Quick Start for the HOBO® MX pH and Temperature Logger (MX2501)

HOBO®
Data Loggers

> **IMPORTANT:** The logger is shipped with the pH electrode installed and submerged in storage solution. ***The pH sensor must be kept in storage solution when not being calibrated or deployed in water.*** The hydration layer surrounding the sensor starts to break down after 10 minutes if the pH sensor is not submerged in storage solution or calibration solution, or deployed in water.
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> **IMPORTANT:** The pH electrode is uncalibrated. You must calibrate the logger as described in step 2 before configuring and deploying it.

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1 **Download and open HOBOconnect.**

   a. Download HOBOconnect™ to your phone or tablet.

      Download on the App Store   *GET IT ON Google Play*

   b. Open HOBOconnect. If prompted, enable Bluetooth® in your device settings.

   c. Wake up the logger by pushing the switch on the mounting end of the logger into the gap beneath the mounting lanyard (see diagram on back). Tap Devices and make sure the logger appears. If it does not, make sure it is within range of your phone or tablet.
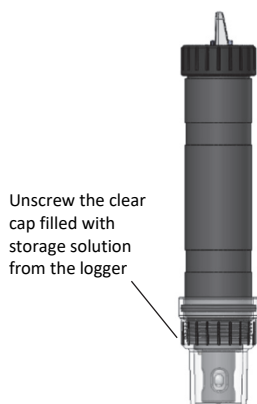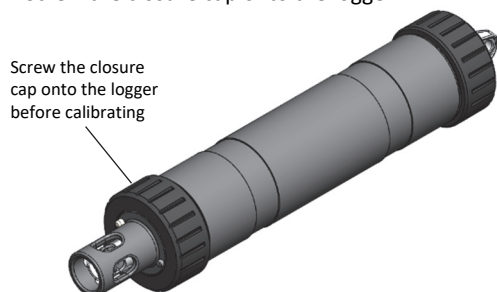
2 **Calibrate the logger.**

Before you begin: To complete these steps, you will need deionized or distilled water, a squirt bottle, calibration solution (also known as buffer solution), and beakers.

Note: pH values of calibration buffers and samples will vary depending on their temperature. As a result of this, it is important that the logger is calibrated in buffers that have the same temperature as that of the sample. Refer to the chart on the calibration buffer bottles or in the logger manual for the effect of temperature on the buffer pH values.

   a. Pour each calibration solution into its own beaker (pH 7.00 solution and either one or both of pH 4.01 and pH 10.00 solutions). You will need enough solution in the beaker to cover the sensor end cap and closure cap on the logger.

   b. Unscrew the clear storage cap filled with storage solution and remove it from the logger. Keep the cap filled with storage solution nearby in case you need to reinstall it after calibrating and before deploying the logger.
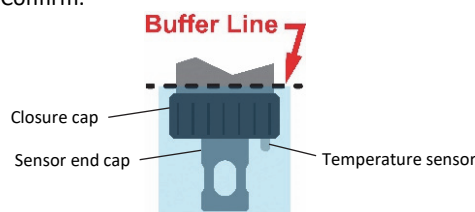

Unscrew the clear cap filled with storage solution from the logger

   c. Screw the closure cap onto the logger.

Screw the closure cap onto the logger before calibrating

   d. Use a squirt bottle to rinse the pH sensor with deionized or distilled water.

   e. Tap Devices (if necessary) and tap the logger in the app to connect to it.

   f. Tap .

   g. Place the sensor end of the logger in the pH 7.00 solution. Make sure the sensor end cap, temperature sensor, and closure cap are submerged in the solution as shown in the illustration. Tap Start. Follow the instructions on the screen. Once the pH reading is stable, tap Confirm.
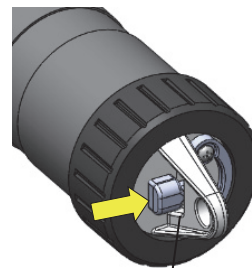

Buffer Line

Closure cap

Sensor end cap   Temperature sensor

   h. Rinse the pH sensor with deionized or distilled water.

   i. If you are using the pH 4 buffer, place the sensor end in the pH 4 solution and tap Start. If you are not using the pH 4 buffer, tap Skip and go to step k.

   j. Once the pH reading is stable, tap Confirm. Rinse the pH sensor with deionized or distilled water.

   k. If you are using the 10 buffer, place the sensor end in the pH 10 solution and then tap Start. Once the pH reading is stable, tap Confirm. If you are not using the pH 10 buffer, tap Skip.

   l. Verify that the slope and offset is acceptable and tap Save. If the slope and offset are not acceptable, then tap the back arrow and repeat the calibration steps in this section as needed.

   m. Rinse the pH sensor with deionized or distilled water.

If you will not be deploying the logger immediately, place the pH electrode back into the storage solution. Unscrew the sensor end cap you installed in step c. Make sure the storage solution reaches the marked fill line on the clear storage cap; pour more into the cap if necessary. Carefully screw the clear cap with storage solution onto the logger. Only use storage solution in the clear cap; do not use water. Do not use the copper guard when the pH electrode is in storage solution.

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3   Configure the logger.

a. Tap Devices and then tap the logger in the app to connect to to it (push the switch on the logger to wake it up if necessary).

b. Tap

c. Choose the logger settings. Note that the default Bluetooth setting for the logger is Bluetooth Always On, which means it will "advertise" or regularly send out a Bluetooth signal for the app to receive. This setting uses battery power. You can change this to one of the following power saving modes:

- Bluetooth Always Off. The logger will only advertise when you wake it up by pushing the switch on the mounting end of the logger.
- Bluetooth Off Water Detect. The logger will only advertise when it is out of water. When it is in water, the Bluetooth signal is automatically disabled.

d. Tap to save the settings to the logger. The logger will begin logging data based on the settings you selected. If you configured the logger to start or stop logging with the On Button Push option, push the switch on the mounting end of the logger for 3 seconds.

Push switch into the gap beneath the mounting lanyard to start or stop logging or to wake up the logger

4   Deploy the logger.

Deploy the logger to the location where you will be monitoring the conditions. Remove the clear storage cap from the logger if installed and replace it with the closure cap. If your water sample is prone to biofouling, insert the optional copper anti-biofouling guard around the pH sensor as shown at right. Gently twist the copper guard so that the holes line up with the holes in the sensor end cap and pH electrode. Do not use the copper guard when the pH sensor is being calibrated or in storage solution, or if the sensor is placed in a very small container with still water or in water where copper can affect the environment.

Copper guard installed to protect against biofouling

Make sure the closure cap is installed before deploying the logger

5   Download data from the logger.

a. Open HOBOconnect.

b. If the logger was configured with Bluetooth Always Off, push the switch on the logger for 1 second to wake it up. If the logger was configured with Bluetooth Off Water Detect and it is deployed in water, remove it from the water.

c. Tap Devices, connect to the logger, and then tap .

d. To view, export, and share the data, tap HOBO Files, tap , and then tap .

For information on using this logger, refer to the complete product manual. Scan the code at left or go to www.onsetcomp.com/support/manuals/22511-mx2501-manual.