SHT6930- Ambient Temperature and Humidity Sensor Datasheet & Installation Guide

DATA LOGGERS | ZERO EXPORT DEVICE | PV DG SYNC

WEATHER SENSORS | MFM METERS | SPD | MODBUS REPEATERS

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WS102 Introduction

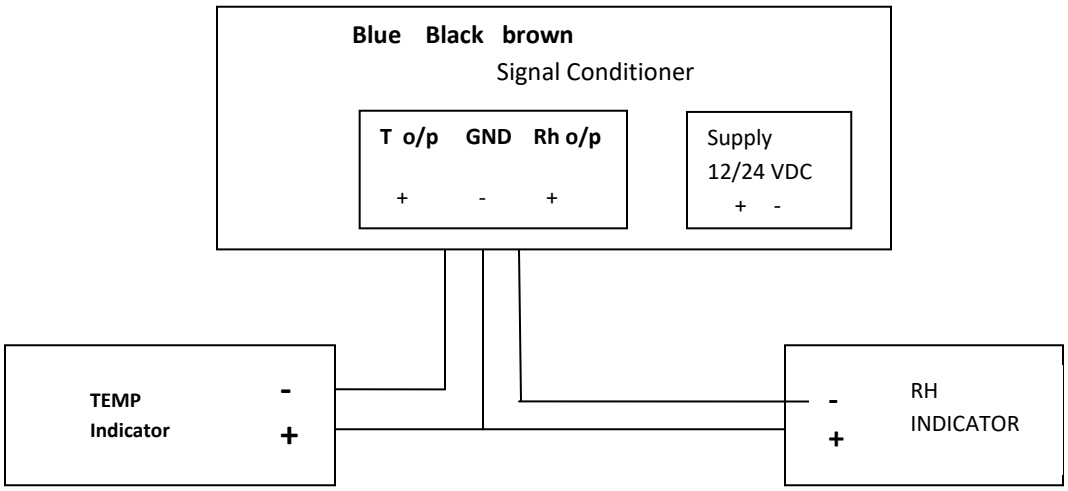
This is a dual setup sensor with an ambient temperature & Humidity Sensor with naturally aspirated, 6-UV-stabilized white thermoplastic plates with aluminum mounting bracket, white powder-coated, stainless-steel U-bolt clamp
Its uniquely designed It's a multi-plate louvered construction allows air to 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
Measuring Range- Temperature: 0 to 100 deg C
Humidity: 0 to 100% RH
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- Optional (Additional Converter Needed)
Supply Voltage
12 to 24 VDC
Casing - ABS Plastic (watertight enclosure)
Sensors Humidity- Think Film Capacitor, Temperature: PT 100 based
Temp Compensation +- 0.008%RH/deg C

Wiring Diagram

Brown -Supply ,Black –Gnd , Blue - output



INSTALLATION

The Sensor is pre -assembled inside the radiation shield dome. The radiation shield bracket can be mounted to a pipe (1.0 - 2.0 in. diameter), using the supplied U-clamp provided.

Tools and Materials Needed

Wire cutters , Pliers and stripper - Multi meter - Screwdriver
Electrical tapes and cable ties for wiring , Drill Machine with drill Bits and hammer

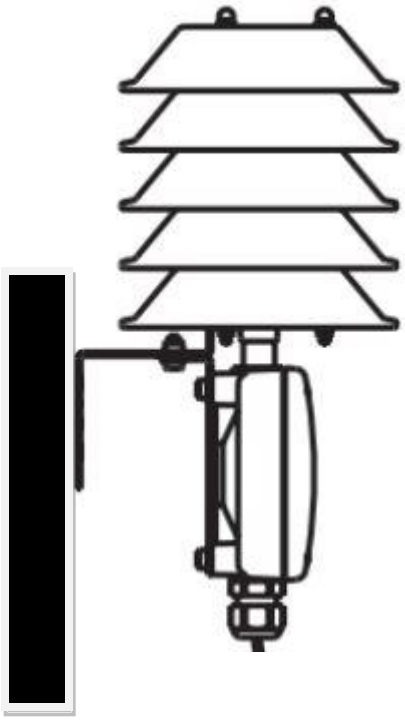
Orientation

Location Recommendation

This sensor can be installed anywhere in the vicinity of the PV array with a steady breeze and Mounted away from wall, buildings, trees, or other obstructions, advised to be mounted in northern hemisphere of pv array. If mounted on wall or building its recommended to place is the north side in the northern hemisphere and the south side in the southern hemisphere. Please keep away this sensor from water sprinklers or nearby water source.

Multiple ways to mount sensor
- Side of the Wall or wood/ post.
- On a metal pipe with outside diameter (1 to 1.25 inches)

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- 0 - 5 VDC (0- 100 deg C), RH- 0 - 5 VDC (0- 100% RH)

Temperature in deg C = 20 * Sensor Output voltage (in Volt)

Relative Humidity in % = 20 * Sensor Output voltage (in Volt)

In case of 4-20mA Output

Output: 4-20mA (0- 100 deg C) , RH- 4-20mA (0- 100% RH)

- **Temperature** in deg C = 6.25 * (Output in mA - 4)
- **Relative Humidity** in % = 6.25 * (Output in mA - 4)

NOTE

There will be some variation in the real vs. expected values as This sensor is a low-cost sensor and does not fall under any class. It's a alternative to the Class 2 sensors of the same type. In case of very accurate data for analytics, it's recommended to use Class 1/Class 2 sensors. Warranty of this sensor is as per the terms and conditions of original manufacturer. an accuracy de-rating factor must be added to the overall temperature accuracy of this sensor in case additional cable is added

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