HOBO MXGTW1 MX Gateway Cloud Access Data Instruction Manual

HOBO® MX Gateway (MXGTW1) Manual

Contents

HOBO MX Gateway

MXGTW1
Included Items:

- Mounting kit
- AC adapter

Required Items:

- HOBOlink account
- HOBOconnect app
- Mobile device with Bluetooth and iOS, iPadOS®, or Android™, or a Windows computer with a native BLE adapter or supported BLE dongle
- MX1101, MX1102, MX1104, MX1105,
  MX2001, MX2200,
  MX2300, or MX2501 loggers

The HOBO MX Gateway provides near real-time data monitoring for most MX series loggers by automatically transmitting logged data to the HOBOlink® website. You can easily set up the gateway with the HOBOconnect® app on your phone, tablet, or computer. Once configured, the gateway uses Bluetooth® Low Energy (BLE) to regularly check for measurements from up to 100 loggers within range. Logger measurements are then uploaded from the gateway via Ethernet or Wi-Fi to HOBOlink, where you can set up automatic email or text alarm notifications, display your data in a dashboard, and export data for further analysis. Note: All MX loggers except the MX100 series are supported by the gateway. Contact Onset Technical Support for questions on MX100 logger compatibility with the gateway.

Specifications

Transmission Range	Approximately 30.5 m (100 ft) line-of-sight
Wireless Data Standard	Bluetooth 5.0 (BLE)
Connectivity	Wi-Fi 802.11a/b/g/n 2.4/5 GHz or 10/100 Ethernet
Security	WPA and WPA2, protocols not listed are not supported
Power Source	AC adapter or PoE
Dimensions	12.4 x 12.4 x 2.87 cm (4.88 x 4.88 x 1.13 inches)
Weight	137 g (4.83 oz)
CE	The CE Marking identifies this product as complying with all relevant directives in the European Union (EU).

Setting up the Gateway

Follow these steps to set up the gateway for the first time.

1. Download the app. Download HOBOconnect to a phone or tablet from the App Store® or Google Play™ or download the app to a Windows computer from **onsetcomp.com/products/software/hoboconnect**. Open the app and enable Bluetooth in the device settings if prompted.
2. Power up the gateway.
   a. Insert the correct plug for your region into the AC adapter. Connect the AC adapter to the gateway and plug it in.

Plug in the AC adapter here

   b. Wait for the gateway to boot up and appear in the app.
   While the gateway boots up, the LED on the gateway will start as solid yellow and then switch to blinking yellow. It will take 4 to 5 minutes before the gateway appears in the app.
3. Create a HOBOlink account. Go to hobolink.com and create an account if you don't already have one. When you create a new account, HOBOlink sends you an email to activate your new account.
4. Set up the gateway with the app.
   a. Tap Settings in the app.
   b. If your HOBOlink account is not already connected to HOBOconnect, tap Connect Account. Enter your HOBOlink username and password and tap Connect.
   c. Make sure the Upload Data toggle is enabled.
   d. Plug in the Ethernet cable if your device is using Ethernet.
   e. Tap Devices and find the gateway by searching or scrolling through the tiles. If the gateway does not appear, make sure it is completely powered up as described in step 2 and within range of your device.
   f. Tap the gateway tile in the app to connect to the gateway.
   g. Once connected, tap Configure & Start to configure the gateway.
   h. Tap Name. Enter a name for the gateway. HOBOconnect uses the gateway serial number if you do not enter a name.

i. Tap Network Settings and select either Ethernet or Wi-Fi.

j. If you selected Ethernet and the Ethernet connection is using DHCP (dynamic IP addresses), skip to step m.

k. If you selected Ethernet and the Ethernet connection uses static IP addresses, tap Ethernet Configuration, tap DHCP toggle to disable DHCP. Complete the networking fields and skip to step m. Consult your Network Administrator as needed.

l. If you selected Wi-Fi, tap Wi-Fi Configuration, tap Current Network or type a network name. Enter the password for the network.

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

5. Set up and start loggers.

You must configure your MX series loggers to use them with the gateway. If any of your loggers are already logging, reconfigure them as described in the following steps.

