# INSTRUCTION MANUAL

HANNA

# CLOUD

BL122 • BL123 • Halo • Halo2 • HI98494 • HI97115

**Hanna Instruments Inc.**, 584 Park East Drive, Woonsocket, RI 02895 USA
www.hannainst.com

Dear Customer,

Thank you for choosing Hanna Instruments® services.

Please read this instruction manual carefully before downloading the application and setting up an account. This manual will provide you with the necessary information on Hanna Cloud capabilities and a precise idea of its versatility.

If you need additional technical information, do not hesitate to email us at tech@hannainst.com or view our contact list at www.hannainst.com.

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# 1. HANNA CLOUD

The Hanna Cloud is a web-based application that the BL122 and BL123 Swimming Pool Controllers, Halo pH Probe, Halo2 pH Tester, HI98494 Multiparameter Portable Meter, and HI97115 Marine Master Multiparameter Photometer can connect to. Hanna Cloud allows multiple devices and device families to be connected to one user account. Available features will vary based on the connected device. Some features include:

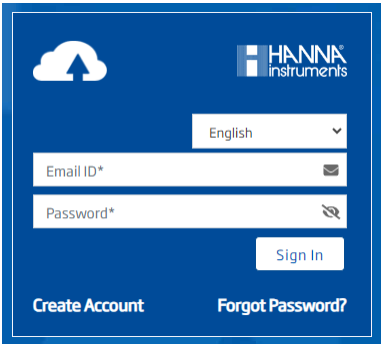
- BL122 and BL123 Swimming Pool Controllers
  - Live measurement data with alarms
  - Historical trend data
- Halo pH Probe and Halo2 pH Tester
  - Tagged data is uploaded automatically and readings can be saved independently
  - Data concatenation with reduced logging interval
- HI98494 Multiparameter Portable Meter
  - Ability to graph four parameters at the same time
  - User-selectable measurement parameter and units
- HI97115 Marine Master Multiparameter Photometer
  - User-defined target ranges
  - Ability to graph four parameters at the same time

The Hanna Cloud safeguards personal data by incorporating technical and administrative security measures that reduce risks of loss or misuse. These include (but are not limited to) a secured connection, device identity registration, and password encryption.

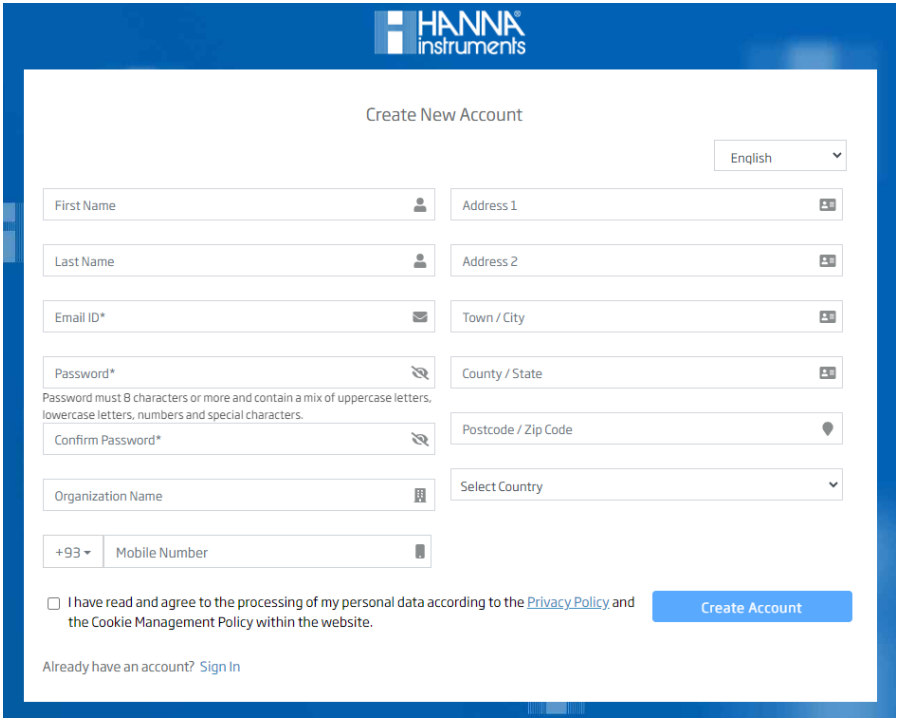
# 2. HANNA CLOUD ACCOUNT

## 2.1. CREATE A USER ACCOUNT

- Go to www.hannacloud.com or download the Hanna Lab App for iOS and Android devices, and click on the icon.
- Click on Create Account and fill in the email and password information.

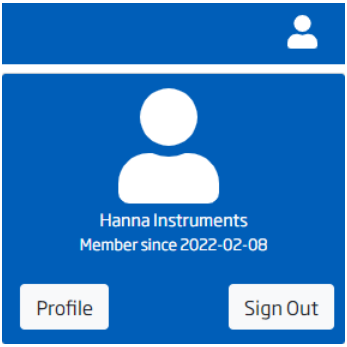


- Read the Hanna Instruments Privacy Policy and click Create Account. A validation email will be sent to the registered email. Follow the link to access your account; the user account must be confirmed before logging in.
- Once logged in, follow the instructions to add a device to your account.




## 2.2. PROFILE

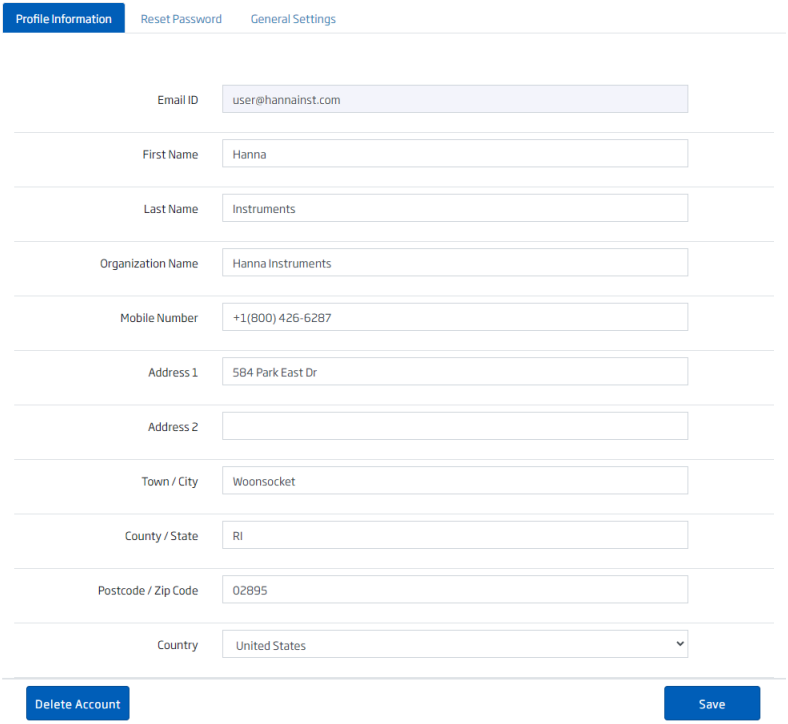
After logging in, click on the icon and click Profile to access the user profile. The profile settings page contains: Profile Information, Change Password, and General Settings tabs.



## Profile Information

The information entered when creating your user account is displayed on this screen. Any of the fields can be edited.

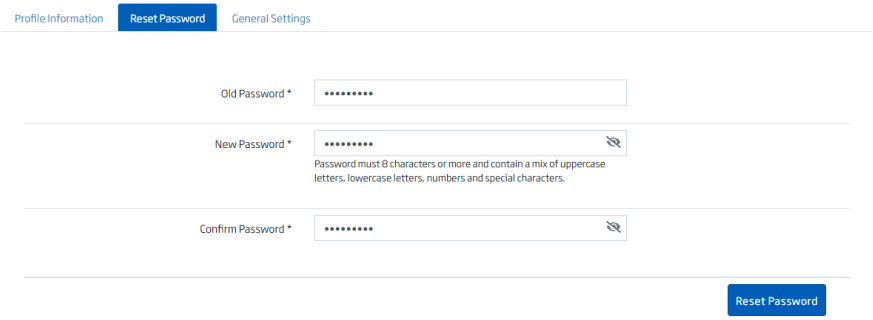
- Click Save after updating the fields to save the changes to the Hanna Cloud database.
- Click Delete Account to delete the user account. A notification email will be sent confirming the account was deleted. All user data will be deleted from the Hanna Cloud database.




## Reset Password

A new password must contain eight characters or more, with a mix of uppercase letters, lowercase letters, numbers, and special characters.

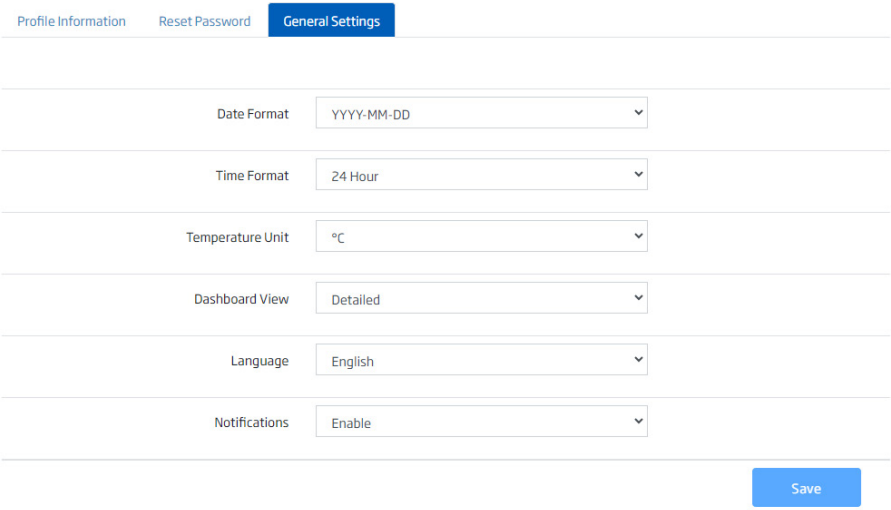
Click Reset Password after entering the new password to update the password.



## General Settings

The general settings affect the settings on Hanna Cloud only. The settings on your meter are independent and can not be not be changed in this menu. Click Save to update the settings

- Date Format: YYYY-MM-DD, DD-MM-YYYY, MM-DD-YYYY, YYYY/MM/DD, DD/MM/YYYY, MM/DD/YYYY
- Time Format: 12 Hour (AM/PM), 24 Hour
- Temperature Unit: °C, °F
- Dashboard View: Simple, Detailed
- Language: English, Deutsch, Español, Français, Nederlands, Portugues
- Notifications: Enable, Disable



# 3. BL122 & BL123 SWIMMING POOL CONTROLLERS

## 3.1. INSTRUMENT SETUP

### Instrument Installation

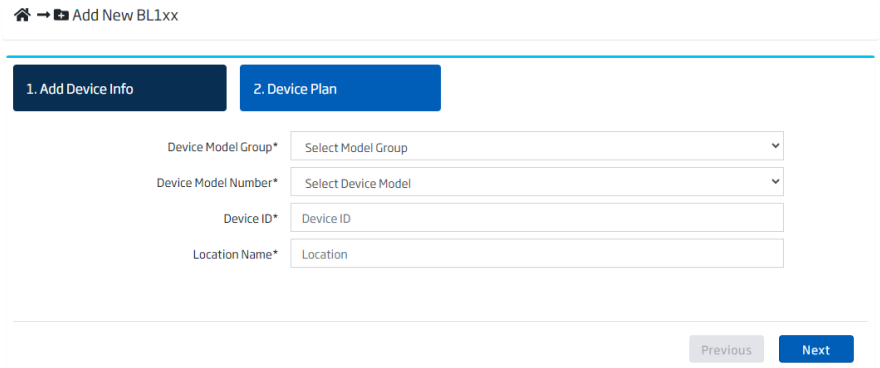
Follow the instructions in the instrument's instruction manual to install and connect the device.

