RXW-LIA-900 • RXW-LIA-868 • RXW-LIA-922 • RXW-LIA-921

HOBOnet PAR Sensor

A wireless sensor that measures light intensity for frequencies relevant to photosynthesis; communicates data to the HOBO RX3000 or the HOBO MicroRX station; preconfigured and ready to deploy.

Important Information
A complete 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 (RX-RPTR-xxx or RXW-RPTR-B-xxx) can be added to extend the range.

Supported Measurements

Light Intensity, PAR

Features

Sensor Features

- Measurement range of 0 to 2500 umol/m2/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

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 5pm 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

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HOBOnet PAR Sensor (RXW-LIA-xxx) 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 -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-LIA-900: 904-924 MHz RXW-LIA-868: 866.5 MHz RXW-LIA-922: 916-924 MHz 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) 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: 109 g (3.85 oz) Mote: 223 g (7.87 oz)
Materials	Sensor: Anodized aluminum housing with acrylic diffuser and O-ring seal Mote: PCPBT, silicone rubber seal
Environmental Rating	Sensor: Weatherproof Mote: IP67, NEMA 6