

HOBO® RXW-TMB-x-xxx Sensor

HOBOnet Wireless Temperature

The HOBOnet Wireless Temperature Sensor provides a cost-effective and scalable solution for web-enabled monitoring of air temperature. HOBOnet wireless sensors communicate data directly to a HOBO RX 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.



Key Advantages:




Sensor Features

- Measurement range of -40° to 100°C (-40° to 212°F)
- High accuracy: $\pm 0.2^{\circ}\text{C}$ ($\pm 0.36^{\circ}\text{F}$)
- Stainless-steel sensor tip

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 HOBO 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-TMB-x-xxx Sensor Specifications

| | |
|---|---|
| Sensor | |
| Measurement Range | -40° to 100°C (-40° to 212°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 100°C (±0.45°F from 158° to 212°F) |
| Resolution | 0.02°C (0.036°F) |
| Drift | <0.01°C (0.018°F) per year |
| Response Time (typical, to 90% of change) | 2 minutes, 30 seconds in air moving 1 m/sec |
| Wireless Mote | |
| Operating Temperature Range | -40° to 70°C (-40° to 158°F) |
| 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-TMB-x-900: 904–924 MHz RXW-TMB-x-868: 866.5 MHz RXW-TMB-x-921: 921 MHz RXW-TMB-x-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 | 2 |
| Battery Type | Two AA 1.5 V lithium batteries |
| Battery Life | 1 year, typical use |
| Memory | 16 MB |
| Dimensions | Sensor: 5.1 x 33 mm (0.2 x 1.3 inches) Cable length: 0.3 m (1 ft), RXW-TMB-1-xxx; 1.8 m (6 ft), RXW-TMB-6-xxx Mote: 16.2 x 8.59 x 4.14 cm (6.38 x 3.38 x 1.63 inches) |
| Weight | Sensor and cable: 7.6 g (0.27 oz), RXW-TMB-1-xxx; 35.2 g (1.24 oz), RXW-TMB-6-xxx Mote: 223 g (7.87 oz) |
| Materials | Sensor: Stainless steel waterproof tip Mote: PCPBT, silicone rubber seal |
| Environmental Rating | Sensor and cable: Immersion in water up to 50°C (122°F) for 1 year Mote: IP67, NEMA 6 |
| Compliance Marks |  RXW-TMB-1-900 and RXW-TMB-6-900 |
| |  RXW-TMB-1-868 and RXW-TMB-6-868 RXW-TMB-1-921 and RXW-TMB-6-921 |
| |  RXW-TMB-1-922 and RXW-TMB-6-922 |

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