## 3.2. ADD DEVICE

To add a device, open the navigation menu and click Add Device. Follow the procedure below:

1. Select the device model group from the drop-down list.
2. Select the device model from the drop-down list.
3. Enter the device ID printed on the instrument certificate and engraved on the back of the casing (e.g. BL122_XXXXXX/XXXX).
4. Enter a location name for your device in the location name text field and click Next.
   The available features are displayed.
5. Click Finish to add the device to your account.

***Note:*** *BL122 and BL123 data is stored on Hanna Cloud for three months.*

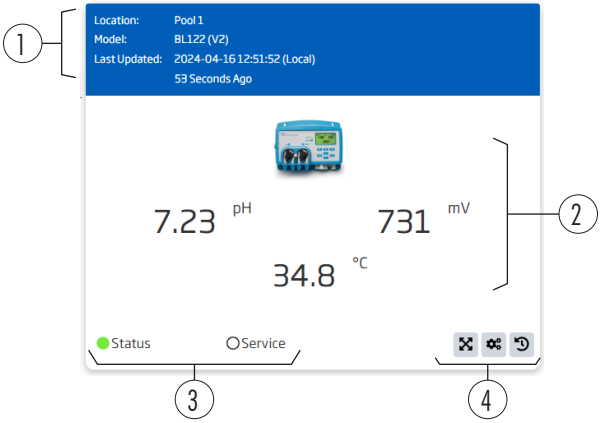



If the device can not be added to your account, one of the following warning messages will be displayed:

- "Device Does Not Exist." The entered device ID does not exist. Check the entered ID.
- "The device has already been added to your account."
- "Device already added to other user account, please contact Hanna support."

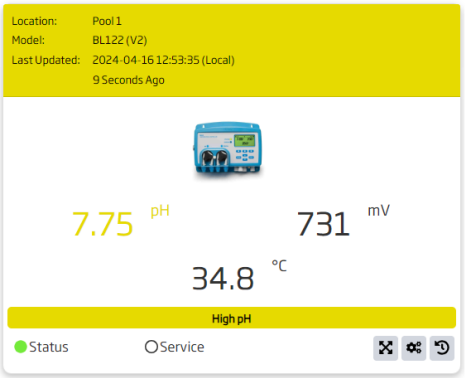
## 3.3. DASHBOARD

The device dashboard is the default view for Hanna Cloud. It provides an overview of all the devices and the last recorded activity. Devices on the dashboard are grouped by family. When a device is added to your account it is automatically added to the dashboard. Devices can be removed from the dashboard from the device list.

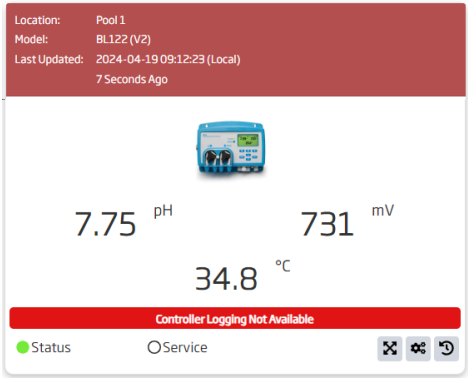



| | | |
|---|---|---|
| 1. | Header | Displays the device location, model and hardware version (v1 or v2), date and time of the last update, and the elapsed time.<br>***Note:*** *Date and time of last update is displayed in local time and may not match the date and time on the meter.* |
| 2. | Measurement | Displays the pH, ORP, and temperature readings.<br>If there is an error or an alarm has been triggered, the message is displayed here. |
| 3. | Status and Service LEDs | The Status LED indicates the controller status:<br>● green light → the device is running as expected<br>● yellow light → the device needs attention<br>● red light → there is something wrong with the device<br>The Service LED indicates when service is required or the controller is in manual mode. |
| 4. | Action buttons | Device details<br>Device settings<br>Log history |

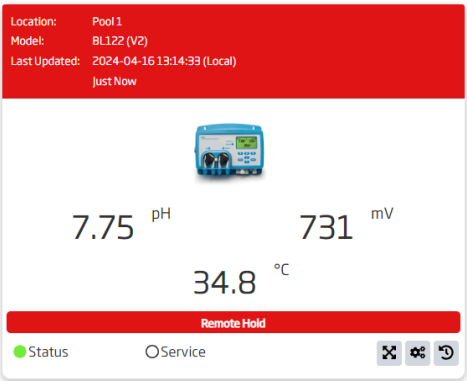
- If an alarm or warning has been triggered, the header changes to yellow, and the message is displayed below the reading. Readings triggering the alarm will be yellow.



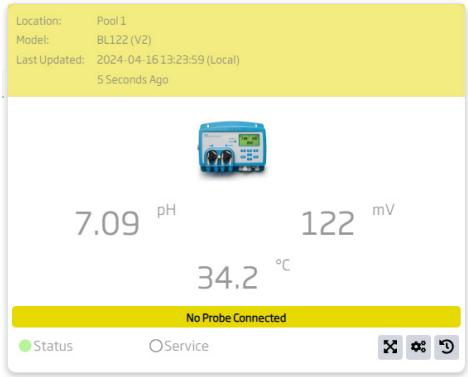

- If an error occurs, the header will blink red, and the error message is displayed below the readings.



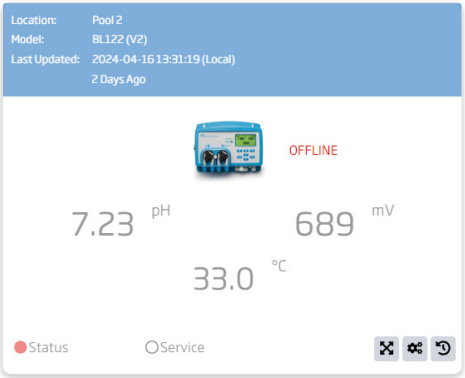

- If the device has been placed in a remote hold, the header changes to red, and the message "Remote Hold" is displayed.



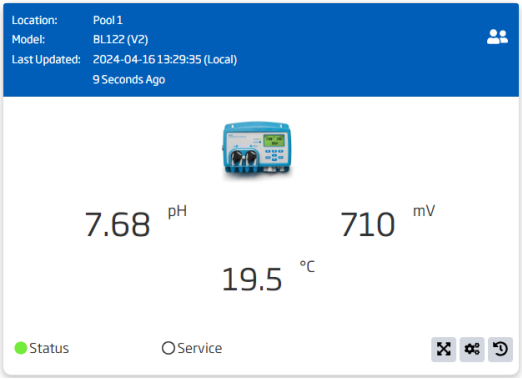
- If no probe is connected, the device card is faded, the header changes to yellow, and the "No Probe Connected" message is displayed.



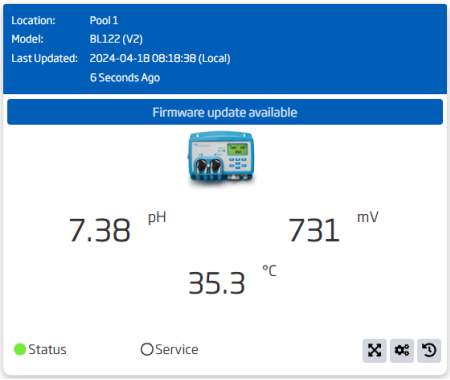

- If the device is offline, the device card is faded, and the "OFFLINE" label is displayed below the header.




- If the device has been assigned to a secondary user, the icon is displayed in the header. Secondary devices are automatically added to the dashboard. These devices can not be removed.



- If a firmware update is available for the device “Firmware update available” message will be displayed below the header. Firmware updates are only available for version 2 (v2) hardware.

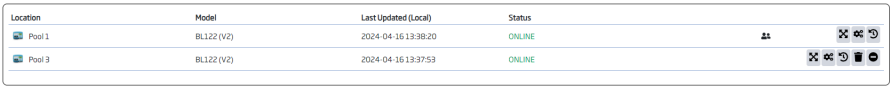



## 3.4. LIST

The device list is an alternative view for Hanna Cloud, and the user can see the location, model and hardware version (v1 or v2), status, and date and time the device was last updated. Devices are grouped by family and all devices associated with the user account are displayed on this page. Individual devices can be hidden on the dashboard.

Devices can be reordered within the family of devices using drag and drop, and this order will be applied to the dashboard as well.

If the device has been assigned to a secondary user, the icon is displayed.




From the list, the following action buttons are available:

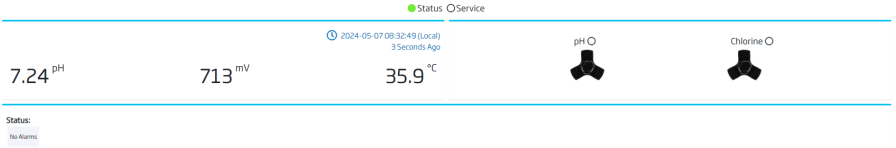
| Icon | Description |
|---|---|
| | Device details |
| | Device settings |
| | Log history |
| | Delete device (not available for secondary users) |
| | Add/Remove from dashboard (not available for secondary users) |

## 3.5. DEVICE DETAILS

From the dashboard or list, click on the ⛶ icon to view more detailed information about the selected device. The device details screen is divided into three sections: Measurement, Calibration, and Trend Graph.

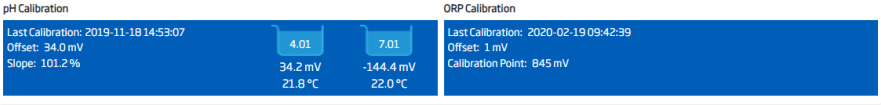
### Measurement

Measurement and device status information is displayed at the top of the page. The following information will be available: the last reading, date and time of the last update, device status, Status and Service LEDs, and pH and chlorine pump status.




### Calibration

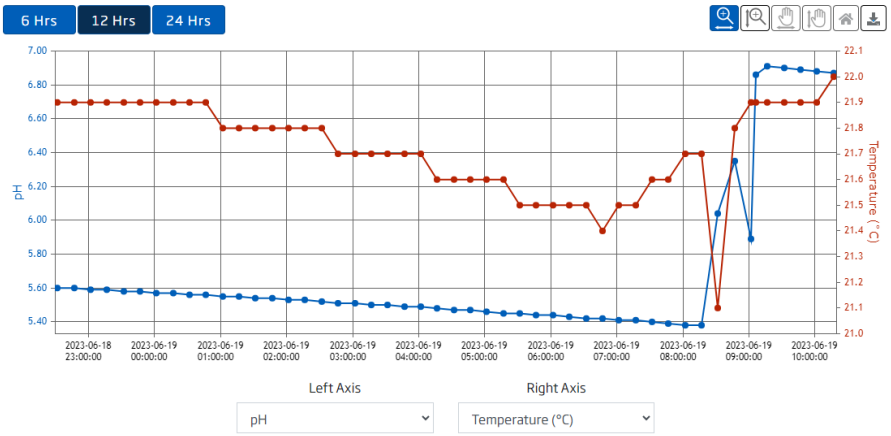
The current pH and ORP calibration are displayed. The following information will be available: date and time of the calibration, offset, slope (pH only), and calibration point(s).




