HOBO
Data Loggers

HOBOconnect® User's Guide

ONSET

Getting Started

The HOBOconnect software is designed to work with Bluetooth® Low Energy-enabled HOBO® MX devices.

HOBOconnect:	Supports the following:
Mobile Device or Computer Requirements	Android™ 10.0 or later, iOS 13 or later, iPadOS® 13 or later, Windows® 10 or later, Bluetooth 4.0 or later. **Note:** The Windows app requires a native BLE adapter or supported BLE dongle. For details, see www.onsetcomp.com/products/software/hoboconnect.
Compatible HOBO Devices	MX100, the MX1100 Series, the MX2001, the MX2200 Series, the MX2300 Series, the MX2501, and the MX Gateway

For specifications and detailed information about your MX device, refer to the product manual at www.onsetcomp.com/support/manuals.

Where to Download HOBOconnect

- Download the app from the App Store® or Google Play™ to your Android or Apple® phone or tablet. When installing the app, you must allow access to both the phone or tablet's location and to files on your device.

- Download the Windows app from www.onsetcomp.com/products/software/hoboconnect. When installing the app, you must grant permission for the app to access your computer's file system.
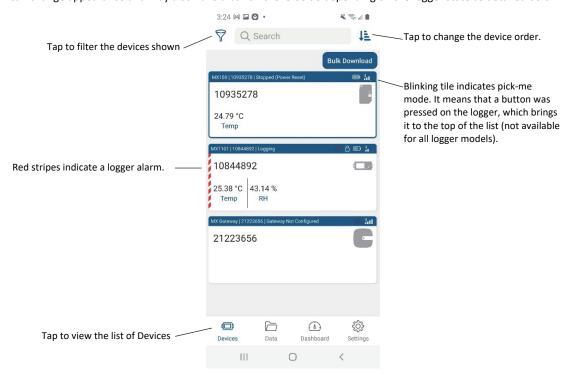
Introduction to the Main Icons

You can access all the features of HOBOconnect using the icons below. They are shown in their active state, which is blue. When they are not active, they are gray.

Icon	Function
Devices	View and connect to loggers and gateways within range of your phone or tablet. Configure loggers, check status, view live data, download logger data, set up gateways, and more.
Data	View logger data in a graph, export the files, and share them with others.
Dashboard	Set up a dashboard to quickly see the latest measurements for in-range loggers.
Settings	Change the app settings and access information about the app.

Note: The examples in this guide are from the Android version of the HOBOconnect app. Screens in the iOS/iPadOS and Windows version of the app may vary slightly from the examples shown. In addition, if you are using a Windows computer and it does not have touchscreen capabilities, use your mouse to click an icon instead of tapping it.

Viewing Devices

HOBOconnect uses Bluetooth Low Energy (BLE) to communicate with all loggers and gateways within range of your phone, tablet, or computer (refer to the device manual for range specifications). Loggers that are awake and gateways advertise or regularly send out a Bluetooth signal for the app to find. Tap Devices to view the devices within range. Information about each logger or gateway is shown in a tile, which can change appearance and may also have a bar on the left side depending on the logger state as detailed below.

Tap to filter the devices shown

Tap to change the device order.

Blinking tile indicates pick-me mode. It means that a button was pressed on the logger, which brings it to the top of the list (not available for all logger models).

Red stripes indicate a logger alarm.

Tap to view the list of Devices

Loggers in alarm state are listed first. If you've pressed a button on a logger to wake it up (not available on all logger models), that logger is at the top of the list. By default, all other loggers are listed in ascending order by discovery time.

To change the order of the devices:

Tap ⇊ at the top right of the Devices screen, select one of the following, and tap OK.

Select this:	To order devices by:
Name	Device name in ascending or alphabetical order. Serial numbers are used if you have not named the device.
Group	Group name in alphabetical order. Devices not assigned to a group are listed after all devices in groups.
Serial #	Device serial number in ascending order. Even if the device was configured with a name, it is still sorted by serial number.
Model	Device model number in ascending order (e.g., MX1101, MX2301, etc.).
Discovery time	The time the app first received a Bluetooth advertisement from a device. The devices are ordered from the first discovered to the last.

Note that the order selected can change slightly if a logger alarm trips or if no Bluetooth advertisements have been received.

To filter the devices shown:

Tap ▽ at the top left of the Devices screen, select All or one or more of the following, and tap Ok.

Select this:	To display the following devices within range:
All	All loggers and gateways.
Gateways	Only gateways.
Loggers	Only loggers.
Favorites	Loggers that have been marked as favorite (see *Logger Details and Actions* for details on favorites).
My Devices	Loggers and gateways that you have connected to with your phone or tablet. **Note:** You can clear this list by selecting Clear My Devices List in the app settings.
Ungrouped	All loggers that are not assigned to groups.
<Group Name>	Only loggers that have been configured with the selected group name (see *Configuring a Logger* for details on groups).

To search for a device:

Tap in the search field at the top of the Devices screen and enter one or more characters. You can search by serial number or model number. The list is automatically refined as you enter each character. Click X in the search field to cancel a search.
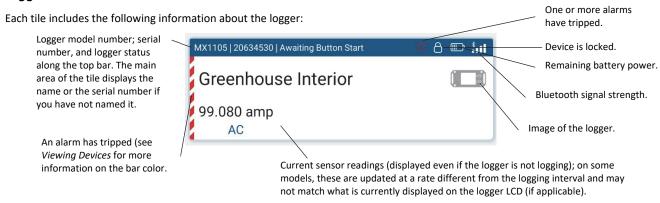
RX Station Manager

The RX Station Manager, available within HOBOconnect, helps you set up your own SIM card for cellular RX stations. For details on that process see:

- https://www.onsetcomp.com/support/manuals/installing-sim-rx3000-station

    o   or

- https://www.onsetcomp.com/support/manuals/23845-installing-micro-sim-rx2100-station

Checking Device Information

Loggers

Each tile includes the following information about the logger:

One or more alarms have tripped.

Logger model number; serial number, and logger status along the top bar. The main area of the tile displays the name or the serial number if you have not named it.

MX1105 | 20634530 | Awaiting Button Start

Greenhouse Interior

99.080 amp
AC

Device is locked.

Remaining battery power.

Bluetooth signal strength.

Image of the logger.

An alarm has tripped (see *Viewing Devices* for more information on the bar color.

Current sensor readings (displayed even if the logger is not logging); on some models, these are updated at a rate different from the logging interval and may not match what is currently displayed on the logger LCD (if applicable).

Notes:
- **MX1104 and MX1105 loggers:** If the external sensor channel is disabled, the sensor reading is displayed as "- -". Values from previously connected external sensors may appear until the new sensors are configured and logging begins.

- **MX2001 loggers:** Sensor readings are displayed as "—" when the logger is stopped. Once logging begins, the readings shown are based on the reference water level and water density you entered.

Gateways

Each tile includes the following information about the gateway:

Current gateway status

Gateway serial number

Gateway product name

Name of the gateway; displays the serial number if you have not named the gateway.

Internet connection status

Bluetooth signal strength

Image of the gateway

MX Gateway | 21223656 | Gateway Running

Main Greenhouse

Using Bulk Download

The Bulk Download feature saves you time and allows you to download data easily and efficiently. You can download data from up to 20 loggers at a time, without having to connect to each logger.
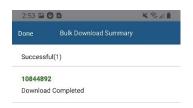
On the Devices tab:

1. Click Bulk Download in the upper right corner of the screen.

2. The screen changes to Bulk Download mode. This changes the way the screen behaves when you tap on a logger tile. Tap on a tile to select it for Bulk Download. You can select up to 20 loggers. Text at the bottom of the page updates to indicate how many loggers are selected.

3. Click on Download X Loggers to begin the download. The downloads begin and run one after another. The screen displays the download queue.

