



HOBO® RXW-RGE-xxx Sensor

HOBOnet Rainfall (inches) Sensor

The HOBOnet Wireless AeroCone® Rain Gauge records rainfall in 0.01-inch increments. 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.

Supported Measurements:

Rainfall

Key Advantages:

Sensor Features

- Resolution of 0.01 inch
- Bird spikes
- Debris screen that locks in place
- Designed to meet World Meteorological Organization (WMO) guidelines

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 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-RGE-xxx Sensor Specifications

Sensor

Measurement Range	0 to 10.2 cm (0 to 4 in.) per hour, maximum 4,000 tips per logging interval
Accuracy	±4.0%, ±1 rainfall count between 0.2 and 50.0 mm (0.01 and 2.0 in.) per hour; ±5.0%, ±1 rainfall count between 50.0 and 100.0 mm (2.0 and 4.0 in.) per hour
Resolution	0.01 in.
Calibration	Requires annual calibration; can be field calibrated

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-RGE-900: 904–924 MHz RXW-RGE-868: 866.5 MHz RXW-RGE-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: 16.5 cm opening diameter (6.5 in.) x 24 cm (9.5 in.) high; 214 cm ² (33.2 in. ²) collection area Cable length: 2 m (6.6 ft) Mote: 16.2 x 8.59 x 4.14 cm (6.38 x 3.38 x 1.63 inches)
Weight	Sensor and cable: 1.2 kg (2.7 lbs) Mote: 223 g (7.87 oz)
Materials	Sensor: UV-stabilized ABS plastic housing; tipping bucket mechanism with magnetic reed switch pivots on metal shaft Mote: PCPBT, silicone rubber seal
Environmental Rating	Sensor: Weatherproof Mote: IP67, NEMA 6
Compliance Marks	 RXW-RGE-900  RXW-RGE-868  RXW-RGE-922