### Trend Graph

The trend graph is displayed for a user-defined period of time: the last 6 hours, the last 12 hours, or the last 24 hours. The left and right axis parameters are user-selectable and include: pH, temperature, ORP, acid/base volume (mL), chlorine volume (mL), or no data.

The graph may be panned (✋) or zoomed (🔍) to allow the user to view more detailed measurements.



| Icon | Name | Description |
|---|---|---|
| | Panning | Moves the graph left, right, up, or down |
| | Zoom | Enlarges the graph details either horizontally or vertically |
| | Home | Returns the graph back to the to the initial view |
| | Download | Allows the user to print or download the graph as a picture |

## 3.6. LOG HISTORY

From the dashboard or list, click on the icon to access the device history. All of the data from the device is saved here, and it includes measurement data, pump volume, status, and GLP. This data can be viewed at any time by clicking the icon.

***Note:** BL122 and BL123 data is stored on Hanna Cloud for three months.*

### Table

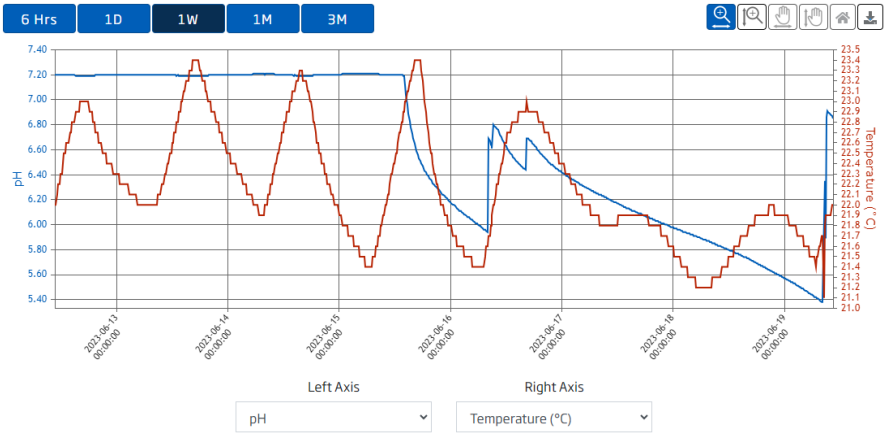
All records are displayed in a table, starting with the most recent one.

- Click < or > at the bottom of the page to scroll through the history.
- Click Filter to apply a time-interval filter.
- Click the icon to download the last 30 days of data as a PDF or CSV file.


### Graph

The trend graph is displayed for a user-defined period of time: the last six hours, the last day, the last week, the last month, or the last three months. The left and right axis parameters are user-selectable and include: pH, temperature, ORP, acid/base volume (mL), chlorine volume (mL), or no data.

The graph may be panned ( ) or zoomed ( ) to allow the user to view more detailed measurements.



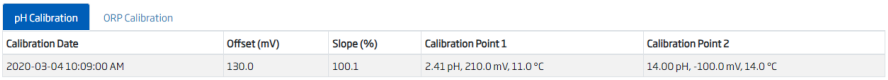
| Icon | Name | Description |
|---|---|---|
| | Panning | Moves the graph left, right, up, or down |
| | Zoom | Enlarges the graph details either horizontally or vertically |
| | Home | Returns the graph back to the initial view |
| | Download | Allows the user to print or download the graph as a picture |

### GLP

All calibration history is saved on Hanna Cloud.

pH and ORP calibration data are displayed in separate tabs. The following information will be available: date and time of the calibration, offset, slope (pH only), and calibration point(s).

Click the icon to download the pH and ORP calibration data as a PDF or CSV file.




## 3.7. DEVICE SETTINGS

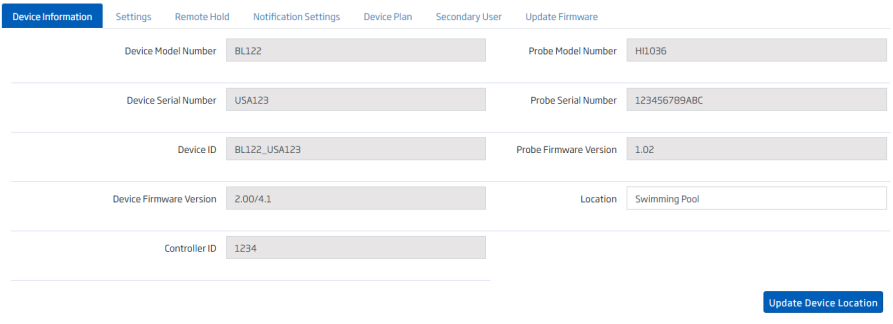
Click the icon to access the following device settings tabs: Device Information, Settings, Remote Hold, Notification Settings, Device Plan, Secondary User, and Update Firmware (v2 only).

### Device Information

The device model number, device serial number, device ID, device firmware version, controller ID, probe model number, probe serial number, probe firmware version, and location are available.

The location can be changed on this page, feature is not available for secondary users.

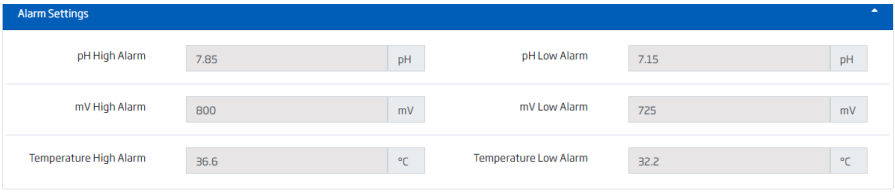
To save changes click Update Device Location.



## Settings

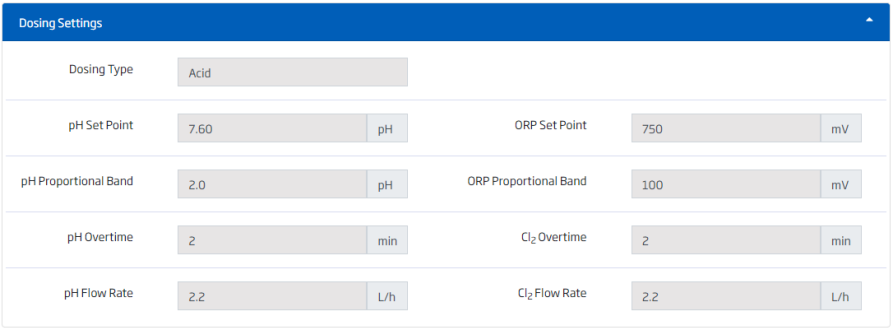
### Alarm Settings

The pH, mV, and temperature alarm values can be viewed here.
For more information regarding these settings, see the instrument's instruction manual.



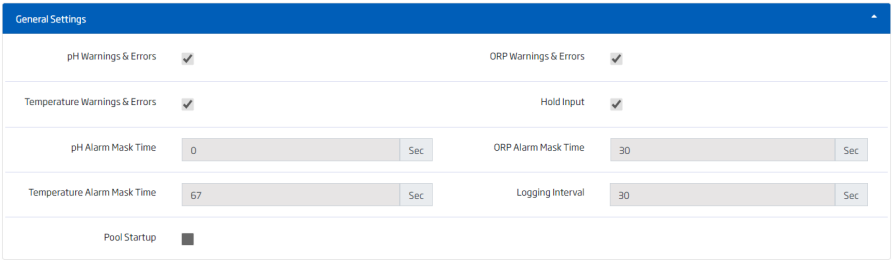

### Dosing Settings

The pH and ORP dosing configuration can be viewed here.
For more information regarding these settings, see the instrument's instruction manual.




### General Settings

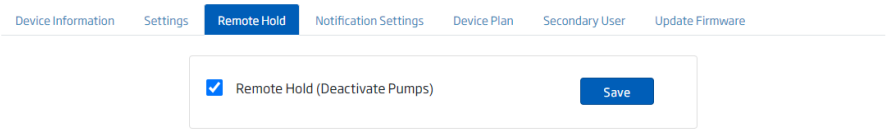
The pH, ORP, and temperature warnings, errors, logging interval, and start up mode that were enabled on the controller can be viewed here.
For more information regarding these settings, see the instrument's instruction manual.



## Remote Hold

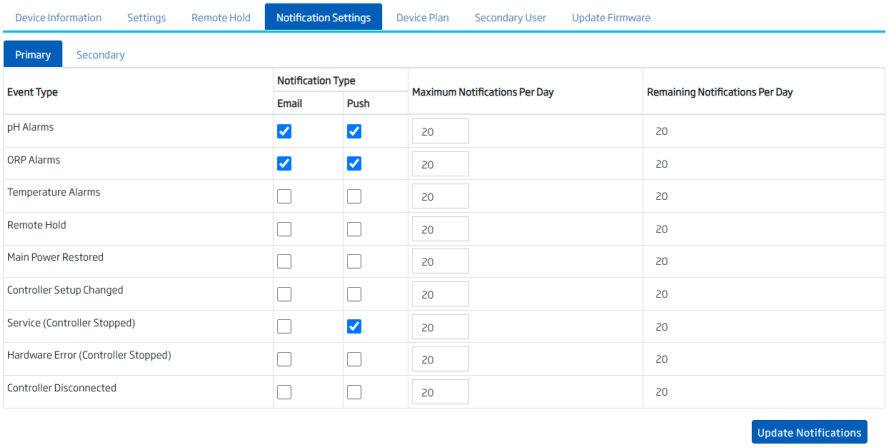
- In the case of an emergency, check the Remote Hold (Deactivate Pumps) checkbox and click Save to set the pumps to hold. A message is displayed reflecting the hold status on the dashboard and the controller's screen.
- Uncheck the Remote Hold box and press Save to remove the hold status.
  Hold status can also be removed directly from the instrument.

For more information regarding this setting, see the instrument's instruction manual.




## Notification Settings

There are nine types of events that can trigger email and/or push notifications.
The user can select the number of messages to send per day and event types. The email and push notifications can be enabled or disabled independently for each event type. Click Update Notifications to save notification settings.




## Event Types

- pH Alarm (high or low pH)
- ORP Alarms (high or low ORP)
- Temperature Alarms (high or low temperature)
- Remote Hold
- Main Power Restored
- Controller Setup Changed (no pH User Calibration, no ORP User Calibration, controller manual mode, communication disabled, pH buffer calibration, pH process calibration, ORP calibration, Setup mode)
- Service (Controller Stopped) pH or $Cl_2$ overtime; hold input; low-level acid/base or $Cl_2$ tank; over/under range pH, ORP, or temperature readings; no probe connected; logging not available; USB not working

- Hardware Error (Controller Stopped) HW-xxxxxxxx
- Controller Disconnected

### Notification Types

- Email notification: When one or more new events are triggered by the device, a detailed notification email will be sent to the primary and/or to the secondary user's account.
- Push notification: When one or more new events are triggered by the device, a pop-up message appears on the primary and/or secondary user's web browser.