4. Click Cancel to cancel the downloads and return to the Devices screen, not in Bulk Download mode.

5. The screen displays Download Completed when all the loggers are downloaded. It lists Successful downloads and Failed downloads.

Note: The Bulk Download feature does not work if you try to download data from a password-protected logger that you have not previously connected to because HOBOconnect has not stored this password. Once you have connected to this logger and enter the correct password, the Bulk Download feature will be able to download data from the logger.
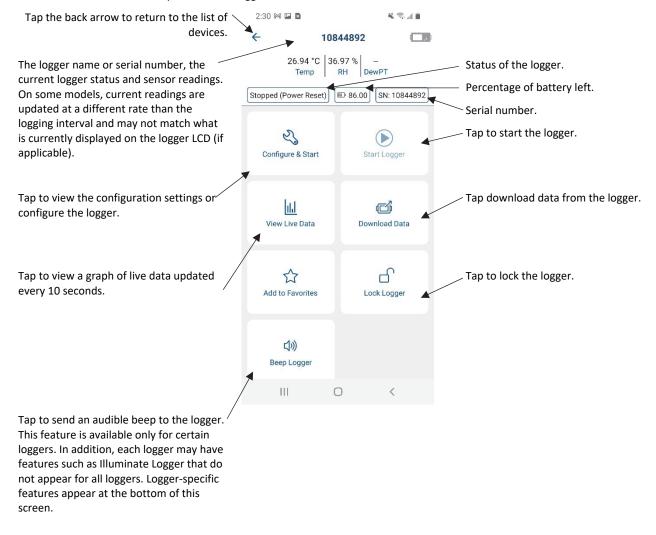
Connecting to a Device

To connect to a device:

1. Tap Devices.

2. Find the logger or gateway to connect to by searching or scrolling through the tiles (wake up the logger first, if applicable).

3. Tap the tile to connect to the logger or gateway. Enter your password if prompted. For MX2501 loggers, you may be prompted to calibrate the logger before configuring it.

Tips for connecting to a device:

- Make sure Bluetooth is enabled on the phone, tablet, or computer.

- **MX100, MX1104, MX1105, MX2200, MX2300, or MX2501 loggers:** If the logger is in Bluetooth power saving mode, press the button on the logger to wake it up or remove the MX2203, MX2204, or MX2501 logger from the water if it is configured with Bluetooth Off Water Detect.

- A logger or gateway must be within range of the phone, tablet, or computer to connect to it (refer to the product manual for range specifications). Check the signal strength for the logger or gateway if you are having trouble connecting to it. If the signal strength shows only one or two bars, move the phone or tablet closer to the device.

- Check the batteries in the logger. Make sure the batteries are installed properly in new loggers and replace batteries in old loggers if battery voltage is low.

- Change the orientation of the phone, tablet, computer, or computer dongle to ensure the antenna is pointed toward the logger or gateway (refer to the device manual for the antenna location). Obstacles between the antenna in your device and the logger or gateway may result in intermittent connections.

- If the phone, tablet, or computer will not connect to a logger or gateway that appears in the list or if devices are not appearing in the list as expected, close the app and reopen it. If that still does not work, try closing the app and then powering down your device to force the Bluetooth connection to reset.

- **MX1102A loggers:** You cannot use HOBOconnect to connect to an MX1102A logger while a live USB session with HOBOware® is underway. Disconnect the USB cable if you want to use the app to connect to the logger.

- **Gateways:** If the gateway is currently undergoing an automatic firmware update, then the phone, tablet, or computer will not be able to connect to it. The LED on the gateway will blink yellow during a firmware update and then resume normal operation after a few minutes.

Working with a Connected Logger

When the phone, tablet, or computer is connected to a logger, HOBOconnect displays a screen like the one in the following image. This screen centralizes all available options for the logger.

Tap the back arrow to return to the list of devices.

The logger name or serial number, the current logger status and sensor readings. On some models, current readings are updated at a different rate than the logging interval and may not match what is currently displayed on the logger LCD (if applicable).

Status of the logger.

Percentage of battery left.

Serial number.

Tap to start the logger.

Tap to view the configuration settings or configure the logger.

Tap download data from the logger.

Tap to view a graph of live data updated every 10 seconds.

Tap to lock the logger.

Tap to send an audible beep to the logger. This feature is available only for certain loggers. In addition, each logger may have features such as Illuminate Logger that do not appear for all loggers. Logger-specific features appear at the bottom of this screen.

Note for MX2001 loggers: When the logger is stopped, the water level reading does not reflect any reference water level and water density values you have entered (it reverts to a reference water level of zero and a water density of "Fresh Water adjusted for Temperature"). Once logging begins, the readings are then based on the reference water level and water density you entered.

Addition Logger Info

At the bottom of the logger page, you can view the following information about it.

- Deployment No: The number of times the logger has been configured; you cannot edit this.

- Deployment Date: The date and time the logger was last configured; you cannot edit this. If you need to change the time zone for your next deployment, change the settings on your phone or tablet or update it when viewing data. See Using the Data File Viewer.

- Logger model number

- Bluetooth signal strength

- Firmware version number

- Percentage of memory used (if applicable, not available for all loggers)

You can also access the following features described in this table.

Tap this icon:	To do this:
	Specify configuration settings and start the logger.
	Start or resume logging. This is available if the logger was configured to start logging On Button Push or if the logger was configured to stop logging On Button Push and to Allow Button Restart (see *Configuring a Logger*).
	Stop logging.
	Tap to view live data.
	Tap to download data.
	Mark the logger as a favorite. You can then filter the list of devices to show only loggers marked as favorites. Tap this icon to unmark the logger as a favorite.
	Lock the logger. Set a password for the logger so that it is not mistakenly stopped or reconfigured. Tap the icon, enter a password, and then tap Set. Once a password is entered on phone or tablet, that mobile device will be the only one to "remember" it. This means you can connect to the logger without entering a password on that mobile device, but you will be required to enter a password on all other mobile devices. For example, if you set the password for the logger with your tablet and then try to connect to the device later with your phone, you will be required to enter the password on the phone but not with your tablet. Similarly, if others attempt to connect to the logger with different devices, then they would also be required to enter the password. To reset a password: • Simultaneously press both the Start/Stop button and the Alarm/Stats button (MX1101), the Start/Stop button and the Next/Clear button (MX1102A), or the top and bottom buttons (MX1104 and MX1105) on the logger for 3 seconds; • Press the reset button between the batteries on the MX2001 logger; • Press the button on the MX100, MX2200, or MX2300 for 10 seconds; or • Tap this icon and then tap Reset.
	Manage Password. Reset your existing password or set a new password for the logger.
	Make the logger beep one time to help you locate it (MX1101, MX1102A, MX1104, and MX1105).
	Illuminate the logger LEDs for several seconds (MX100, MX2200, MX2300, and MX2501).
	Clear an audible alarm on the logger (MX1101, MX1102A, MX1104, and MX1105)**.** See *Configuring a Logger* for details on the Audible Alarm configuration setting.
	Update the firmware on the logger (appears only when new firmware is available). A logger readout is completed automatically at the beginning of the firmware update process. If there is a communication failure during the firmware update process, some loggers may revert to the previous firmware. **Note for MX2501 loggers:** You must recalibrate the logger after updating the firmware. **Important:** Before updating the firmware on the logger, check the remaining battery level and make sure it is no less than 30%. Make sure you have the time to complete the entire update, which requires that your device remains within range of the logger during the update process. Do not switch to another app, turn off Bluetooth, or disturb the logger while the update is underway.

Configuring a Logger

To configure a logger:

1. Tap Devices.

2. Find the logger by searching or scrolling through the tiles (wake up the logger first, if applicable).

3. Tap the tile to connect to the logger and then tap Configure & Start. Read out the logger if prompted.

4. Make changes, if necessary, to the configuration settings by tapping a row (see the tables in this section for details on each setting) or tap Start at any time to use the default configuration.

