

HANNA CLOUD

BL12X • BL13X • Halo • Halo2 • HI98494 • HI98594 • HI97115

Dear Customer,

Thank you for choosing Hanna Instruments® services.

Please read this instruction manual carefully before 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 [BL12X](#) and [BL13X](#) Swimming Pool Controllers, [Halo](#) and [Halo2](#) pH Testers, [HI98494](#) and [HI98594](#) Multiparameter Portable Meters, 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:

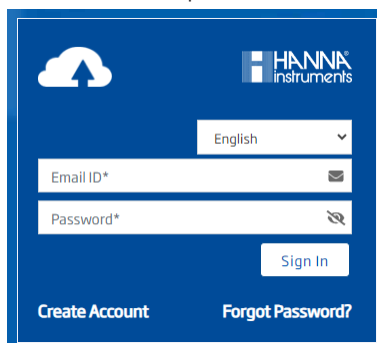
- [BL12X](#) and [BL13X](#) Swimming Pool Controllers
 - ▶ Live measurement data with alarms
 - ▶ Historical trend data
 - ▶ Remote setting update ([BL132](#) only)
- [Halo](#) and [Halo2](#) pH Testers
 - ▶ Tagged data is uploaded automatically and readings can be saved independently
 - ▶ Data concatenation with reduced logging interval
- [HI98494](#) and [HI98594](#) Multiparameter Portable Meters
 - ▶ 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.



English

Email ID*

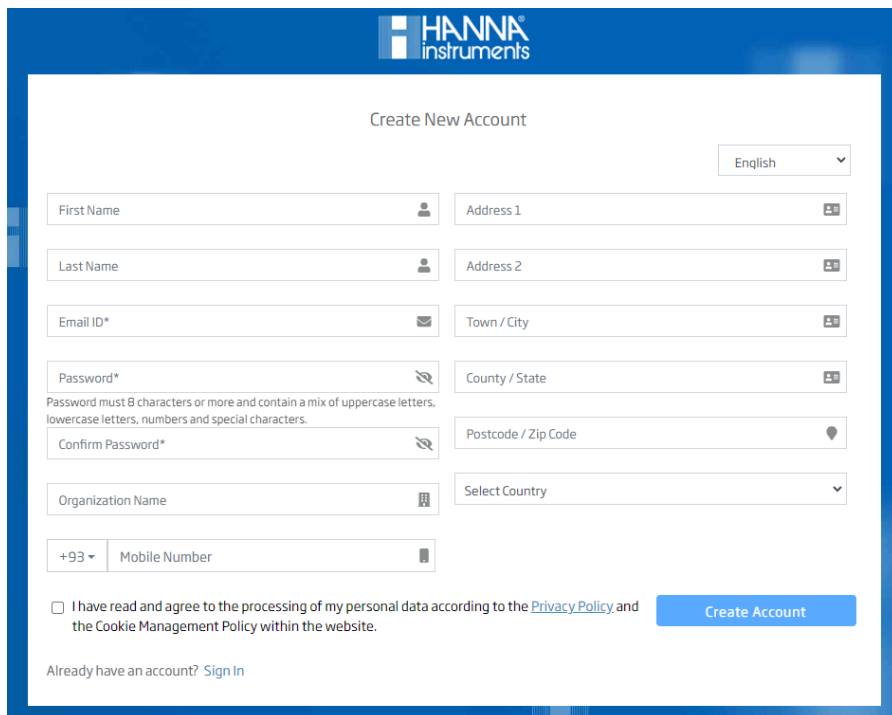
Password*

Sign In

Create Account

Forgot Password?



- 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 [BL12X](#) or [BL13X](#) device to your account. [Halo](#), [Halo2](#), [HI98494](#), [HI98594](#), and [HI97115](#) devices are added automatically when Hanna Lab is connected to the cloud.







HANNA
instruments



Create New Account

English ▼



First Name  Address 1 


Last Name  Address 2 


Email ID*  Town / City 

Password*  County / State 

Password must 8 characters or more and contain a mix of uppercase letters, lowercase letters, numbers and special characters.

Confirm Password*  Postcode / Zip Code 

Organization Name  Select Country ▼

+93 ▼ Mobile Number 

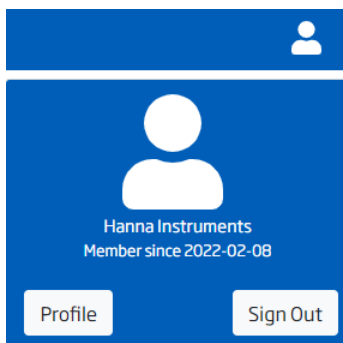
☐ I have read and agree to the processing of my personal data according to the [Privacy Policy](#) and the Cookie Management Policy within the website.

Create Account

Already have an account? [Sign In](#)

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.



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. Clicking on the “Delete Account” button will immediately remove personal information and log files from Hanna Cloud. Hanna Lab does not store any personal information. This action will not remove any log files stored locally in the Hanna Lab application for iOS and Android.

Profile Information

Reset Password

General Settings

Email ID

user@hannainst.com

First Name

Hanna

Last Name

Instruments

Organization Name

Hanna Instruments

Mobile Number

+1(800) 426-6287

Address 1

584 Park East Dr

Address 2

Town / City

Woonsocket

County / State

RI

Postcode / Zip Code

02895

Country

United States

Delete Account

Save

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 and log out of Hanna Cloud.

Profile Information

Reset Password

General Settings

Old Password *

New Password *

Password must 8 characters or more and contain a mix of uppercase letters, lowercase letters, numbers and special characters.

