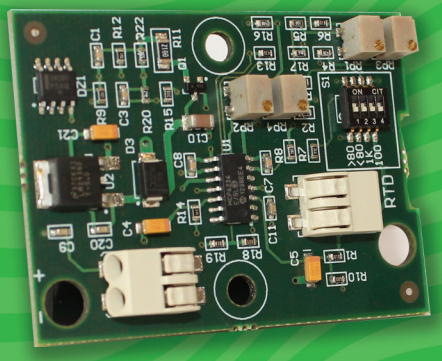
Product Manual

TCS Basys Controls®



TX Series

Temperature Transmitters

Description

The TX Series consists of accessory temperature transmitters that accept either 100 Ω or 1000 Ω, two wire or three wire, platinum RTD sensors and provide a two-wire, 4 to 20mA output that is linear and proportional to the sensed temperature. All transmitters in this series are factory calibrated, however field calibration for any span greater than 25°F and less than 400°F can be done as required.

Mounting

These transmitters are designed to be mounted with TS Series platinum RTD sensors. All transmitters in this series come with an adhesive backing that will adhere to any clean, dry surface.

Mount the temperature transmitters as close to the RTD sensor as possible and avoid adding any extra lead wire to the original sensor leads. Adding long runs of sensor lead wire may change the actual temperature transmitter readings because of added resistance from the lead wire.

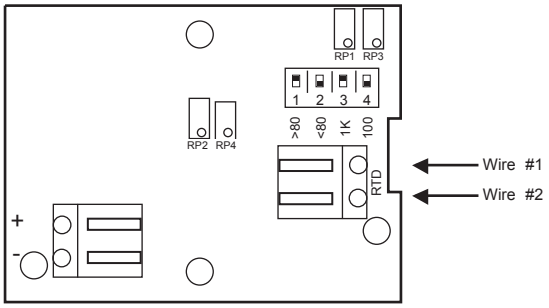
Wiring

Input: The transmitters in this series accept either 100 Ω or 1000 Ω platinum RTD sensors. These sensors must conform to IEC751 standards and have a temperature coefficient of 0.00385 Ω/Ω/ °C.

Make sure the sensor type dipswitch is in the correct position for the sensor to be connected (either a 100 Ω or 1000 Ω RTD). See DIP switch positions diagram on Page 2.

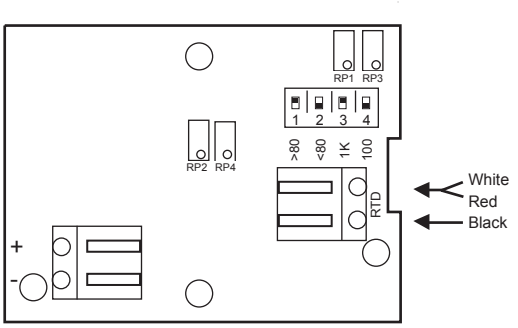
Using Two-Wire RTD Sensors:

Insert one wire into each of the RTD terminal as shown.



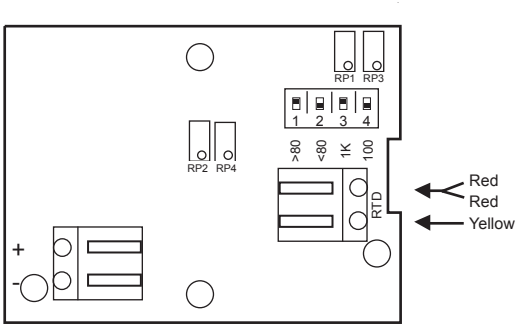
Using Three-Wire RTD Sensors:

Insert the white and red wires into one terminal and the black wire in to the other terminal as shown.



Using Three-Wire Averaging Elements:

The lead wires on our averaging elements have different color coding than the single point RTDs. Insert the two red wires into one terminal and the yellow wire into the other terminal as shown.



Power/Output:

Using a separate power supply:

1. Connect the positive (+) lead of the power supply to the positive (+) terminal of the transmitter.
2. Connect the negative (-) terminal of the transmitter to the positive (+) input of the controller or monitoring device.
3. Connect the negative (-) input of the controller to the ground lead of the DC power supply.

Using a built in power supply of the controller:

1. Connect the positive (+) and negative (-) terminals of the transmitter to the respective power and channel input of the controller or monitoring device.

Operating Adjustments

This series is factory calibrated to specific spans. The dipswitch positions 3 or 4 should not be moved if a factory calibrated span is used.

To make a minor adjustment and maintain the same temperature span, adjust only the fine tune ZERO potentiometer. (RP3)

Potentiometer References

RP1 - Zero
RP3 - Zero - Fine Tune
RP2 - Gain
RP4 - Gain - Fine Tune

DIP Switch Positions

DIP Switches are in the ON position when furthest away from their label.

Example:

The DIP Switches shown below are set for >80° span and a 1K Ω RTD.