Notes:
- MX2501 loggers must be calibrated. You may be prompted to calibrate the logger automatically or you can tap Calibrate. See *Calibrating an MX2501 pH and Temperature Logger* for details.
- You can update the water parameters for an MX2001 logger after you configure it by tapping Calibrate. See *Updating Water Parameters for an MX2001 Water Level Logger* for details.

Logger Name & Group

Setting	Description
Name	Type a name for the logger, which is also the default data file name. If you do not enter a name, the logger serial number is the name.
Group	Assign a logger to a group to help identify it. For example, if you have loggers deployed on three floors of a building, you can create a group for each of the three floors and then add each of the loggers to the appropriate group. Tap Group and then select an existing group or type a new group and tap Add. Tap Add. **To delete a group:** Tap Group, press and hold the group you want to delete, and tap ❌. **To remove a logger from a group:** tap Group and select None.

Logger Settings

Setting	Description
Logging Interval	Select the rate at which the logger takes measurements. Note that the faster the logging interval, the greater the effect on battery life and the shorter the logging duration. **Note:** If the logger is in burst logging mode, then measurements are taken at the burst logging interval (described later in this section). **Important note for MX1102A loggers:** Battery life for MX1102A loggers is less than 6 months when logging CO_2 and selecting a logging or sampling interval faster than 5 minutes. Select logging and sampling intervals of 5 minutes or slower when the carbon dioxide sensor is enabled to prolong battery life. If you select intervals faster than 5 minutes, you must replace the batteries more frequently. **MX1104, MX1105, MX2200, MX2300, and MX2501 loggers:** If you configure an alarm, the logger uses the logging interval you selected as the rate to check for alarm conditions. If burst logging is configured, however, the logger uses the burst logging interval as the rate to check for burst trigger conditions instead of the logging interval. **MX2001 loggers only:** You can set a total of 8 logging intervals. Tap Logging Interval, tap Customize, enter a rate in hours, minutes, and seconds for Interval 1. Tap Add to set up additional logging intervals. For each interval, enter the rate and select the number of samples that will be recorded for the selected rate. **Note:** You cannot change the number of samples if you are using only one logging interval. Tap ❌ to delete a logging interval.
Logging Capacity	This is the approximate time it will take to fill the logger memory based on the logging interval and other factors, such as logging mode and sensors currently selected (if applicable). This is only an estimate and cannot be edited; battery life and other factors, such as the number of readouts performed, audible alarms (if applicable), and paging (if applicable) also affect the capacity.

Setting	Description
Start Logging	Tap Start Logging and choose one of the following: • **On Save.** Logging begins immediately after you save the configuration settings. • **On Next Interval.** Logging begins at the next even interval as determined by the selected logging interval. This is useful if you want the logger to start and then subsequently log data on an even minute. For example, if the logging interval is set to 15 minutes and it is currently 11:10 am, the logger starts at 11:15 am. • **On Button Push.** Logging begins once you tap Start in the app or you press the button on the logger (if applicable). • **On Date/Time.** Logging begins on the date and time you specify. Select the date and time. Note that if you need to change the selected time zone, you must change your phone, tablet, or computer time zone settings and restart the app.
Stop Logging	Tap Stop Logging and choose from the options described below. **Note:** Regardless of the options you select, you can stop the logger at any time by connecting to it and tapping Stop Logging. ***Time Options*** • **Never Stop (Overwrites Old Data).** Select this if you do not want the logger to stop at any predetermined time frame. • **On Date/Time.** Select this to set the date and time you want the logger to stop logging. Note that if you need to change the selected time zone, you must change your phone or tablet's time zone settings and restart the app. • **After.** Select this to set how long the logger should continue logging once it starts in days, hours, minutes, and/or seconds. For example, select 30 days if you want the logger to stop logging after for 30 days. • **Stop When Memory Fills.** The logger continues recording data until the memory fills.
Pause Options	• **Pause on Button Push.** Allows you to stop logging by pressing the Start button on the logger for 3 or 4 seconds (not available for MX2001 loggers). • **Allow Button Resume.** Allows you to pause and resume logging by pushing the Start/Stop button on the MX1101 logger or the top button on the MX1104 or MX1105 logger for 3 seconds.
Logging Mode	Tap Logging Mode, select Fixed or Burst Logging Mode and choose any applicable setting (all models except MX100). **MX2001 loggers only:** You cannot change the logging mode if you have multiple logging intervals configured. ***Fixed Logging Mode*** The logger records data for enabled sensors and selected statistics at the logging interval selected. Any selected statistics are calculated at a sampling rate you specify with the results recorded at each logging interval. 1. Select the statistics you want the logger to record for all enabled sensors at each logging interval: • Maximum, the highest value from the sampling period • Minimum, the lowest value from the sampling period • Average, the mean of all values during the sampling period • Standard deviation from the average for all sampled values (requires average). **Note:** Sensor values are automatically recorded in fixed logging mode; in addition, you can log any additional statistics that you may require. 2. Set the Statistics Sampling Interval, which is the rate used for calculating statistics and must be a factor of the logging interval. For example, if the logging interval is 1 minute and you select 5 seconds for the sampling rate, then the logger will take 12 sample readings between each logging interval (one sample every 5 seconds for a minute) and use the 12 samples to record the resulting statistics at each 1-minute logging interval. Note that the more frequent the sampling rate, the greater the impact on battery life.

Setting	Description
	Important note for MX1102A loggers: Battery life for MX1102A loggers is less than 6 months when logging CO_2 and selecting a logging or sampling interval faster than 5 minutes. Select logging and sampling intervals of 5 minutes or slower when the carbon dioxide sensor is enabled to prolong battery life. If you select intervals faster than 5 minutes, you will need to replace the batteries more frequently.

Burst Logging Mode

The logger records data for enabled sensors at the fixed logging interval until the readings rise above or fall below specific limits, at which time the logger switches to a faster burst logging rate until the readings return to normal. For example, the logger is configured with a logging interval of 5 minutes and burst logging is configured to log every 30 seconds when the temperature rises above 85°F (the high limit) or falls below 32°F (the low limit). This means the logger records data every 5 minutes if the temperature remains between 32°F and 85°F. Once the temperature rises above 85°F, for example, the logger switches to the faster logging rate and records data every 30 seconds until the temperature falls back to 85°F. At that time, logging then resumes every minute at the fixed logging interval. Similarly, if the temperature falls below 32°F, for example, then the logger switches to burst logging mode again and records data every 30 seconds. Once the temperature rises back to 32°F, the logger then returns to fixed mode, logging every 5 minutes.

1. Select the burst logging interval, which must be faster than the logging interval.

2. Select Low and/or High for each sensor and either type or drag the slider to set the low and/or high values.

Notes:

- Sensor alarms, statistics, and the Stop Logging option Never Stop (Overwrites Old Data) are not available in burst logging mode.

- The actual values for the high and low burst limits are set to the closest value supported by the logger.

- **MX1101, MX1102A, and MX2001 loggers:** Once the logger is configured, the high and low burst logging limits are checked only once every 15 seconds. If you set the logging interval to less than 15 seconds and the sensor reading falls outside the limits, burst logging does not begin until the next 15-second cycle.

- **MX1104, MX1105, MX2200, MX2300, and MX2501 loggers:** The high and low burst limits are checked at the burst logging interval rate whether the logger is in fixed or burst mode. For example, if the logging interval is set to 1 hour and the burst logging interval is set to 10 minutes, the logger always checks for burst limits every 10 minutes.

- Once the high or low condition clears, the logging interval time is calculated using the last recorded data point in burst logging mode, not the last data point recorded in fixed mode. For example, a logger has a 10-minute logging interval and logged a data point at 9:05. Then, the high level was surpassed and burst logging began at 9:06. Burst logging then continued until 9:12 when the sensor reading fell back below the high level. Now back in fixed mode, the next logging interval is 10 minutes from the last burst logging point, or 9:22 in this case. If burst logging had not occurred, the next data point would have been at 9:15.