Confirm Password *

Reset 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

Profile Information

Reset Password

General Settings

Date Format

YYYY-MM-DD

Time Format

24 Hour

Temperature Unit

°C

Dashboard View

Detailed

Language

English

Notifications

Enable

Save

3. BL12X & BL13X 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_XXXXX/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: Data is stored on Hanna Cloud for three months.

Add New BL1xx

1. Add Device Info

2. Device Plan

Device Model Group*

Select Model Group

Device Model Number*

Select Device Model

Device ID*

Device ID

Location Name*

Location

Previous

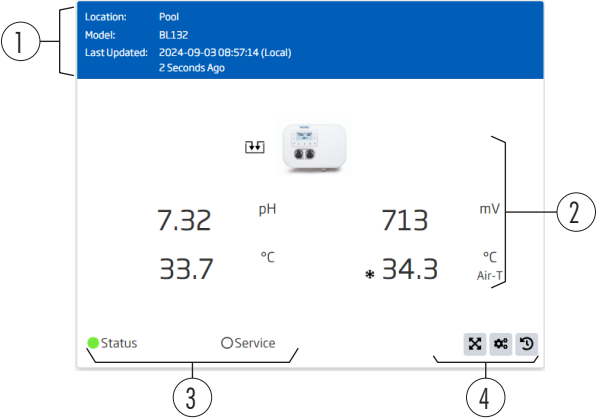
Next

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.”

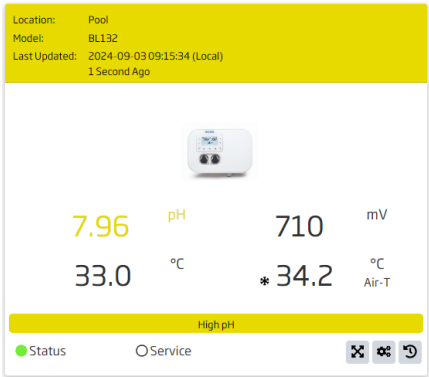
3.3. DASHBOARD

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.

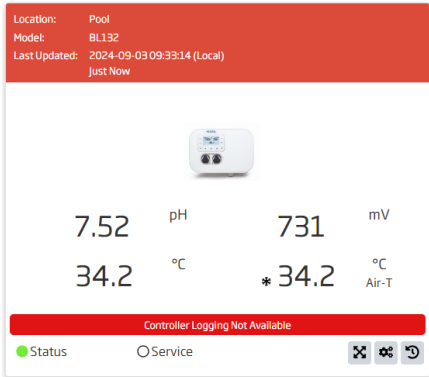


1. Header	<p>Displays the device location, model and hardware version (v1 or v2, BL12X only), date and time of the last update, and the elapsed time.</p> <p>Note: Date and time of last update is displayed in local time and may not match the date and time on the meter.</p>
2. Measurement	<p>The pH, ORP, solution temperature is displayed.</p> <p>If there is an error or an alarm has been triggered, the message is displayed here.</p> <p>BL132 only</p> <p>If enabled, the air temperature is displayed.</p> <p> the controller is in startup mode.</p> <p> freeze protection is enabled.</p> <p>See the BL13X instruction manual for more information.</p>
3. Status and Service LEDs	<p>The Status LED indicates the controller status:</p> <ul style="list-style-type: none"> green light → the device is running as expected yellow light → the device needs attention red light → there is something wrong with the device <p>The Service LED indicates when service is required or the controller is in manual mode.</p>
4. Action buttons	<p> Device details</p> <p> Device settings</p> <p> Log history</p>

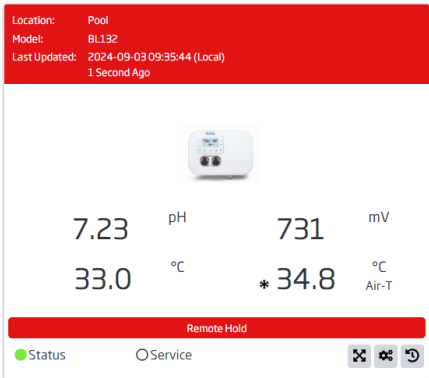
- If an alarm or warning has been triggered, the header changes to yellow, and the message is displayed below the reading. Readings triggering the alarm will be yellow.



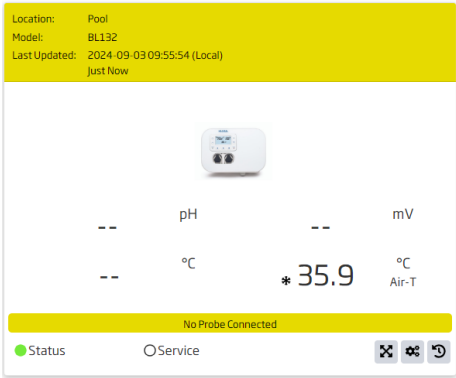
- If an error occurs, the header will blink red, and the error message is displayed below the readings.



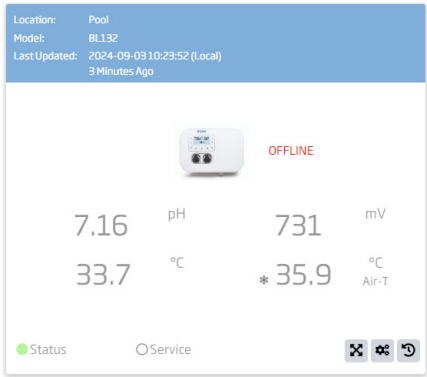
- If the device has been placed in a remote hold, the header changes to red, and the message "Remote Hold" is displayed.




