



## RXW-LIA-xxx

### HOBOnet PAR Sensor

The HOBOnet Wireless Photosynthetic Active Radiation (PAR) Sensor measures light intensity for frequencies relevant to photosynthesis. 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-LIA-900  
RXW-LIA-868  
RXW-LIA-922  
RXW-LIA-921

#### Key Advantages:

#### Sensor Features

- Measurement range of 0 to 2500  $\mu\text{mol}/\text{m}^2/\text{sec}$  over wavelengths from 400 to 700 nm
- Enclosed in an anodized aluminum housing with acrylic diffuser

#### 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-LIA-xxx Sensor Specifications

### Sensor

|                   |                                                                                                                                                            |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Measurement Range | 0 to 2500 mol/m2/sec, wavelengths 400 to 700 nm                                                                                                            |
| Accuracy          | ±5 mol/m2/sec or ± 5%, whichever is greater in sunlight; Additional temperature induced error ±0.75 mol/m2/sec/°C from 25°C (0.42 mol/m2/sec/°F from 77°F) |
| Angular Accuracy  | Cosine corrected 0 to 80 degrees from vertical; Azimuth Error <2% error at 45 degrees from vertical, 360 degree rotation                                   |
| Resolution        | 2.5 mol/m2/sec                                                                                                                                             |
| Drift             | <±2% per year                                                                                                                                              |

### Wireless Mote

|                             |                                                                                                                                                                                                                                                                                       |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating Temperature Range | -25° to 60°C (-13° to 140°F) with rechargeable batteries<br>-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<br>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-LIA-900: 904–924 MHz<br>RXW-LIA-868: 866.5 MHz<br>RXW-LIA-922: 916–924 MHz<br>RXW-LIA-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 1.2V 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: 4.1 cm height x 3.2 cm diameter (1.61 x 1.26 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)                                                                                                                                |
| Weight                      | Sensor and cable: 109 g (3.85 oz)<br>Mote: 223 g (7.87 oz)                                                                                                                                                                                                                            |
| Materials                   | Sensor: Anodized aluminum housing with acrylic diffuser and O-ring seal<br>Mote: PCPBT, silicone rubber seal                                                                                                                                                                          |
| Environmental Rating        | Sensor: Weatherproof<br>Mote: IP67, NEMA 6                                                                                                                                                                                                                                            |

## Compliance Marks



RXW-LIA-900



RXW-LIA-868



RXW-LIA-922



RXW-LIA-921

## 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

Technical Support (8am to 6pm 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

Onset Computer Corporation  
470 MacArthur Boulevard  
Bourne, MA 02532