- If the logger is stopped with a button push while in burst logging mode, a New Interval event is automatically logged and the burst condition is cleared, even if the actual high or low condition has not cleared. The logger checks the high and low conditions when logging resumes (if the logger was configured with Allow Button Resume selected; MX1101, MX1104, and MX1105 loggers only).

Setting	Description
Show LCD	Tap the toggle to control whether the LCD on the logger remains illuminated during logging (MX1101, MX1102A, MX1104, and MX1105 loggers). When Show LCD is set to off, the LCD on the logger does not show the current reading, status, or other information during logging. You can temporarily turn the LCD screen on by pressing the button on the logger for 1 second. The LCD remains on for 10 minutes. In addition, you can view the status of any in-range logger on your phone or tablet regardless of the logger's LCD setting.
Show LED	Tap the toggle to control whether the LEDs on the logger are visible during logging (MX100, MX2200, MX2300, and MX2501 models). When Show LED is set to off, the alarm and status LEDs on the logger

Setting	Description
	are not illuminated during logging (the alarm LED does not blink if an alarm trips). You can temporarily turn on LEDs by pressing the button on the logger for 1 second.
Bluetooth Always On	Tap the toggle to control whether the logger advertises or regularly sends out a Bluetooth signal for the app to receive (MX100, MX1104, MX1105**,** MX2201, MX2202, and MX2300 loggers). When Bluetooth Always On is set to off, the logger advertises only when you press the button on the logger to wake it up, thereby preserving as much logger battery power as possible. **Note:** If you are using an MX Gateway, Bluetooth is automatically enabled to ensure regular gateway uploads can occur.
Power Saving Mode	Select one of the following options (MX2203, MX2204, and MX2501 models): • **Bluetooth Always Off.** The logger advertises or regularly sends out a Bluetooth signal for the app to receive only when you press the HOBO button on the protective logger boot (MX2203 and MX2204) or press the switch (MX2501) to wake it up. This option uses the least logger battery power. • **Bluetooth Always On.** The logger always advertises. This option uses the most battery power.
Soil Type	**MX2306/2307 loggers only:** Select one of the following options: • **Mineral.** For common soils, with EC values up to 8 dS/m. • **Soilless.** For potting soils, perlite, and peat moss with EC values up to 8 dS/m. • **Apparent Dielectric Permittivity.** Raw measurements that can be used in published equations such as the Topp equation to derive soil moisture data.
Enable Percent of Field Capacity	**MX2306/2307 loggers only:** Select Enable to see soil moisture as the percent of field capacity. Enter the Field Capacity for the soil at the site in Volumetric Water Content on a scale of 0.01 to 1.00. Note that the Percent of Field Capacity values reported is limited to the range of 0% to 200%. If you select Apparent Dielectric Permittivity as your soil type, the option for Percent of Field Capacity is disabled.
Reference Water Level and Water Density	**MX2001 loggers only:** When the logger is stopped or you are configuring the logger, tap these two rows. If you tap Reference Water Level, enter the reference water level for the logger deployment, select the unit type. If you tap Water Density, select the water density, or enter your own value next to Manual Input and select the unit type. You can also update these values during the deployment as needed (see *Updating Water Parameters for an MX2001 Water Level Logger*) or in the HOBO file (see *Using the Data File Viewer*).
pH Calibration	**MX2501 loggers only:** This shows the slope, offset, calibration points, and calibration time in place after calibrating the logger. See *Calibrating an MX2501 pH and Temperature Logger* for details.
Upload Data via	Select how logger data is uploaded to HOBOlink. You can select just one of the following. Uploading to HOBOlink is optional. You can use HOBOconnect to download logger data without creating a HOBOlink account. • **Gateway.** The gateway automatically uploads data from the logger to HOBOlink on a regular basis (see *Configuring a Gateway* for details on setting up a gateway). **Note:** MX100 series loggers are not supported by the gateway. Contact Onset Technical Support for questions on MX100 logger compatibility with the gateway. • **HOBOconnect.** Upload data from any device running the HOBOconnect app. The data is stored on the device. You can configure HOBOconnect to automatically upload the data to HOBOlink every time you read out the logger with the app (see *HOBOconnect Settings*) or you can share the data using email or messaging apps. **Note:** If Upload Data via is grayed out a HOBOlink account has not been added. See *HOBOconnect Settings* for details.

Sensors and Alarm Setup

Sensors & Alarm Setup Setting	Description
	Follow these steps for general sensor and alarm setup. See the sections on MX1102A and MX1104/MX1105 sensor setup for additional instructions for those models.

1. Tap the toggle to Enable Logging (if necessary).

2. Enter a name for the sensor or channel.

3. To set an alarm for the sensor, set the low and/or high values.

4. Under Duration, select how many hours and/or minutes you want to elapse before the alarm is tripped and select one of the following:

    - Cumulative. The alarm trips once the sensor reading is out of the acceptable range for the selected duration any time during logging. For example, if the high alarm is set to 85°F and the duration is set to 30 minutes, the alarm trips once the sensor readings have been above 85°F for a total of 30 minutes since the logger was configured.

    - Consecutive. The alarm trips once the sensor reading is out of the acceptable range continuously for the selected duration. For example, if the high alarm is set to 85°F and the duration is set to 30 minutes, the alarm trips only if all sensor readings are 85°F or above for a continuous 30-minute period.

5. Repeat the steps for another sensor if applicable.

Notes:

- If you are logging Temperature and RH measurements, a dew point series is also calculated and available in the data file upon readout or when viewing live data.

- **MX2001:** Differential pressure must be enabled to calculate water level. Temperature must be enabled to log absolute pressure. Temperature must also be enabled if you selected the water density option "Fresh Water adjusted for Temp."

- The actual values for the high and low alarm limits are set to the closest value supported by the logger.

- For MX1101 and MX2001 loggers and for MX1102A loggers powered by USB, alarm limits are checked every 15 seconds. For MX1102A loggers powered by batteries, CO_2 alarm limits are checked every 5 minutes (temperature and RH alarm limits are still checked every 15 seconds). If you are configuring a CO_2 sensor alarm for a battery-powered logger, it is recommended that the duration you select is divisible by 5 and a minimum of 5 minutes.

- For MX1104, MX1105, MX2200, MX2300, and MX2501 loggers, alarm limits are checked at each logging interval. If burst logging is configured, however, the logger uses the burst logging interval as the rate to check for burst trigger conditions instead of the logging interval.

- The alarm icon is illuminated on the logger LCD (if applicable) when the alarm trips. You can also press the Alarms/Stats button (MX1101), Clear/Next button (MX1102A), or the bottom button (MX1104 and MX1105) on the logger to view the value that triggered the alarm. The LCD (if applicable) displays the farthest out-of-range sample during the deployment.

MX1102A Sensor Setup

When configuring the CO_2 sensor for the MX1102A logger, these settings are also available:

- **Altitude Compensation.** If the logger is deployed at a location above or below 305 meters (1,000 feet), select Enable Altitude Compensation. Enter the altitude above sea level in meters or feet. **Note:** In normal use, the CO_2 measurement varies by approximately 0.135% of the reading for each mbar change in barometric pressure (the sensor is calibrated at 1,013 mbar). Use altitude compensation when deploying the logger for the best CO_2 accuracy possible.

- **Manual Calibration.** Manual calibration is the best way to calibrate your logger. Use this option if you want to manually calibrate the logger to 400 ppm using the Calibrate button on the logger. This requires taking the logger outside in fresh air on a dry day or to an indoor location that is unoccupied and has no connection to a ventilation system for five minutes on a regular basis. This is recommended if the logger is deployed in a building that is always occupied, if you want the logger to be calibrated more frequently than every eight days (the normal auto calibration

Sensors & Alarm Setup Setting	Description
	schedule), or if you want to calibrate the logger immediately after logging begins. **Note:** Every time the logger is started, auto calibration occurs after 24 hours and then again after eight days unless a manual calibration is performed first.

