
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## Drawings

Dimensional drawing

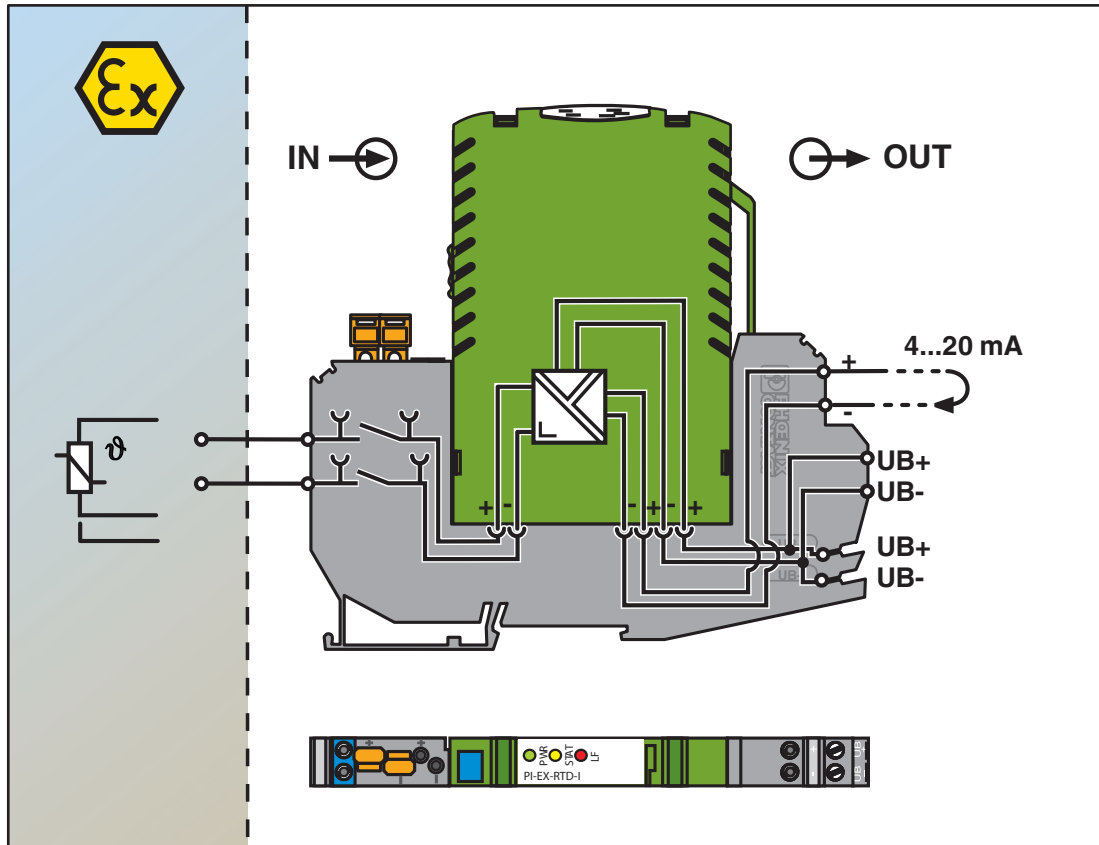


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Block diagram



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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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