

Industrial Leaf Wetness and Temperature Sensor, MODBUS, RTU RS485



PRODUCT DETAILS

Industrial Leaf Wetness and Temperature Sensor comes in two versions. The main difference is in the cable connector. Please choose the version that best suits your needs:

- (1) Version B: with a waterproof aviation connector. This version saves you time in deployment as you won't have to use screws to connect the cable to the data logger. And it can be used with SenseCAP Sensor Hub 4G Data Logger instantly with ease.
- (2) Version A: with hook-up wires.

Features

Compact with high Integration: 2-in-1 sensor with leaf wetness & temperature measurement

Supporting multiple output Interfaces: MODBUS-RTU RS485, analog voltage, and analog current

Simulating the real leaf thermal resistance by sensing shape and thickness

Strong robustness: water, ice, foggy detection

Industrial-grade design: IP68 rated, waterproof and dustproof, suitable for harsh environments

Industry standards: high accuracy with excellent stability

Reverse power protection and Built-in TVS/ESD protection

Leaf wetness is an important indicator of the infection of pathogens on the leaves. The amount of moisture on the leaf surface makes it easy to be infected by fungal and bacterial diseases. During the period of pathogen infection, if the leaf surface is completely wet, it is easier for the diseases to spread, which will ultimately bring damages to the leaf structures and plant health.

The leaf wetness & temperature sensor can measure the presence and duration of the moisture and temperature on the leaf surface. Thus, it can provide information about wetness (from dew, rain, pesticide, and irrigation, etc.) and the temperature of the leaves. With these data available, farmers can make better decisions for irrigation, pest control, and other measures to make the plants and crops grow better.

Leaf wetness is a parameter that describes the amount of dew and precipitation left on surfaces. It is used for monitoring leaf moisture for agricultural purposes, such as fungus and disease control, for control of irrigation systems, and for detection of fog and dew conditions, and for early detection of rainfall.

This industrial Leaf Wetness and Temperature Sensor comes in the shape of a leaf, and it simulates the wetness and temperature of a real leaf. To make the sensor more robust, it is sealed with a resin packaged plastic body, which makes it waterproof and suitable for long-time monitoring, even in outdoor harsh environments. The sensor itself tries to mimic the thermal resistance of a real leaf so that the water on the sensor condenses and evaporates at the same rate as on a real leaf. The sensor determines the wetness by measuring the change of the relative permittivity. The measurement value is proportional to the percentage of the sensing area covered with water. The output signal can be RS485, Analog Voltage, or Analog Current, and can be fed into a data logger.

Applications

Science Research

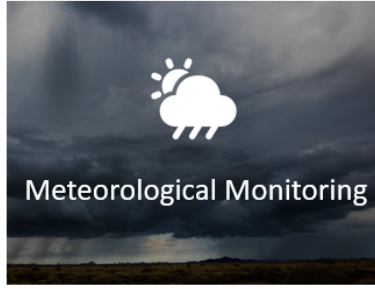
Smart Agriculture (outdoor & greenhouse)