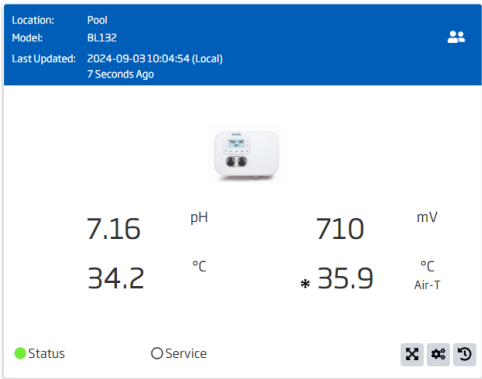
- If no probe is connected, the device card is faded, the header changes to yellow, and the “No Probe Connected” message is displayed.



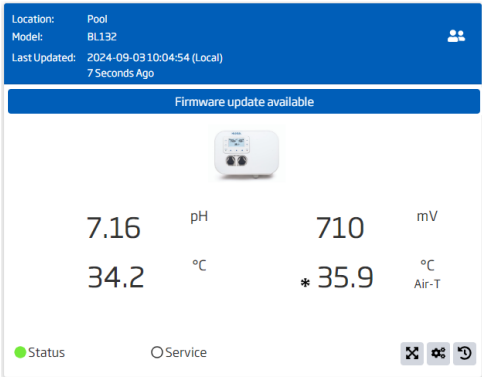
- If the device is offline, the device card is faded, and the “OFFLINE” label is displayed next to the image of the meter.



- 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 [BL122](#) and [BL123](#) devices with version 2 hardware and the [BL132](#).












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, [BL12X](#) only), 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.







BL12X Pool Controller

Location	Model	Last Updated (Local)	Status		
 Pool 1	BL122 (V2)	2024-04-10 13:39:20	ONLINE		  
 Pool 3	BL122 (V2)	2024-04-10 13:37:53	ONLINE		  


BL13X Pool Controller

Location	Model	Last Updated (Local)	Status		
 Pool	BL132	2024-05-09 12:09:12	ONLINE		  
 Spa	BL132	2024-05-09 12:10:55	ONLINE		  

From the list, the following action buttons are available:

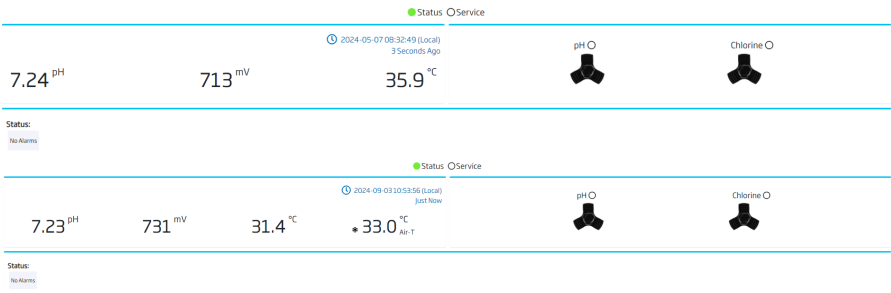
Icon	Description
	Device details
	Device settings
	Log history
	Delete device (not available for secondary users)
 	Add/Remove from dashboard (not available for secondary users)

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.

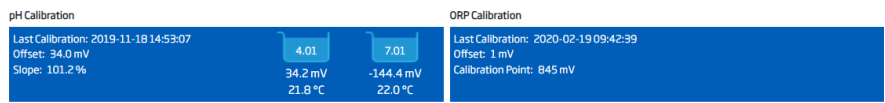
Measurement

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

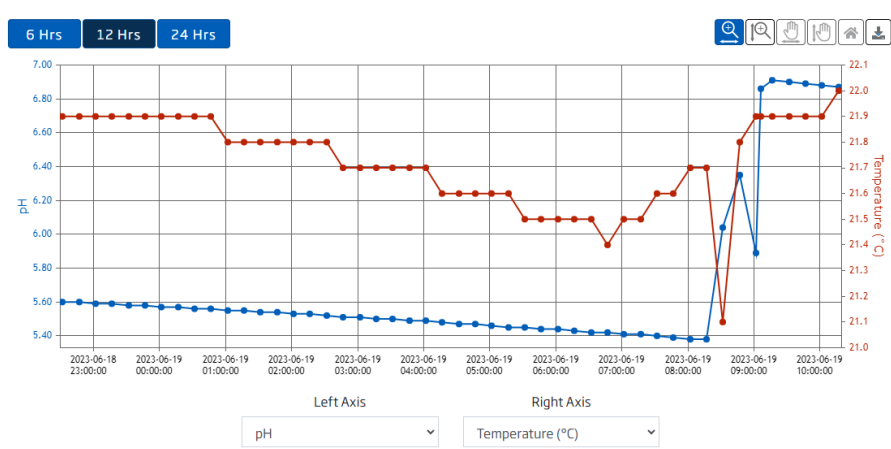
The current pH and ORP calibration are displayed. The following information will be available: date and time of the calibration, offset, slope (pH only), and calibration point(s).



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: 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.

