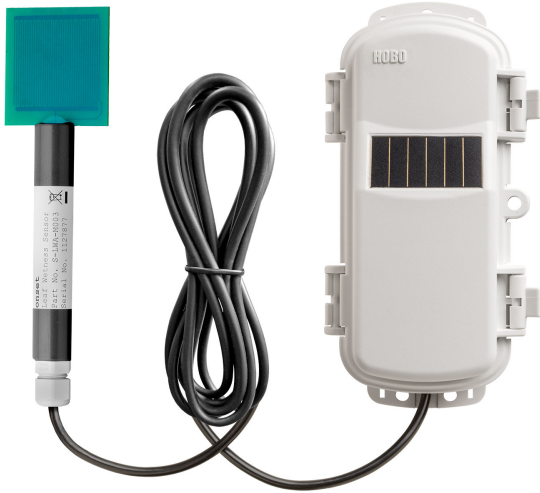


RXW-LWA-900 • RXW-LWA-868 • RXW-LWA-922 • RXW-LWA-921



## HOBOnet Leaf Wetness Sensor

A wireless sensor that provides accurate leaf wetness data for a variety of growing and research applications; ready to use, requires no painting or coating.

### Important Information

A complete system requires at least one HOBOnet RX3000 Remote Monitoring Station, a HOBOnet Wireless Manager, and a HOBOnet Wireless Sensor, OR one HOBOnet MicroRX Station (which has an integrated HOBOnet Wireless Manager) and a HOBOnet Wireless Sensor. HOBOnet Wireless Repeaters (RXW-RPTR-xxx or RXW-RPTR-B-xxx) can be added to extend the range.

## Supported Measurements

Leaf Wetness

## Features

### 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 HOBOnet 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

## What's in the box

- HOBOnet Leaf Wetness sensor
- Zip ties and screws for mounting

## Contact Us

Sales (8am to 5pm ET, Monday through Friday)

- Email [sales@onsetcomp.com](mailto:sales@onsetcomp.com)
- Call 1-508-759-9500
- In U.S. toll free 1-800-564-4377
- Fax 1-508-759-9100

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Bourne, MA 02532

Technical Support (8am to 5pm ET, Monday through Friday)

- Contact Product Support [www.onsetcomp.com/support/contact](http://www.onsetcomp.com/support/contact)
- Call 1-508-759-9500
- In U.S. toll free 1-877-564-4377

## HOBOnet Leaf Wetness Sensor (RXW-LWA-xxx) Specifications

### Sensor

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

### Wireless Note

|                                    |  |
|------------------------------------|--|
| <b>Operating Temperature Range</b> | -25° to 60°C (-13° to 140°F) with rechargeable batteries<br>-40 to 70°C (-40 to 158°F) with lithium batteries  |
| <b>Radio Power</b>                 | 12.6 mW (+11 dBm) non-adjustable   |
| <b>Transmission Range</b>          | Reliable connection to 457.2 m (1,500 ft) line of sight at 1.8 m (6 ft) high<br>Reliable connection to 609.6 m (2,000 ft) line of sight at 3 m (10 ft) high  |
| <b>Wireless Data Standard</b>      | IEEE 802.15.4  |
| <b>Radio Operating Frequencies</b> | RXW-LWA-900: 904-924 MHz<br>RXW-LWA-868: 866.5 MHz<br>RXW-LWA-922: 916-924 MHz<br>RXW-LWA-921: 921 MHz   |
| <b>Modulation Employed</b>         | OQPSK (Offset Quadrature Phase Shift Keying)   |
| <b>Data Rate</b>                   | Up to 250 kbps, non-adjustable   |
| <b>Duty Cycle</b>                  | <1%  |
| <b>Maximum Number of Motes</b>     | Up to 50 wireless sensors or 336 data channels per one HOBO RX station   |
| <b>Logging Rate</b>                | 1 minute to 18 hours   |
| <b>Number of Data Channels</b>     | 2  |
| <b>Battery Type/ Power Source</b>  | 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)  |
| <b>Battery Life</b>                | 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<br>With lithium batteries: 1 year, typical use |
| <b>Memory</b>                      | 16 MB  |
| <b>Dimensions</b>                  | Sensor grid: 4.7 x 5.1 cm (1.8 in x 2.0 inches)<br>Sensor housing: 12.2 x 1.8 cm (4.8 in x 0.7 inches)<br>Mounting bracket: 20 x 3 x 0.5 cm (8 x 1.3 x 0.2 inches)<br>Cable length: 2 m (6.56 ft)<br>Mote: 16.2 x 8.59 x 4.14 cm (6.38 x 3.38 x 1.63 inches)                             |
| <b>Weight</b>                      | Sensor and cable: 127 g (4.5 oz); with bracket: 290 g (10.2 oz)<br>Mote: 223 g (7.87 oz)   |
| <b>Materials</b>                   | Sensor: PVC housing, epoxy potting compound, nylon grommet, FR-4 circuit board, PVC cable jacket<br>Bracket: PVC mounting bracket, UV-stable nylon cable ties, zinc dichromate plated steel U-bolts<br>Mote: PCPBT, silicone rubber seal   |
| <b>Environmental Rating</b>        | Sensor and cable: Weatherproof<br>Mote: IP67, NEMA 6   |

