

## SURFACE MODULE TEMPERATURE TRANSMITTER-MSPT100V

### INTRODUCTION

The module temperature sensor is used by PV plant operators to know the temperature of the modules installed in the array. The module temperature sensor converts this reading into a voltage signal. This signal is sent back to the monitoring device.

As the system operator it's important to know the systems' performance. The module temperature sensor will help to enhance kWh performance by ensuring reliable access to the all necessary data.

Model : MSPT100S

#### Features

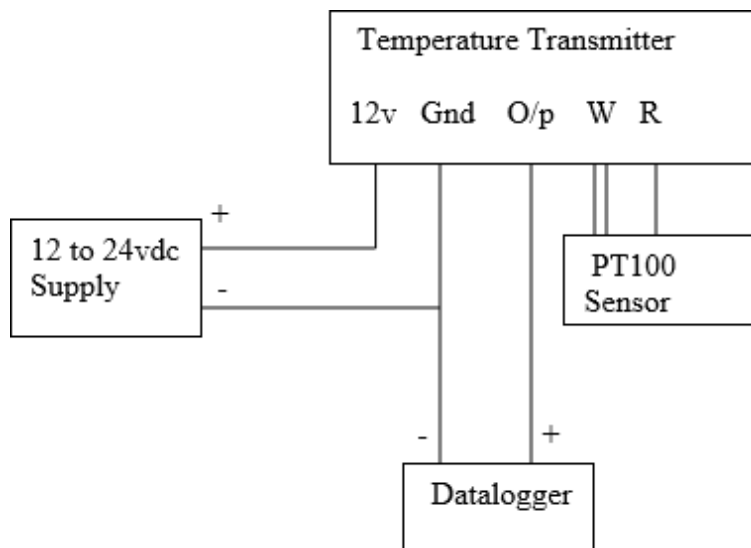
- Fast, Stable and accurate
- IP65 enclosure Excellent long term stability
- Onsite two point calibration
- Loop powered

#### Specifications

- Measuring Range : 0 to 100 °C
- Accuracy :  $\pm 0.5$  °C
- Sensors : Temperature : RTD Pt100 $\Omega$
- Output : 0- 5v
- Supply Voltage : 12 to 24 VDC
- Housing :Poly carbonate watertight enclosure
- Protection : IP-65 Weight :
- Approx 150gms



### TOOLS AND MATERIALS NEEDED



## INSTALLATION

This sensor is designed to attach directly to any solar panel. When placed on the center back side of the panel, it accurately measures the temperature of the panel.

Prior to installation of the PV temperature sensor onto the PV panel, the installation area of the panel back should be thoroughly cleaned. This cleaning will ensure a good bond between sensor and panel and allow for accurate panel temperature readings.

After cleaning, peel off the protective adhesive tape on the temperature sensor and stick it onto the back of the panel. Firmly press the sensor into place.

## TOOLS AND MATERIALS NEEDED

Read this manual before beginning the installation to be sure you have everything you need.

- Wire cutters and stripper
- Multimeter
- Electrical Tapes to cover the wire
- Wire ties and tabs

## LOCATION RECOMENDATION

Use the following guidelines to determine the best location for mounting the module surface temperature Sensor

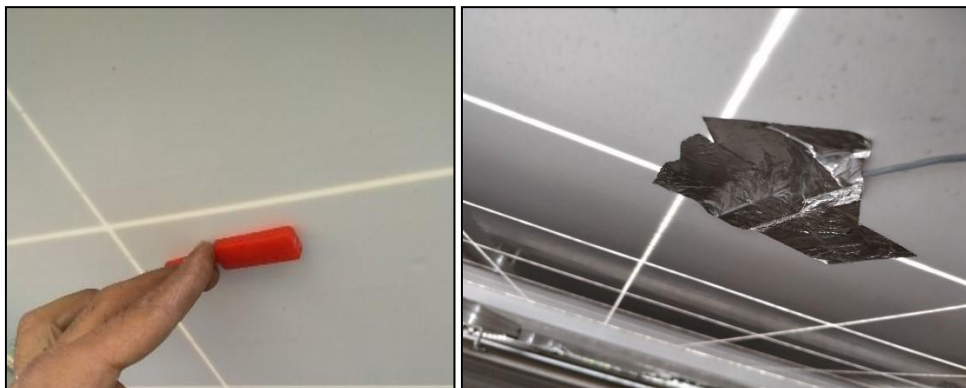
- Select a PV module that remains unshaded throughout the day.
- For best operation, this heatsink should be mounted flat against the surface to be measured.

## MOUNTING

Observe the following requirements regarding the mounting location of the module temperature sensor:

- Select a PV module that remains unshaded throughout the day.
- Peel the backing from the adhesive tape and press the sensor firmly against the surface.
- Do not attempt to extend or shorten the pre-assembled 2.5 m cable.
- The module temperature sensor is affixed to the back of the PV module.
- Tie the sensor cable off in a way that does not pull on the sensor
- It is recommended to fix the sensor and the cable with an additional adhesive tape.

Example Installations :



## CALIBRATION

- If using Modbus sensor then the PV Module Temperature Sensor is factory calibrated.
- If using analog output sensor then use the following info to calibrate .  
Output - 0 to 5 VDC (0- 100 deg C)  
Temperature=20\*Output voltage (in Volt)

If the cable length is insufficient for the installation, additional cable can be added to the existing cable. If this is done, an accuracy derating factor must be added to the overall temperature accuracy of this sensor.

It is highly recommended that the calibration be checked annually

## SENSOR MAINTENANCE

- Under no circumstances should water or cleansing agents be used on the sensing elements. It is recommended that the accuracy of the sensor is verified every 12 months.