



## RXW-THC-xxx Sensor

### HOBOnet Temp/RH Sensor

The HOBOnet Wireless Temperature and Relative Humidity 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.



#### Supported Measurements:

Evapotranspiration, Relative Humidity and Temperature

#### Key Advantages:

#### 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

## RXW-THC-xxx Sensor Specifications

### Sensor

	Temperature	RH
<b>Measurement Range</b>	-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%
<b>Accuracy</b>	±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
<b>Resolution</b>	0.02°C (0.036°F)	0.01% RH
<b>Drift</b>	<0.01°C (0.018°F) per year	<1% per year typical
<b>Response Time</b>	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

<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-THC-900: 904–924 MHz RXW-THC-868: 866.5 MHz RXW-THC-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>	50 motes per one RX Wireless Sensor Network
<b>Battery Type/ Power Source</b>	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)
<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: 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)
<b>Weight</b>	Sensor and cable: 110 g (3.88 oz); Mote: 223 g (7.87 oz)
<b>Materials</b>	Sensor: Polyamide Mote: PCPBT, silicone rubber seal
<b>Environmental Rating</b>	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
<b>Compliance Marks</b>	 RXW-THC-900  RXW-THC-868  RXW-THC-922

## Contact Us

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

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Technical Support (8am to 8pm ET, Monday through Friday)

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