# TRANSPAK™

## *Non-Isolated, RTD, 2-Wire Transmitter*

## MODEL T513

# Installation and Calibration Instructions

Your Model T513-xxxx came from the factory pre-configured for the range printed on the label. The unit is completely re-configurable if the application demands changing the unit. Re-configuring requires changing 1/4Watt, 1% resistors that have a temperature coefficient of ±50ppm or better. When selecting the value, pick the standard resistor value that is closest to your calculated value. If you are not re-configuring the unit, skip to the **WIRING INSTRUCTIONS** section and proceed with your installation.

## TYPE AND RANGE SELECTION

Pt-100 RTD mode:

From the factory, the unit is configured for a 3-wire RTD. If 2-wire support is needed, simply connect a wire jumper between terminals 3 and 4.

$T_H$ = Temperature at high end of range
$T_L$ = Temperature at low end of range
$T_{IN} = (T_H - T_L)$

$R_b(\Omega)$ = Value of Pt-100 RTD at low end of range, in Ohms (Refer to an ITS-90 RTD Temperature vs. Resistance Table located on our website.)

Example: Low end of range = 0°C = 100 Ω, so $R_b = 100\Omega$

For the range to be in °C: $R_d\ (k\,\Omega) = 0.133 \times T_{IN}$

For the range to be in °F: $R_d\ (k\,\Omega) = 0.074 \times T_{IN}$

Set SW1: 1 & 3 = ON; 2 = OFF

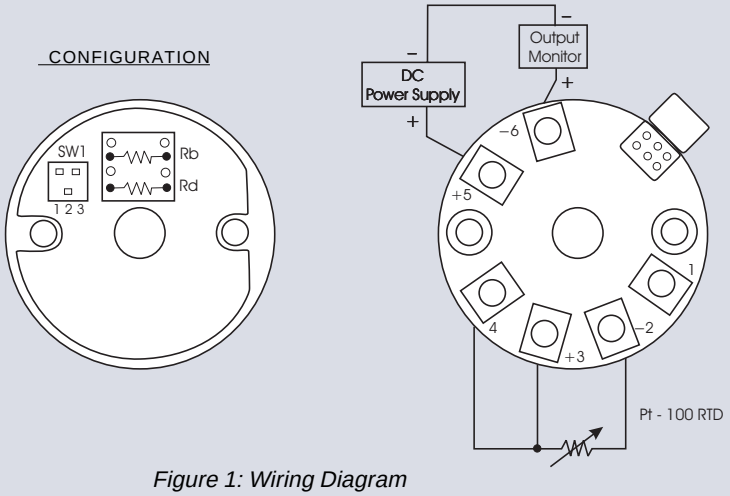


*Figure 1: Wiring Diagram*

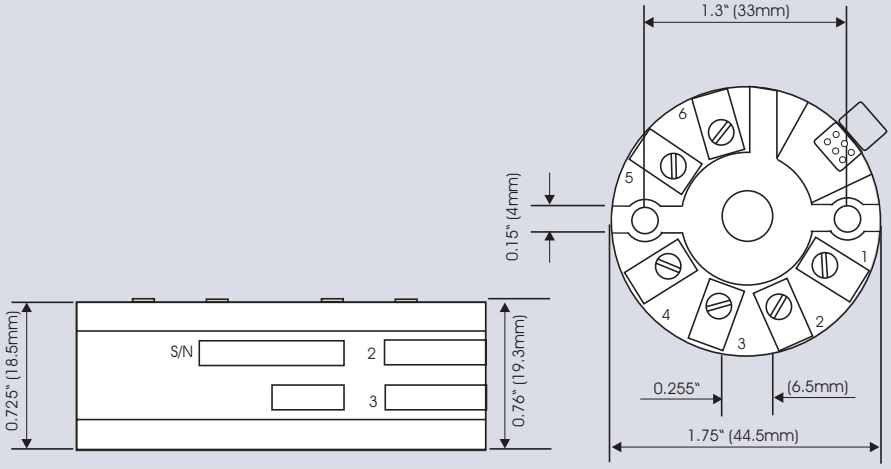


*Figure 2: Dimensions*

## WIRING INSTRUCTIONS

1. Connect the input signal wires according to the interconnection diagram shown in Figure 1.

2. Connect the output signal wires to the controller or digital indicator with a power supply to create an output loop as shown in Figure 1. Observe proper polarity.

3. Physical dimensions for mounting are in Figure 2.

## CALIBRATION AND ADJUSTMENT

1. Connect the sensor simulator to the T513 according to the wiring diagram. Connect the output to a power supply and current indicator observing proper polarity. Allow 15 minutes for warm-up.

2. Set the input to the desired minimum signal and adjust the ZERO pot until the current indicator reads 4mA.

3. Set the input to the desired maximum signal and adjust the SPAN pot until the current indicator reads 20mA.

4. Repeat steps 2 and 3 until no further adjustments are necessary.

## SPECIFICATIONS

| | |
|---|---|
| **Input** | RTD: Pt-100, 2- or 3-wire |
| **Input Span** | 20°C min. 500°C max. |
| **Adjustability:** | ±15% for both zero & span |
| **Output Span:** | 4-20mA, limiting @ <28mA |
| **Burnout Detection:** | Upscale |
| **Linearity** | Better then ±0.1% of span, referred to sensor temperature |
| **Stability** | 0.03% of span/°C (100°C span) |
| **Supply Voltage** | 10 to 40VDC polarity protected |
| **Maximum Load** | Rmax = (Vsupply – 10V)/20mA |
| **Operating temperature** | -20°C to +70°C |
| **Humidity** | 0 to 95% RH, non-condensing |
| **Agency Approvals** | **CE** Compliance per EMC directive 89/3/36 EEC<br>Operation under software control |

## FACTORY ASSISTANCE:

For additional information on calibration, operation and installation please contact Action's Technical Services Group.

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