

# TH15:

## 1. RANGE SELECTION

Definitions:

**Pt - 100 RTD mode: TH15/1**

$T_s$  = Temperature at high end of range

$T_z$  = Temperature at low end of range

$T_{in} = (T_s - T_z)$

$R_b (K\Omega) = \text{Value of } Pt - 100 \text{ at low end of range}$

For range in  $^{\circ}C$ :

$R_d (K\Omega) = 0.133 \bullet T_{in}$

For range in  $^{\circ}F$ :

$R_d (K\Omega) = 0.074 \bullet T_{in}$

Set SW1: 1, 3 - ON; 2 - OFF

**Thermocouple mode: TH15/2**

$R_a$  = according to the following table:

TC Type	$R_{tc} (\Omega)$	$V_{cj} (mV)$
E	374	16.6
J	442	14.0
N	845	7.35
K	562	11.1
R	3.83K	1.63
S	3.83K	1.63
T	562	11.1
L	422	14.7

$V_{in} = V_s - V_z (mV)$

$R_d (K\Omega) = 0.51 \bullet V_{in}$

$R_c (K\Omega) = 250 / (V_z + V_{cj})$

Set SW1: 2 - ON; 1, 3 - OFF

## 2. WIRING INSTRUCTIONS:

1. Connect the positive supply lead to terminal 5.
2. Connect the negative supply lead to terminal 6.

For Pt - 100 RTD:

3. Connect the Pt - 100 leads to input terminals 2, 3 and 4 according to the top wiring diagram

For Thermocouple:

4. Connect the thermocouple leads to input terminals 2 and 3 according to the bottom wiring diagram.

## 3. CALIBRATION & ADJUSTMENTS:

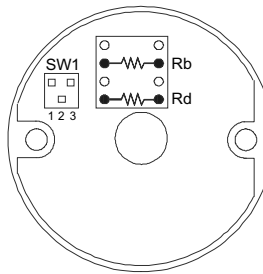
It is assumed that the unit undergoing calibration has been properly ranged at the factory or workshop.

1. Pt - 100 RTD : Connect the Pt - 100 sensor simulator to the TH15/1 input terminals according to the wiring diagram.
2. Thermocouples : Connect the Thermocouple sensor simulator to the TH15/2 input terminals according to the wiring diagram.
3. Connect a digital current monitor to the TH15 output terminals, observe for proper polarity.
4. Set the input to the desired minimum signal and adjust the Zero potentiometer until the output minimum signal is at 4.00 mA.
5. Set the input to the desired maximum signal and adjust the Span potentiometer until the output maximum signal is at 20.00 mA.

Repeat steps 4 & 5 until no further adjustment is needed.

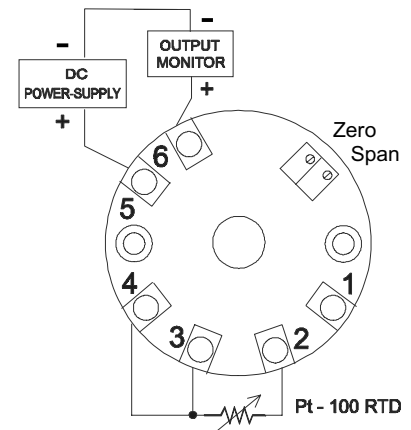
### RTD CONFIGURATION

Switch, Resistors - Positions



SW1: 1, 3 - ON; 2 - OFF

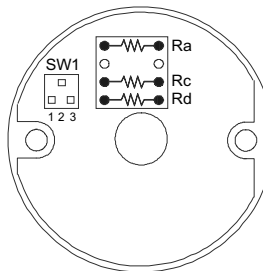
BOTTOM VIEW



TOP VIEW

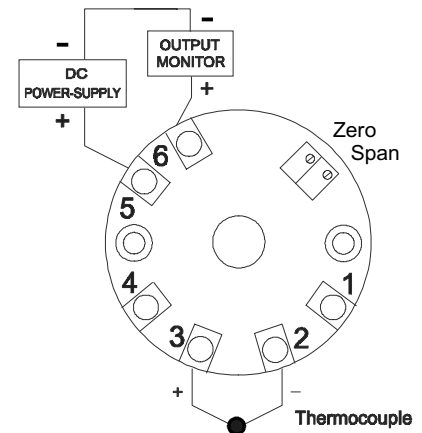
### THERMOCOUPLE CONFIGURATION

Switch, Resistors - Position



SW1: 2 - ON; 1, 3 - OFF

BOTTOM VIEW



TOP VIEW