

RXW-WCF-900 • RXW-WCF-868 • RXW-WCF-922 • RXW-WCF-921



## HOBOnet Wind Speed and Direction Sensor

A wireless sensor that works with HOBOnet to record wind speed, wind gust, and wind direction.

### Important Information

A complete system requires at least one HOBOb RX3000 Remote Monitoring Station, a HOBOnet Wireless Manager, and a HOBOnet Wireless Sensor, OR one HOBOb 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

Evapotranspiration, Wind

## Features

### Sensor Features

- Provides average wind speed, highest 3-second wind gust, and average wind direction for the measurement interval
- 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 or 336 data channels per HOBOb RX station
- Simple button-push to join the HOBOnet wireless network
- Onboard memory to ensure no data loss

## Contact Us

Sales (8am to 5pm ET, Monday through Friday)

- Email [sales@onsetcomp.com](mailto:sales@onsetcomp.com)
- Call 1-508-759-9500
- In U.S. toll free 1-800-564-4377
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Technical Support (8am to 5pm ET, Monday through Friday)

- Contact Product Support [www.onsetcomp.com/support/contact](http://www.onsetcomp.com/support/contact)
- Call 1-508-759-9500
- In U.S. toll free 1-877-564-4377

## HOBOnet Wind Speed and Direction Sensor (RXW-WCF-xxx) Specifications

### Sensor

	Wind Speed/Gust	Wind Direction
<b>Measurement Range</b>	0 to 76 m/sec (0 to 170 mph)	0 to 355 degrees
<b>Accuracy</b>	$\pm 1.1$ m/sec ( $\pm 2$ mph) or $\pm 5\%$ of reading, whichever is greater	$\pm 7$ degrees
<b>Resolution</b>	0.5 m/sec (1.1 mph)	1.4 degrees (0 to 355 degrees)
<b>Starting Threshold</b>	$\approx 1$ m/sec (2.2 mph)	1 m/sec (2.2 mph)
<b>Turning Radius</b>	108 mm (4.25 in.)	Approximately 135 mm (5.25 in.)
<b>Measurement Definition</b>	Cup revolutions are accumulated 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	Unit vector averaging used; vector components for each wind measurement are calculated every three seconds for duration of logging interval

### Wireless Mote

<b>Operating Temperature Range</b>	-25° to 60°C (-13° to 140°F) with rechargeable batteries -40 to 70°C (-40 to 158°F) with lithium batteries
<b>Radio Power</b>	12.6 mW (+11 dBm) non-adjustable
<b>Transmission Range</b>	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
<b>Wireless Data Standard</b>	IEEE 802.15.4
<b>Radio Operating Frequencies</b>	RXW-WCF-900: 904-924 MHz RXW-WCF-868: 866.5 MHz RXW-WCF-921: 921 MHz RXW-WCF-922: 916-924 MHz
<b>Modulation Employed</b>	OQPSK (Offset Quadrature Phase Shift Keying)
<b>Data Rate</b>	Up to 250 kbps, non-adjustable
<b>Duty Cycle</b>	<1%
<b>Maximum Number of Motes</b>	Up to 50 wireless sensors or 336 data channels per one HOBO RX station
<b>Logging Rate</b>	1 minute to 18 hours
<b>Number of Data Channels</b>	4
<b>Battery Type/ Power Source</b>	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)
<b>Battery Life</b>	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
<b>Memory</b>	16 MB
<b>Dimensions</b>	Sensor: 470 x 191 x 121 mm (18.5 x 7.5 x 4.75 in.) 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)
<b>Weight</b>	Sensor and cable: 1.332 kg (2 lb, 15 oz) Mote: 223 g (7.87 oz)
<b>Materials</b>	Sensor: Polycarbonate wind cups, sealed stainless steel bearing, UV-resistant ABS wind vane and black-anodized aluminum anemometer arm Mote: PCPBT, silicone rubber seal
<b>Environmental Rating</b>	Sensor: Weatherproof Mote: IP67, NEMA 6

