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EIAT- Ambient Temperature Sensor Datasheet & Installation Guide



ESENZ INNOVATIONS PVT LTD

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EIAT Introduction

This sensor is PT100 RTD based Sensor in naturally ventilated , UV-stabilized thermoplastic plates with aluminum mounting bracket, and U-bolt clamp
Its uniquely designed It's a multi-plate louvered construction allows air to pass freely through the shield, helping to keep the probe at ambient temperature and its white color body reflects solar radiation thus preventing heating up of body to maintain ambient temperature.



Specifications

Plate- Height-110mm DIA-196 mm
Measuring Range- Temperature: 0 to 100 deg C
Accuracy- ± 0.5 deg C Under standard conditions
Supply voltage – 12/24 V DC

Output

A, B, C are 3 different models

A. 0 – 5 VDC

B. 4 – 20 mA

C. MODBUS RTU is optional (additional Converter is required)

Supply Voltage- 12 to 24 VDC

Casing - ABS Plastic (watertight enclosure)

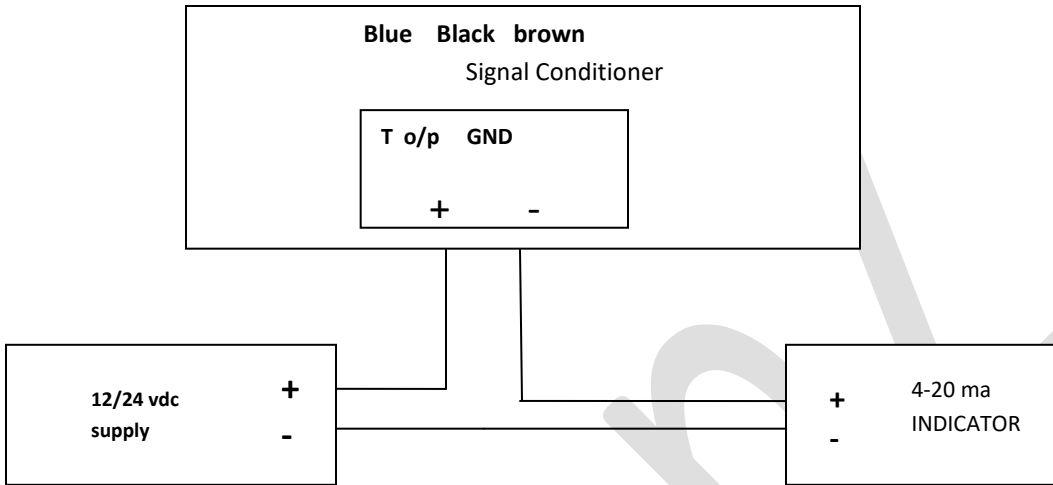
Sensors Temperature: PT 100 RTD based

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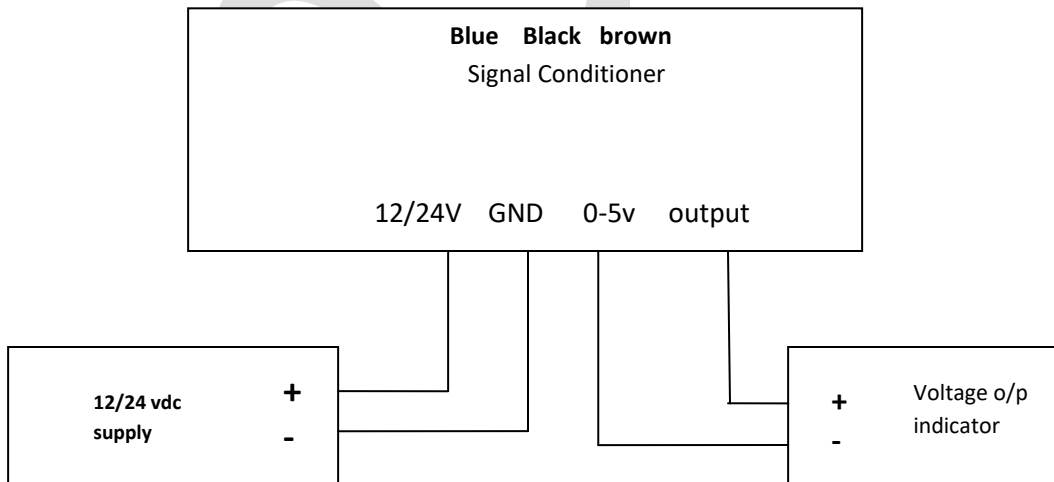
Wiring Diagram

