HOBO® RX3000 Station Quick Start for the NEWA Network
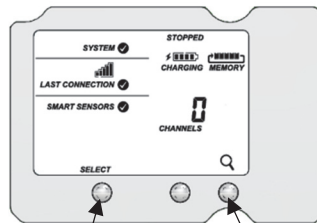
HOBO®
Data Loggers

This is a quick start for deploying a HOBO RX3000 station that will be linked to the Network for Environment and Weather Applications (NEWA). For more detailed instructions, refer to the RX3000 station quick start at www.onsetcomp.com/support/manuals/18254-MAN-QSG-RX3000 and the RX3000 station manual at www.onsetcomp.com/support/manuals/18255-rx3000-manual.

## 1 Perform initial station setup before installation in the field.

a. **Log in to HOBOlink.** Go to www.hobolink.com and log in to an existing account or create a new one.

b. **Register the station.** In HOBOlink, click ☐ Devices from the left menu. Select RX Devices and then click the Register a Device link.

c. **If you will be setting up HOBOnet RXW wireless sensor motes:** Follow the instructions in the RXW manager module and RXW wireless sensor quick starts that come with those products, and are available at www.onsetcomp.com/support/manuals.

d. **Plug in the battery and charging device.**

e. **Check or configure HOBOlink connection.**

- Cellular models (RX3003, RX3004) will automatically connect to HOBOlink.
- Ethernet/Wi-Fi models (RX3001, RX3002) require manual configuration to connect to HOBOlink. Refer to the device communication steps in the station manual at www.onsetcomp.com/support/manuals/18255-rx3000-manual.

f. **Plug in and search for wired smart sensors.**

Press the Select button to view the smart sensor channels (pointed out above)

Press the Search button for the station to identify connected smart sensors

g. **Connect to HOBOlink.**
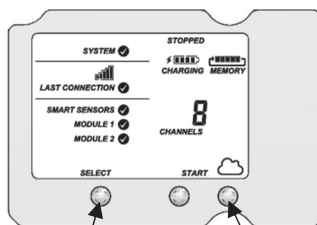
Press the Select button to return to the main LCD screen

Press the Connect button

Once this initial setup is complete, pack up the station to bring it to the deployment site. Disconnect smart sensors and charging devices as needed for transport.

2 Set up the station at your site.

The following picture shows the proper mounting of sensors and the solar panel for a typical NEWA weather station. Refer to the installation guidelines after the picture for additional information on the recommended setup of your system. More details on each smart sensor is available in the sensor manuals at www.onsetcomp.com/support/manuals.

If your system has additional sensors not represented in the example, follow the mounting instructions in the sensor manuals at www.onsetcomp.com/support/manuals.

For additional NEWA weather station deployment guidelines, refer to: http://newa.cornell.edu/index.php?page=placement-guidelines.

Installation Guidelines

Tripod
- Refer to the Tripod Setup Guide for details on setting up both the 2-meter or 3-meter tripod at https://www.onsetcomp.com/support/manuals/12317-MAN-TRIPOD.
- It is recommended that you use the guy wires supplied in the tripod kit.

HOBO RX3000
- Mount the HOBO RX3000 so that it does not shade the solar panel. Mounting it on the north side of the mast is recommended (note that the station in the picture is mounted on the south side for illustrative purposes only so that you can see the front of the HOBO).

Wind Sensor
- Mount the wind sensor (S-WCF-M003) on the north side of the mast, at either 2 or 3 m (6.6 or 9.8 ft) depending on the tripod you are using.

Rain Gauge
- Mount the rain gauge and solar panel on the south side of the mast. Make sure the top of the rain gauge is above the top of the mast. Also make sure the top of the rain gauge is level either by using your own level or by using a stepladder to view the built-in level inside the rain gauge.
- Use the same U-bolt to mount the wind sensor and the top of the rain gauge bracket so that both can be near the top of the mast.

Solar Radiation Sensor
- Mount the solar radiation sensor (S-LIB-M003) on the southwest side of the mast, making sure that top of the sensor is above the top of the rain gauge.

Temperature Sensor
- Mount the temperature sensor at 1.5 m ±0.3 m (5 ft ±1 ft) above the ground.

Leaf Wetness Sensor

- Mount the leaf wetness sensor on the mast about 1 m (3.28 ft) above the ground. Make sure the leaf wetness sensor is facing north and angled 45 degrees from horizontal.

After the station setup is complete:

a. Make sure the wired smart sensors and solar panel are plugged into the station.

b. Deploy any wireless sensor motes and add repeaters if necessary (see the RX3000 station manual at www.onsetcomp.com/support/manuals/18255-rx3000-manual for details).

c. Install the weatherproof rubber cable channel and covers (see www.onsetcomp.com/support/manuals/18255-rx3000-manual for details).

d. If the number or type of sensors deployed is different than what you initially set up in step 1, press Select and Search on the station to make sure the sensor count is up to date (for both smart sensors and wireless motes as needed).

e. For additional NEWA weather station deployment guidelines, refer to: http://newa.cornell.edu/index.php?page=placement-guidelines.

3 Configure the station, start logging, and set up the NEWA data feed in HOBOlink.

To configure the station in HOBOlink and start logging:

a. In HOBOlink, click Devices, then RX Devices, and then click the 🔧 icon next to your station.

b. Click Readout from the Configuration menu and set the connection interval to 10 minutes or the maximum rate supported by your cellular data plan. Click Save.

c. Click Smart Sensors Logging from the Configuration menu and set the logging interval to 5 minutes. Click Save.

d. If you are using wireless motes, then click Module <1 or 2>: Wireless Sensors Logging in the Configuration menu and set the logging interval to 5 minutes. Click Save.

e. Click individual sensors to add labels as needed to help identify the placement of sensors (for example, 2 inch sensor depth, SE corner). Click Save.

f. Click Alarms from the Configuration menu and set up any sensor alarms as needed.

g. Press the Start button on the station to start logging (or click Start/Stop from the Configuration menu in HOBOlink and click Start).

To set up the NEWA data feed:

a. From the main HOBOlink left menu, click Data and then select Data Feeds.

b. Click Create New Data Feed.

c. For Destination, select NEWA.

d. For Device, select the station you just configured.

e. Assign the sensors by selecting the sensors that will feed into each NEWA measurement type. For Soil Temperature and Soil Moisture, select the depth for the sensor. **Important:** Depth is required for the data feed to work properly. If you do not select a depth, NEWA will not be able to complete the onboarding request described in step 4.

f. Click Save.

4 Contact the NEWA Help Desk to link your RX3000 station location.

Contact support@newa.zendesk.com, with a subject line of 'RX3000 onboard request.' You will receive a response within 1 business day that contains a web form URL link. Please have the following information in-hand when you are ready to complete this final step:

- Your RX3000 station serial number (found inside the door).
- Exact latitude/longitude of your station (in decimal degrees).
- Station owner contact information.
- Maintenance contact information.

Once your onboarding request is submitted to support@newa.zendesk.com, please allow 3 to 5 business days for processing. You will receive a confirmation email when your station is active at http://newa.cornell.edu.

For additional information: See the HOBO RX3000 Remote Monitoring Station Manual for specifications and detailed operation, including deployment guidelines, mounting instructions, and steps for installing the weatherproof rubber cable channels. Go to www.onsetcomp.com/support/manuals/18255-rx3000-manual or scan the code at left.