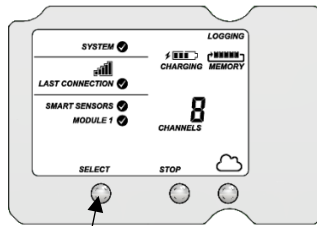


## Adding a Sensor Node to the HOBO® RX Wireless Sensor System

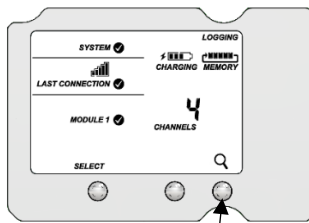
**Important:** Keep the sensor node near the station while completing these steps.

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/rx2105-rx2106-qsg](http://www.onsetcomp.com/rx2105-rx2106-qsg) for RX2105 and RX2106 stations or [www.onsetcomp.com/rx3000-qsg](http://www.onsetcomp.com/rx3000-qsg) for RX3000 stations).

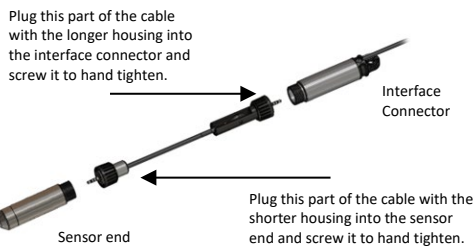
- 1 Press the Select button on the station to switch to the module with the manager (module 2 on RX2105 or RX2106 stations).



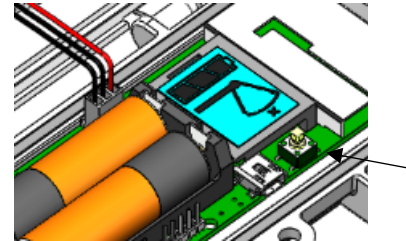
- 2 Press the Search button. The magnifying glass icon blinks while the station is in search mode waiting for sensor nodes to join the network.



- 3 Connect the interface connector to the sensor with the direct-read cable in between as shown here. The end of the cable with the longer housing connects to the interface connector as shown below.



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



- 5 Watch the sensor node LCD while it joins the network:



a. This signal strength icon blinks while searching for a network.



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

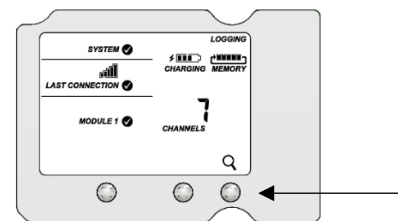


c. This network connection "x" icon blinks while the sensor node completes the registration process, which may take up to five minutes.



d. 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 four.

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



- 7 Ensure the water level sensor is deployed in its final location and the station is logging. Take a reference level reading, measuring the water level from the desired reference point.

**Important:** Note the reference level reading as well as the date and time it was taken.

**Configuring Water Level and Water Flow Channels in LI-COR Cloud®**

Perform the following steps in LI-COR Cloud with a mobile device to verify the system is logging the water level correctly while on site.

1. In LI-COR Cloud, tap Devices then tap the wrench icon on your station's tile.
2. Select Wireless Sensors Logging.
3. Locate the Sensor, scroll to Water Level, select Enable Channel, and enter a Label (optional).
4. Enter the reference water level and date.  
If the water level surface is **below** the reference point, enter the reference water level as a **negative** number.  
If the water level surface is **above** the reference point, enter the reference water level as a **positive** number.
5. Select the correct water density.
6. Click Save or continue to water flow.

If configuring water flow and using one of the supported weir or flume types, follow these steps:

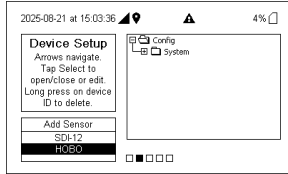
1. Scroll to Water Flow, select Enable Channel, and enter a Label (optional).
2. Select a measurement method for water flow then enter the appropriate information for the selected method.
3. Click Save.

Water level and flow data is calculated starting with the next connection to LI-COR Cloud. Press the cloud button on the station's LCD to connect to LI-COR Cloud immediately instead of waiting for the next scheduled connection. Note that the reference water level information entered in this step does not affect any previously logged data.

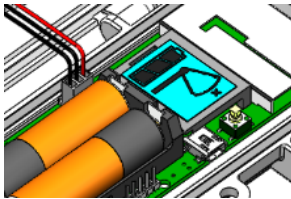
**Note:** Go to [www.licor.cloud](http://www.licor.cloud) and click Help for details on checking the latest conditions, setting up dashboards, exporting data, and more.

## Adding a Sensor Node to the Water or Carbon Node

- 1 Attach the Node Link cable to the IoE Module.
- 2 On the IoE Module, press left three times to enter Device Setup mode.
- 3 Under Add Sensor, confirm that HOBO is present. This indicates that the Node Link is recognized by the IoE Module.



- 4 Select HOBO then press the Select button to add a device.
- 5 Open the sensor node door and install the rechargeable batteries. Press this button on the sensor node for 3 seconds.



- 6 Watch the sensor node LCD while it joins the network.



a. The signal strength icon blinks while searching for a network.



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

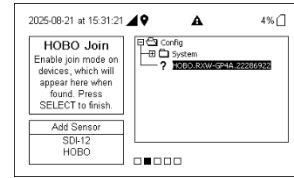


c. This network connection "x" icon blinks while the sensor node completes the registration process, which may take up to five minutes.