- **Auto Calibration.** Tap Automatic if you want the logger to automatically calibrate within the first 24 hours after logging begins and then every eight days thereafter. The logger will be calibrated based on the average of the three CO_2 measurements that follow the lowest CO_2 value identified during the 24-hour or 8-day time period as applicable.

> **Important:** Accurate auto calibration requires the building or location where the logger is deployed to be empty at least once during the eight-day period (for example, an empty office building during the weekend or overnight will typically have background CO_2 levels of 400 to 450 ppm).
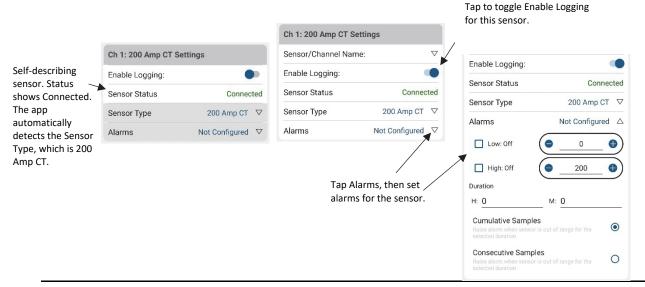
If the logger is deployed in an area where the CO_2 level does not go down to 400 ppm during the eight-day time period, then manual calibration should be performed regularly instead, or inaccurate CO_2 readings will be reported. If you plan on using auto calibration but the building will be occupied during the first day after logging begins, then you can use the manual calibration option as well. You can manually calibrate the logger immediately after logging begins and use auto calibration thereafter. **Note:** Once a manual calibration is performed, the 24-hour auto calibration is canceled, and an auto calibration will be performed eight days from the time the manual calibration occurred. (Restarting the logger resets the 24-hour/8-day auto calibration routine).

Refer to the manual www.onsetcomp.com/support/manuals/22504-mx1102a-manual for additional details on calibrating the logger.

MX1104/MX1105 Sensor Setup

When configuring external sensors for the MX1104 and MX1105 loggers, follow the instructions and guidelines in this section.
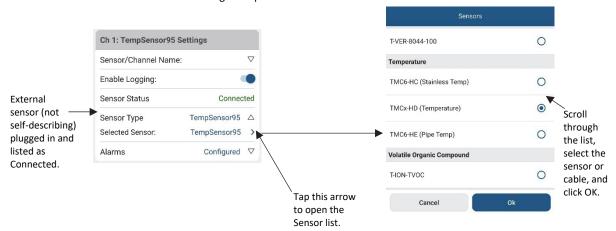
- **For self-describing sensors**: The sensor type is automatically detected when you plug it in (i.e., 200 Amp CT as in the example below).

Tap to toggle Enable Logging for this sensor.

Self-describing sensor. Status shows Connected. The app automatically detects the Sensor Type, which is 200 Amp CT.

Tap Alarms, then set alarms for the sensor.

Sensors & Alarm Setup Setting	Description
	• **For other external sensors:** The app detects that you have plugged in a sensor, but it does not detect the sensor type. You must select the correct sensor or cable type as shown in the following example.

External sensor (not self-describing) plugged in and listed as Connected.

Ch 1: TempSensor95 Settings

Sensor/Channel Name:	▽
Enable Logging:	🔵
Sensor Status	Connected
Sensor Type	TempSensor95 △
Selected Sensor:	TempSensor95 >
Alarms	Configured ▽

Tap this arrow to open the Sensor list.

Sensors

T-VER-8044-100	○
Temperature	
TMC6-HC (Stainless Temp)	○
TMCx-HD (Temperature)	◉
TMC6-HE (Pipe Temp)	○
Volatile Organic Compound	
T-ION-TVOC	○

Cancel	Ok

Scroll through the list, select the sensor or cable, and click OK.

Notes on all external sensors:

- If custom scaling is available, enter the Series Name, Unit, and values for High and Low under the selected sensor.

- For MX1104 loggers, the external sensor is channel 1. For MX1105 loggers, the sensor channel number is listed above the analog sensor port where the external sensor is connected.

- The app displays Connected in green text if the sensor is plugged in correctly and Disconnected in red text if a sensor has been unplugged. If Sensor Error in red text is displayed, make sure the sensor or cable is fully seated and installed properly in the logger analog sensor port.

- If you plug in a self-describing sensor in a port that was previously configured for a different sensor, Connected: <sensor type> appears in orange text until you reconfigure that channel for the new sensor.

- Make sure you select the correct sensor type in the app if you are not using self-describing sensors. If you select the wrong type, incorrect data is logged. In addition, if you unplug a sensor, the app still displays the last selected sensor type for that channel. If you plug in an external sensor other than a self-describing sensor, the previously selected sensor type is still selected. Be sure to choose the correct sensor type for the new sensor that you plugged in.

- If you disconnect a sensor or if it is not fully inserted into the analog sensor port while the logger is logging, a warning icon appears on the LCD for that channel and the logger beeps once. Use the top button on the logger to view the channel with the warning, which also displays dashes instead of a valid current reading. Erroneous readings are displayed in the app and logged depending on the logging interval while the sensor is disconnected (e.g., if a sensor is disconnected for 5 minutes and the logging interval is set to 1 minute, then there will be 5 erroneous data points while the sensor was disconnected). When the sensor is reconnected, the warning icon clears, the correct value replaces the dashes for the channel on the LCD, and the correct readings are logged.

- Be sure to disable logging for any channels without external sensors installed. If logging is enabled for a channel without a sensor, a warning icon appears on the LCD for that channel and the logger beeps once.

- Do not swap out sensors or move sensors to empty ports while the logger is logging. Stop the logger before making any physical changes to the sensors.

- Refer to the product manual at www.onsetcomp.com/support/manuals/23968-mx1104-and-mx1105-manual for additional details on installing external sensors.

Alarm Settings

Setting	Description
Audible Alarm	Tap the toggle to turn the audible alarm for the logger off or on (MX1101, MX1102A, MX1104, and MX1105 loggers only). If the audible alarm is on, the logger beeps once every 30 seconds when an alarm trips until one of the following happens (whichever occurs first): • You clear the alarm in the app. • You press one of the buttons on the logger. • Seven days have passed. Notes: • Once cleared, an audible alarm starts beeping again if the sensor values go out of the normal range. Even if an audible alarm is cleared, a visual alarm may remain on the logger LCD and in the app depending on the settings selected for maintaining visual alarms or because the alarm condition may still be in effect. In addition, an audible alarm continues beeping when the sensor values have returned to the normal range until it is cleared. We recommend that you enable this feature only if you have regular access to the logger so that you can easily turn off the beeping. Note that battery life is slightly reduced each time the audible alarm sounds.
Show Visual Alarms Until	Select one of the following options to determine how long the alarm icon remains visible in the app (and illuminated on the logger LCD screen if applicable) after an alarm trips: • **Logger Reconfigured (all models except MX100 and MX2001).** The alarm icon remains visible until the next time the logger is reconfigured. • **Sensor in Limits (all models except MX100).** The alarm icon remains visible until the sensor reading returns to the normal range between any configured high and low alarm limits. • **Alarm Button Pressed (MX1101, MX1102A, MX1104, and MX1105 loggers).** The alarm icon remains visible until you press the Alarm/Stats button (MX1101), the Clear/Next button (MX1102A), or the bottom button (MX1104 and MX1105) on the logger. **Notes:** • **MX100 loggers:** The Maintain Visual Alarms Until setting is selected automatically when an alarm is configured. When an alarm trips, the logger alarm LED blinks every 4 seconds (unless Show LED is disabled), an alarm icon appears in the app, and an Alarm Out of Range event is logged. Even if the temperature reading returns to a normal range, the alarm indicator will not clear in the app and the alarm LED will continue to blink. **MX1101, MX1102A, MX1104, and MX1105 loggers:** Although an audible alarm and a visual alarm can occur at the same time when a sensor alarm is tripped, they are cleared in different ways. The audible alarm can be cleared as described under the Audible Alarms section. Meanwhile, a visual alarm is cleared as determined by the three settings above. You may clear a beeping audible alarm, but the visual alarm remains on the LCD (if applicable) and in the app until the logger is reconfigured, the sensor is in limits, or the button is pressed (if applicable) -- whichever setting you selected. If the logger was configured to stop logging with a button push, any tripped alarms will be cleared automatically when logging is stopped and no Alarm Cleared event will be logged in the data file. This ensures that the logger will start checking for alarm conditions when logging resumes (if the logger was configured with Allow Button Restart selected; MX1101, MX1104, and MX1105 loggers only).

