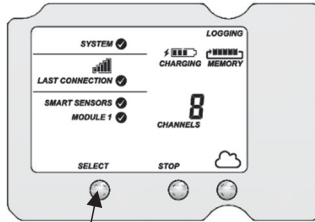


## Adding a Sensor Node to the HOBOnet® Wireless Sensor Network

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

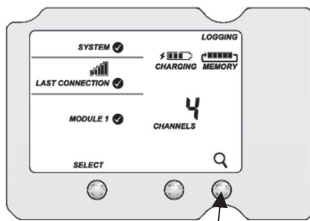
If you are setting up a new station, follow the instructions in the station quick start guide before setting up this sensor node (go to [www.onsetcomp.com/resources/documentation/24380-man-rx2105-rx2106-qsg](http://www.onsetcomp.com/resources/documentation/24380-man-rx2105-rx2106-qsg) for RX2105 and RX2106 stations or [www.onsetcomp.com/resources/documentation/18254-man-qsg-rx3000](http://www.onsetcomp.com/resources/documentation/18254-man-qsg-rx3000) for RX3000 stations).

1



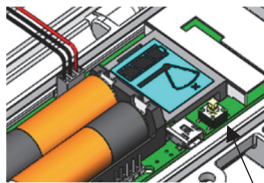
Press the Select button on the station to switch to the module with the manager (module 2 on RX2105 or RX2106 stations).

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 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.

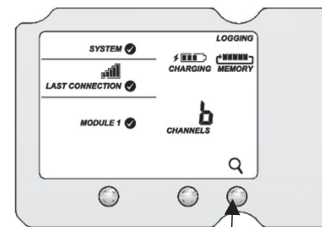


This network connection "x" icon blinks while the sensor node completes the registration process, which may take up to five minutes.



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 the sensor measurement and one for the sensor node battery).

5



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

6

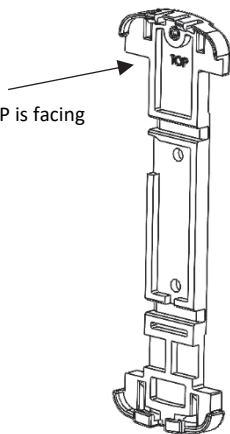


Go to [www.hobolink.com](http://www.hobolink.com) to monitor sensor node status and health. See the HOBOlink Help for details.

## Installing the Bracket and Sensor Node

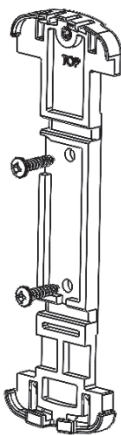
1

Orient the bracket so the text TOP is facing upwards.



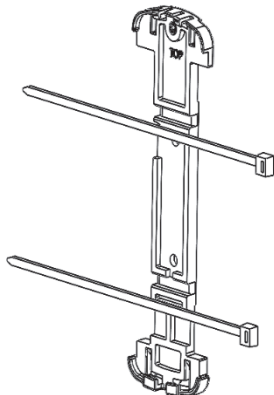
2

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.



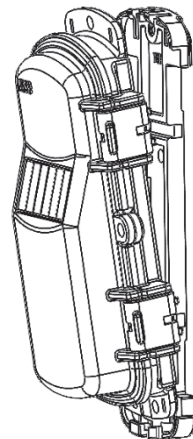
3

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.



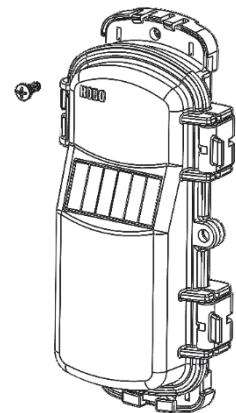
4

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.

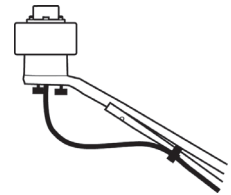
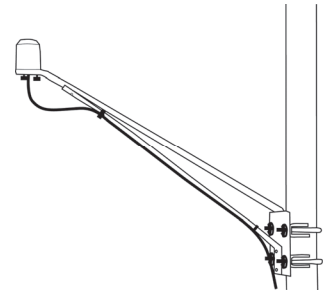
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## Mounting and Positioning the Sensor Node

- 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 RXW Manager. Data from sensor nodes travels or “hops” across the network and may not reach the RX3000 station if the sensor node is more than five hops away from a repeater or RXW Manager.
- 

## Sensor Mounting Guidelines

- Use the light sensor mounting bracket (M-LBB) to mount the sensor to a pole or tripod.
- If possible, avoid placing the sensors in dusty locations. Dust, pollen, and salt residue that collect on the top of the sensor can significantly degrade accuracy.
- Position the sensor on the top of the bracket with the cable running through the slot in the bracket. Using the two screws, attach the sensor to the bracket through the holes on both sides of the slot. Do not completely tighten the screws until the sensor is level.
- Position the bracket so it faces the equator to minimize shading. Attach the bracket to the mast with U-bolts, mounting it high enough on the mast to avoid shading the sensor.
- Place the light sensor level (M-LLA) on the sensor (use a step ladder or other secure platform if it is above eye level). Adjust the height of the thumbscrews to level the sensor (start with the thumbscrews protruding about 1/16 inch from the bracket). Once the sensor is near level, tighten the Philips-head screws. Check the level and repeat steps if necessary. Once the screws are tight and the sensor is level, **remove the level**.
- Small errors in alignment can produce significant errors. Be certain that the sensor is mounted level.
- Mount the light sensor where it will not be in a shadow.



For the RXW PAR sensor manual, scan the code at left or go to: [www.onsetcomp.com/resources/documentation/22246-rxw-lia-manual](http://www.onsetcomp.com/resources/documentation/22246-rxw-lia-manual)



For the RXW Silicon Pyranometer sensor manual, scan the code at left or go to: [www.onsetcomp.com/resources/documentation/22247-rxw-lib-manual](http://www.onsetcomp.com/resources/documentation/22247-rxw-lib-manual)