  ***Note:*** *Push notifications must be enabled on user's web browser.*

### Maximum Notifications Per Day

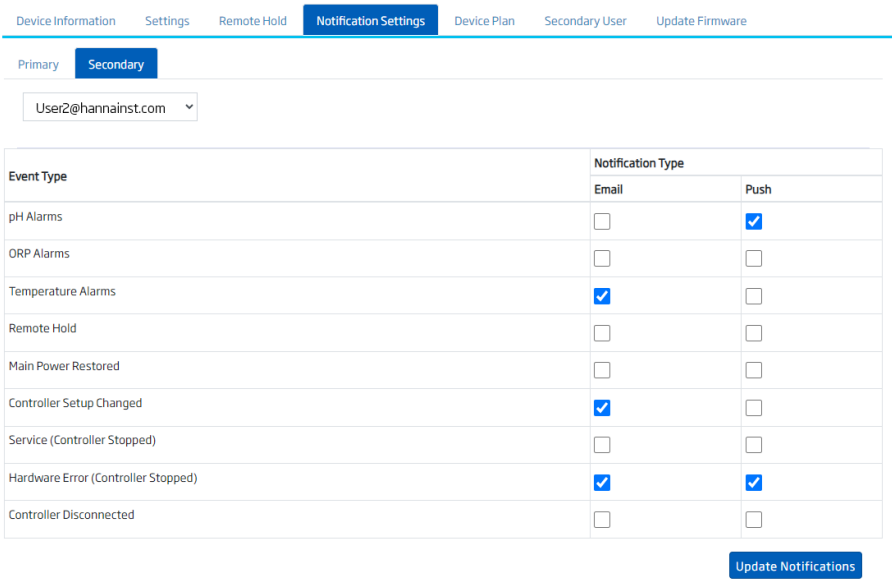
For each event type, the primary user can define the maximum number of notifications (email and push) per day sent by Hanna Cloud. The notification counter resets daily, from midnight to midnight, according to the time on the device. The number of remaining notifications is displayed.

### Remaining Notifications Per Day

If the maximum number of notifications per day is changed, the number of remaining notifications is reset. If the device time is adjusted by more than one hour, the new device-time reference is updated in the database, and the counter is reset.

### Secondary

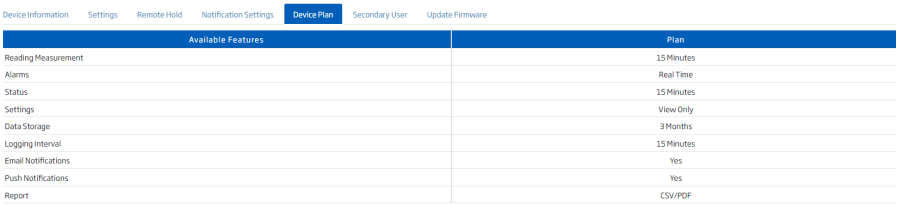
If a secondary user has been assigned to the selected device, the notification settings can be configured. Select the email address for the secondary user (top of the screen), enable email and/or text notifications for the desired event type, and click Update Notifications.



## Device Plan

The device plan allows the user to view the available features and plan specifications available for Hanna Cloud.

***Note:*** *Data can be saved on Hanna Cloud for three months.*

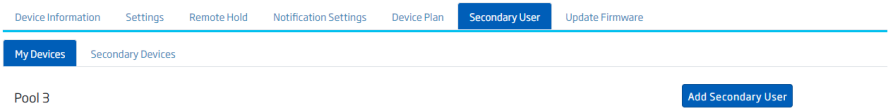



| Available Features | Plan |
|---|---|
| Reading Measurement | 15 Minutes |
| Alarms | Real Time |
| Status | 15 Minutes |
| Settings | View Only |
| Data Storage | 3 Months |
| Logging Interval | 15 Minutes |
| Email Notifications | Yes |
| Push Notifications | Yes |
| Report | CSV/PDF |

## Secondary User

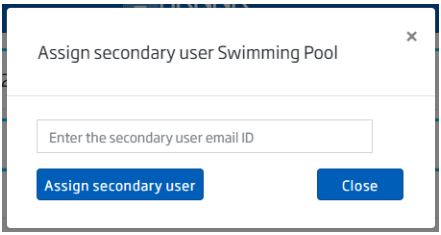
From the Secondary User tab, the primary user can request an individual to become a secondary user for a device associated with their account.

The secondary user must be registered on Hanna Cloud before a device can be assigned.



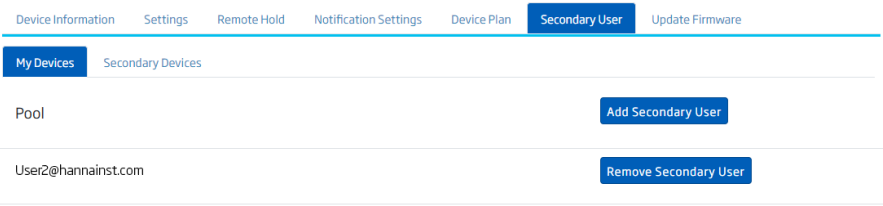

### Add Secondary User

- Click on My Devices tab.
- Select the device to be assigned and click Add Secondary User.
- Enter the secondary user's email and click Assign secondary user.
  A notification email will be sent to the entered email address, and a "Secondary user request pending" message will be displayed until the device is confirmed.



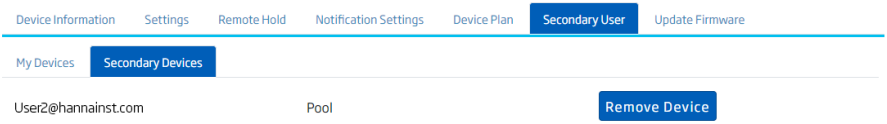
### Remove Secondary User

- Click on My Devices tab.
- Select the device and click the Remove Secondary User next to the email address you wish to remove. A notification email will be sent to the secondary user email account, and a "Device unassigned successfully" message will be displayed.




### Secondary Devices

All devices that you have been assigned to as a secondary user are displayed in the Secondary Devices tab with the owner's email address. To remove yourself as a secondary user, click Remove Device. The owner will receive a notification email.

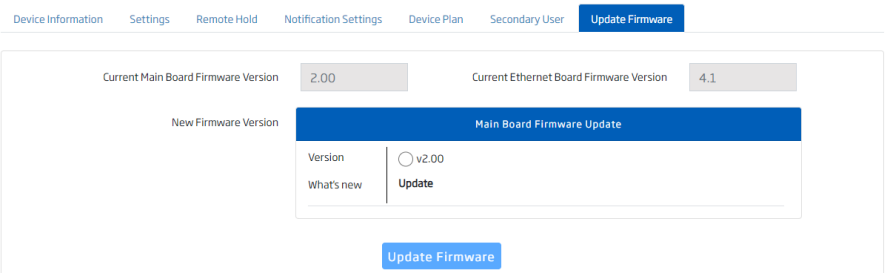



## Update Firmware

The firmware for BL122 and BL123 with v2 hardware can be updated remotely. The update firmware page displays the current main board and Ethernet board firmware.

- Select the firmware to update and press Update Firmware.
- The update request will be confirmed and update will be installed.
- The firmware update may take 8 to 10 minutes to complete and the device will restart automatically when it is complete.
- If the firmware is up to date the message "Firmware up to date." will be displayed in the box.

***Note:*** *The main board and Ethernet board firmware are updated separately. Secondary users can not update the firmware remotely.*



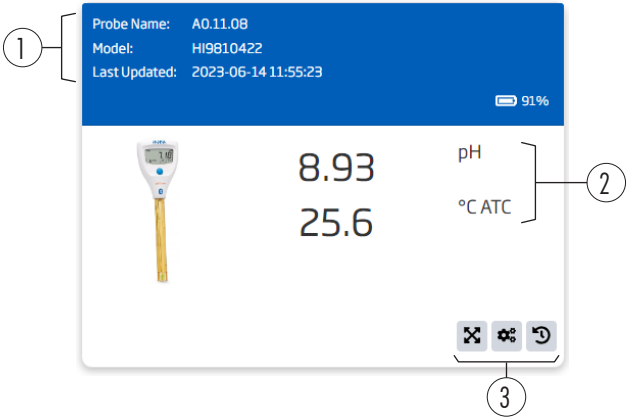
# 4. HALO pH PROBE & HALO2 pH TESTER

## 4.1. ADD DEVICE

Halo and Halo2 probes and testers are automatically connected to the cloud when the user logs into the same account on the Hanna Lab App for iOS and Android, and the probe (tester) is connected to the device.

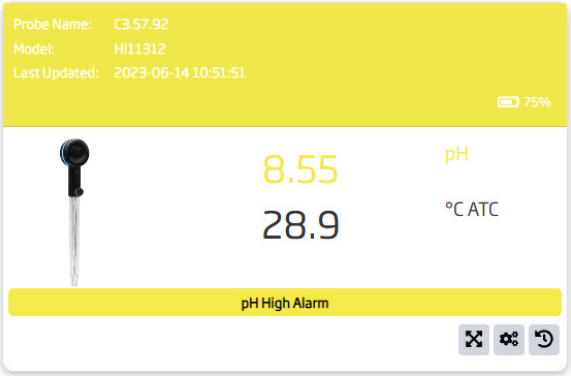
## 4.2. DASHBOARD

The device dashboard is the default view for Hanna Cloud. It provides an overview of all the devices, and the last tagged (annotated) reading is displayed. Devices on the dashboard are grouped by family.
When a device is added to your account, it is automatically added to the dashboard.

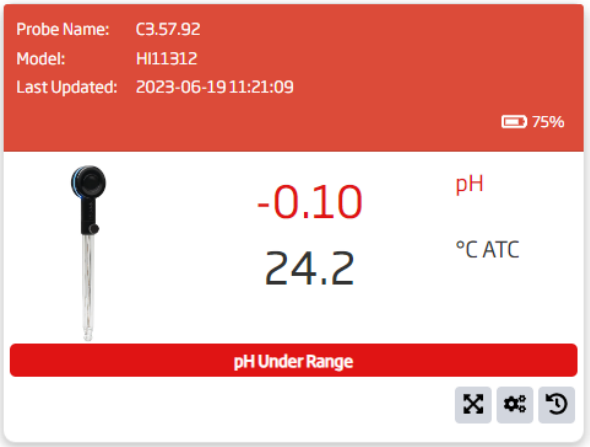



| | |
|---|---|
| 1. Header | Displays the probe name, probe type, the date and time the probe was last updated, and the battery level. |
| 2. Measurement | Displays the pH (or mV) and temperature readings.<br>If there is an error or an alarm has been triggered, the message is displayed here. |
| 3. Action buttons | Device details<br>Device settings<br>Log history |

- If an alarm has been triggered, the header and reading will blink yellow for five seconds, and the message is displayed below the reading.

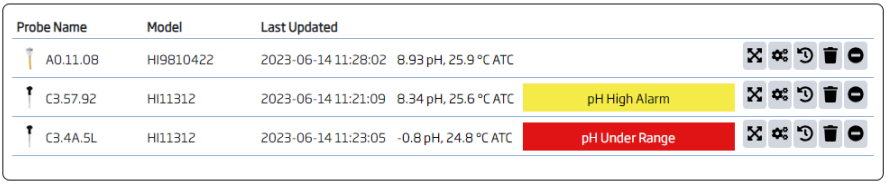



- If a reading is out of range, the header and reading will blink red for five seconds, and the message is displayed below the reading.



