



# HOBOnet Wireless Temperature & Relative Humidity Sensor (Battery & Solar Powered)

## Product Images



## Short Description

HOBOnet Wireless Temp/RH Sensor - pre-configured and ready to deploy. Data is accessed through HOBOLink web-based software.

## Description

**The HOBOnet Wireless Temperature and Relative Humidity (RH) Sensor provides a cost-effective and scalable solution for web-enabled monitoring of air temperature and humidity.**

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

- High accuracy:  $\pm 0.2^{\circ}\text{C}$  ( $\pm 0.36^{\circ}\text{F}$ ) and  $\pm 2.5\%$  RH
- Robust RH sensor withstands extended use in high-humidity environments

### 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

The RXW-THC-868 sensor supports the following measurements: Evapotranspiration, Relative Humidity and Temperature

**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, Humidity, Temperature		
Typical applications	Environmental (Outdoor), Field Research, Weather Monitoring		
Explanation	Sensor		
		Temperature	RH
	Measurement Range	-40°C to 75°C (-40°F to 167°F)	0–100% RH at -40° to 75°C (-40° to 167°F); exposure to conditions below -20°C (-4°F) or above 95% RH may temporarily increase the maximum RH sensor error by an additional 1%
	Accuracy	±0.25°C from -40° to 0°C (±0.45°F from -40° to 32°F) ±0.20°C from 0° to 70°C (±0.36°F from 32° to 158°F) ±0.25°C from 70° to 100°C (±0.45°F from 158° to 212°F)	±2.5% from 10% to 90% RH typical to a maximum of ±3.5% including hysteresis at 25°C (77°F); below 10% and above 90% ±5% typical
	Resolution	0.02°C (0.036°F)	0.01% RH
	Drift	<0.01°C (0.018°F) per year	<1% per year typical
	Response Time	Without solar radiation shield: 2 minutes, 30 seconds in air moving 1 m/sec With RS3-B solar radiation shield: 5 minutes in air moving 1 m/sec	5 minutes in air moving 1 m/sec with protective cap
	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-THC-900: 904–924 MHz RXW-THC-868: 866.5 MHz RXW-THC-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 1.2 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: 5.1 x 33 mm (0.2 x 1.3 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: 110 g (3.88 oz); Mote: 223 g (7.87 oz)	
	Materials	Sensor: Polyamide Mote: PCPBT, silicone rubber seal	
	Environmental Rating	Sensor: Weatherproof: 0 to 100% RH intermittent condensing environments. For best results, the sensor should be mounted inside a protective enclosure, such as a solar radiation shield. Mote: IP67, NEMA	
	Compliance	 RXW-THC-868	
Ideal For	Professional, Agronomy		