

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



### Key commercial data

Packing unit	1 PCE
Weight per Piece (excluding packing)	98.0 GRM
Custom tariff number	85389091
Country of origin	Germany

### Technical data

#### Dimensions

Width	12.4 mm
Height	145 mm
Depth	147 mm

#### Ambient conditions

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

#### Input data

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
Connection method	2, 3-wire
Temperature measuring range	-200 °C ... 850 °C (Range depending on the sensor type)

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## Technical data

### Input data

Input signal range	0 Ω ... 400 Ω (Minimum measuring range 10 Ω)
Input accuracy	± 80 mΩ

### Output data

Signal output	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
Measuring accuracy	± 11 μA

### Power supply

Supply voltage range	20 V DC ... 30 V DC
Max. current consumption	64 mA (24 V DC/ 20 mA)
Power consumption	1.5 W (24 V DC/ 20 mA)

### Connection data

Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	2.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	14
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm

### General

No. of channels	1
Maximum transmission error	< 0.1 % (of end value 20 mA, at 0 Ω ... 400 Ω input range, 20°C)
Status display	Green LED, for power supply, flashes in the case of sensor defect
Inflammability class according to UL 94	V0
Housing material	PBT and polyamide PA non-reinforced
Color	green
Name	Input/output
Electrical isolation	250 V
Name	Input/power supply
Electrical isolation	250 V
Name	Output/supply
Electrical isolation	1.5 kV (50 Hz, 1 min., test voltage)
Conformance	CE-compliant

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## Technical data

### General

ATEX	# II (1) GD [Ex ia] IIC
UL, USA / Canada	"Intrinsically safe 'Entity'" Connection [AEx ia] IIC, [Ex ia] IIC

### Safety data

Max. output voltage $U_o$	6.6 V
Max. output current $I_o$	27 mA
Max. output power $P_o$	50 mW
Gas group	IIB
Max. external inductivity $L_o$	178.4 mH
Max. external capacity $C_o$	500 $\mu$ F
Gas group	IIC
Max. external inductivity $L_o$	48.7 mH
Max. external capacity $C_o$	22 $\mu$ F
Safety-related maximum voltage $U_m$	250 V AC

## Classifications

### eCl@ss

eCl@ss 4.0	27210107
eCl@ss 4.1	27210107
eCl@ss 5.0	27210107
eCl@ss 5.1	27210107
eCl@ss 6.0	27210107
eCl@ss 7.0	27210107

### ETIM

ETIM 2.0	EC001446
ETIM 3.0	EC001446
ETIM 4.0	EC001446
ETIM 5.0	EC001446

### UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008
UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	39121008

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## Accessories

### Additional products

Basic terminal block - PI-EX-TB - 2835901



Ex base terminal block for intrinsically safe signals with knife disconnection and test connections

Surge protection device - TT-PI-EX-TB - 2858386



Intrinsically safe basic terminal block with isolating connector, test connections and surge protection, for mounting on NS 35/7.5

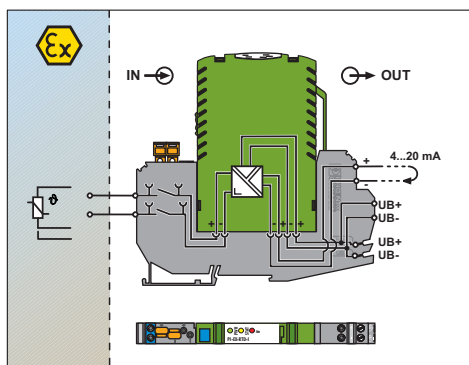
Basic terminal block - PI-EX-ES-1/3 - 2835325



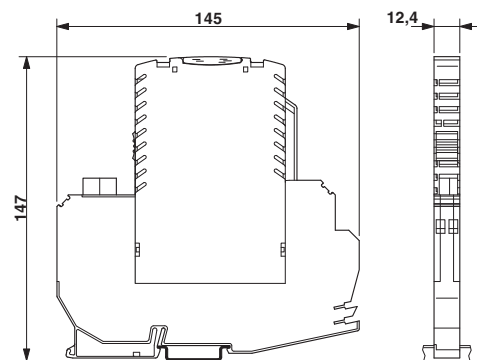
Ex basic terminal block, with three terminal points to the field level (Ex area)

## Drawings

Block diagram



Dimensioned drawing





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