Note: MX100 series loggers are not supported by the gateway. Contact Onset Technical Support for questions on MX100 logger compatibility with the gateway.

To configure a logger for use with the gateway:

a. In HOBOconnect, tap Devices. Press a button on the logger to wake it up (if necessary).

b. Tap the logger tile in HOBOconnect to connect to it and tap Configure & Start.

c. Tap Upload Data Via and select Gateway.

d. Choose other logger settings keeping in mind the following:

• A logging interval of 5 minutes or slower is optimal for the gateway, although it can support a logging interval as short as 1 minute (see Viewing Data

Uploaded from the Gateway for details).

• If you select a logging interval faster than 1 minute, the data logged at the faster rate is not available for the gateway to upload. Use the app to download data from the logger and retrieve this data.

• Burst logging and statistics are not supported by the gateway. Use the app to download data from the logger and retrieve this data.

• Bluetooth is automatically enabled for MX1104, MX1105, MX2200, MX2300, and MX2501 loggers to ensure regular gateway uploads can occur.

• The gateway uses Bluetooth Low Energy to communicate over the air with loggers within range.

If MX2200 or MX2501 loggers or the top end of an MX2001 logger is deployed in water, the gateway is not able to communicate with them.

e. Tap Start. For additional help with the app, refer to the user's guide at onsetcomp.com/hoboconnect.

The gateway regularly checks loggers within range and uploads data to HOBOlink. See Viewing Data Uploaded from the Gateway for details on working with data.

Deployment and Mounting Guidelines

Follow these guidelines when selecting a location for the gateway:

- The gateway requires AC power and an internet
  connection. Select a location for the gateway that is near an AC outlet and an Ethernet port (if using Ethernet) or within range of your Wi-Fi router (if using Wi-Fi).
- The range for successful wireless communication between the gateway and loggers is approximately 30.5 m (100 ft) with full line-of-sight. If there are obstacles between the gateway and the loggers, such as walls or metal objects, the connection may be intermittent and the range between loggers and the gateway decreases.

Test the range by positioning your mobile device or computer where you want to deploy the gateway. If the mobile device or computer can connect to a logger with the app from that location, the gateway should be able to connect to the logger as well.

• If you are mounting the gateway on a wall or other flat surface, mount the face of the gateway towards the coverage area with the logo oriented horizontally as shown below for optimal signal strength. Also mount away from the corners where walls meet and above the tallest obstructions in the room.

For wall mounting, position the gateway facing the coverage area with the logo oriented as shown.
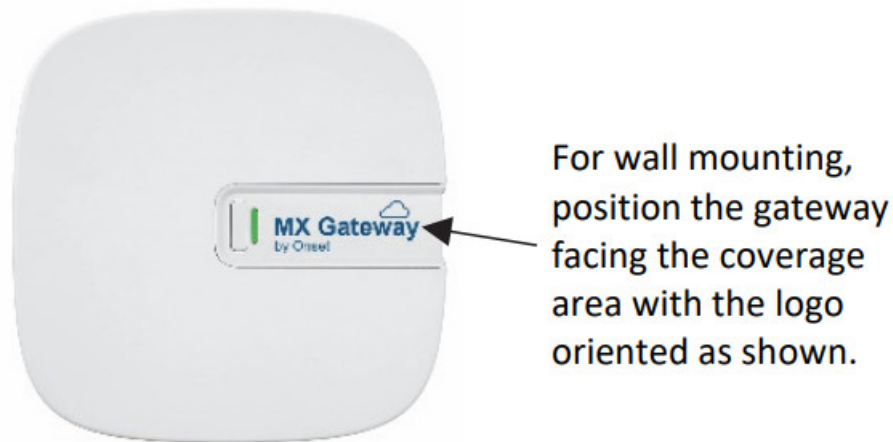
- If you are mounting the gateway on a ceiling, place it on the lowest available mounting point facing downwards for optimal signal strength. Also mount away from HVAC ducts and below I-beams or support beams.
- Use the enclosed mounting kit to mount the gateway to a flat surface. Use the self-tapping screws and anchors to affix the gateway mounting plate to a wall or ceiling.