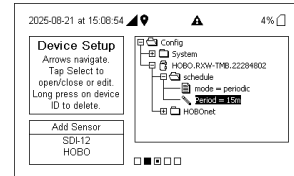


d. Once the sensor node has finished joining the network, the "x" icon is no longer displayed. The sensor is now connected to the Node Link.

- 7 When recognized, the device will appear in the list on the IoE Module.



- 8 Press Select to complete the registration for this sensor.



- 9 Adjust the schedule and add more sensors as needed. Press right until prompted to save changes. Ensure the device returns to the home screen to confirm success.

## 10

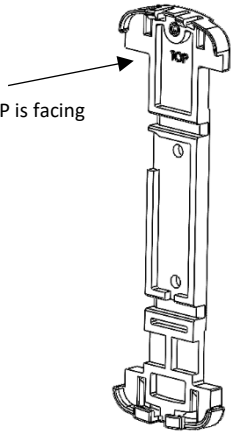
Go to [licor.cloud](https://licor.cloud) to monitor sensor node status and health.

See the HOBOLink Online Help or Water Node and Carbon Node documentation for more information.

## Installing the Bracket and Sensor Node

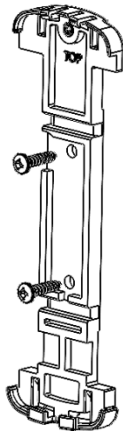
1

Orient the bracket so the text TOP is facing upwards.



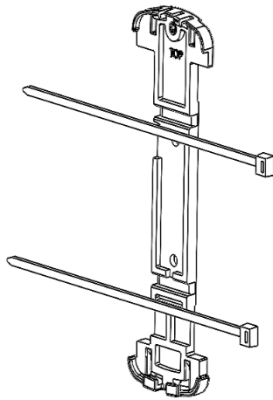
2

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.



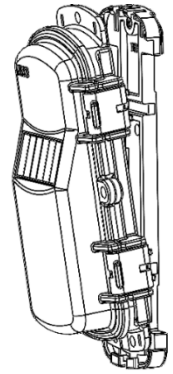
3

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.



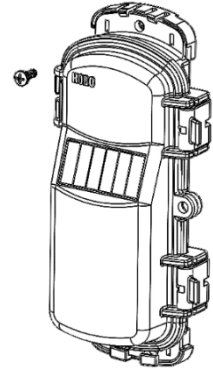
4

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

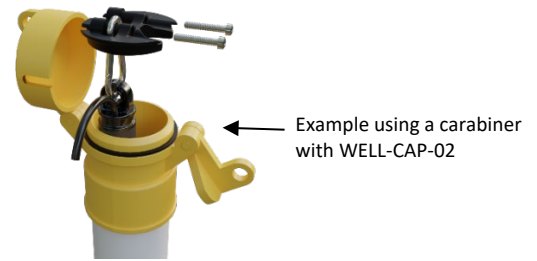
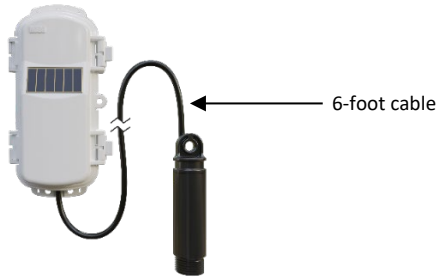
Close the sensor node and use a padlock to keep it secure. **Note:** Ensure that the node seal is clean from foreign debris.

## 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. You may need to periodically adjust the position of the sensor node 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.

## Deploying the Water Level Sensor

**Warning:** Do not suspend anything from the 6-foot cable. The 6-foot cable is not designed to support the weight of the direct-read cable and sensor.



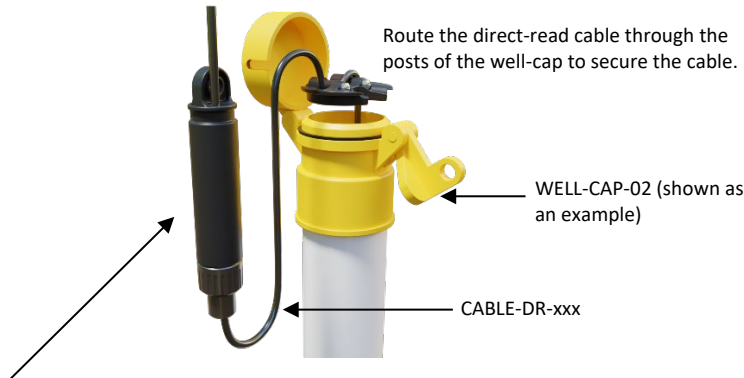
### Suspending the direct-read cable and water level sensor

- **Option 1 (preferred):** Using the long direct-read cable (CABLE-DR-xxx) and a compatible well-cap



For specifications, complete mounting guidelines, and other details about this sensor node, refer to the full product manual. Scan the code at left or go to:

[www.onsetcomp.com/resources/documentation/28084-User-Guide-RXW-WL](http://www.onsetcomp.com/resources/documentation/28084-User-Guide-RXW-WL)



**Note:** When this option is used, the interface connector is outside of the well.

- **Option 2:** Using the mounting hole on the endcap

The endcap contains a loop that allows you to use a carabiner (rated to 50 lbs. or greater) or some other reliable method to suspend the interface connector.