Updating Water Parameters for an MX2001 Water Level Logger

To update the reference water level and water density for an MX2001 water level logger while the logger is logging:

1. Tap Devices.

2. Find the logger by searching or scrolling through the tiles and tap the tile to connect to the logger.

3. Tap Calibrate.

4. Enter a new reference water level and select the unit type.

5. Select a different water density if needed or enter your own next to Manual Input.

6. Tap Save. Changes will take effect immediately. This will also result in reference water level and water density events in the HOBO file.

Note: You can also edit the water parameters after the logger is downloaded by tapping when viewing a data file. See *Using the Data File Viewer* for details.

Calibrating an MX2501 pH and Temperature Logger

The MX2501 pH and temperature logger must be calibrated for accurate pH readings using pH 7, 4 and/or 10 buffers. To calibrate the logger, you will need:

- Deionized or distilled water and a squirt bottle to rinse the pH sensor.

- The logger with the pH electrode installed and the copper guard removed.

- Calibration solution (also called buffer solution) poured into beakers. You must calibrate the logger using two solutions: pH 7 and either 4 or 10. You can also calibrate using all three.

Notes before starting calibration:

- pH values of calibration buffers and samples vary depending on their temperature. 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.

- When placing the logger in a buffer solution, make sure the sensor end cap, temperature sensor, and closure cap are submerged in the solution.

- This section provides an overview on calibrating the logger. For additional details, refer to the product manual at www.onsetcomp.com/support/manuals/22511-mx2501-manual.

To calibrate the MX2501 logger:

1. Tap Devices. Push the button on the mounting end of the logger to wake it up (if necessary). Find the logger by searching or scrolling through the tiles.

2. Tap the tile to connect to the logger. You may be automatically prompted to calibrate the logger if pH electrode has never been calibrated, if the last calibration is more than seven days old, or if the firmware was updated. If you are not automatically prompted, then tap Calibrate.

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

4. Place the sensor end of the logger in the pH 7 solution and tap Start.

5. Once the pH reading is stable, tap Confirm.

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

7. 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 9.

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

9. 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.

10. Verify that the slope and offset are 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.

> **Important:** After the calibration is complete, be sure to rinse the pH sensor with deionized or distilled water. Select any configuration settings as described in *Configuring a Logger*. **If you will not be deploying the logger within the next 10 minutes, attach the logger to the storage solution.**

Notes:

- The date of the last calibration, the slope and offset values, and the buffers used for the calibration are listed under the Deployment Information in the Configuration screen for reference.

- If the status message during calibration indicates the reading is invalid or it never stabilizes, try the following:

  - Make sure the sensor is in the correct buffer solution or try rinsing the sensor and restarting the calibration.

  - Remove the sensor from the calibration solution and clean it (refer to the product manual at www.onsetcomp.com/support/manuals/22511-mx2501-manual for details). Restart the entire calibration process.

  - Inspect the sensor to make sure it is not damaged. **Note:** There could be microcracks on the glass bulb of the electrode that may not be visible to the human eye.

  - Replace the pH electrode if it older than 6 months. A pH electrode has a 6-month expected life and will produce unstable readings if it is older than 6 months.

- If the reading reported in the app is acceptable for your deployment even though it is reported as unstable, you can tap Stop and then Confirm and proceed with the calibration.

- You can calibrate the logger while it is logging. After the calibration is saved, any new data logged will use the new calibration. Data logged before the new calibration was saved will use the old calibration data. If you do not want data in a single file to be based on more than one calibration, then stop the logger and read it out. You can then calibrate it and reconfigure it.

Configuring a Gateway

Note: These instructions require that the gateway is powered, completely booted up, and an Ethernet cable is already plugged in (if applicable). See the product manual at www.onsetcomp.com/support/manuals/23470-mxgtw1-gateway-manual for details on initial gateway setup.

To configure a gateway:

1. Tap Devices.

2. Find the gateway by searching or scrolling through the tiles.

3. Tap the tile to connect to the gateway.

The gateway screen displays the following information at the top:

- Gateway serial number or the name of the gateway, if you have named it

- Gateway Not Configured or Gateway Running

- Gateway serial number

It displays the following information under Additional Logger Info:

- Gateway model name

- Bluetooth connection strength

- Firmware version

- Status of its connection (see the table below for a list of possible icons)

- Number of Loggers in Range

The following table lists the possible connection icons and their meanings:

This icon:	Indicates:
⟨··⟩	Connected via Ethernet.
🛜	Connected via WiFi.
⟨/⟩	The network status is unknown.
☁	The gateway is running.
☁	The gateway is not configured.
☁	There is a problem with the gateway; check the gateway settings.
⁂	The signal strength from the gateway to the phone, tablet, or computer.

4. Tap Configure & Start.

5. Tap the down arrow next to Name and enter a name for the gateway. If you do not enter a name, the name is the gateway serial number.

6. Setup your network connection:

   - If you are using an Ethernet connection and it is using DHCP (dynamic IP addresses), skip to step 7.

   - To set up an Ethernet connection with static IP addresses, ensure that Ethernet is selected next to Network Settings. Tap Ethernet Configuration to open that area of the screen. Tap DHCP to disable DHCP. Complete the networking fields with help from your Network Administrator if necessary.

   - To set up WiFi, tap the down arrow in the Network Settings field and select WiFi. In the WiFi Configuration area of the screen, tap the down arrow. Type the network name and enter the password for the network.

7. Tap Start to save the new configuration settings to the gateway.

The gateway regularly checks for loggers within range and uploads data to HOBOlink (requires an active HOBOlink account; see *HOBOconnect Settings*). Loggers must be configured to upload data via the gateway (see *Configuring a Logger*). **Note:** MX100 series loggers are not supported by the gateway. Contact Onset Technical Support for questions on MX100 logger compatibility with the gateway.

Downloading Data From a Logger

To download the data from a logger to a phone, tablet, or computer:

1. Tap Devices and then tap a tile with the logger to connect to it (wake up the logger if necessary or remove it from the water if applicable).
2. Once the logger is connected, tap Download Data. Wait until the download completes.

3. Tap Export & Share to export the data (see *Using the Data File Viewer*).

Once the readout is complete, the data is uploaded to HOBOlink automatically if the logger was configured to upload data via HOBOconnect (requires an active HOBOlink account; see *HOBOconnect Settings*). If the logger was configured to upload data via a gateway instead, then the gateway will continue uploading data regularly independently of this readout.
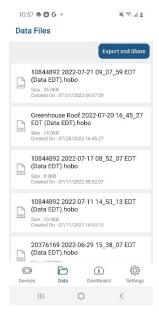
Using Data

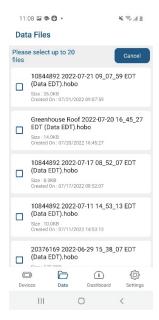The Data area contains features that allow you to export and share data files and view graphs of your data.

Exporting and Sharing Data Files

You can use the Data Files area to export and share one or more files at a time.
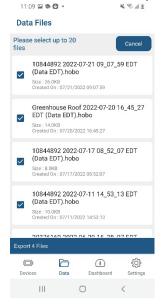
1. Select Data. You'll see a list of the files available.

