RXW PAR & Silicon Pyranometer Sensor (RXW-LIx-xxx) Quick Start
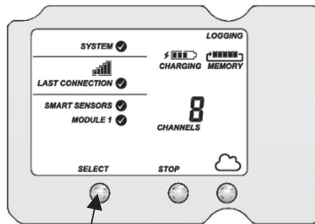
HOBO®
Data Loggers

Adding a Mote to the HOBOnet® Wireless Sensor Network

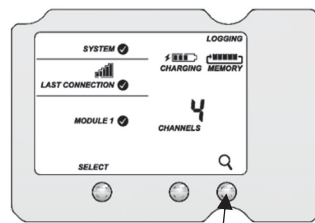**Important:** Keep the mote near the station while completing these steps.

If you are setting up a new station, follow the instructions in the station quick start before setting up this mote (go to www.onsetcomp.com/manuals/24500-rx2105-and-rx2106-manual for RX2105 and RX2106 stations or www.onsetcomp.com/manuals/rx3000-qsg for RX3000 stations).
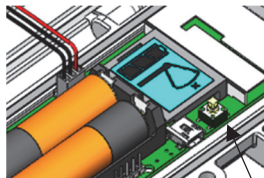
1

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 will blink while the station is in search mode waiting for motes to join the network.

3

Open the mote door and Install the rechargeable batteries. Press this button on the mote for 3 seconds.

4 Watch the mote LCD during the process of joining the network:

a.

This signal strength icon blinks while searching for a network.

b.

Once a network is found, the icon will stop flashing and the bars will cycle from left to right.
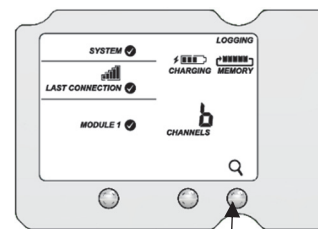
c.

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

d.

Once the mote has finished joining the network, the "x" icon is removed and the channel count on the station LCD increases by two (one for the sensor measurement and one for the mote battery).

5

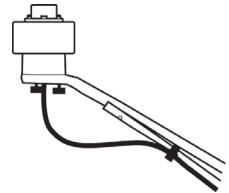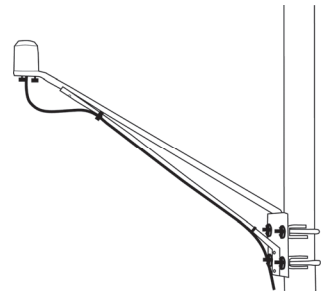Press the Search button on the station again to stop the search for motes.

6 **HOBOlink®** Go to www.hobolink.com to monitor mote status and health. See the HOBOlink Help for details.

Mounting and Positioning the Mote

- Close the mote and use a padlock to keep it secure.
- Mount the mote vertically using cable ties or screws.
- Position the mote 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 mote 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 mote 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 mote as certain types of metal could decrease the signal strength.
- Place the mote so there is full line of sight with the next mote. Use a repeater if there is an obstruction between motes.
- There should not be more than five motes in any direction from a repeater or the RXW Manager. Data from sensor motes travels or "hops" across the network and may not reach the RX3000 station if the mote 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/support/manuals/ 22246-rxw-lia-manual.

For the RXW Silicon Pyranometer sensor manual, *scan the code at left or go to www.onsetcomp.com/support/manuals/ 22247-rxw-lib-manual.*