Start Date: 2023-05-23 11:27:22
End Date: 2023-06-13 10:41:59

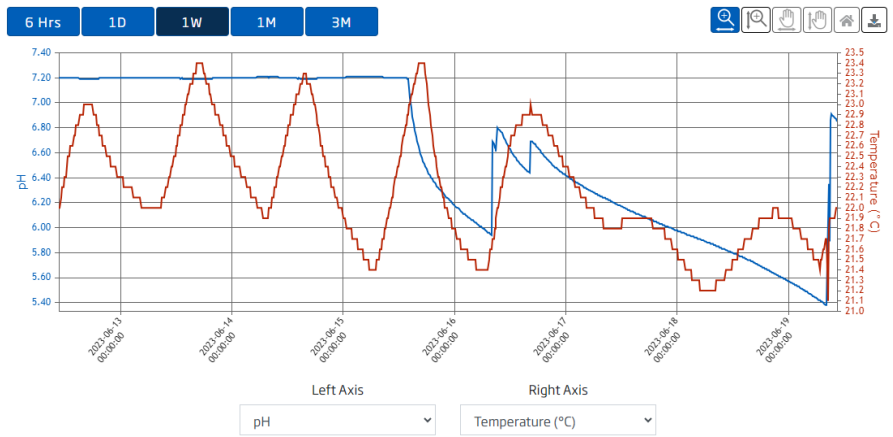
Filter

pH	ORP (mV)	Temperature (°C)	Acid/Base (mL)	Cl ₂ (mL)	Device Time	Status
7.60	668	24.5	1500.0	1000.0	2023-06-13 10:41:59	

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.

pH Calibration		ORP Calibration		
Calibration Date	Offset (mV)	Slope (%)	Calibration Point 1	Calibration Point 2
2020-03-04 10:09:00 AM	130.0	100.1	2.41 pH, 210.0 mV, 11.0 °C	14.00 pH, -100.0 mV, 14.0 °C

3.7. BL12X 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, not available for secondary users.
To save changes click Update Device Location.

Device Information

Settings

Remote Hold

Notification Settings

Device Plan

Secondary User

Update Firmware

Device Model Number	BL122	Probe Model Number	HI1036
Device Serial Number	USA123	Probe Serial Number	123456789ABC
Device ID	BL122_USA123	Probe Firmware Version	1.02
Device Firmware Version	2.00/4.1	Location	Swimming Pool
Controller ID	1234		

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.

Alarm Settings

pH High Alarm	7.85	pH	pH Low Alarm	7.15	pH
mV High Alarm	800	mV	mV Low Alarm	725	mV
Temperature High Alarm	36.6	°C	Temperature Low Alarm	32.2	°C

Dosing Settings

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

Dosing Settings

Dosing Type	Acid				
pH Set Point	7.60	pH	ORP Set Point	750	mV
pH Proportional Band	2.0	pH	ORP Proportional Band	100	mV
pH Overtime	2	min	Cl ₂ Overtime	2	min
pH Flow Rate	2.2	L/h	Cl ₂ Flow Rate	2.2	L/h

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.

General Settings

pH Warnings & Errors	<input checked="" type="checkbox"/>	ORP Warnings & Errors	<input checked="" type="checkbox"/>		
Temperature Warnings & Errors	<input checked="" type="checkbox"/>	Hold Input	<input checked="" type="checkbox"/>		
pH Alarm Mask Time	0	Sec	ORP Alarm Mask Time	30	Sec
Temperature Alarm Mask Time	67	Sec	Logging Interval	30	Sec
Pool Startup	<input type="checkbox"/>				

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.

Device Information Settings **Remote Hold** Notification Settings Device Plan Secondary User Update Firmware

☒ Remote Hold (Deactivate Pumps)

Save

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.

Device Information Settings Remote Hold **Notification Settings** Device Plan Secondary User Update Firmware

Primary Secondary

pH Alarms

Notifications

Email ☐

Push ☐

Notifications Per Day

Maximum 20

Remaining 20

ORP Alarms

Notifications

Email ☐

Push ☐

Notifications Per Day

Maximum 20

Remaining 20

Temperature Alarms

Notifications

Email ☐

Push ☐

Notifications Per Day

Maximum 20

Remaining 20

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 Cl₂ overtime; hold input; low-level acid/base or Cl₂ tank; over/under range pH, ORP, or temperature readings; no probe connected; logging not available; USB not working
- **Hardware Error (Controller Stopped)** HW-xxxxxxx
- **Controller Disconnected**

Notification Types

- **Email:** 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:** 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 Information

Settings

Remote Hold

Notification Settings

Device Plan

Secondary User

Update Firmware

Primary

Secondary

Select Email ID

pH Alarms

Notifications

Email

Push

ORP Alarms

Notifications

Email

Push

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.*

Device Information Settings Remote Hold Notification Settings **Device Plan** Secondary User Update Firmware

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.

Device Information Settings Remote Hold Notification Settings Device Plan **Secondary User** Update Firmware

My Devices Secondary Devices

Pool 3 Add Secondary User

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 select the access level for the secondary user.
 - ▶ Full access
The user will be able to modify device settings, including alarms, dosing, remote hold, and more.
 - ▶ Limited access
The user will only be able to view the settings.

***Note:** Access can be modified after the secondary user has been added by clicking on .*

- 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.

Assign secondary user Pool ✕

Email ID

☐ Full Access ⓘ ☒ Limited Access ⓘ

Assign secondary user Close

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.

Device Information

Settings

Remote Hold

Notification Settings

Device Plan

Secondary User

Update Firmware

My Devices

Secondary Devices

Pool

Add Secondary User

User2@hannainst.com

Remove Secondary User

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.

Device Information

Settings

Remote Hold

Notification Settings

Device Plan

Secondary User

Update Firmware

My Devices

Secondary Devices

User2@hannainst.com

Pool

Remove Device

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.

