



HOBOnet PAR Sensor

Product Images



Short Description

The HOBOnet Wireless Photosynthetic Active Radiation (PAR) Sensor measures light intensity for frequencies relevant to photosynthesis. HOBOnet Wireless Sensors communicate data directly to the RX3000 weather station.

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The HOBOnet Wireless Photosynthetic Active Radiation (PAR) Sensor measures light intensity for frequencies relevant to photosynthesis.

HOBOnet Wireless Sensors communicate data directly to the RX3000 weather 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.

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 anodised aluminum housing with acrylic diffuser.


Wireless Features

- 900 MHz wireless mesh self-healing technology
- 450 to 600 metres (1,500 to 2,000 feet) wireless range and up to five hops
- Up to 50 wireless sensors per RX3000
- 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 [HOBOnet RX3000](#) Remote Monitoring Station, a [HOBOnet Wireless Manager](#), and a [HOBOnet Wireless Sensor](#). [HOBOnet Wireless Repeaters](#) can be added to extend the range.

For full specifications for this product, please see the User Manual found under the Resources tab below.

Additional Information

Country of Manufacture	United States
Brand	Onset HOBO
Measurements	Light Intensity, PAR/Quantum Light
Typical applications	Environmental (Outdoor), Field Research, Weather Monitoring
Explanation	Sensor
	Measurement Range 0 to 2500 µmol/m2/sec, wavelengths 400 to 700 nm
	Accuracy ±5 µmol/m2/sec or ± 5%, whichever is greater in sunlight; Additional temperature induced error ±0.75 µmol/m2/sec/°C from 25°C (0.42 µmol/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 µmol/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
	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
	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
	Compliance  RXW-LIA-868
Ideal For	Professional, Agronomy
Power	Powered by rechargeable AA batteries and built-in solar panel