



RXW-THC-xxx

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 HOBOnet RX3000 or the HOBOnet 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.



Product Numbers:

- RXW-THC-900
- RXW-THC-868
- RXW-THC-922
- RXW-THC-921

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 or 336 data channels per HOBOnet 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-THC-xxx Sensor Specifications

Temperature Sensor	
Measurement Range	-40°C to 75°C (-40°F to 167°F)
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 75°C (±0.45°F from 158° to 167°F)
Resolution	0.02°C (0.036°F)
Drift	<0.01°C per year (0.018°F per year)
Response Time (typical, to 90% of change)	With RS3-B solar radiation shield: 6 minutes, 30 seconds in air moving 1 m/sec
RH Sensor	
Measurement Range	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	±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	0.01% RH
Drift	<1% per year typical
Response Time (typical, to 90% of change)	With RS3-B solar radiation shield: 30 seconds in air moving 1 m/sec
Wireless Mote	
Operating Temperature Range	-25° to 60°C with rechargeable batteries (-13° to 140°F with rechargeable batteries) -40° to 70°C with lithium batteries (-40° to 158°F with lithium batteries)
Radio Power	12.6 mW non-adjustable (+11 dBm non-adjustable)
Transmission Range	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-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	3
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 (see Deployment and Mounting), operation outside this range will reduce the battery service life)
Memory	16 MB
Dimensions	Cable length: 2 m (6.56 ft)
Weight	Sensor and cable: 110 g (3.88 oz);

Materials	Mote: PCPBT, silicone rubber seal
Environmental Rating	Mote: IP67, NEMA 6
Compliance Marks	

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
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Technical Support (8am to 6pm ET, Monday through Friday)

- ▶ Contact Product Support www.onsetcomp.com/support/contact
- ▶ Call 1-508-759-9500
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