

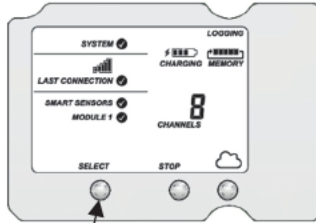
# RXW Leaf Wetness Sensor (RXW-LWA-xxx) Quick Start

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

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

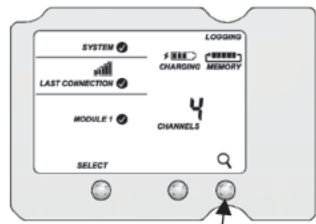
If you are setting up a new station, follow the instructions in the station quick start guide before setting up this sensor node (go to [www.onsetcomp.com/manuals/24500-rx2105-and-rx2106-manual](http://www.onsetcomp.com/manuals/24500-rx2105-and-rx2106-manual) for RX2105 and RX2106 stations or [www.onsetcomp.com/manuals/rx3000-qsg](http://www.onsetcomp.com/manuals/rx3000-qsg) for RX3000 stations).

1



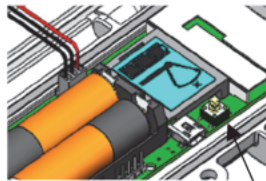
Press the Select button on the station to switch to the module with the manager (module 2 on RX2105 or RX2106 stations).

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 this 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.

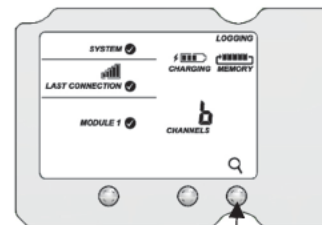


This network connection "x" icon blinks while the sensor node completes the registration process, which may take up to five minutes.



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 two (one for leaf wetness and one for the sensor node battery).

5



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

6

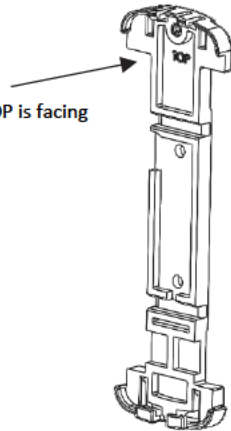


Go to [www.hobolink.com](http://www.hobolink.com) to monitor sensor node status and health. See the HOBOLink Help for details.

## Installing the Bracket and Sensor Node

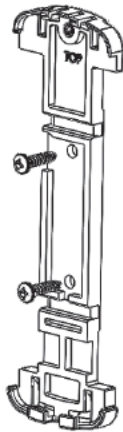
1

Orient the bracket so the text TOP is facing upwards.



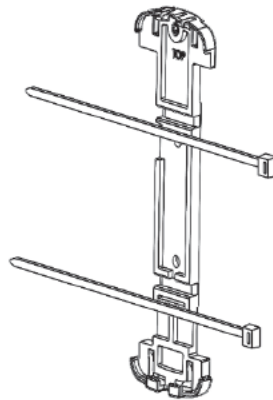
2

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.



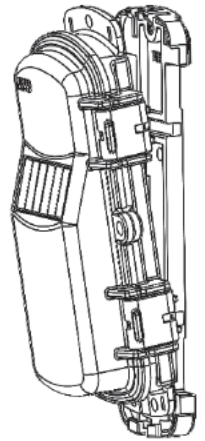
3

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.



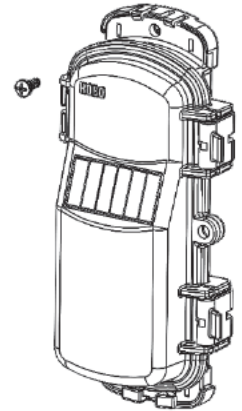
4

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 help 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

1. Use the U-bolt to secure the bracket to any mast with a diameter of 2.5 to 4 cm (1 to 1.6 inch).
2. Use two cable ties to secure the sensor to the bracket. Do not fully tighten the cable ties.
3. One side of the sensor surface has a visible grid. The grid side should be facing upwards. Typically the sensor is mounted at an angle of 15 to 45 degrees from horizontal.
4. Once the desired angle has been set, pull the cable ties tight and cut off the tag ends.
5. Secure the sensor cable with cable ties.



## Deployment Guidelines

- **Important:** DO NOT PAINT OR COAT THE SENSOR. It is ready to use and should not be coated.
- In most applications, the sensor should be mounted in whichever direction will prolong wetness the longest. For example, in the Northern hemisphere, orienting the sensor to face northwest will minimize exposure to solar radiation in the morning and maximize morning dew exposure.
- The leaf wetness sensor can be tilted to any angle. As the angle becomes steeper, water will run off the sensor more easily, reducing the amount of time the sensor stays wet. The exact angle used is a function of the type of vegetation of interest. Use an angle of more than 15 degrees from horizontal to prevent puddles from forming on the sensor.
- Be sure to secure the sensor cable with cable ties to protect the cable from damage. Wires should be bound tightly to the mast to help protect them from getting damaged in severe weather.
- Do not mount the sensor within two feet of the station case.