



Datasheet & Installation Guide Dynalab Module Temperature Sensor [DWMT 8104]

Internet of Things

Solar Energy



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MODEL

DWMT 8104



DATASHEET

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.

Features

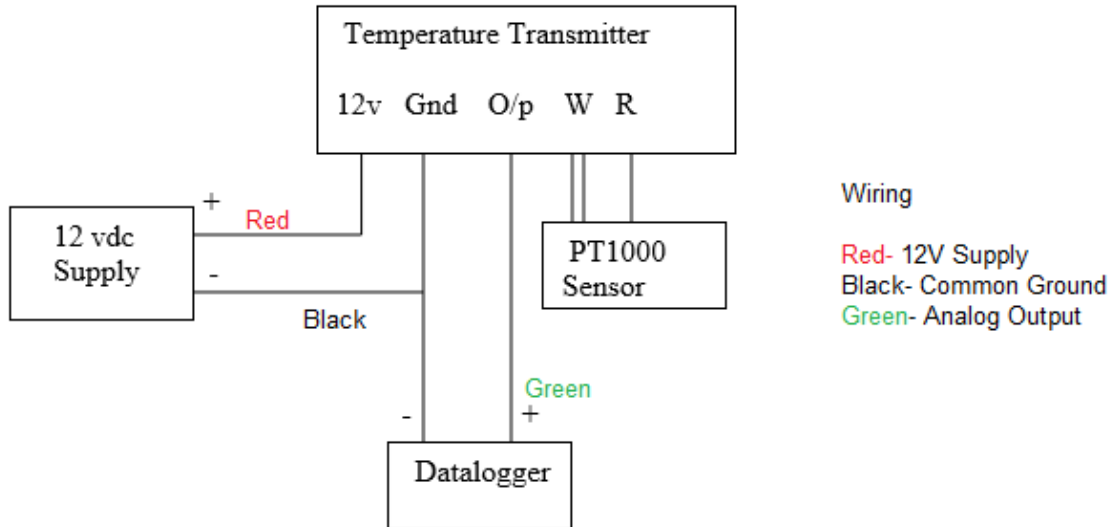
- Fast, Stable and accurate
- IP65 enclosure Excellent long term stability
- Onsite two point calibration
- Loop powered

Specifications

Sensing element	RTD (PT1000)
Measuring Range	- 40 to 100 deg C
Accuracy	±0.3 Deg C
Output	Different Output Types available A: Resistance B: 0-5V C: 4-20ma D: Modbus RTU
Mounting	Encapsulated in a flanged plastic weather proof plastic enclosure
Operating Voltage for Output Type: B, C & D	12 VDC



Wiring Diagram for sensor with 0-5V Output



INSTALLATION

Guidelines

The following guidelines are recommended while installation of a pyranometer:

- 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

Please make sure you have all the necessary material as mentioned below:

- Wrench or pliers
- Wire cutters and stripper
- Multi meter
- Wire ties and tabs
- Electrical Tapes to cover the wire

Location Recommendation

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

- Select a PV module that remains un-shaded throughout the day.
- For best operation, this heat sink 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 un-shaded 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 (-40 to 100 deg C)
- If the cable length is insufficient for the installation, additional cable can be added to the existing cable. If this is done, an accuracy de-rating factor must be added to the overall temperature accuracy of this sensor.

It is highly recommended that the calibration be checked annually

Connection Diagram

- A. For ANALOG output connections, please search for '*Installation Guide – Analog Sensors*' on: www.trackso.in/documentation
- B. For MODBUS output connections, please search for '*Installation Guide – MODBUS Sensors*' on: www.trackso.in/documentation

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.

Disclaimer

Sensor: This sensor is a low-cost alternative to the Class 1/Class 2 sensors of the same type. Since this sensor fall under no class, there will be some variation in the real vs. expected values. If you wish to minimise the error/deviation in output values, we recommend that you purchase Class 1/Class 2 sensor.

Please note, we do not manufacture the sensor but only sell them along with our TrackSo IoT service. We do not guarantee the output/performance of the sensor.

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