

RXW-WCG-900 • RXW-WCG-868 • RXW-WCG-922 • RXW-WCG-921

HOBOnet Ultrasonic Wind Speed & Direction Sensor

A wireless ultrasonic wind speed & direction sensor that works with HOBOnet; capable of measuring very low wind speeds (down to 0.4 m/s).

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 (RXW-RPTR-xxx or RXW-RPTR-B-xxx) can be added to extend the range.



Supported Measurements

Wind

Features

Sensor Features

- Compact and rugged with no moving parts
- No starting threshold – suitable for low wind speeds
- No wind direction dead band – accurate wind data in all directions
- Powered by its own built-in solar panel

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 220 data channels per HOBO RX station

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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Bourne, MA 02532

HOBOnet Ultrasonic Wind Speed & Direction Sensor (RXW-WCG-xxx) Specifications

Sensor

	Wind Speed/Gust	Wind Direction
Measurement Range	0 to 41.16 m/s (0 to 92.07 mph)	0 to 359 degrees
Accuracy	± 0.8 m/s (1.79 mph) or $\pm 4\%$ of reading, whichever is greater	0.2 to 3 m/s (0.44-6.7 mph): ± 4 degrees >3 m/s (6.7 mph): ± 2 degrees
Resolution	0.4 m/s (0.89 mph)	1 degree (0 to 359 degrees)
Measurement Definition	Wind speed readings are taken every three seconds for the duration of the logging interval Wind speed: Average speed for the entire logging interval Gust speed: The highest three-second wind recorded during the logging interval See Measurement Operation.	Unit vector averaging used; vector components for each wind measurement are calculated every three seconds for duration of logging interval (see Measurement Operation)

Operating Temperature Range Without Icing -15°C to 55°C (5°F to 131°F)

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-WCG-900: 904-924 MHz RXW-WCG-868: 866.5 MHz RXW-WCG-921: 921 MHz RXW-WCG-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	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	4
Battery Type/ Power Source	Sensor: Photovoltaic panel, LIFEP04 3.2 V -600 mAh battery Mote: Two AA 1.2 V 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 length: 380 mm (14.96 inches) Sensor head diameter: 60 mm (2.36 inches) Sensor rod diameter: 16 mm (0.63 inches) Cable length: 3 m (9.8 ft) Mote: 16.2 x 8.59 x 4.14 cm (6.38 x 3.38 x 1.63 inches)
Weight	Sensor and cable: 200 g (7 oz) Mote: 223 g (7.87 oz)
Materials	Sensor: Polyacetal Mote: PCPBT, silicone rubber seal
Environmental Rating	Sensor and cable: Weatherproof Mote: IP67, NEMA 6