2. Tap Export and Share. When you do, you can select the files you want to export.
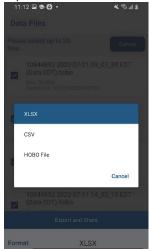
3. Select the files to export by tapping the check box for each file. You can select up to 20 files. As you select files, a bar at the bottom of the screen reports how many files you have selected.

4. Tap the bar that reports how many files you have selected.

5. A popup opens presenting the default format. (To update the default, select Settings, and then make your selection, either XLSX or CSV, in the User Settings area of the page.)

6. Tap in the format line to select a different format. Tap the desired format.

7. Tap Export. The file is exported. When the export is done, the following message appears.

8. To share the file, tap Share. You can share the file using the usual sharing function of your device.
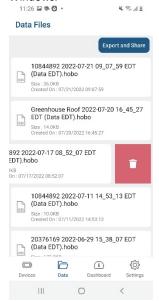
Deleting Data Files

You can delete data files as a way to clean up the list of files and remove files that you have already exported and shared.

To delete data files:

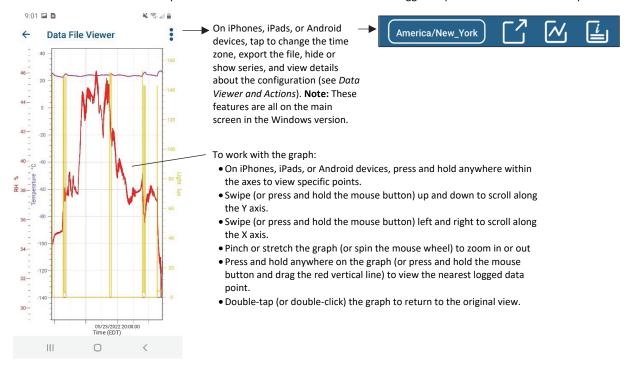1. Select Data. You'll see a list of the files available.

2. Locate the file you want to delete and swipe left on the file if you're using a mobile device. The delete icon always appears in Windows.

3. Tap the trash can icon to delete the file. A popup asks you to confirm the deletion.

4. Tap Delete.

Using the Data File Viewer

Use the Data File Viewer to view and export data that has been downloaded from the logger. Tap Data and select a file to open.

On iPhones, iPads, or Android devices, tap to change the time zone, export the file, hide or show series, and view details about the configuration (see *Data Viewer and Actions*). **Note:** These features are all on the main screen in the Windows version.

To work with the graph:
- On iPhones, iPads, or Android devices, press and hold anywhere within the axes to view specific points.
- Swipe (or press and hold the mouse button) up and down to scroll along the Y axis.
- Swipe (or press and hold the mouse button) left and right to scroll along the X axis.
- Pinch or stretch the graph (or spin the mouse wheel) to zoom in or out
- Press and hold anywhere on the graph (or press and hold the mouse button and drag the red vertical line) to view the nearest logged data point.
- Double-tap (or double-click) the graph to return to the original view.

Data File Viewer and Actions

The following options are available when working with the Data File Viewer (tap the three-dot icon ⋮ in the upper right corner first if applicable):

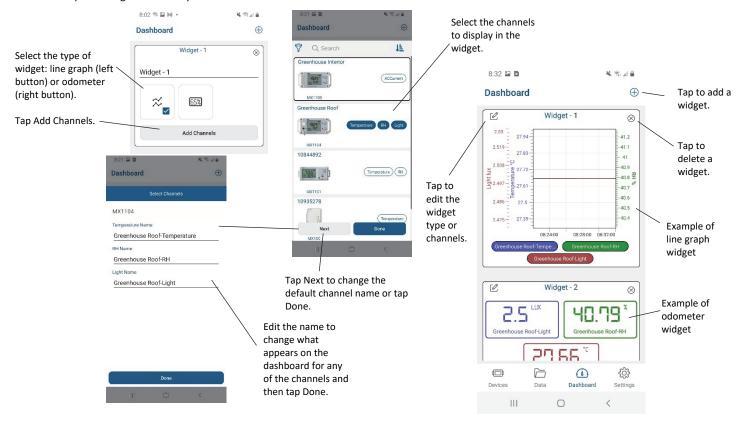| Tap this icon:	To do this:
America/New_York	This is the time zone setting in place on the phone, tablet, or computer when the logger was configured. Tap the time zone, select a different one, and tap Save to change the time zone that is displayed on the graph and used when exporting the data to XLSX or CSV. Note that a change to the time zone applies only while the file is open in the Data Viewer. If you close the file and reopen it, it reverts to the original time zone used when the logger was configured.
	Tap to export and share the file that is currently open in the Data File Viewer. Select one of the following:
	• **XLSX.** This generates an Excel® file with data points from all series on one tab and logged events on a second tab.
	• **CSV.** This generates a comma-separated values file with data points from all series and logged events on one spreadsheet.
	• **HOBO.** Share the .hobo file that you have opened in the Data File Viewer.
	• **PNG.** This generates an image of the graph as it currently appears in the Data File Viewer. Note that if you export to PNG more than once from the same data file, the existing .png file is overwritten with the latest one. To save multiple views of the graph (e.g., one default view and one zoomed in view), make sure you share the first PNG you export before exporting another.
	You can use export and share on Windows, Apple®, and Android devices.
	On Apple devices, exported files are saved to the phone or tablet regardless of whether you share them immediately upon export. To access the files, navigate to the HOBOconnect folder. Any exported XLSX, CSV, and PNG (image) files are stored in subfolders.
	On Windows computers, select one of the Export options described above to save a file in the selected format to the computer at a location that you choose. You can then email or share that file as needed using your preferred method.
	On Android devices, you must use export and share; external file access is prohibited by Android policy.
	Tap here to show or hide sensors, channels, and logger events and tap OK. By default, logger events (such as Alarm Tripped or Alarm Cleared), derived series (such as dew point), and statistics are not displayed on the graph.
	Tap here to view the configuration settings selected for the logger. **For MX2001 loggers only:** You can also edit the reference water level, water density, and reference time when tapping this icon. Under Deployment Information, tap Reference Water Level or Water Density to edit those settings in the Water Parameters screen. In the same Water Parameters screen, tap Reference Time and select a time associated with a logged data point and tap Save. Tap Save in the Water Parameter screen to apply these new settings to the data file.

Working with a Dashboard

Set up a dashboard to quickly view the latest readings from loggers within range of the phone or tablet without having to connect to them. This requires the logger to be awake with Bluetooth enabled (see *Configuring a Logger*).

To set up a dashboard:

1. Tap Dashboard.

2. Tap the plus sign in the upper right corner or in the middle of the screen.

3. Set up the widget to add to your dashboard:

Select the type of widget: line graph (left button) or odometer (right button).

Tap Add Channels.

Select the channels to display in the widget.

Tap to add a widget.

Tap to delete a widget.

Example of line graph widget

Tap to edit the widget type or channels.

Tap Next to change the default channel name or tap Done.

Edit the name to change what appears on the dashboard for any of the channels and then tap Done.

Example of odometer widget

Measurements are updated every second when the logger is within range. Note that measurements displayed on the dashboard may differ from logged data points, which are recorded at the logging interval selected when configuring the logger. When a logger is out of range, the graph widget will not display any measurements and the odometer widget will display the most recent measurement from when the logger last communicated with the phone, tablet, or computer.