Gateway mounting plate

Self-tapping screws and anchors

One of four clips to attach to the gateway
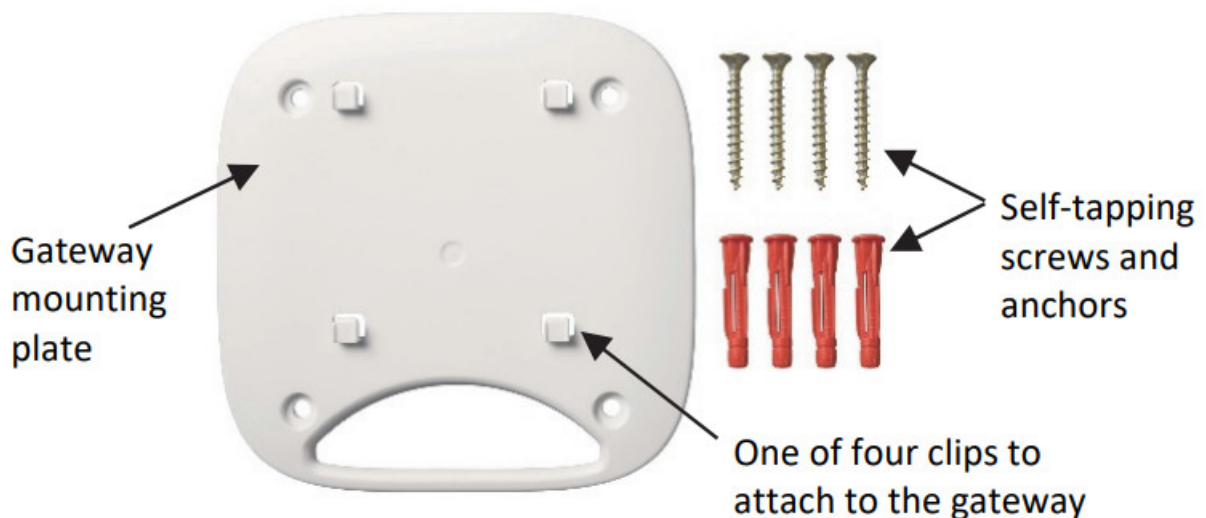
If you are mounting the gateway on a wooden surface, use both the gateway mounting plate and the mounting bracket shown below. Place the gateway mounting plate over the mounting bracket so the holes are aligned. Use the machine screws to affix it the surface (you may need to drill pilot holes in the surface first).

Mounting bracket; attach to mounting plate above

Machine screws

Once the gateway mounting plate is in place on the wall or other flat surface, use the four holes on the back of the gateway to attach it to the four clips on the mounting plate.

Use these holes to attach the gateway to the clips on the mounting plate
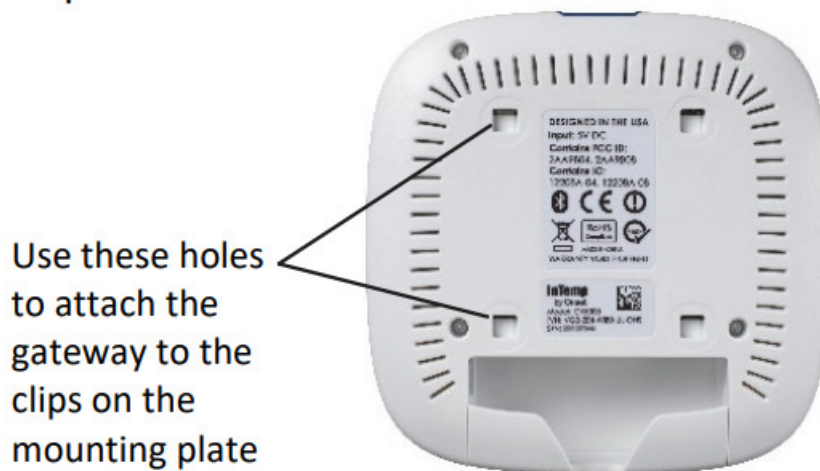
Connecting to the Gateway

To connect to the gateway with your phone, tablet, or device:

1. Tap Devices.
2. Tap the gateway in the list to connect to it.

   If the gateway does not appear in the list or if it is having trouble connecting, follow these tips:

   • Make sure the gateway is within range of your mobile device or computer when connecting to it. If your mobile device or computer connects to the gateway intermittently or loses its connection, move closer to the gateway, within sight if possible. Check the gateway signal strength icon in the app to ensure there is a strong signal between the mobile device or computer and the gateway.

