

## RXW TEROS-11 Soil Moisture Temp Sensor (RXW-T11-xxx) Quick Start

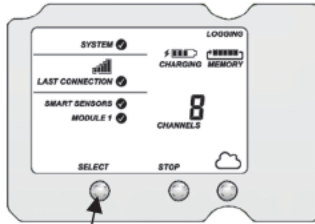
**WARNING:** Risk of personal injury is present. Sensor needle points are extremely sharp and will puncture skin. Handle with care.

### Adding a Sensor Node to the HOBOnet® Wireless Sensor Network

**Important:** Keep the sensor node near the station while completing these steps.

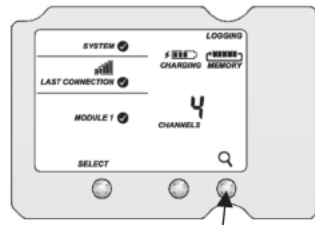
If you are setting up a new station, follow the instructions in the station quick start guide before setting up this sensor node (go to [www.onsetcomp.com/support/manuals/24380-man-rx2105-rx2106-qsg](http://www.onsetcomp.com/support/manuals/24380-man-rx2105-rx2106-qsg) for RX2105 and RX2106 stations or [www.onsetcomp.com/support/manuals/18254-MAN-QSG-RX3000](http://www.onsetcomp.com/support/manuals/18254-MAN-QSG-RX3000) for RX3000 stations).

1



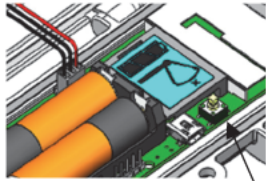
Press the Select button on the station to switch to the module with the manager (module 2 on RX2105 or RX2106 stations).

2



Press the Search button. The magnifying glass icon blinks while the station is in search mode waiting for sensor nodes to join the network.

3



Open the sensor node door and install the rechargeable batteries. Press the button on the sensor node for 3 seconds.

4

Watch the sensor node LCD while it joins the network:



This signal strength icon blinks while searching for a network.



Once a network is found, the icon stops blinking and the bars cycle from left to right.

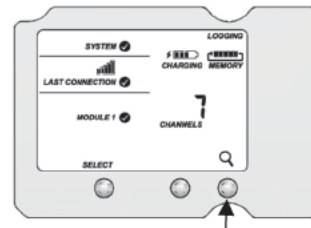


This network connection "x" icon blinks while the sensor node completes the registration process, which may take up to five minutes.



Once the sensor node has finished joining the network, the "x" icon is no longer displayed and the channel count on the station LCD increases by three (two for soil moisture and temperature, and one for the sensor node battery).

5



Press the Search button on the station again to stop the search for sensor nodes.

6

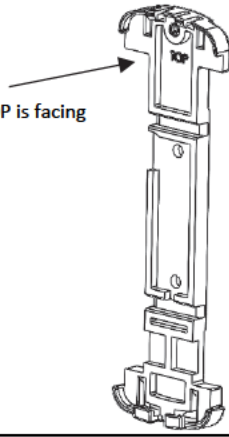
**HOBOLink**

Go to [www.hobolink.com](http://www.hobolink.com) to monitor sensor node status and health. See the HOBOLink Help for details.

## Installing the Bracket and Sensor Node

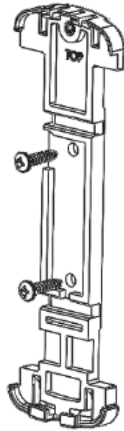
1

Orient the bracket so the text TOP is facing upwards.



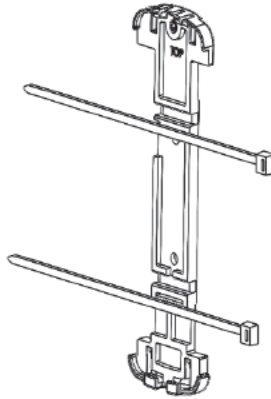
2

To install the bracket onto a wall, use the two long screws included in the package. Screw the bracket to a wall using the two holes on the mid-section of the bracket.



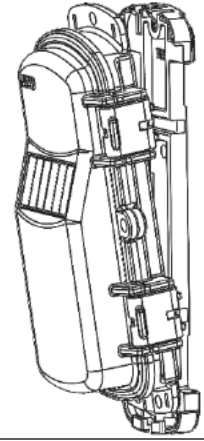
3

To install the bracket onto a pole, slip a cable tie through each of the channels on the bracket and fasten the tie around the pole.



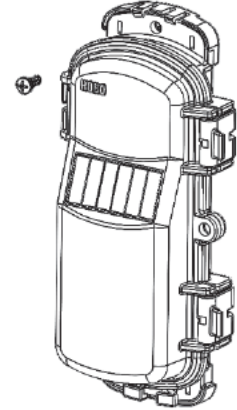
4

Insert the bottom of the sensor node into the retaining clips on the bottom of the bracket then press the top of the sensor node into the clips at the top of the bracket.



5

Use the short screw included in the package to fasten the sensor node to the bracket.



6

Close the sensor node and use a padlock to keep it secure.

**Note:** Ensure that the node seal is clean from foreign debris.

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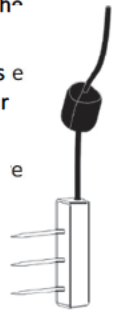
## Mounting and Positioning the Sensor Node

- Position the sensor node towards the sun, making sure the solar panel is oriented so that it receives optimal sunlight throughout each season. It may be necessary to periodically adjust the sensor node position as the path of the sunlight changes throughout the year or if tree and leaf growth alters the amount of sunlight reaching the solar panel.
- Make sure the sensor node is mounted a minimum of 1.8 m (6 feet) from the ground or vegetation to maximize distance and signal strength.
- Consider using plastic poles such as PVC to mount the sensor node as certain types of metal could decrease the signal strength.
- Place the sensor node so there is full line of sight with the next sensor node. Use a repeater if there is an obstruction between sensor nodes.
- There should not be more than five sensor nodes in any direction from a repeater or the manager. Data from sensor nodes travels or “hops” across the network and may not reach the station if the sensor node is more than five hops away.

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## Sensor Mounting Guidelines

- When creating the hole to install the sensor, avoid interfering objects. Installation near large metal objects can affect the sensor function and distort readings. Large objects like roots or rocks could potentially bend the needles.
- The sensor may be positioned in any direction. However, there is less restriction to water flow when the sensor body is placed in a vertical position as shown at right. A vertical position will also integrate more soil depth into the soil moisture measurement. Installing the sensor with the sensor body in a horizontal position will provide measurements at a more discrete depth.
- Avoid any metal located between the sensor and the ferrite core because it can interfere with VWC measurements.
- When installing sensors in rocky soils, use care to avoid bending sensor needles.
- Minimize air gaps around the sensor. Air gaps around the sensor needles will result in low readings of soil moisture.
- When backfilling the hole, be careful not to snag the ferrite core on the sensor cable.
- Secure the sensor cable to the mounting pole or tripod with cable ties.
- Use conduit to protect the cable against damage from animals, lawn mowers, exposure to chemicals, etc.



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## Sensor Installation Instructions

1. Auger or dig a hole to the desired sensor depth.
2. Carefully insert the sensor in the hole and push the sensor so that the needles are inserted into the undisturbed side of the soil. Check that the sensor is firmly seated.
3. Secure the cable to the mounting pole or tripod and install flexible conduit before backfilling the hole.
4. Carefully return the soil to the hole, packing it back to its native bulk density. Do not hit the ferrite core as this could potentially pull the sensor out of the soil.

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