



HOBOnet Solar Radiation (Silicon Pyranometer) Sensor

Product Images



Short Description

The HOBOnet Wireless Solar Radiation (Silicon Pyranometer) Sensor is calibrated to measure light intensity for frequencies relevant for solar radiation. HOBOnet Wireless Sensors communicate data directly to the RX3000 weather station.

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The HOBOnet Wireless Solar Radiation (Silicon Pyranometer) Sensor is calibrated to measure light intensity for frequencies relevant for solar radiation.

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 1280 W/m² over a spectral range of 300 to 1100 nm
- Enclosed in an anodized aluminum housing with acrylic diffuser and O-ring seal.


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 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 [HOBO 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	Evapotranspiration, Light Intensity, Solar Radiation	
Typical applications	Environmental (Outdoor), Field Research, Weather Monitoring	
Explanation	Sensor Measurement Range 0 to 1280 W/m ² Spectral Range 300 to 1100 nm Accuracy Typically within ±10 W/m ² or ±5%, whichever is greater in sunlight; Additional temperature induced error ±0.38 W/m ² /°C from 25°C (0.21 W/m ² /°F from 77°F) Angular Accuracy Cosine corrected 0 to 80 degrees from vertical (see Plot B); Azimuth Error <±2% error at 45 degrees from vertical, 360 degree rotation Resolution 1.25 W/m ² 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-LIB-900: 904–924 MHz RXW-LIB-868: 866.5 MHz RXW-LIB-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-LIB-868	
	Ideal For	Professional, Agronomy