

Leaf Wetness Sensor

JW-LWS(Z21) Analog Output



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1. Product Introduction

JW-LWS(Z21) Leaf(Foliar) Wetness Sensor is an important tool for observing and studying leaf (Foliar) wetness, preventing pests and diseases, and spraying sprinkler control.

The accurate measurement of the moisture content of the leaf(Foliar) surface can be used to monitor the trace moisture or ice crystal residue.

The shape of the sensor is simulated by the blade, which can simulate the characteristics of the leaf (Foliar) surface, so that it can reflect the situation of the leaf(Foliar) surface more accurately. By measuring the variation of the dielectric constant of the upper surface of the blade, the mist, water vapor and ice can be measured.

2. Technical Parameter

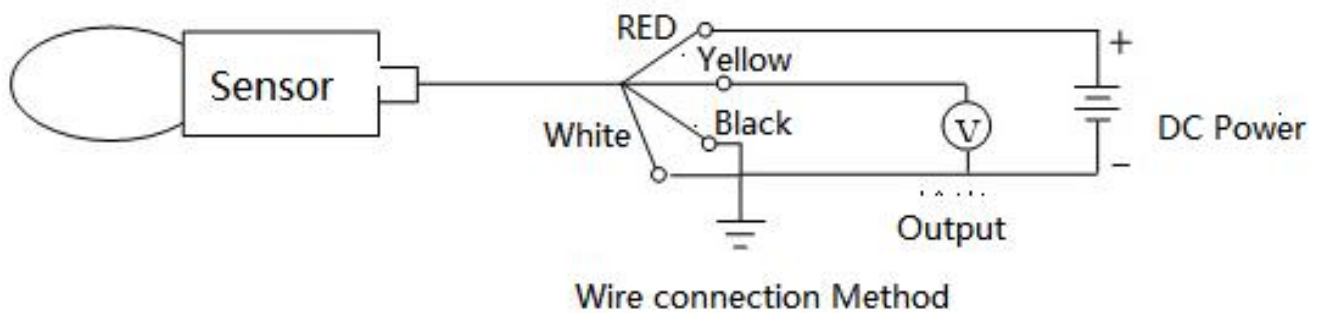
Item No.	JW-LWS(Z21)
Measuring Range	0-100%
Unit	100%
Output	-50 ~ 100°C
Resolution	0.1°C
Output Signal	0-2V / 0-5V
Accuracy	±3% (0-50%) ; ±5% (>50%)
Principle	Capacitance Measurements
Power Supply	2 ~ 5VDC (Max 6V) or 5 ~ 24V (Max 26.7V)
Working current	Peak<30mA, average<10mA
Working environment	Temperature -40°C ~ 85°C; Humidity≤100%RH (No condensation)
Ingress Protection	IP67
Response Time	<1s
Stabilization Time	2s
Cable Length	3.5m(Standard); others for optional

3. Wiring Definition

(1) If the sensor is equipped with our data logger, directly use the sensor cable to connect the sensor with the corresponding interface on the data logger.

(2) If the sensor is purchased separately, the order of the wires as followed:

Color	Signal output
	Analogue
RED	VCC +
BLACK	GND
YELLOW	Signal
WHITE	Set(Factory use)



Note: The white wire should be connected with black wire

4. Analog Output Formula

Current:	
4-20mA	Leaf(Foliar) wetness%=Output current(mA)*6.25-25
Voltage:	
0-2V	Leaf(Foliar) wetness%=Output voltage(V)*50
0-5V	Leaf(Foliar) wetness%=Output voltage(V)*20

5. Installation

The sensor is fixed near the plant according to the tilt Angle of the plant leaf(Foliar) surface. The area with white leaf(Foliar) veins is the sensor's sensing area, which must receive the same spraying, foliar fertilization and moisturizing operations as the plant leaf(Foliar) surface to ensure the accuracy of the measurement.

6. Maintenance

If too much dust or water is deposited on the sensor's white veined surface, spray it with clean water or gently wipe it with a clean wet cloth. To ensure accurate measurement.

7. Attention in Use

- 1) Black wire and white wire should be connected together when using.
- 2) Do not pull the lead wire of the sensor forcibly, and do not beat or hit the sensor violently.
- 3) Avoid scratches on the sensor surface.
- 4) The sensor protection level is IP67, which can be sprayed and soaked in water for a short time.