Device Information

Settings

Remote Hold

Notification Settings

Device Plan

Secondary User

Update Firmware

Current Main Board Firmware Version2.00

Current Ethernet Board Firmware Version4.1

New Firmware Version

Main Board Firmware Update

Version


☐ v2.00

What's new

Update

Update Firmware

3.8. BL13X 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.

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.

Device Information

Settings

Remote Hold

Notification Settings

Device Plan

Secondary User

Update Firmware

Device Model Number	BL132	Probe Model Number	H11036
Device Serial Number	USA456	Probe Serial Number	0000000ppp000
Device ID	BL132_USA456	Probe Firmware Version	1.02
Device Firmware Version	1.00/1.07	Location	Pool
Controller ID	1234		

Update Device Location

Settings

For information regarding these settings see the BL13X instruction manual.

Alarm Settings

The BL13X pH, mV, and temperature alarms values can be set and enabled or disabled from this screen.

Alarm Settings

pH High Alarm	...	pH	Enable
pH Low Alarm	7.1	pH	Disable
mV High Alarm	775	mV	Disable
mV Low Alarm	695	mV	Disable
Temperature High Alarm	50.0	°C	Disable
Temperature Low Alarm	...	°C	Enable
pH Alarm Relay	<input checked="" type="checkbox"/>	ORP Alarm Relay	<input checked="" type="checkbox"/>
Temperature Alarm Relay	<input type="checkbox"/>		

Dosing Settings

The **BL13X** pH and ORP dosing configuration can be viewed and modified from this screen.

Dosing Settings

Dosing Type	Acid				
pH Set Point	7.2	pH	ORP Set Point	750	mV
pH Proportional Band	2.0	pH	ORP Proportional Band	100	mV
pH Overtime	2	min	ORP Overtime	2	min
pH Flow Rate	2.2	L/h	Cl ₂ Flow Rate	2.2	L/h
Startup Delay for pH	5	min	Startup Delay for ORP	15	min

General Settings

The **BL13X** pH, ORP, and temperature warnings, errors, logging interval, startup mode, freeze protection can be viewed and modified from this screen.

General Settings

pH Warnings & Errors	<input checked="" type="checkbox"/>	ORP Warnings & Errors	<input checked="" type="checkbox"/>		
Temperature Warnings & Errors	<input checked="" type="checkbox"/>	Hold Input	<input checked="" type="checkbox"/>		
pH Alarm Mask Time	5	Sec	ORP Alarm Mask Time	5	Sec
Temperature Alarm Mask Time	5	Sec	Logging Interval	30 Seconds	
Pool Startup	<input type="checkbox"/>	Hold Alarm	<input checked="" type="checkbox"/>		
Contact	Close				
Air Temperature Sensor	<input checked="" type="checkbox"/>	If the air temperature sensor is disabled, freeze protection and off season mode are not available.			
Freeze Protection	<input checked="" type="checkbox"/>	Off Season Mode	<input type="checkbox"/>		
Air Temperature Threshold	3.5	°C			

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.

Device Information Settings **Remote Hold** Notification Settings Device Plan Secondary User Update Firmware

☒ Remote Hold (Deactivate Pumps) Save

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.

Device Information	Settings	Remote Hold	Notification Settings	Device Plan	Secondary User	Update Firmware		
<div>Primary Secondary</div>								
<p>pH Alarms</p> <table border="1"> <tr> <td> Notifications Email <input type="checkbox"/> Push <input type="checkbox"/> </td> <td> Notifications Per Day Maximum <input type="text" value="20"/> Remaining <input type="text" value="20"/> </td> </tr> </table>							Notifications Email <input type="checkbox"/> Push <input type="checkbox"/>	Notifications Per Day Maximum <input type="text" value="20"/> Remaining <input type="text" value="20"/>
Notifications Email <input type="checkbox"/> Push <input type="checkbox"/>	Notifications Per Day Maximum <input type="text" value="20"/> Remaining <input type="text" value="20"/>							
<p>ORP Alarms</p> <table border="1"> <tr> <td> Notifications Email <input type="checkbox"/> Push <input type="checkbox"/> </td> <td> Notifications Per Day Maximum <input type="text" value="20"/> Remaining <input type="text" value="20"/> </td> </tr> </table>							Notifications Email <input type="checkbox"/> Push <input type="checkbox"/>	Notifications Per Day Maximum <input type="text" value="20"/> Remaining <input type="text" value="20"/>
Notifications Email <input type="checkbox"/> Push <input type="checkbox"/>	Notifications Per Day Maximum <input type="text" value="20"/> Remaining <input type="text" value="20"/>							
<p>Temperature Alarms</p> <table border="1"> <tr> <td> Notifications Email <input type="checkbox"/> Push <input type="checkbox"/> </td> <td> Notifications Per Day Maximum <input type="text" value="20"/> Remaining <input type="text" value="20"/> </td> </tr> </table>							Notifications Email <input type="checkbox"/> Push <input type="checkbox"/>	Notifications Per Day Maximum <input type="text" value="20"/> Remaining <input type="text" value="20"/>
Notifications Email <input type="checkbox"/> Push <input type="checkbox"/>	Notifications Per Day Maximum <input type="text" value="20"/> Remaining <input type="text" value="20"/>							

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 Cl₂ overtime; hold input; low-level acid/base or Cl₂ tank; over/under range pH, ORP, or temperature readings; no probe connected; logging not available; USB not working
- [Hardware Error \(Controller Stopped\)](#) HW-xxxxxxx
- [Controller Disconnected](#)

Notification Types

- [Email](#)

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](#)

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 Information

Settings

Remote Hold

Notification Settings

Device Plan

Secondary User

Update Firmware

Primary

Secondary

Select Email ID

pH Alarms

Notifications

Email

Push

ORP Alarms

Notifications

Email

Push

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.