## 4.3. LIST

The device list is an alternative view for Hanna Cloud. The user can see the probe name, model, date, and time the probe was last updated, the last reading sent, and any alarms or out-of-range messages. Devices are grouped by family, and all devices associated with the user account are displayed on this page. Individual devices can be hidden on the dashboard.
Devices can be reordered within the family of devices using drag and drop, and this order will be applied to the dashboard as well.




From the list, the following action buttons are available:

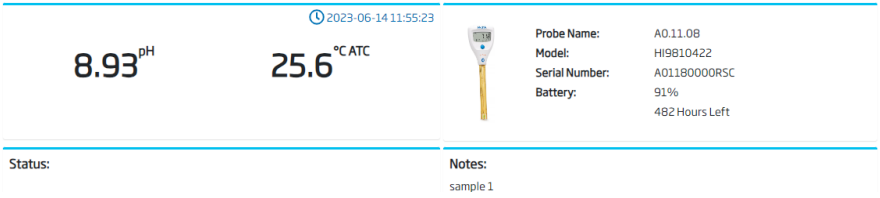
| Icon | Description |
|---|---|
| | Device details |
| | Device settings |
| | Log history |
| | Delete device |
| | Add/Remove from dashboard |

## 4.4. DEVICE DETAILS

From the dashboard or list, click on the icon to view all of the tagged/annotated data for the selected probe. The tagged data is saved in its own database.
On the device details page, the data can be viewed in a table or on a graph.
The device details screen is divided into three sections: Measurement, Calibration, and Table/Graph.

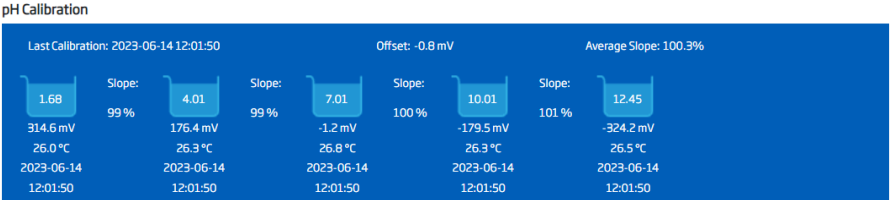
### Measurement

The following measurement and probe status information is displayed at the top of the page: the last reading, date and time of the last update, probe name, model, serial number, battery, status, and any notes added when the reading was sent.




### Calibration

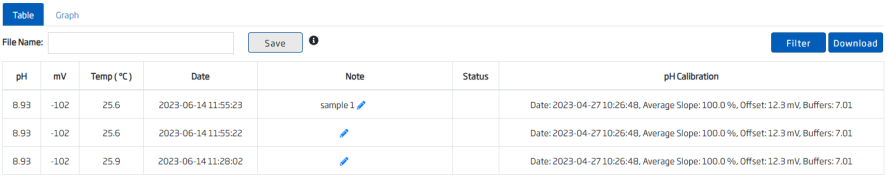
The pH calibration for the current measurement is displayed.
The following information will be available: date and time of the calibration, offset, average slope, and calibration data for individual buffers.




### Table

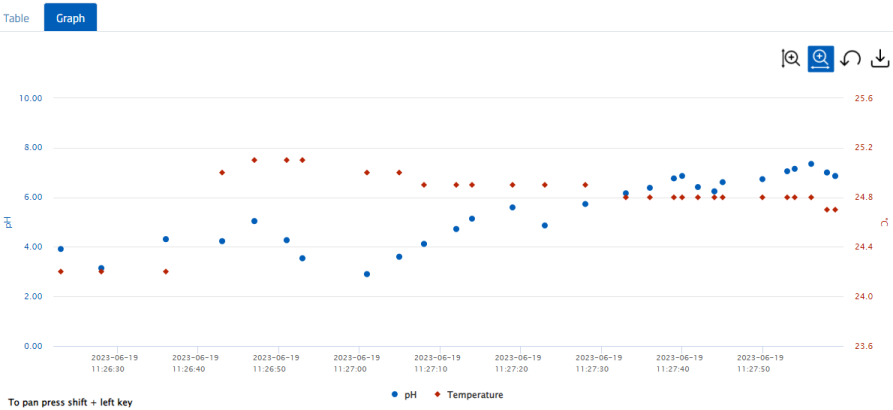
The table displays the pH, mV, temperature, note, status, and calibration data for each point.

- Enter a file name and click Save, to save the data in its own log file.
- Click Filter to apply a time-interval filter.
- Click Download to save a PDF or CSV file.



## Graph

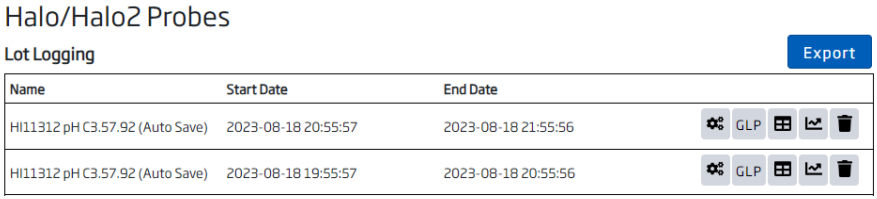
The graph displays all tagged data.
The pH and temperature axes can be toggled on or off by pressing the label at the bottom of the graph.
The graph may be panned ( ) or zoomed ( ) to allow the user to view more detailed measurements.




| Icon | Name | Description |
|---|---|---|
| | Zoom | Enlarges the graph details either horizontally or vertically |
| | Exit | Returns the graph back to the initial view |
| | Download | Allows the user to print or download the graph as a picture |

## 4.5. LOG HISTORY

From the dashboard or list, click on the icon to access the device history. All of the log files for the device are saved here. These files are either uploaded automatically from Hanna Lab when they are auto-saved or manually synced from the log history. This data can be viewed at any time by clicking on Log History. For each file, the file name, start and end dates are displayed. For each file, the details can be viewed.
From this screen, files can be exported as a CSV or PDF file by clicking Export. Individual files or multiple, consecutive files can be exported. If multiple files are selected, they are merged into one file with a maximum of 20000 data points. The time interval on the exported file can be reduced from 1 second to 2 seconds, 5 seconds, 10 seconds, 30 seconds, 1 minute, 5 minutes, 10 minutes, or 15 minutes.



From the log history, the following options are available:

| Icon | Description |
|---|---|
| | File settings |
| GLP | GLP |
| | Table |
| | Graph |
| | Delete |

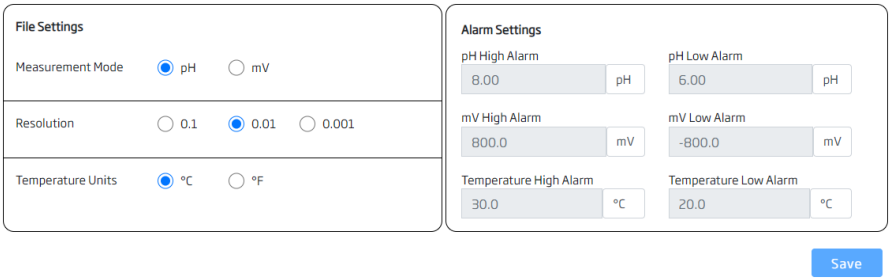
## File and Alarm Settings

### File Settings

The pH resolution, mV resolution, and temperature unit can be selected for the log file. These settings affect the cloud only. The measurement mode, resolution, and temperature unit can be changed on Hanna Lab independently. To update the changes, click Save.

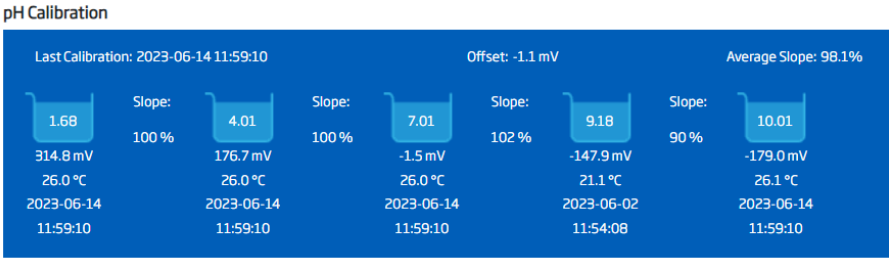
### Alarm Settings

The pH, mV, and temperature alarm values can be viewed here.




## GLP

The pH calibration for the log file is displayed. The following information will be available: calibration date and time, offset, average slope, and calibration data for individual buffers.



## Table

All records are displayed in a table, starting with the most recent one.

- Click < or > at the bottom of the page to scroll through readings.
- Click Filter to apply a time-interval filter.
- Click the icon to download the data as a PDF or CSV file.

Start Date: 2023-06-14 13:01:52
End Date: 2023-06-14 13:22:35

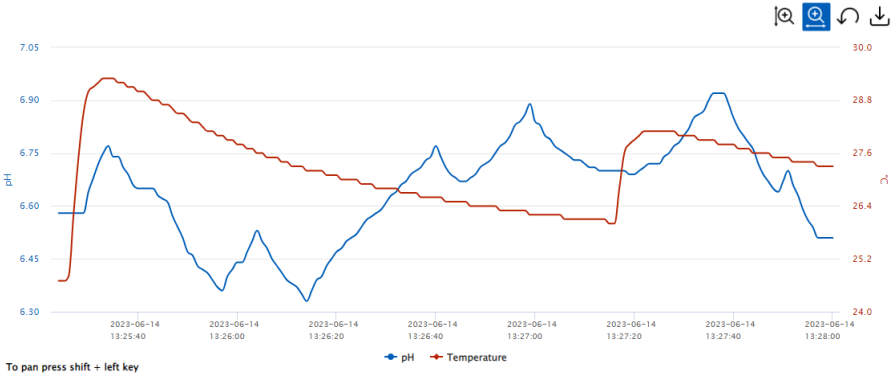
Filter

Notes: ----

| pH | mV | Temp (°C) | Date | Note | Status |
|---|---|---|---|---|---|
| 6.58 | 23.8 | 24.6 | 2023-06-14 13:01:52 | | |
| 6.58 | 23.8 | 24.6 | 2023-06-14 13:01:53 | | |

## Graph

The graph is displayed for all data. The details for each data point can be viewed by hovering over the graph line. The pH and temperature axes can be toggled on or off by pressing the label at the bottom of the graph. The graph may be panned ( ) or zoomed ( ) to allow the user to view more detailed measurements.




| Icon | Name | Description |
|---|---|---|
| | Zoom | Enlarges the graph details either horizontally or vertically |
| | Exit | Returns the graph back to the to the initial view |
| | Download | Allows the user to print or download the graph as a picture |

## 4.6. DEVICE SETTINGS

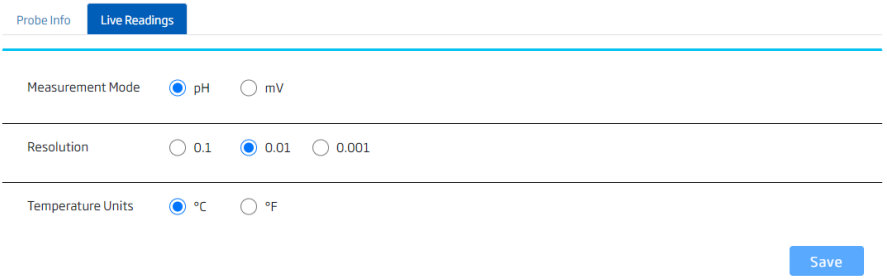
Click the icon to access the Probe Information and the Live Readings tabs.

