ONSET

RXW-LWA-xxx

HOBOnet Leaf Wetness Sensor

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. They are preconfigured and ready to deploy, and data is accessed through HOBOlink, Onset's innovative cloud-based software platform.

Product Numbers:
 RXW-LWA-900
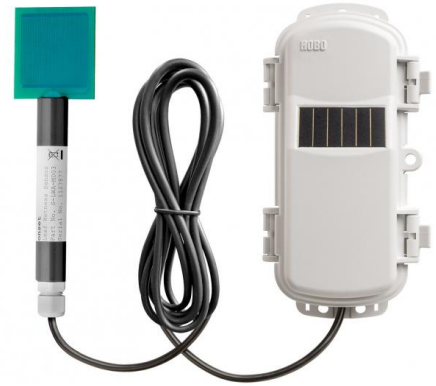 RXW-LWA-868
 RXW-LWA-922
 RXW-LWA-921

Key Advantages:

Sensor Features

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

Wireless Features

- 900 MHz wireless mesh self-healing technology
- 450 to 600 meter (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

HOBO RXW-LWA-xxx Sensor Specifications

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	Up to 50 wireless sensors or 336 data channels per one HOBO RX station
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 Marks	☒ RXW-LWA-900
	$C \in$ RXW-LWA-868
	⚠ RXW-LWA-922
	(((RXW-LWA-921

Contact Us

Sales (8am to 5pm ET, Monday through Friday)
▶ Email sales@onsetcomp.com
▶ Call 1-508-759-9500
▶ In U.S. toll free 1-800-564-4377
▶ Fax 1-508-759-9100

Technical Support (8am to 6pm ET, Monday through Friday)
▶ Contact Product Support www.onsetcomp.com/support/contact
▶ Call 1-508-759-9500
▶ In U.S. toll free 1-877-564-4377

Onset Computer Corporation
470 MacArthur Boulevard
Bourne, MA 02532