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SOLAR SEGMENT FOR MONITORING AND
CONTROL NEEDS**



MSPT100- Module Temperature Sensor Datasheet & Installation Guide



ESENZ INNOVATIONS PVT LTD

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MSPT100 Introduction

This sensor is used to measure the temperature of the modules installed in solar plants and it works on RTD principle

Features

- Sturdy, stable and accurate with
- IP65 enclosure for outdoor mounting
- Easy calibration



Specifications

Measuring Range - 0 to 100

Accuracy +/- 0.5 °C under standard conditions

Sensor Type- RTD PT100 Ω Supply Voltage 12-24 VDC

Output- 4 – 20 mA or 0 – 5 VDC

or MODBUS - optional (additional Converter is required)

Weight Approx. 150 gms

Sensor Housing- Silicone Rubber Patch.

Cable: 3 m PTFE insulated, twisted pair lead, 3 core, 7/0.1mm

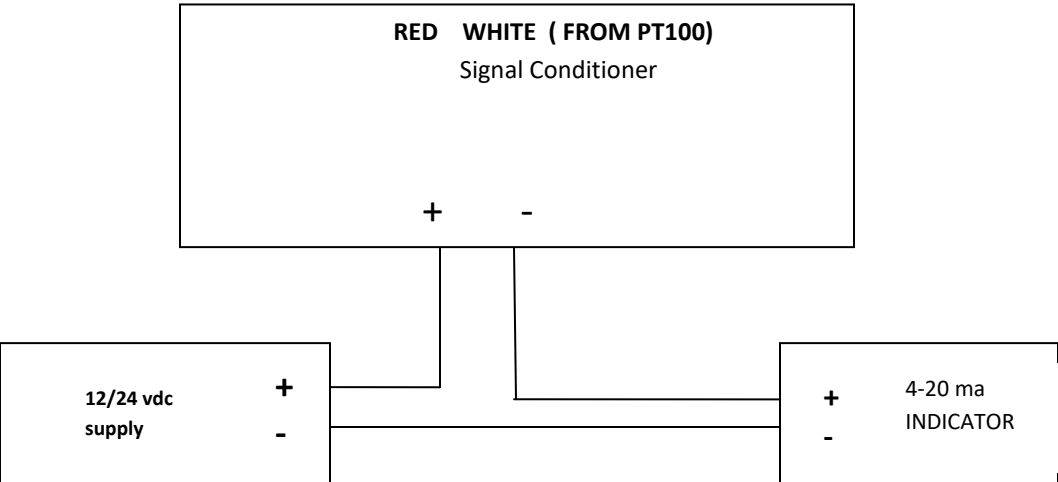
Adhesive : Thermal Tape

Power-Loop powered

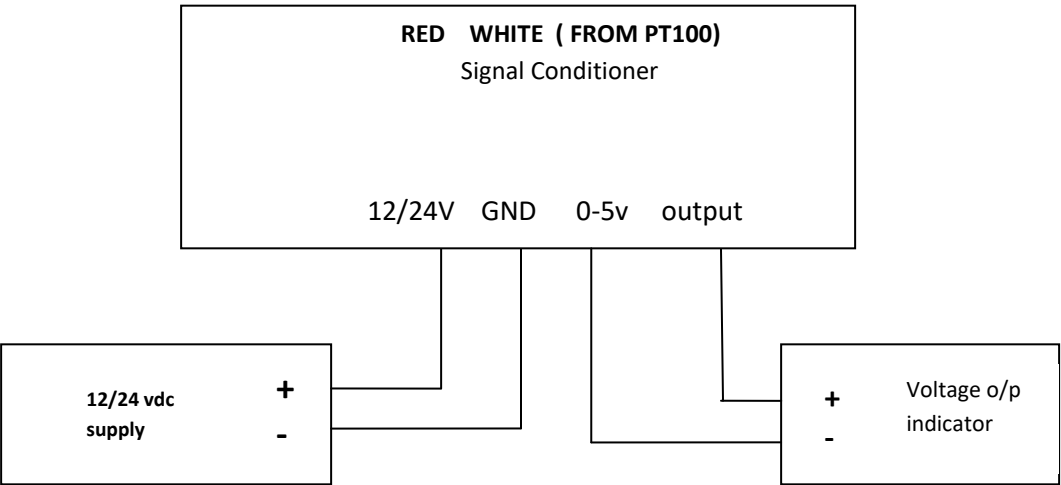
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Wiring Diagram

Current Based 4-20 mA – Output

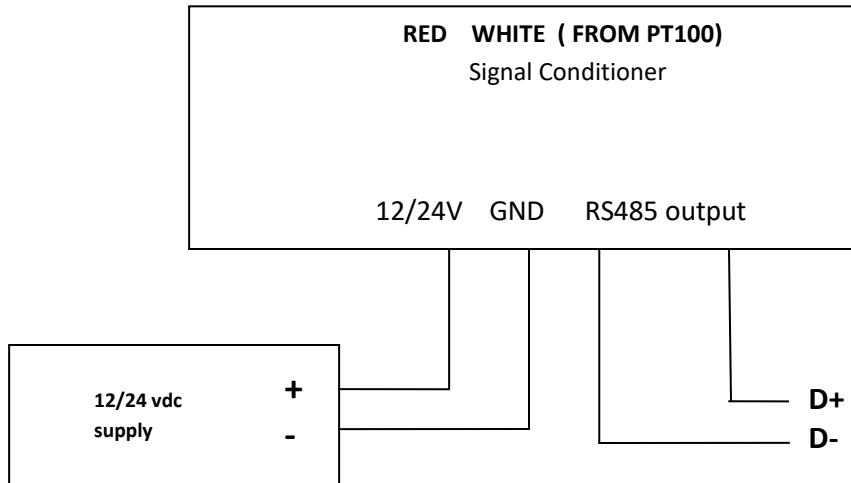


Voltage Based 0-5 v Output



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MODBUS RTU RS485 Output



INSTALLATION

This sensor should be mounted on the back side of the solar panel centre for better accuracy.

Tools and Materials Needed

Wire cutters , Pliers and stripper - Multi meter , Laptop with usb to rs485 converter (if output is modbus RS485) ,Screwdriver Electrical tapes and cable ties for wiring

Location Recommendation

- Under PV Module which receives sunlight throughout the day without any shading.

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Mounting

1. Make sure the surface of panel to which the sensor is installed is thoroughly cleaned to avoid dust, water, oil etc for a proper bonding of sensor and panel by using the thermal tape provided
2. Make sure the sensor cable is free from cramps and is not pushing or pulling the sensor.

Calibration and Reading

In case of Modbus Output – sensors are pre calibrated and Gives default output.

In case of Analog Output -

In case of 0-5volt Output

Temp in deg C = $20 * \text{Sensor Output voltage (in Volt)}$

In case of 4-20mA Output

Temp in deg C = $6.25 * (\text{Output in mA} - 4)$

NOTE

These sensors are not manufactured or owned by esenz and are only resold, Warranty of this sensor is as per the terms and conditions of original manufacturer. All the accuracies and technical specs are as per the manufacturer, as this sensor do not come under any class and is of low accuracy compared to class 1 and class 2 sensors. For better accuracy and minimum errors, it's advised to use standard class 1 or 2 sensors.