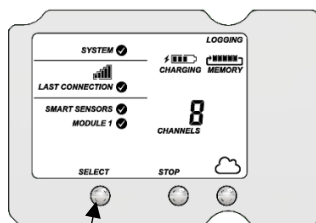


RXW Multi-Depth Soil Moisture Sensor (RXW-GPx-xxx) Quick Start

Adding a Mote to the HOBOnet® Wireless Sensor Network

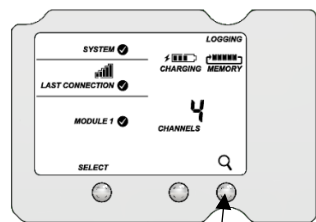
Important: Keep the mote near the station while completing these steps. If you are setting up a new station, follow the instructions in the station quick start before setting up this mote (go to www.onsetcomp.com/support/manuals/24380-man-rx2105-rx2106-qsg for RX2105 and RX2106 stations or www.onsetcomp.com/support/manuals/18254-MAN-QSG-RX3000 for RX3000 stations).

1



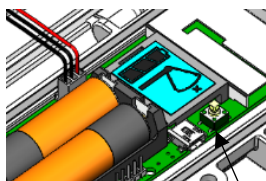
Press the Select button on the station to switch to the module with the manager (module 2 on RX2105 or RX2106 stations).

2



Press the Search button. The magnifying glass icon 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 the button on the mote for 3 seconds.

4

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



This signal strength icon blinks while searching for a network.



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

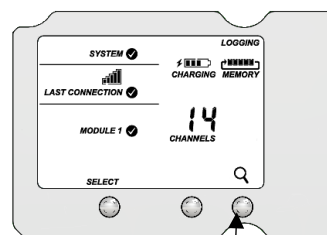


This network connection "x" icon blinks while the mote completes the registration process, which may take up to five minutes.



Once the mote has finished joining the network, the "x" icon is removed and the channel count on the station LCD increases by the total channel count for that sensor model.

5



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

6

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

Important: Set the logging interval for wireless sensors in HOBOLink to the following minimum settings. See the product manual for more details (link on back).

Part Number	Minimum Logging Interval Using Solar Power with Rechargeable Batteries*	Minimum Logging Using Non-Rechargeable Lithium Batteries
RXW-GP3-xxx	5 minutes year round	10 minutes with a 1-year battery life
RXW-GP4-xxx	5 minutes summer, 10 minutes winter	15 minutes with a 1-year battery life
RXW-GP6-xxx	5 minutes summer, 15 minutes winter	15 minutes with a 7-month battery life

* Requires the solar panel is positioned directly toward the sun and without shade

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 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 manager. Data from sensor motes travels or "hops" across the network and may not reach the station if the mote is more than five hops away.

Installing the Sensor

To install the sensor, use a slide hammer and pilot rod to form a hole to insert the sensor probe. You may also need two adjustable wrenches, tape, and water.



WARNING: Follow these important safety guidelines when working with a slide hammer and pilot rod:

- Be careful when carrying and using the slide hammer as the bottom part of the slide may drop down, potentially causing injury. Steel-toed work shoes are recommended to prevent possible injury to toes and feet.
- Eye and ear protection are recommended at all times when using the slide hammer. When in use, the slide hammer generates harmful levels of acoustic energy. Hearing protection with a Noise Reduction Rating of 20 decibels should always be worn.
- Wear work gloves and keep both hands on the slide hammer when driving the pilot rod. Be careful to avoid getting fingers caught in the slide mechanism.

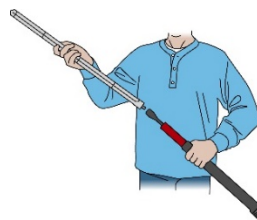
These are basic guidelines and instructions for installing the sensor. More detailed guidelines and instructions as well as alternate installation methods are available in the product manual (see link at the end).

- The sensor probe must be installed vertically. Always maintain control of the slide hammer with a firm grip to avoid wobbling or moving the hammer side-to-side.
- Check that the pilot rod is tightly screwed to the slide hammer during the insertion process as the threads may loosen during repeated impacts.
- Insert the pilot rod only as far as needed for the length of probe being used.
- When extracting the pilot rod, make sure it remains vertical so the hole does not become enlarged.
- Once the pilot rod is removed, insert the probe as soon as possible so that moisture or water does not affect the size of the hole.
- 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.

To install the sensor:

1. For assembled pilot rods, skip to step 2. For disassembled pilot rods, select the appropriate number of middle rod segments based on the length of your probe: two segments for RXW-GP3 and RXW-GP4 models, or three for the RXW-GP6 model. Assemble the pilot rod by screwing one segment into the other, connecting each rod segment together to form the body of the pilot rod, making sure all edges are aligned. Screw in the pilot rod tip to one end of the pilot rod body and the top cap to the other end.
2. Lay the pilot rod down next to the sensor probe, with both tips aligned. Wrap a piece of tape around the pilot rod at the depth the rod should be driven into the soil (which should line up with the top of the sensor).

3. Screw the pilot rod into the slide hammer. Use two adjustable wrenches to make sure the threads are tight between the slide hammer and pilot rod.



4. Use a repetitive up-then-down motion on the slide hammer to vertically drive the pilot rod into the soil.



5. Once the pilot rod reaches the desired depth, extract the pilot rod by using the slide hammer in reverse, lifting it rapidly to hammer upwards.
6. Clear away any loose soil at the top edges of the hole.
7. Insert the sensor probe into the hole, pressing it in as far as possible by hand. Pour a bit of water around the probe at the top of the hole if the soil is very tightly packed to help it slide more smoothly into the hole.

Important: Do not use a hammer or other tools to push in the sensor because these may damage the sensor.



8. Pack the soil around the top of the sensor to prevent water from entering the hole. The sensor should be completely covered with soil and only the sensor cable visible.



For specifications and other details about this mote, refer to the full product manual. Scan the code at left or go to www.onsetcomp.com/support/manuals/25115-rxw-gpx-manual.