

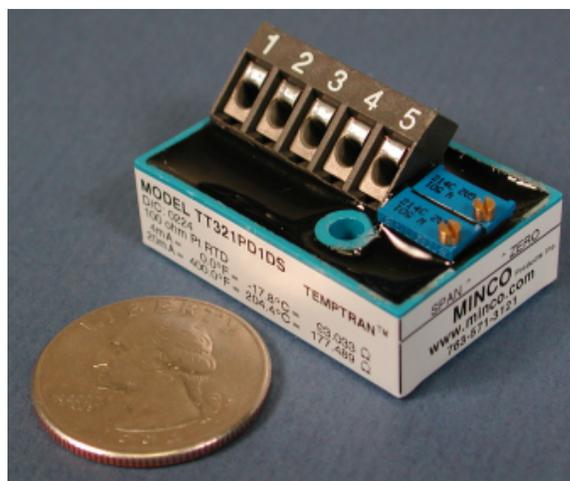
MINCO

TT321 RTD TEMPERATURE TRANSMITTER

- Low cost, Ultra compact package
- 3-Wire RTD input for remote accuracy
- Accurate, stable 4 to 20 mA signal
- 100/1000 ohm platinum RTD input
- Non-Interacting zero and span
- Optional calibration to Minco RTD's for improved accuracy

The Model TT321 is a 2-wire temperature transmitter for 3-lead 100/1000 ohm platinum RTD's. The transmitter converts the RTD's temperature into a linearized 4 to 20 mA DC current signal. Because this current signal is immune to leadwire and electrical noise, the TT321 lets you obtain accurate temperature readings from RTD's thousands of feet away. An ordinary twisted pair of wires carries both the temperature signal and power for the transmitter's electronics.

The TT321 compensates for leadwire resistances of up to 25 ohms in each leg of a 3-wire RTD. The transmitter exhibits extremely low ambient temperature drift characteristics, and operates over a 0 to 50 °C temperature range.

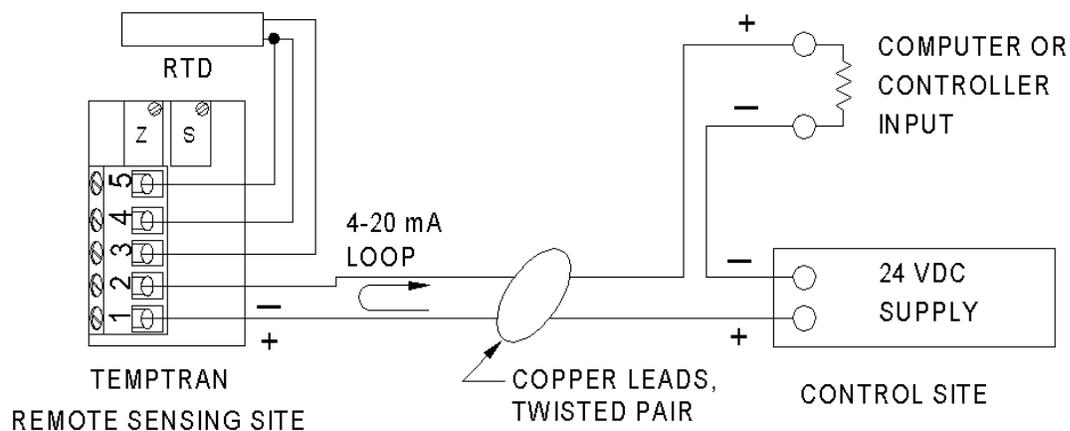


Many standard instruments accept the Tempran™ transmitter's 4 to 20 mA signal. For instruments that accept voltage, a load resistor in the current loop makes the necessary current to voltage conversion. Because Temprans amplify and linearize RTD readings, you may also use them over short distances just for signal conditioning.

Special Calibration Option

Because Minco manufactures both RTD's and transmitters, we can calibrate them together in matched sets. This special calibration cancels the error from sensor tolerance and eliminates the need for time-consuming field adjustment.

Total guaranteed accuracy of calibrated RTD/Tempran sets depends on the selected temperature range and the type of RTD.



Wiring Diagram

TT321 RTD Temperature Transmitter

Specifications

Input: 3-wire 100/1000 ohm platinum RTD's.

Output: 4 to 20 mA DC over specified range.

Accuracy: +/- 0.1% of span.

Linearity: +/- 0.1% of span.

Adjustments:

Zero and Span; +/- 5% of Span, non-interacting.

Ambient Temperature:

Operating: 32 to 122 °F (0 to 50 °C).

Storage: -67 to 212 °F (-55 to 100 °C).

Ambient Temperature Effects:

+/- 0.007% of span/°F (+/- 0.12% of span/°C);

+/- 0.014% of span/°F (+/- 0.25% of span/°C) for Spans < 100°F

Warm-up Drift: +/- 0.1% of span max., assuming $V_{supply} = 24$ VDC and $R_{loop} = 250$ ohms. Stable within 30 minutes.

Supply Voltage: 8.5 to 35 volts DC with no load.

Reverse polarity protected.

Voltage effect: +/- 0.001% of span per volt.

Lead Wire Compensation (3-wire RTD): +/-0.075% of span per ohm, up to 25 ohms in each leg.

Maximum Load Resistance: The maximum allowable resistance of the signal-carrying loop is given by this formula:

$$R_{loop\ max} = (V_{supply} - 8.5) / .02\ \text{amps.}$$

Minimum Output Current: 3.0 mA.

Maximum Output Current: 30.0 mA.

Physical: Epoxy potted for moisture resistance.

Weight: 1.0 oz. (28 grams).

How to Order:

TT321 PD 1 C ... Sample part number

Temperature Range: Use same range code as used for all MINCO Temptrans.

Note: A range that is available for a particular Temptran model is not automatically available for the TT321. Consult factory for a current list of available ranges.

Output: 1 = 4 to 20 mA DC.

Resistance Thermometer Type:

PA = 100 ohm Platinum, .00392 TCR

PB = 100 ohm Platinum, .00391 TCR

PD = 100 ohm Platinum, .00385 TCR

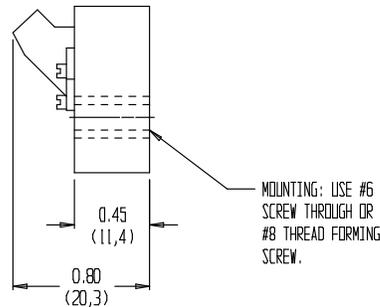
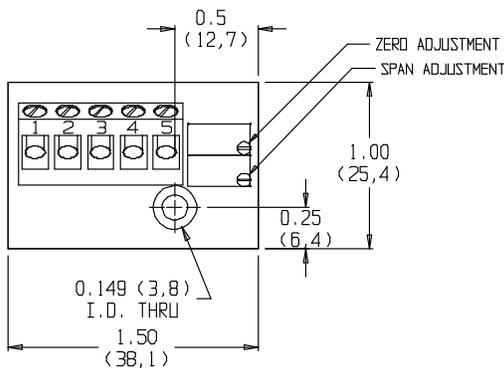
PE = 100 ohm Platinum, .00385 TCR

PF = 1000 ohm Platinum, .00385 TCR

PW = 1000 ohm Platinum, .00375 TCR

Model Number: TT321 RTD Temptran.

Dimensions: All dimensions are in inches (millimeters)



When quality and performance are as important as price, call...

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