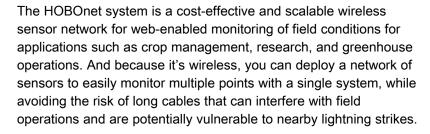
# **ONSET**

# HOBO® RXW-T11-xxx Sensor

### **HOBOnet T11 Soil Moisture/Temp Sensor**

The HOBOnet T11 is a wireless sensor that works with the HOBOnet system to not only measure soil moisture (volumetric water content) with better accuracy and precision, but also provide soil temperature measurements. Designed to withstand harsh environmental conditions, these durable sensors last up to 10 years, so you can leave them in the field for extended periods of time. Sharpened stainless-steel probes make installation easy, even in hard soil, and a large volume of influence provides better results and a more accurate view of soil moisture. Featuring the METER TEROS 11 soil moisture and temperature sensor, the HOBOnet T11 is backed by over 20 years of soil-moisture research and leverages METER's trademark 70MHz frequency capacitance technology, minimizing salinity and textural effects.



Sensors are easily linked to the network, and data can be accessed through HOBOlink®, Onset's innovative cloud-based software platform.

We suggest using the TEROS Verification Clip, available from the Compatible Items tab, below. The TEROS Verification Clip provides a convenient way to confirm the operation and soil moisture accuracy of HOBOnet T11 and T12 sensors. Attaching this clip to a TEROS sensor provides a known soil moisture level for verifying measurement accuracy, without having to test the sensor in actual soils, which normally requires weighing soil samples and drying them in an oven.



#### **Key Advantages:**

#### **Sensor Features**

- Soil moisture (volumetric water content) and soil temperature measurements with one device
- Sensor lasts up to 10 years in the field
- Largest volume of influence (1010 mL) relative to sensor size, resulting in more accurate soil moisture measurements
- Easy installation with sharpened stainless-steel probes that are more resistant to damage/deterioration
- Less sensor-to-sensor variability setcomp.com
   1-800-LOGGERS (564-4377)

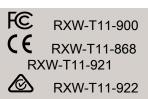
#### **Wireless Features**

- 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 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-T11-xxx Sensor Specifications**

$\pm 0.030$ m /m ( $\pm 3\%$ ) typical from 0 to 50°C (32 to 122°F); $\pm 0.020$ m /m ( $\pm 2\%$ ) with soil specific calibration
0.001 m /m
70 MHz
-40 to 60°C (-40 to 140°F)
±1.0°C (1.8°F) from -40 to 0°C (-40 to 32°F) ±0.5°C (0.9°F) from 0 to 60°C (32 to 140°F)
0.1°C (0.18°F)
Sensor: -40 to 60°C (-40 to 140°F)  Mote: -25° to 60°C (-13° to 140°F) with rechargeable batteries -40 to 70°C (-40 to 158°F) with lithium batteries
12.6 mW (+11 dBm) non-adjustable
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
IEEE 802.15.4
RXW-T11-900: 904–924 MHz RXW-T11-868: 866.5 MHz RXW-T11-921: 921 MHz RXW-T11-922: 916–924 MHz
OQPSK (Offset Quadrature Phase Shift Keying)
Up to 250 kbps, non-adjustable
<1%
50 motes per one HOBOnet Wireless Sensor Network
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)
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 Mounting and Positioning the Mote), operation outside this range will reduce the battery service life With lithium batteries: 1 year, typical use
16 MB
Sensor: 7.47 x 9.4 x 2.39 cm (2.94 x 3.7 x 0.94 inches) Sensor needle length: 5.4 cm (2.13 inches) Sensor needle diameter: 0.32 cm (0.13 inches) Cable length: 5 m (16.4 ft) Mote: 16.2 x 8.59 x 4.14 cm (6.38 x 3.38 x 1.63 inches)
RXW-T11-xxx sensor and cable: 245 g (8.64 oz) Mote: 223 g (7.87 oz)
Sensor: ASA plastic body with polyurethane epoxy filling and stainless steel pins Cable: PVC, UV resistant and rodent repellent Mote: PCPBT, silicone rubber seal

#### Compliance Marks



- \* The sensor data can be post-calibrated if necessary (e.g. the sensor is used in non-mineral soil types or higher than standard accuracy is required). Users can apply a calibration equation to the data exported from HOBOlink. The VWC range will depend on the calibration equation.
- \*\* Temperature measurement, for applicable sensors, may not be accurate if sensor is not fully immersed in medium of interest, due to longer equilibration time.

#### **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
- Fax 1-508-759-9100

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

- ► Contact Product Support www.onsetcomp.com/support/contact
- Call 1-508-759-9500
- In U.S. toll free 1-877-564-4377

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