Irrigation Management

Pest Control

Bacteria Prevention

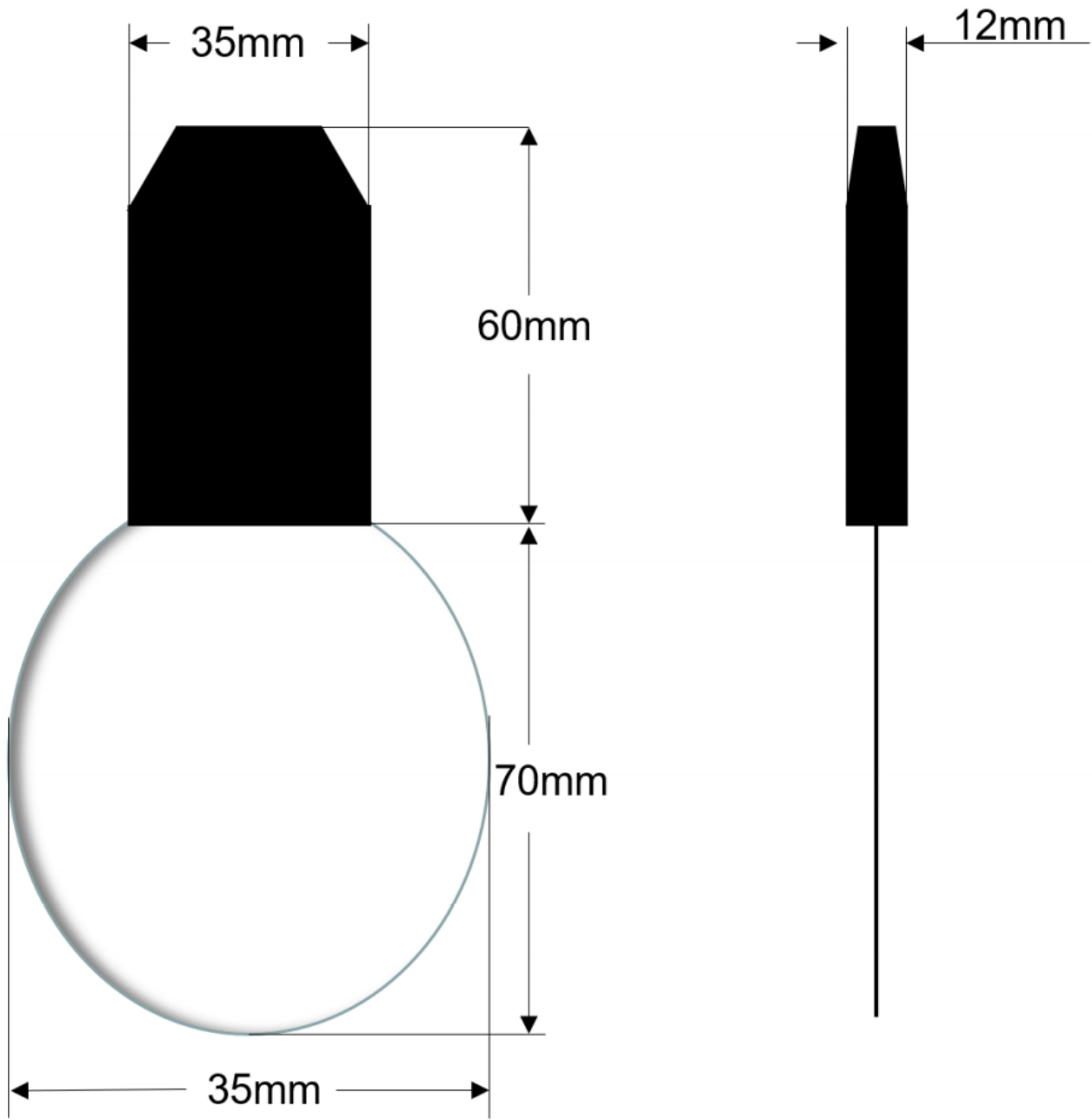
Horticulture & Forestry Management



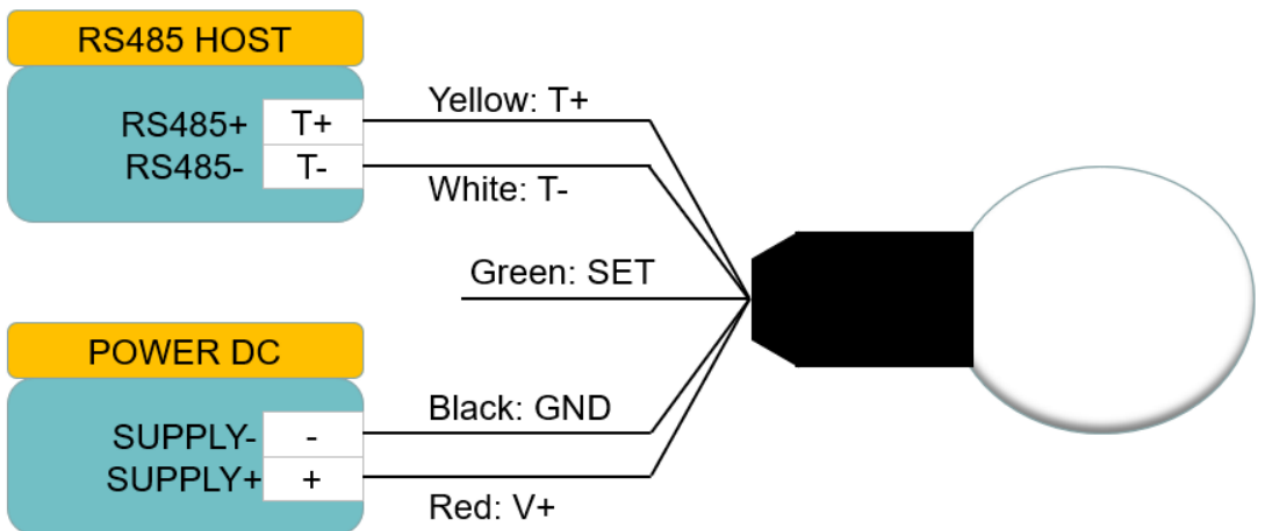
Specifications

Output Interface	RS485 Modbus-RTU
Power Supply	3.6-30V/DC
Power Consumption	6mA@24V DC
Leaf wetness Measurement	Range:0-100%, Resolution: 0.1%, Accuracy: 5%
Temperature Compensation	Range: -40~80°C, Resolution:0.1 °C, Accuracy: ±0.5 °C
Measurement Technique	FDR
IP Ratings	IP68
Operating Temperature	-40~85°C
Sensor Sealed	Epoxy resin
Installation	Mounting kit
Cable Length	2 meters
Dimension	65*13*145mm

Dimensions



Wiring Diagram



ECCN/HTS

HSCODE 9025800090

UPC