### Probe Information

The probe name, serial number, factory calibration, model, and firmware are available.


### Live Readings

The measurement mode, resolution, and temperature unit can be selected for the tagged readings. These settings affect the cloud only. The measurement mode, resolution, and temperature unit can be changed on Hanna Lab independently. To update the changes for the live readings, click Save.



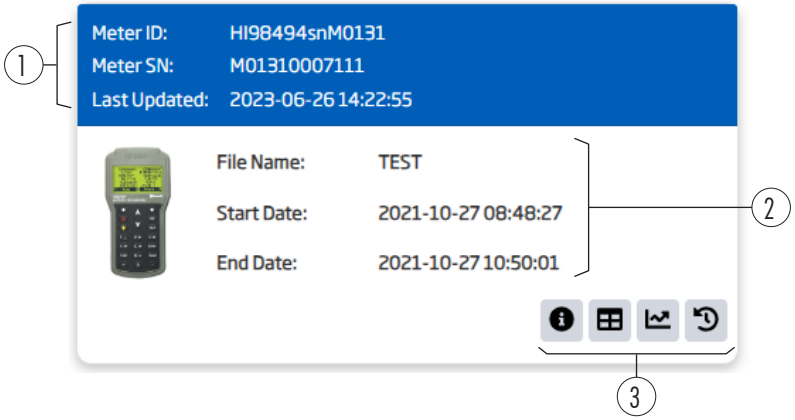
# 5. HI98494 PORTABLE pH, EC, DO METER

## 5.1. ADD DEVICE

The HI98494 meter is automatically connected to the cloud when the user logs into the same account on the Hanna Lab App for iOS and Android and the meter is connected to the device.

## 5.2. DASHBOARD

The device dashboard is the default view for Hanna Cloud, and it provides an overview of all the devices and the last log file uploaded.
Devices on the dashboard are grouped by family. When a device is added to a user's account, it is automatically added to the dashboard.




| | | |
|---|---|---|
| 1. Header | Displays the meter ID, meter serial number, and the date and time the device was last synced. | |
| 2. Log file | Displays the file name, start and end date for the last synced file. | |
| 3. Action buttons | | Log information for last synced log file |
| | | Table for the last synced log file |
| | | Graph for the last synced log file |
| | | Log history |

## 5.3. LIST

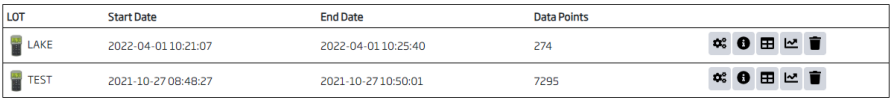
The device list is an alternative view for Hanna Cloud, and the user can see the meter ID and model. Devices are grouped by family, and all devices associated with the user account are displayed on this page. Individual devices can be hidden on the dashboard. Devices can be reordered within the family of devices using drag and drop, and this order will be applied to the dashboard as well.


From the list, the following action buttons are available:

| Icon | Description |
|---|---|
| | Log history |
| | Delete device |
| | Add/Remove from dashboard |

## 5.4. LOG HISTORY

From the dashboard or list, click on the icon to access the device history. All of the data from the device is saved here. These files are either uploaded automatically from Hanna Lab when they are downloaded or manually synced from the log history. For each file, the lot name, start and end date, and the number of data points are displayed. For each file, the details can be viewed.




From the log history, the following options are available:

| Icon | Description |
|---|---|
| | Parameter and graph settings |
| | Information |
| | Table |
| | Graph |
| | Delete file |

## 5.5. LOG DETAILS

For each log file, the log details can be viewed.
The log details contains the following pages: Information, Table, Graph, and GLP.

### Information

The information is divided into sections. For log-on-demand files, the DO and EC information will not be available.
This information can be viewed in the table.

| | |
|---|---|
| LOD/LOT: | TEST |
| Number of Records: | 7295 |
| Start Date: | 2021-10-27 08:48:27 |
| End Date: | 2021-10-27 10:50:01 |

| | |
|---|---|
| Probe ID: | ---- |
| Probe: | HI7698494 |
| Probe Serial Number: | 6C4F900DABCB |
| Probe Firmware: | v1.01 |

| | |
|---|---|
| Meter ID: | 1abcdefghi |
| Meter Serial Number: | M01310007111 |
| Meter Firmware: | v1.01 |

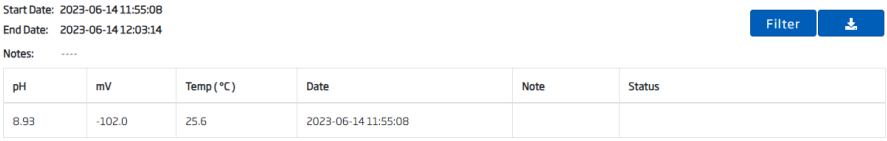
| | |
|---|---|
| DO Cap Model: | HI764113-1 |
| Start Date: | 2020-09-01 |
| Cap Serial Number: | 876E788F500104E0 |

| | |
|---|---|
| EC Ref. Temp.: | 25 °C |
| EC Temp. Coeff.: | 1.9%/ °C |
| TDS Factor: | 0.5 |

### Table

All the records are displayed in a table, starting with the most recent one.

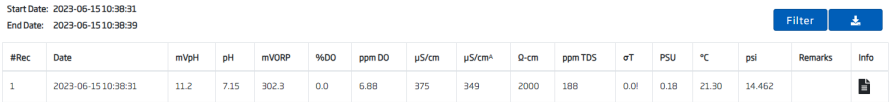
- Click < or > to scroll through the log file.
- Click Filter to apply a time-interval filter.
- Click the icon to download data as a PDF (interval logs only) or CSV file .


Start Date: 2023-06-14 11:55:08
End Date: 2023-06-14 12:03:14
Notes: ----

Filter

| pH | mV | Temp (°C) | Date | Note | Status |
|---|---|---|---|---|---|
| 8.93 | -102.0 | 25.6 | 2023-06-14 11:55:08 | | |

- Click the icon to view measurement-specific information (calibration data, EC settings, OPDO sensor information) for individual data points in log-on-demand files.


Start Date: 2023-06-15 10:38:31
End Date: 2023-06-15 10:38:39

Filter

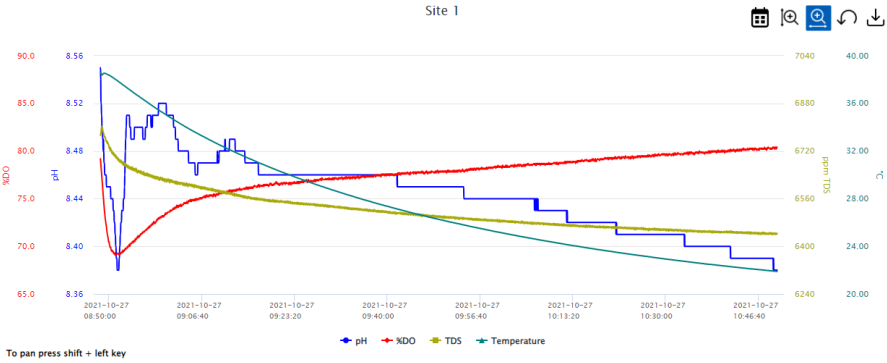
| #Rec | Date | mVpH | pH | mVORP | %DO | ppm DO | µS/cm | µS/cm[A] | Ω-cm | ppm TDS | σT | PSU | °C | psi | Remarks | Info |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2023-06-15 10:38:31 | 11.2 | 7.15 | 302.3 | 0.0 | 6.88 | 375 | 349 | 2000 | 188 | 0.0 | 0.18 | 21.30 | 14.462 | | |

## Graphs

The user-selected graphs are displayed for the selected parameters.

The axes can be toggled on or off by pressing the label at the bottom of the graph.

The graph may be panned ( ) or zoomed ( ) to allow the user to view more detailed measurements.




| Icon | Description |
|---|---|
| | Applies a time-interval filter |
| | Enlarges the graph details either horizontally or vertically |
| | Returns the graph back to the to the initial view |
| | Allows the user to print or download the graph as a picture |

## GLP (Interval Logs Only)

The GLP information for each parameter can be accessed in the log history by clicking the GLP icon. The current calibration and the previous four calibrations are available.

Each parameter is listed on its own tab. If the parameter is not displayed, it is not a calibrated parameter, or it is not available in the log file.

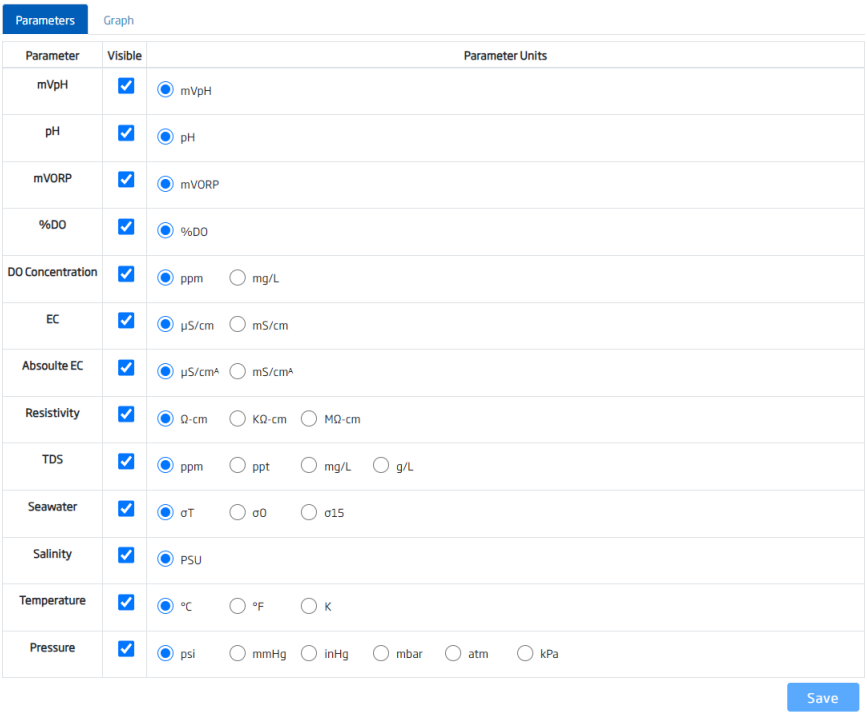
## 5.6. PARAMETER AND GRAPH SETTINGS

Click the ⚙ icon to access the Parameters and Graph tabs.

