

Dielectric Leaf Wetness Sensor



Model: OSPL-LW

Innovative and easy-to-use, the new Dielectric Leaf Wetness Sensor enables accurate and affordable leaf wetness monitoring. Many fungal and bacterial diseases affect plants only when moisture is present on the leaf surface. The Leaf Wetness Sensor determines the presence and duration of wetness on a leaf's surface, enabling researchers and producers to forecast disease and protect plant canopies.



Technical Specifications:

Measurement time	: 10 ms
Power	: 2.5VDC @ 2mA to 5VDC @ 7mA
Output	: 0 to 1000 mV
Operating Environment	: -10°C to 60°C
Expected Lifetime	: 2+ years continuous use

Probe Dimensions

Length	: 11.2cm
Width	: 5.8 cm
Thickness	: 0.075 cm
Cable Length	: 5m standard Extension cables available
Output	: SDI-12 / RS485

Applications

- Disease forecasting and modelling
- Ecological and Agricultural Research

How It Works

The Leaf Wetness Sensor approximates the thermal mass and radiative properties of leaves to closely mimic the wetness state of a real leaf. If the canopy is wet, the sensor is wet; if the canopy is dry, the sensor is dry. The Sensor measures the dielectric constant of its top. The dielectric constants of water (80) and ice (5) are higher than air (1), so the sensor can determine the presence or absence of wetness. Measurements are logged at user-defined intervals to determine the duration of wetness on the canopy.

Moisture does not need to bridge electrical traces for the sensor to detect moisture; the presence of water or ice anywhere on the sensor surface will be detected.

Features:

- No user manipulation or painting required
- High resolution detects trace amounts of water or ice on the sensor surface
- No calibration necessary; factory calibration set at standard wetness threshold
- Forecast plant disease
- Modelling for blight
- Imitates characteristics of a real leaf
- Requires no painting or user calibration
- Low power
- High Resolution



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