HOBOconnect Settings

Tap Settings to change the following settings in HOBOconnect:

Setting	Description
HOBOlink	Connect a HOBOlink account to the app so that logged data can be automatically uploaded to www.hobolink.com, where you can further analyze the data, set up dashboards, and more.
	Tap Connect Account. Enter your HOBOlink username and password and tap Connect. (If you don't have a HOBOlink account, tap Create New Account first).
	Once your account is connected, the following additional options are available:
	• Tap Log Out if you want to disconnect your HOBOlink account from the app. You can then connect another account or reconnect to the same one.
	• Tap the Upload Data toggle to enable or disable the ability to automatically upload logged data from the gateway or the app. When this option is disabled, then the option to upload data will be grayed out when configuring the logger. When this option is enabled, then you can select whether to upload the data via the gateway or HOBOconnect when configuring the logger.
	• Tap the WiFi Only toggle to enable or disable whether the app uses WiFi only to upload data. If WiFi Only is enabled, then the app will only upload data when a WiFi connection is available. If WiFi Only is disabled, then the app will use a cellular connection to upload data when a WiFi connection is unavailable.
	• Readout Queue Status indicates whether there are any HOBO files that were read out from loggers waiting to be uploaded to HOBOlink (i.e. the app was unable to connect to the internet and will try again later). Tap the status to see a list of current and pending file uploads.
User Settings	• Select either US or SI units. Any changes to units will take effect immediately throughout the app. The units displayed on the logger LCD (if applicable) will be updated the next time the logger is configured.
	• Tap to enable or disable Dark Mode, which changes the app color scheme. When Dark Mode is enabled, the app displays bright text on a black background. When Dark Mode is disabled, the app displays dark text on a white background.
	• Tap to select the Default Export Format: XLSX or CSV.
Devices	Clear My Devices List works in conjunction with the My Devices filter (see *Viewing Devices*) in which only the devices that your phone or tablet has connected to are shown in the Devices screen. Tap Clear My Devices List if you want to remove all the devices that you have connected to from the My Devices filtered view. You will then need to switch to a different filter to view any devices within range.
	Migrate HOBO Files - For Android 11+ users only: Due to a change in Android policy, you must migrate any files that you downloaded prior to upgrading to Android 11 to continue seeing those files within the app. Use this option to migrate any existing files. Files downloaded after the Android 11 upgrade are not affected by the policy change.
Diagnostics & Troubleshooting	These settings control the information that is gathered and shared with Onset.
	• Tap the Share Diagnostics with Onset toggle to enable or disabled sharing of information about the software for troubleshooting and for future enhancements.
	• Tap the Enable Logging toggle and enable this setting only when directed by Onset Technical Support. When you enable this setting, the Share Logs with Onset option appears. Use this as directed by Onset Technical Support.
Release Notes	The Settings icon displays a small exclamation point (!) when software release notes are ready.
	• Tap the Settings icon, then tap Release Notes to view a list of available release notes.
	• The release notes notification appears only when new release notes are available. It disappears when you have viewed the release notes.

Frequently Asked Questions

The following questions can help with troubleshooting issues with the app. For additional help, tap About HOBOconnect in settings to view a list of resources, or contact Onset Technical Support at 1-800-LOGGERS, 508-759-9500, or www.onsetcomp.com/support/contact.

Why isn't my logger appearing in the list of devices?

- The logger may need new batteries (if applicable). Symbols appear on the logger LCD (if applicable) if the batteries have enough voltage remaining and are installed properly.

- The logger is not within range of the phone, tablet, computer, or computer dongle or something is obstructing the communication. Move closer to the logger. The range for successful wireless communication is approximately 30.5 m (100 ft) with full line-of-sight.

- The MX100, MX1104, MX1105, MX2200, MX2300, or MX2501 logger may be asleep. Press the button on the logger to wake it up.

- Remove the MX2203, MX2204, or MX2501 logger from the water if it was configured with Bluetooth Off Water Detect.

- Make sure Bluetooth is enabled in your phone, tablet, or computer settings.

- Check the filter settings to make sure the logger isn't being filtered out of view.

Why isn't my gateway appearing in the list of devices?

- The gateway may not be finished powering up. When plugged in for the first time, the gateway will not be ready to configure—and will not appear in the app—for several minutes.

- The gateway is not within range of the phone, tablet, computer, or computer dongle, or something is obstructing the communication. Move closer to the gateway. The range for successful wireless communication is approximately 30.5 m (100 ft) with full line-of-sight.

- Make sure Bluetooth is enabled in your phone, tablet, or computer settings.

- Check the filter settings to make sure the gateway isn't being filtered out of view.

I see my logger in the list of devices, but I can't connect to it. What can I do?

- Close the app and then reopen it.

- Power down the phone, tablet, or computer, and try connecting again once it powers back up.

I was configuring my logger and then lost the connection. Will my configuration settings be saved?

If you did not tap Start before the connection was lost, then the configuration settings were not saved to the logger. Connect to the logger again and re-enter your settings.

How do I lock my logger so that no one else can configure it?

Connect to the logger, tap Lock Logger. Enter a password and tap Set. The password is now required any time another device attempts to connect to the logger. The device that configured the logger, however, automatically retains the password so you do not have to type in a password each time that device connects to the logger.

How do I reset the password on a logger?

Connect to the logger, tap Manage Password, and tap Reset. You can also simultaneously press both the Start/Stop button and the Alarm/Stats button (MX1101) or Next/Clear button (MX1102A) on the top of the logger, or both the top and bottom button (MX1104 and MX1105) for 3 seconds. Press the button on the MX100, MX2200, MX2300, or MX2501 for 10 seconds or press the reset button between the batteries on the MX2001 logger.

An alarm was tripped on the logger. How do I clear it?

Visual alarms on the logger LCD (if applicable) and within the app (all models except MX100 and MX2001) are cleared based on the settings selected under "Maintain Visual Alarms Until" when configuring the logger. This means the visual alarm will clear when the logger is reconfigured, when the sensor is back within limits, or when the button on the logger is pressed (if applicable) depending on which option you selected. MX100 alarm indicators are only cleared when you reconfigure the logger.
If an audible alarm is sounding, press the button on the logger to stop it or connect to the logger and tap Clear Audible Alarm (if applicable).

How do I download data from my logger?

Connect to the logger and tap Download Data. Once the download is complete, tap Data to view or export the downloaded data.

It is taking more than a minute to download data from my logger. Is this normal?

It should take a minute or less to download data from a logger with a full memory (all models except the MX1104 and MX1105). If the download is taking longer than a minute, move the mobile device closer to the logger, within a few feet if possible. The further away the mobile device is from the logger, the longer the download can take. MX1104 and MX1105 loggers have a larger memory capacity than other models so it may take a few minutes.

I zoomed in on a graph in the Data File Viewer. How do I return it to the original view?
Double-tap the graph to return to the original view.

How do I view the individual data points in a list instead of a graph?

Export the file from the Data File Viewer. Tap ⋮ in the top right corner (if applicable) and then tap ⬈. Select either XLSX or CSV, which creates a spreadsheet with all the data points.

How do I add or remove series or events from the graph?

In the Data File Viewer, tap ⋮ in the top right corner (if applicable) and tap ⬓. Select or deselect the sensors, statistics, and events you wish to show or hide on the graph and tap OK.

Is there a way to copy all my data files to my computer?

You no longer have access to data files outside of HOBOconnect due to a Google Play Store policy. Use the Export and Share feature to have access to files outside of HOBOconnect.

For Apple devices, use Files to copy the files from the HOBOconnect folder to iCloud, which you can access from your computer. You can also use the File Sharing feature in iTunes on Windows® or Finder to transfer files to a Mac®.

For Windows computers, files are stored in your Documents folder under HOBOconnect. Copy the files to another folder.

My device is showing too many loggers. How can I view my devices only?
Tap the Filter button at the top left of the screen and select My Devices. Only the devices that your logger connected to are shown in the list.

If my logger is configured to upload data to HOBOlink from a gateway, then will it also upload data to HOBOlink if I read it out with the app?
No. Data can only be uploaded to HOBOlink either by a gateway or by the app, not both. When you read out a logger that was configured to upload data from a gateway, then the file will be available in the app only and not uploaded to HOBOlink. The gateway will continue to monitor the logger and upload data regularly to HOBOlink regardless of when you read out the logger with app.