Device Information Settings Remote Hold Notification Settings **Device Plan** Secondary User Update Firmware

Available Features	Plan
Reading Measurement	15 Minutes
Alarms	Real Time
Status	15 Minutes
Settings	Remote Control
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.

Device Information Settings Remote Hold Notification Settings Device Plan **Secondary User** Update Firmware

My Devices Secondary Devices

Pool 3 Add Secondary User

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 select the access level for the secondary user.
 - ▶ Full access
The user will be able to modify device settings, including alarms, dosing, remote hold, and more.
 - ▶ Limited access
The user will only be able to view the settings.

Note: Access can be modified after the secondary user has been added by clicking on .

- 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.

Assign secondary user Pool ✕

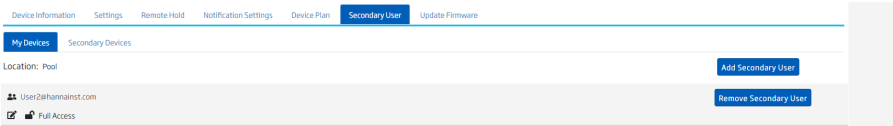
Email ID

☐ Full Access ⓘ ☒ Limited Access ⓘ

Assign secondary user Close

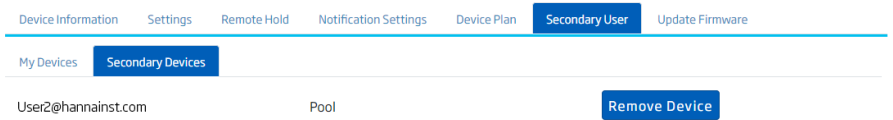
Remove Secondary User

- 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.

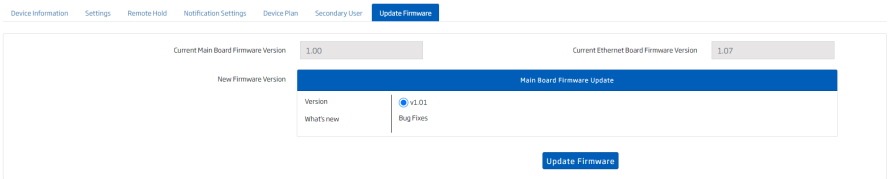


Update Firmware

The firmware 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.



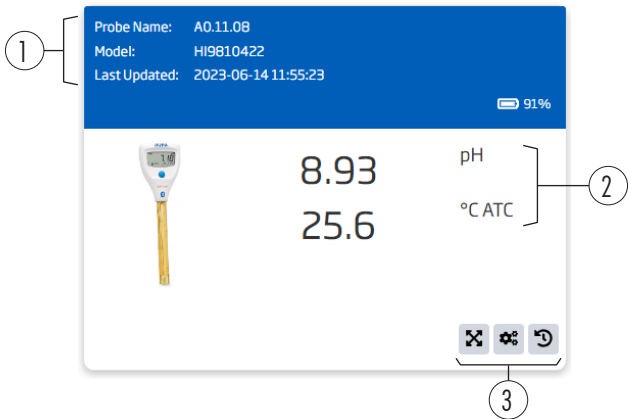
4. HALO & HALO2 pH TESTERS

4.1. ADD DEVICE

Halo and Halo2 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 tester is connected to the device.

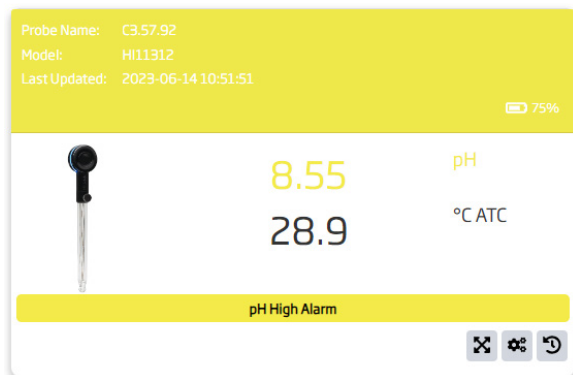
4.2. DASHBOARD

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.

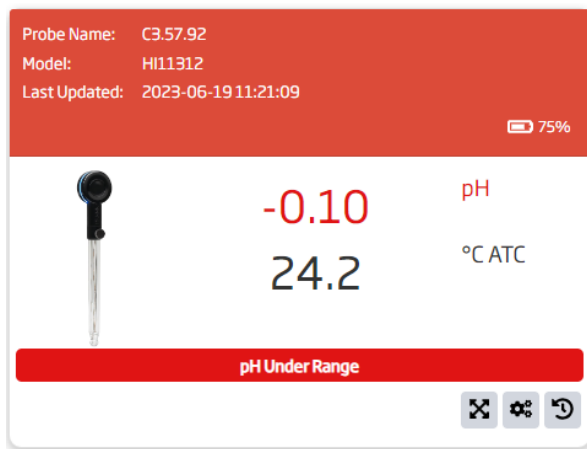


1. Header	Displays the probe name, probe type, the date and time the probe was last updated, and the battery level.
2. Measurement	Displays the pH (or mV) and temperature readings. If there is an error or an alarm has been triggered, the message is displayed here.
3. Action buttons	<div><div>⌕</div>Device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

- 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.