   • Change the orientation of your device to ensure the antenna is pointed toward the gateway (refer to your device's manual for the antenna location). Obstacles between the device's antenna and the gateway may cause intermittent connections.

   • Wait a few minutes and then try to connect again. The gateway is not displayed in the app when it is booting or when an automatic firmware upgrade is underway.

   • If you recently powered up the gateway and the LED is continuously flashing but the gateway is not displayed in the app, disconnect the power from the gateway and plug it back in. The gateway should then appear in the app after it powers back up.

Once your device is connected to the gateway, set up the network configuration as described in Setting up the Gateway.

You can use the Additional Logger Info section of the screen to learn:

- Model
- Connection strength
- Firmware version
- Gateway status:

  - indicates the gateway is running.

  - indicates the gateway is not configured.

  - indicates there is a problem with the gateway.

  Check the network settings.

- Loggers in range

Monitoring the Gateway

A heartbeat is regularly sent from the gateway to HOBOlink to make sure the gateway is still active. If no heartbeat is sent after 15 minutes, the gateway status changes from OK to missing. The gateway will continue downloading the loggers even if it is not able to connect to HOBOlink. The data will be stored temporarily in the gateway and uploaded the next time it is able to connect to HOBOlink.

To check the status of the gateway in HOBOlink, click Devices and then click MX Devices. Each gateway is listed by name and serial number with the status and the last time data was uploaded with the gateway.

You can also set up an alarm to notify you via text or email when a gateway is missing or when the loggers that are being monitored by the gateway are missing, tripped an alarm, or have low batteries.

To set up a gateway alarm:

1. In HOBOlink, click Devices and then click MX Devices.
2. Click Configure Gateway Alarms.
3. Click Add New Alarm.
4. Select a gateway.
5. Select the alarms you want to add for the gateway:
    • Missing gateway. A gateway has not sent a heartbeat to HOBOlink for 15 minutes.
    • Missing logger. A logger has not been found by the gateway for 30 minutes.
    • Logger alarm. A logger being monitored by the gateway has tripped or cleared a sensor alarm.
    • Logger low battery. A logger being monitored by the gateway has a low battery.
6. Select whether you want gateway alarm notifications sent via email or text.
7. Enter the email address or country code destination plus cell number.
8. Click Save Alarms.

Viewing Data Uploaded from the Gateway

A running gateway uses Bluetooth to regularly monitor loggers within range that have been configured for use with the gateway. New logger data received by the gateway is then uploaded via Wi-Fi or Ethernet to HOBOlink every 5 minutes. To check when the latest data was uploaded, click Devices and then MX Devices. In the MX Devices table, look for the logger (by name, serial number, and/or model number) and check the last sensor reading listed. You can also see the date and time the logger was configured and which gateway uploaded the data.

To view logger data uploaded to HOBOlink from the gateway:

- Set up a dashboard for real-time monitoring of the conditions where the logger is located.
- Export the data to a file.
- Set up a data delivery schedule so that uploaded data is automatically delivered to you via email or FTP on a schedule you specify.

See the HOBOlink Help for details on how to set up a dashboard, export data, or create a data delivery schedule.