Brown -Supply ,Black –Gnd , Blue – output

Current Based 4-20 mA – Output

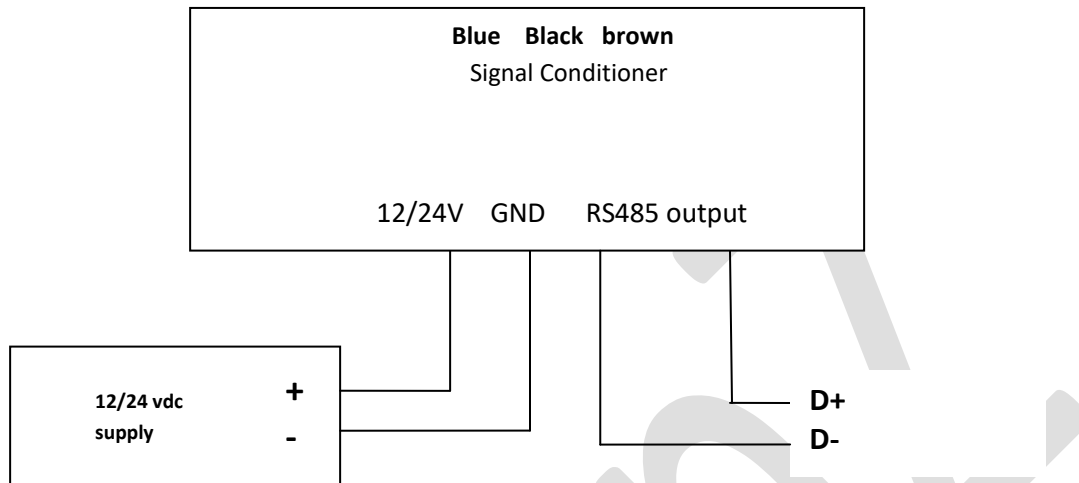


Voltage Based 0-5 v Output



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MODBUS RTU RS485 Output



INSTALLATION

The Sensor is pre-assembled inside the radiation shield dome and the converter box. The bracket provided should be mounted to a pole using the supplied U-clamp provided.

Tools and Materials Needed

- Wrench or pliers, Wire cutters and stripper
- Multi meter and laptop with USB to rs485 converter for rs485 based sensors
- Cable ties and Electrical Tapes and any other generic tool as per site requirement

Orientation

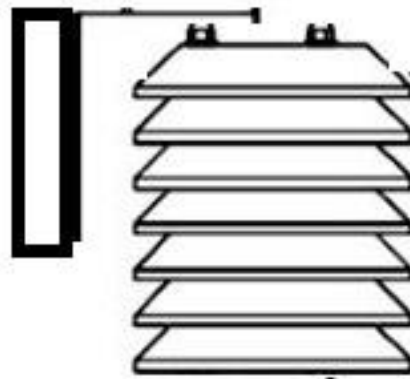
This sensor can be installed anywhere near the PV array in place where there is no obstruction to wind and has a steady breeze. Please keep away this sensor from water sprinklers or nearby water source.

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Multiple ways to mount sensor

- Side of the Wall or wood/ post.
- On a pole

Mounting Direction



The sensor should be mounted in the same way shown, the plate gaps opening should be towards down side.

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. There may be slight deviation in actual v/c expected value. 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