

Signal converter - PI-EX-THC-I-NC - 2835600

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Ex-i thermocouple and mV input: Converts signals from thermocouples installed in Ex areas and mV sources and transmits a 4-20 mA signal to a load in a safe area. Freely programmable. Galvanic 3-way isolation. Standard configuration.



Key commercial data

| | |
|--------------------------------------|----------------|
| Packing unit | 1 PCE |
| Weight per Piece (excluding packing) | 98.0 GRM |
| Custom tariff number | 85437090 |
| Country of origin | United Kingdom |

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 ... 85 °C |
| Degree of protection | IP20 |

Input data

| | |
|------------------------------------|--|
| Input | Intrinsically safe |
| Configurable/programmable | Freely programmable, unconfigured |
| Sensor types that can be used (TC) | J, K, T, E, R, S, B, N |
| Input signal range | -75 mV ... 75 mV (minimum measuring range span 3 mV) |
| Input accuracy | ±15 µV or ± 0.05% of the input value, if this result is greater, at 20°C |

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Output data

| | |
|---|---|
| Signal output | 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 |

Power supply

| | |
|--------------------------|------------------------|
| Supply voltage range | 20 V DC ... 35 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 ² |
| Conductor cross section solid max. | 2.5 mm ² |
| Conductor cross section stranded min. | 0.2 mm ² |
| Conductor cross section stranded max. | 2.5 mm ² |
| 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 | $< 0.12 \%$ (of end value 20 mA, at 20°C, -75 mV ... 75 mV input range) |
| Temperature coefficient, typical | $\pm 0.003 \%$ (of input value /°C) |
| Typical cold point errors | 1.5 °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 AC (50 Hz, 1 min., test voltage) |
| Conformance | CE-compliant |
| ATEX | # II (1) GD [Ex ia] IIC |
| UL, USA / Canada | "Intrinsically safe 'Entity'" Connection [AEx ia] IIC, [Ex ia] IIC |

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Safety data

| | |
|--------------------------------------|-------------|
| Max. output voltage U_o | 1.1 V |
| Max. output current I_o | 4 mA |
| Max. output power P_o | 1 mW |
| Gas group | IIB |
| Max. external inductivity L_o | 178.4 mH |
| Max. external capacity C_o | 500 μ F |
| Gas group | IIC |
| Max. external inductivity L_o | 48.7 mH |
| Max. external capacity C_o | 22 μ F |
| Safety-related maximum voltage U_m | 250 V AC |

Classifications

eCl@ss

| | |
|------------|----------|
| eCl@ss 4.0 | 27200206 |
| eCl@ss 4.1 | 27200206 |
| eCl@ss 5.0 | 27200206 |
| eCl@ss 5.1 | 27200206 |
| eCl@ss 6.0 | 27200206 |
| eCl@ss 7.0 | 27200206 |
| eCl@ss 8.0 | 27200206 |

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 |

Accessories

Additional products

Signal converter - PI-EX-THC-I-NC - 2835600

Accessories

Basic terminal block - PI-EX-TB - 2835901



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

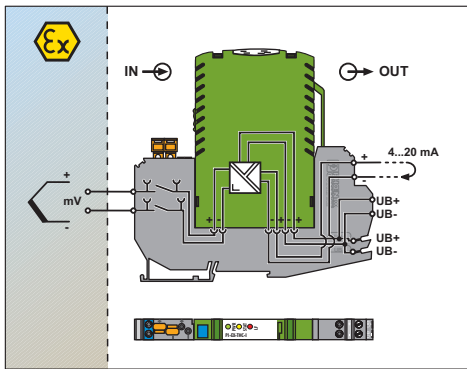
Surge protection device - TT-PI-EX-TB/T - 2858344



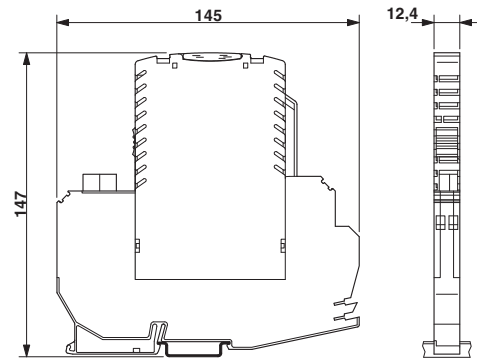
Intrinsically safe basic terminal block with isolating connector, test connections and surge protection, with additional temperature measurement of the input terminal block for cold junction compensation, for mounting on NS 35/7.5

Drawings

Block diagram



Dimensioned drawing



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