Probe Name	Model	Last Updated		
 A0.11.08	HI9810422	2023-06-14 11:28:02	8.93 pH, 25.9 °C ATC	    
 C3.57.92	HI11312	2023-06-14 11:21:09	8.34 pH, 25.6 °C ATC	<div>pH High Alarm</div>     
 C3.4A.5L	HI11312	2023-06-14 11:23:05	-0.8 pH, 24.8 °C ATC	<div>pH Under Range</div>     

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.

2023-06-14 11:55:23

8.93^{pH}

25.6^{°C ATC}



Probe Name:

A011.08

Model:

HI9810422

Serial Number:

A01180000RSC

Battery:

91%
482 Hours Left

Status:

Notes:

sample 1

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.

Last Calibration: 2023-06-14 12:01:50

Offset: -0.8 mV

Average Slope: 100.3%

1.68

Slope:

4.01

Slope:

7.01

Slope:

10.01

Slope:

12.45

314.6 mV

26.0 °C

2023-06-14 12:01:50

99 %

176.4 mV

26.3 °C

2023-06-14 12:01:50

99 %

-1.2 mV

26.6 °C

2023-06-14 12:01:50

100 %

-179.5 mV

26.3 °C

2023-06-14 12:01:50

101 %

-324.2 mV

26.5 °C

2023-06-14 12:01:50

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.

Table

Graph

File Name:





Save

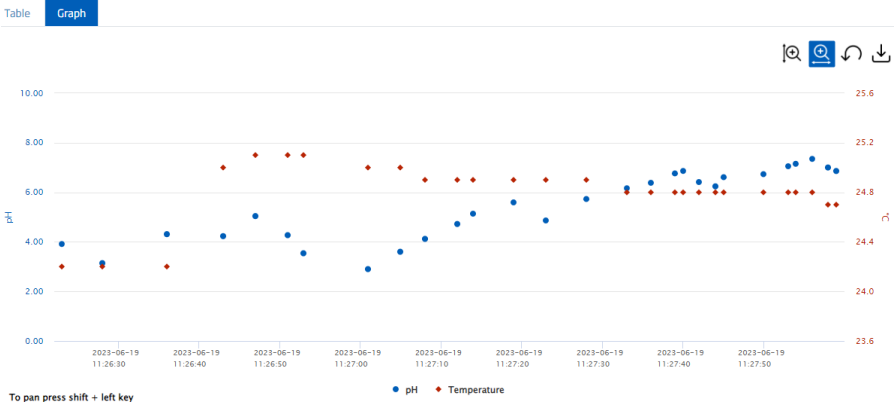
Filter




Download

pH	mV	Temp (°C)	Date	Note	Status	pH Calibration
8.93	-102	25.6	2023-06-14 11:55:23	sample 1		Date: 2023-04-27 10:26:48, Average Slope: 100.0 %, Offset: 12.3 mV, Buffers: 7.01
8.93	-102	25.6	2023-06-14 11:55:22			Date: 2023-04-27 10:26:48, Average Slope: 100.0 %, Offset: 12.3 mV, Buffers: 7.01
8.93	-102	25.9	2023-06-14 11:28:02			Date: 2023-04-27 10:26:48, Average Slope: 100.0 %, Offset: 12.3 mV, Buffers: 7.01


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.

Halo/Halo2 Probes

Lot Logging			Export
Name	Start Date	End Date	
HI11312 pH C3.57.92 (Auto Save)	2023-08-18 20:55:57	2023-08-18 21:55:56	 GLP   
HI11312 pH C3.57.92 (Auto Save)	2023-08-18 19:55:57	2023-08-18 20:55:56	 GLP   

From the log history, the following options are available:

Icon	Description
	File settings
	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.

File Settings

Measurement Mode ☒ pH ☐ mV

Resolution ☐ 0.1 ☒ 0.01 ☐ 0.001

Temperature Units ☒ °C ☐ °F

Alarm Settings

pH High Alarm pH

mV High Alarm mV

Temperature High Alarm °C

pH Low Alarm pH

mV Low Alarm mV






Temperature Low Alarm °C

Save

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.

pH Calibration

Last Calibration: 2023-06-14 11:59:10		Offset: -1.1 mV		Average Slope: 98.1%	
	Slope:		Slope:		Slope:
1.68	100 %	4.01	100 %	7.01	102 %
314.8 mV		176.7 mV		-1.5 mV	
26.0 °C		26.0 °C		26.0 °C	
2023-06-14 11:59:10		2023-06-14 11:59:10		2023-06-14 11:59:10	
	Slope:		Slope:		
9.18	90 %	10.01			
-147.9 mV		-179.0 mV			
21.1 °C		26.1 °C			
2023-06-02 11:54:08		2023-06-14 11:59:10			

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

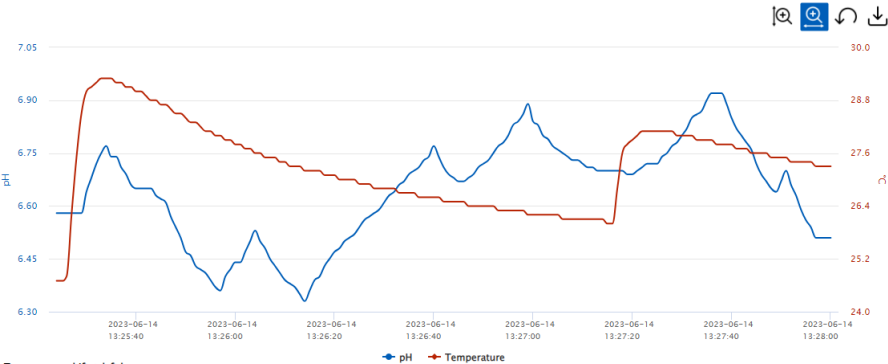


Notes: ----




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.



