

AMBIENT TEMPERATURE SENSOR MST-ATS-0420I / MST-MTS-0420M

INTRODUCTION

The ambient air temperature sensor is used by PV plant operators to know the temperature of the air in the area. The ambient air temperature sensor converts this reading into a voltage signal & then via signal conditioner box to Current or Modbus. This signal is sent back to the monitoring device.

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

Model : MST-ATS-0420I Features

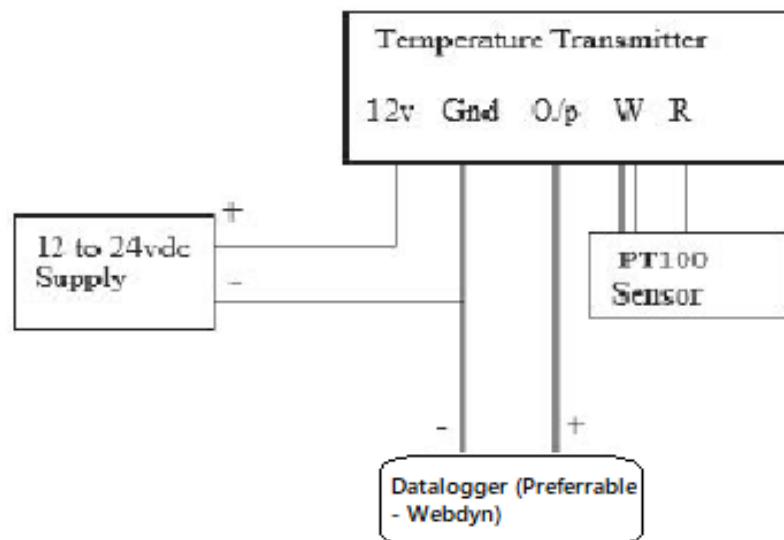
- Fast, Stable and accurate
- IP65 enclosure Excellent long term stability
- Onsite two point calibration
- Loop powered

Specifications

- Measuring Range : 0 to 100 °C
- Accuracy : ± 0.5 °C
- Sensors : Temperature : RTD Pt100 Ω
- Output : 4-20mA for 0420I & RS485 Modbus for 0420M
- Supply Voltage : 12 to 24 VDC
- Housing : Poly carbonate watertight enclosure
- Protection : IP-65 Weight :
- Approx 860gms



WIRING DIAGRAM



INSTALLATION

This sensor is designed to attach on any vertical pole. When mounted properly on the MS Pole it accurately measures the temperature of the surrounding air.

Prior to installation of the temperature sensor onto the Pole, the surrounding of the sensor should be free from any obstruction & any heat generating device. The mounting pole should be grounded properly in order to safeguard the sensor.

Regular cleaning of the Radiation shield helps in proper reflection of the solar radiation that results in accurate air temperature reading.

TOOLS AND MATERIALS NEEDED

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

- Wrench or pliers
- Wire cutters and stripper
- Multimeter
- Drill with 3/16 in drill bit (4.7 mm) to drill pilot holes
- Adjustable wrench or 11/32 in. wrench and 7/16 in
- Electrical Tapes to cover the wire

MOUNTING

Observe the following requirements regarding the mounting location of the ambient air temperature sensor:

- Select an area that is free from any obstacle for at least 2 meters in 360degree vicinity.
- Mount horizontally with the help of provided pole mounting assembly.
- The Radiation Shield of the sensor should point towards sky, whereas the transmitter attached towards ground.
- Connect the communication cable in the signal transmitter box & take it out from the respective gland.
- The communication cable selection should be proper that leads to no spare core.
- Make sure the Transmitter box is closed properly to ensure no breach of IP65 protection



CALIBRATION

- If using Modbus sensor then the PV ambient air 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.