Notes:

- A logging interval of 5 minutes or slower is optimal for the gateway, although it can support a logging interval down to 1 minute. If the logging interval is set from 1 minute up to 5 minutes, there may be occasional missing individual data points in exported files. Both the gateway and loggers regularly "advertise" or send out Bluetooth signals. The rate at which these signals are sent may differ between the gateway and the loggers and can result in occasional data points not being uploaded. Use the app to read out the logger and generate a report with all data points for the current deployment.
- No data will be uploaded for loggers configured with logging intervals faster than 1 minute. If your deployment requires logging faster than 1 minute, use the app to read out the logger and generate a report with this data.
- Burst logging and statistics are not supported by the gateway. If you configured the logger with these settings, use the app to read out the logger and create a report with any burst logging data and statistics.
  If no data is appearing in HOBOlink, do the following:
- Check the gateway status in HOBOlink. If the gateway is missing, check to make sure it is plugged in, the network settings are correct, and it is within range of the loggers.
- If you just set up a gateway and configured loggers, it may take a few minutes before data begins appearing in HOBOlink. Wait a few minutes and then check HOBOlink again.
- Make sure the logger was configured to upload data to HOBOlink via the gateway. If you configured the logger to upload data via HOBOconnect, then data will only be uploaded to HOBOlink when you read out the logger with your phone, tablet, or computer.
- Check that you are logged into the same HOBOlink account that you used to set up the gateway in the app.
- Make sure the loggers have started logging and are not waiting for a delayed start or a push button start.
- Make sure the logger is not deployed in water. The gateway cannot communicate with loggers while they are deployed in water.
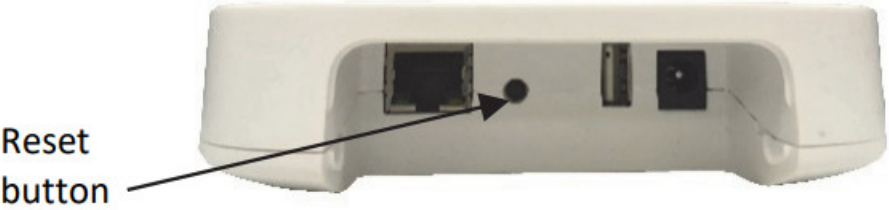
Gateway Firmware Updates

Occasional automatic firmware updates may be necessary for the gateway. While the firmware update is taking place, devices will not be able to connect to the gateway and no data will be uploaded to HOBOlink. The LED on the gateway will blink yellow while the firmware update is underway. The update should only last a few minutes and then the gateway will resume normal operation.

Unlocking and Resetting the Gateway

If you need to unlock a gateway, press and hold the button on top of the gateway (next to the LED) for 10 seconds. This will then allow you to connect to a gateway that was previously locked.
There is a reset button on the back of the gateway next to the Ethernet port as shown below. You may be directed

to press this button by Onset Technical Support if you are experiencing problems with the gateway. Refer to the table below for the action taken by the gateway when the reset button is pressed for varying lengths of time.

Reset button

When you press the reset button like this:	The gateway does this:
Quick press, less than 2 seconds	Soft reboot. This restarts the operating system on the gateway without interrupting power.
Short press, 2–4 seconds	Network reset. This clears all connections configured by the gateway and requires the button to be pressed for 2 to 4 seconds. To aid the timing of the network reset, the LED quickly flashes yellow to indicate the window when the button should be released. When the button is released during that window, the LED will quickly flash green to confirm the network reset operation has been triggered. If you release the button after 4 seconds, the LED will return to the behavior it displayed before quickly flashing yellow. If you release the button between 4 and 8 seconds, no actions (reboot or reset) are performed.
Long press, 10–15 seconds	Hard reboot. This resets the processor and restarts the gateway operating system.

ONSET

1-508-759-9500 (U.S. and International)
www.onsetcomp.com/support/contact

Documents / Resources

[HOBO MXGTW1 MX Gateway Cloud Access Data](#) [pdf] Instruction Manual
MXGTW1 MX Gateway Cloud Access Data, MXGTW1, MX Gateway Cloud Access Data, Gateway Cloud Access Data, Cloud Access Data, Access Data, Data

References

- **H** **HOBOlink**
- **O** **HOBOconnect | Onset's HOBO and InTemp Data Loggers**
- **O** **HOBOconnect Monitoring App | Onset's HOBO and InTemp Data Loggers**
- **O** **Onset HOBO and InTemp Data Loggers**
- **O** **Technical Support | Onset's HOBO and InTemp Data Loggers**