### Parameters

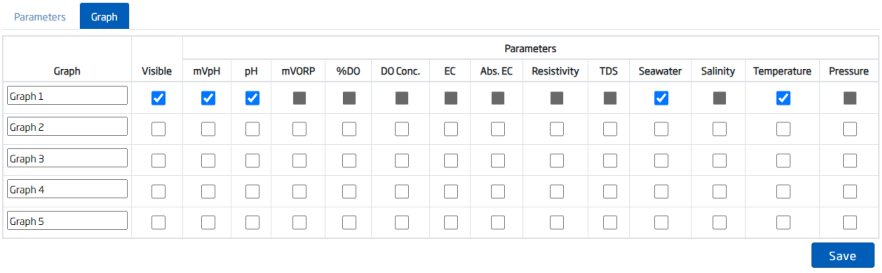
All of the parameters will be displayed on this page. If the parameter is not available for the selected file, it is grayed out. Parameters displayed in the table can be customized, and the measurement unit can be selected.

***Note:*** *Selected measurement units will be used in the table and graph.*




### Graph

Up to five graphs can be viewed. Each graph can contain up to four parameters. The title and parameters for each graph can be customized.



# 6. HI97115 MARINE PHOTOMETER

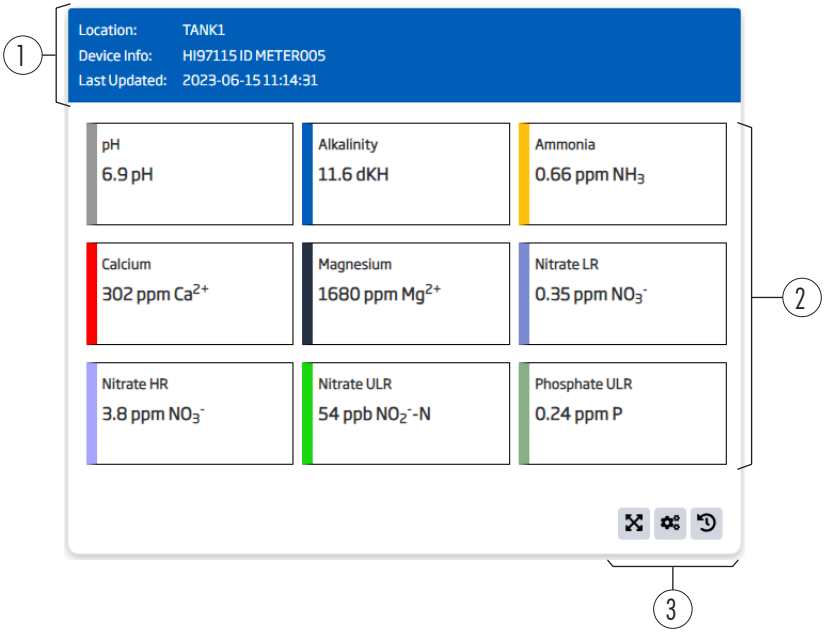
## 6.1. ADD DEVICE

The HI97115 meter is automatically connected to the cloud when the user logs into the same account on the Hanna Lab App for iOS and Android, and the meter is connected to the device.

## 6.2. DASHBOARD

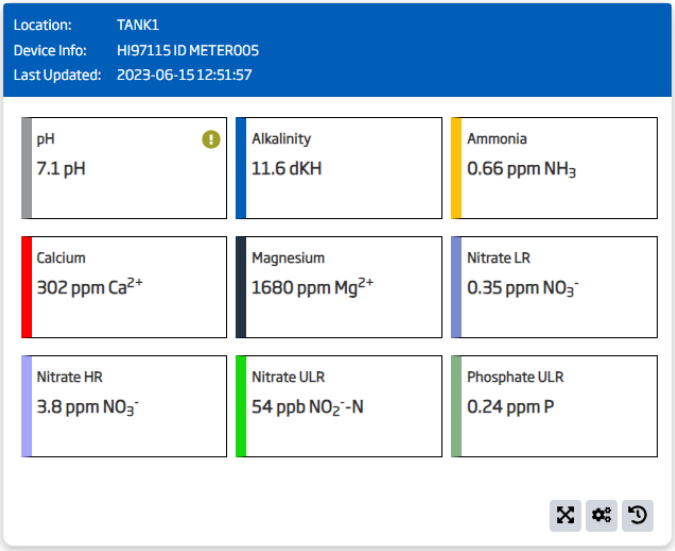
The device dashboard is the default view for Hanna Cloud, and it provides an overview of all the devices and the last recorded activity.

Devices on the dashboard are grouped by family. When a device is added to a user's account, it is automatically added to the dashboard.

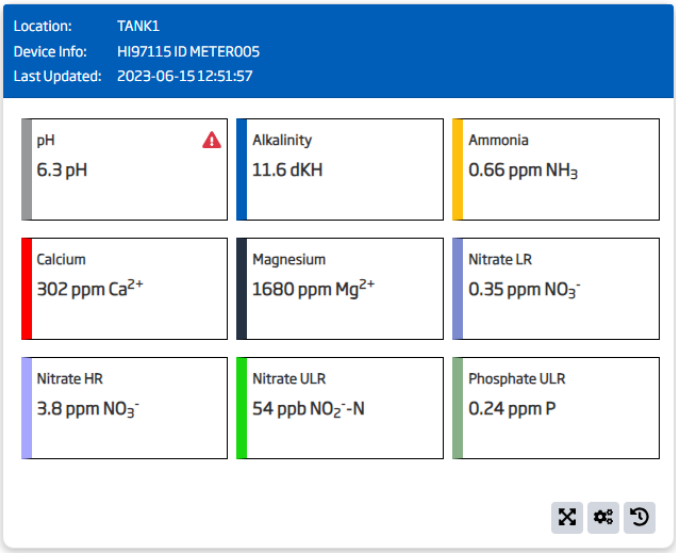



| | | |
|---|---|---|
| 1. | Header | Displays the location name, device information, and the date and time the device was last synced. |
| 2. | Measurements | Displays the last set of readings. |
| 3. | Action buttons | Tank details |
| | | Graph and parameter settings |
| | | Log history |

- If a reading is outside the target range, the ⓘ is displayed next to the parameter's name.

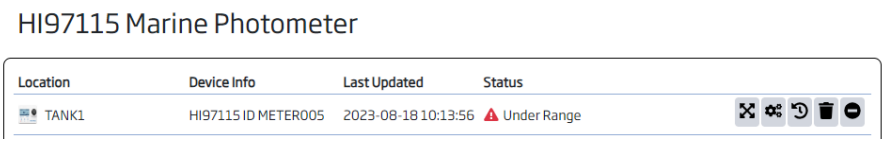



- If a reading is out of range, the ⚠ is displayed next to the parameter 's name.



## 6.3. LIST

The device list is an alternative view for Hanna Cloud, and the user can see the location name, device information, date and time of the last reading, and the status (out of range or out of target range) for the last reading.
Devices are grouped by family, and all devices associated with the user account are displayed on this page.
Individual devices can be hidden on the dashboard.
Locations can be reordered within the family of devices using drag and drop, and this order will be applied to the dashboard as well.




From the list, the following action buttons are available:

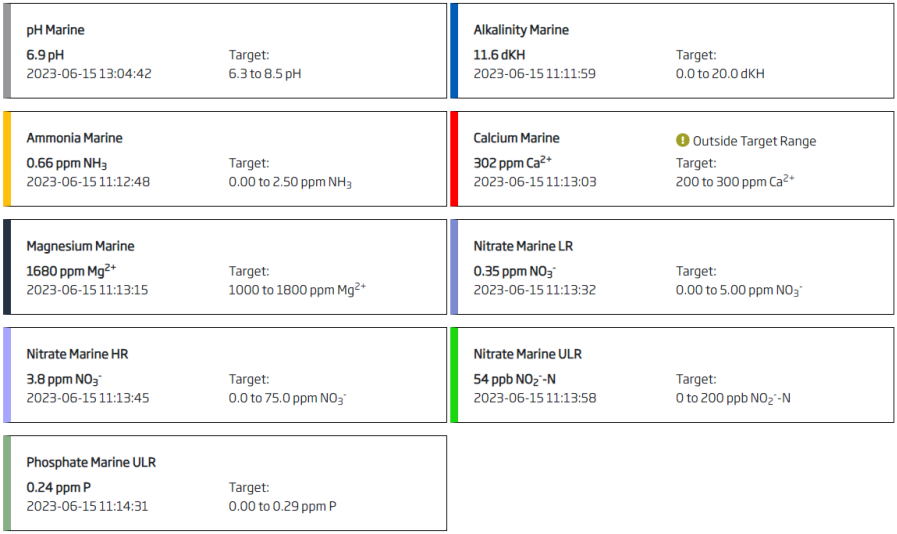
| Icon | Description |
|---|---|
| | Tank details |
| | Graph and parameter settings |
| | Log history |
| | Delete device |
| | Add/Remove from dashboard |

## 6.4. TANK DETAILS

From the dashboard or list, click the icon to view the last set of readings and the trend graphs for the selected location. The tank details screen is divided into three sections: **Measurement**, **Note**, and **Trend Graphs**.

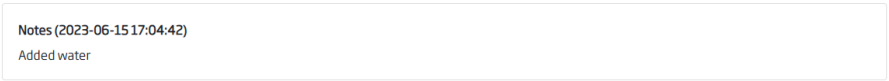
### Measurement

Information related to the measurements is displayed at the top of the page.
For each parameter, the name, last record reading, target range, and status are displayed.




### Note

When the readings are saved in Hanna Lab, any note added to the log file will be displayed here.

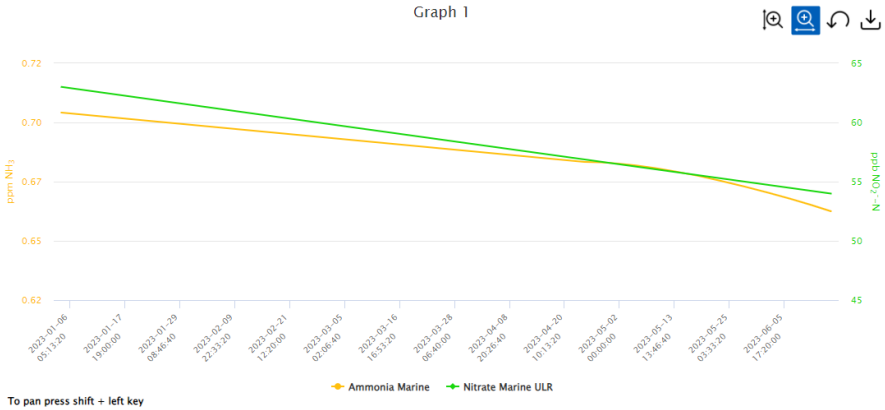


## Trend Graphs

The user-selected graphs are displayed for the selected parameters.

The axes can be toggled on or off by pressing the label at the bottom of the graph.

The graph may be panned ( ) or zoomed ( ) to allow the user to view more detailed measurements.



