ENVIROMONITORS

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HOBOnet Leaf Wetness Sensor

Product Images

Description

The HOBOnet Leaf Wetness Sensor provides accurate leaf wetness data for a variety of growing and research applications.

The sensor is ready to use and does not require any painting or coating. It uses a capacitive grid that is less sensitive to surface residues than resistive grid-based sensors, and comes preconditioned for long-term

stability and consistent measurements between sensors. HOBOnet Wireless Sensors communicate data directly to the HOBO RX3000, or the HOBO MicroRX station, or pass data through other wireless sensors back to the central station.

Sensors are easily linked to the HOBOnet network, and data can be accessed through HOBOlink, Onset's innovative cloud-based software platform.

Sensor Features

- Does not require any painting or coating
- Preconditioned for consistent measurements
- 3-metre cable and mounting bracket included.

Wireless Features

- 868 MHz wireless mesh self-healing technology
- 450 to 600 metre (1,500 to 2,000 feet) wireless range and up to five hops
- Up to 50 wireless sensors or 336 data channels per HOBO RX station
- Simple button-push to join the HOBOnet wireless network
- Onboard memory to ensure no data loss
- Powered by rechargeable AA batteries and built-in solar panel.

Note: A complete HOBOnet system requires at least one HOBO RX3000 Remote Monitoring Station, a HOBOnet Wireless Manager, and a HOBOnet Wireless Sensor, OR one HOBO MicroRX Station (which has an integrated HOBOnet Wireless Manager) and a HOBOnet Wireless Sensor. HOBOnet Wireless Repeaters can be added to extend the range.

Additional Information

Country of Manufacture	United States
Brand	Onset HOBO
Measurements	Leaf Wetness
Typical applications	Environmental (Outdoor), Field Research
Explanation	The country of origin for this product is the United States. To see the full specifications for this product, please see the product manual found under the Resources tab.

Sensor

Measurement Range	0 (dry) to 100% (wet)
Sensor Type	Capacitive grid
Interchangeability Between Sensors (Over the Range 10-90% Wet)	±10%
Repeatability	±5%; see Note 1
Resolution	0.59%
Stability (Drift)	< ±5% per year (in typical growth conditions)
Service Life	3 years in typical growth conditions

Wireless Mote

Operating Temperature Range	-25° to 60°C (-13° to 140°F) with rechargeable batteries -40 to 70°C (-40 to 158°F) with lithium batteries
Radio Power	12.6 mW (+11 dBm) non-adjustable
Transmission Range	Reliable connection to 457.2 m (1,500 ft) line of sight at 1.8 m (6 ft) high Reliable connection to 609.6 m (2,000 ft) line of sight at 3 m (10 ft) high
Wireless Data Standard	IEEE 802.15.4
Radio Operating Frequencies	RXW-LWA-900: 904-924 MHz RXW-LWA-868: 866.5 MHz RXW-LWA-922: 916-924 MHz RXW-LWA-921: 921 MHz
Modulation Employed	OQPSK (Offset Quadrature Phase Shift Keying)
Data Rate	Up to 250 kbps, non-adjustable
Duty Cycle	<1%
Maximum Number of Motes	50 motes per one RX Wireless Sensor Network
Logging Rate	1 minute to 18 hours
Number of Data Channels	2
Battery Type/ Power Source	Two AA 1.2 V rechargeable NiMH batteries powered by built-in solar panel or two AA 1.5 V lithium batteries for operating conditions of -40 to 70°C (-40 to 158°F)
Battery Life	With NiMH batteries: Typical 3-5 years when operated in the temperature range -20° to 40°C (-4°F to 104°F) and positioned toward the sun (see Deployment and Mounting), operation outside this range will reduce the battery service life With lithium batteries: 1 year, typical use
Memory	16 MB
Dimensions	Sensor grid: 4.7 x 5.1 cm (1.8 in x 2.0 inches) Sensor housing: 12.2 x 1.8 cm (4.8 in x 0.7 inches) Mounting bracket: 20 x 3 x 0.5 cm (8 x 1.3 x 0.2 inches) Cable length: 2 m (6.56 ft) Mote: 16.2 x 8.59 x 4.14 cm (6.38 x 3.38 x 1.63 inches)
Weight	Sensor and cable: 127 g (4.5 oz); with bracket: 290 g (10.2 oz) Mote: 223 g (7.87 oz)
Materials	Sensor: PVC housing, epoxy potting compound, nylon grommet, FR-4 circuit board, PVC cable jacket Bracket: PVC mounting bracket, UV-stable nylon cable ties, zinc dichromate plated steel U-bolts Mote: PCPBT, silicone rubber seal
Environmental Rating	Sensor and cable: Weatherproof Mote: IP67, NEMA 6
Compliance Mark	RXW-LWA-868

Contents	Sensor, along with zip ties and screws for mounting.
Ideal For	Professional, Agronomy