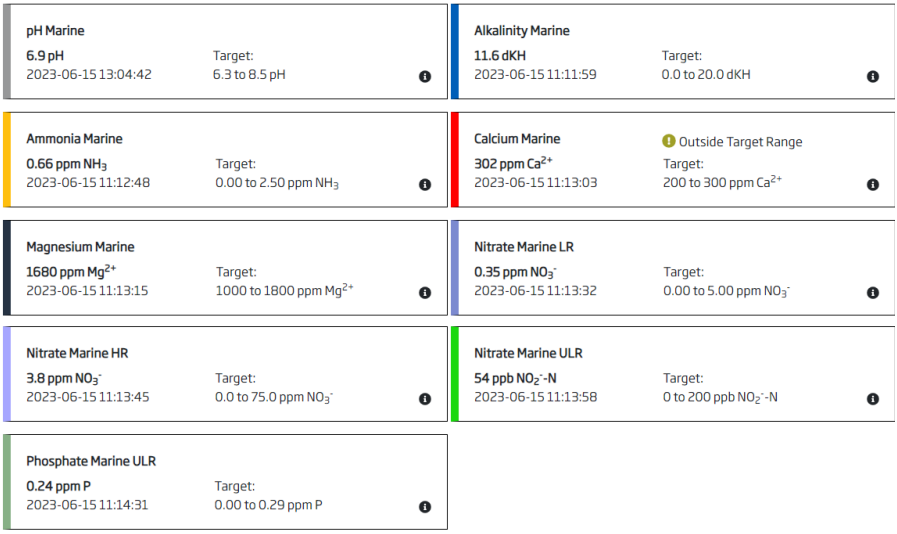

| Icon | Description |
|---|---|
| | Enlarges the graph details either horizontally or vertically |
| | Returns the graph back to the to the initial view |
| | Allows the user to print or download the graph as a picture |

## 6.5. LOG HISTORY

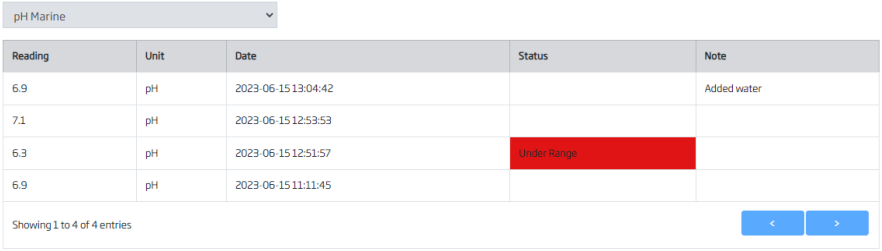
From the dashboard or list, click the icon to view all the measurements for the selected location.

### Measurement

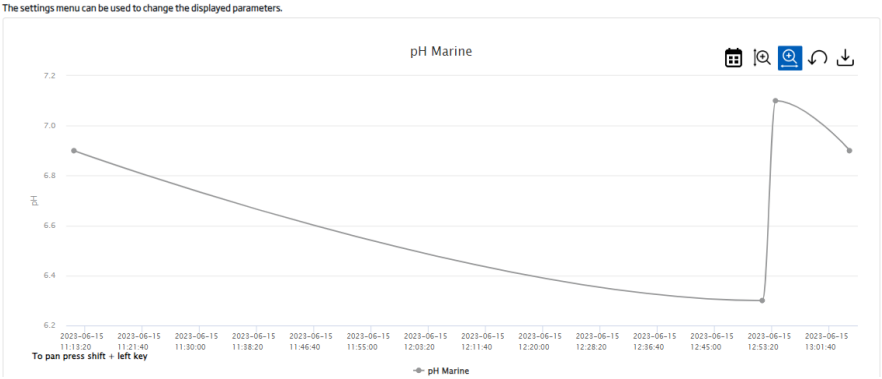
Information related to the measurements is displayed at the top of the page. For each parameter, the name, last record reading, date and time of the last reading, target range, and status are displayed.




- Click the icon to view the data for the individual parameter. The data is available as a table and graph.
- The drop-down at the top of the page can be used to change the parameter.

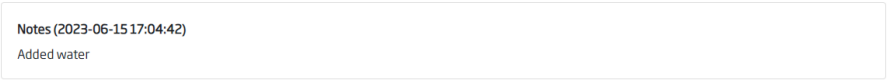


- Click the icon to return to the previous page and view all of the parameters.




## Note

When the last reading is saved in Hanna Lab, any note added to the log file will be displayed here.

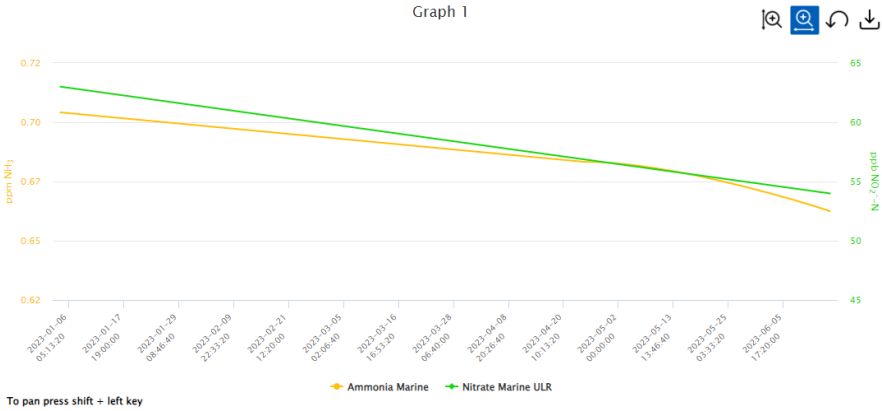



## Graphs

The user-selected graphs are displayed for the selected parameters.

The axes can be toggled on or off by pressing the label at the bottom of the graph.

The graph may be panned ( ) or zoomed ( ) to allow the user to view more detailed measurements.




| Icon | Description |
|---|---|
| | Enlarges the graph details either horizontally or vertically |
| | Returns the graph back to the initial view |
| | Allows the user to print or download the graph as a picture |

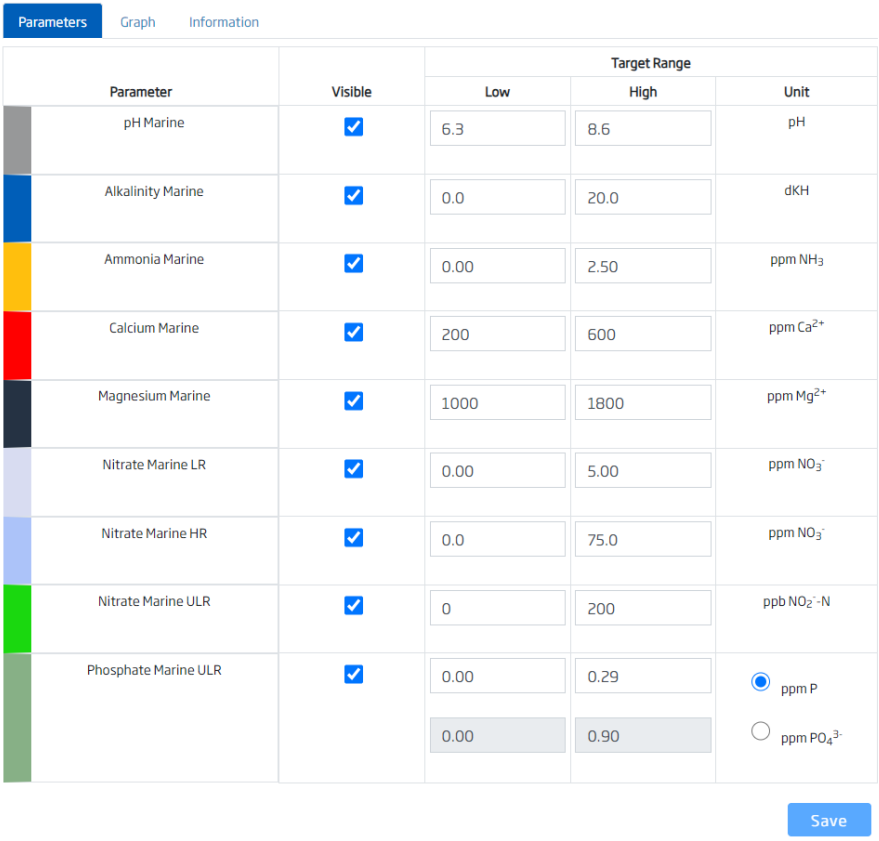
## 6.6. PARAMETER AND GRAPH SETTINGS

Click the icon to access the Parameters, Graph, and Information tabs.

### Parameters

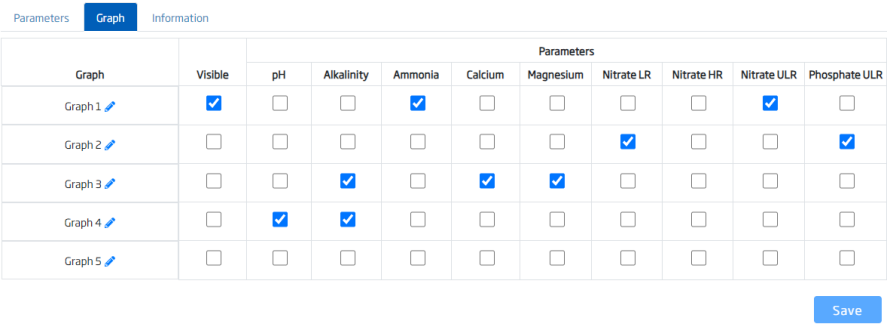
All of the parameters will be displayed on this page.

Individual parameters can be hidden on the dashboard and tank details page and target range set. The target range must be set within the working range of the parameter. To disable the target range, enter the minimum and maximum value for the parameter. If available, the measurement unit can be selected.



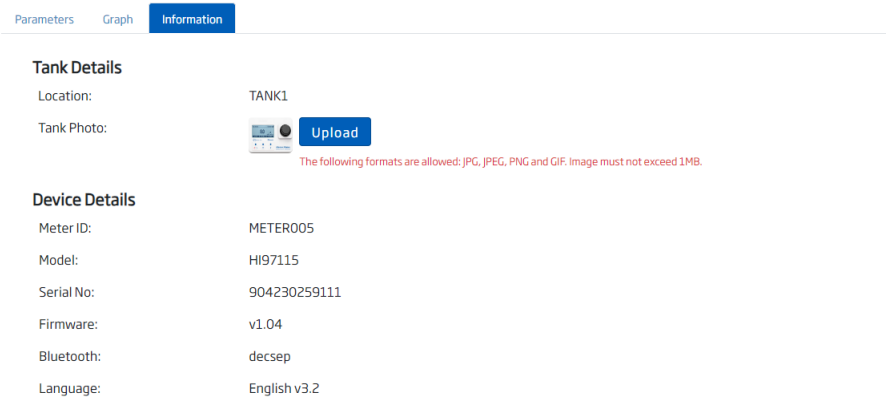
## Graph

Up to five graphs can be viewed on the tank details and log history page. Each graph can contain up to four parameters. The title and parameters for each graph can be customized.




## Information

Information regarding the location and device is available. A tank photo can be uploaded for easier identification.



## CERTIFICATION

All Hanna® instruments conform to the **CE European Directives** and **UK Standards**.


**Disposal of Electrical & Electronic Equipment**. Electrical and electronic devices should not be treated as household waste. Instead hand device over to the appropriate collection point for the recycling of electrical and electronic equipment which will conserve natural resources.

Ensuring proper product and battery disposal prevents potential negative consequences for the environment and human health. For more information, contact your city, your local household waste disposal service, or the place of purchase.

## RECOMMENDATIONS FOR USERS

Before using any of the devices, make sure it is entirely suitable for your specific application and for the environment in which it is used. Any variation introduced by the user to the supplied equipment may degrade the product's performance. Do not use or store devices in hazardous environments.