To pan press shift + left key

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.

Probe Info

Live Readings

Probe Name: C3.57.92

Serial Number: D03972C35792

Factory Calibration: 2017-02-28 14:26:12

Model: HI11312

Firmware: v1.02b02

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.

Probe Info

Live Readings

Measurement Mode

☒ pH

☐ mV

Resolution

☐ 0.1

☒ 0.01

☐ 0.001

Temperature Units

☒ °C

☐ °F

Save

5. HI98494 & HI98594 MULTIPARAMETER PORTABLE METERS

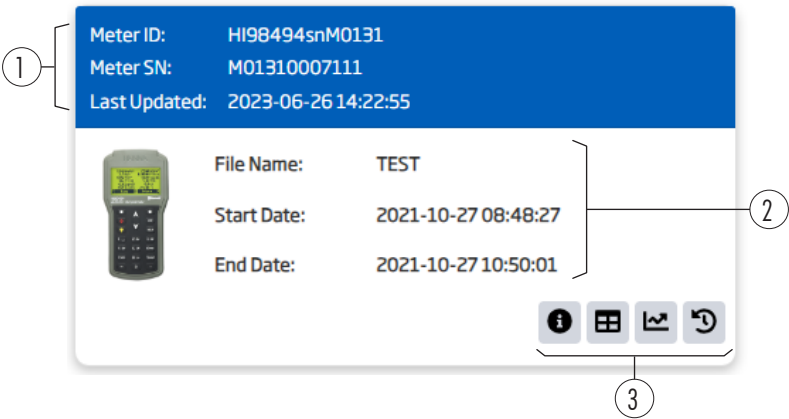
5.1. ADD DEVICE





The [HI98494](#) and [HI98594](#) meters 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 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.













Meter ID	Model	
110100	HI98494-01A HI91421110007111	  
512000	HI98594-01A HI9142120001111	  

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.

LOT	Start Date	End Date	Data Points	
 LAKE	2022-04-01 10:21:07	2022-04-01 10:25:40	274	    
 TEST	2021-10-27 08:48:27	2021-10-27 10:50:01	7295	    

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:	HI769B494
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:	876E78BF500104E0


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


Filter 


Notes: ----

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.

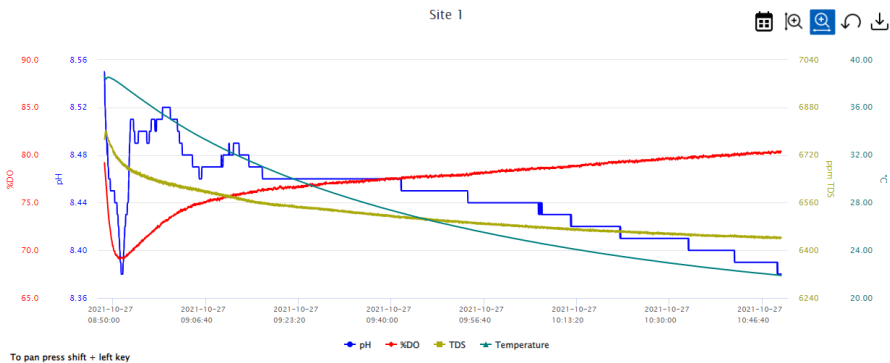
Start Date: 2023-06-15 10:38:31
End Date: 2023-06-15 10:38:39

Filter 

#Rec	Date	mVpH	pH	mVORP	%DO	ppm DO	µS/cm	µS/cm ^h	Q-cm	ppm TDS	eT	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	0.01	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.

pH	ORP	Temperature
pH Calibration		
Last Calibration	Offset	Average Slope
2020-12-01 11:44:53	16.3 mV	100%
<div>9.18</div> <p>pH (H)</p>		

5.6. HI98494 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.

Parameters

Graph

Parameter	Visible	Parameter Units
mVpH	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> mVpH
pH	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> pH
mVORP	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> mVORP
%DO	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> %DO
DO Concentration	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> ppm <input type="radio"/> mg/L
EC	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> µS/cm <input type="radio"/> mS/cm
Absoulte EC	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> µS/cm^A <input type="radio"/> mS/cm^A
Resistivity	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> Ω-cm <input type="radio"/> KΩ-cm <input type="radio"/> MΩ-cm
TDS	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> ppm <input type="radio"/> ppt <input type="radio"/> mg/L <input type="radio"/> g/L
Seawater	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> σT <input type="radio"/> σ0 <input type="radio"/> σ15
Salinity	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> PSU
Temperature	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> °C <input type="radio"/> °F <input type="radio"/> K
Pressure	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> psi <input type="radio"/> mmHg <input type="radio"/> inHg <input type="radio"/> mbar <input type="radio"/> atm <input type="radio"/> kPa

Save

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.

Parameters

Graph

Graph	Visible	Parameters												
		mVpH	pH	mVORP	%DO	DO Conc.	EC	Abs. EC	Resistivity	TDS	Seawater	Salinity	Temperature	Pressure
<input type="text" value="Graph 1"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="text" value="Graph 2"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="text" value="Graph 3"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="text" value="Graph 4"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="text" value="Graph 5"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Save

5.7. HI98594 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.

Parameters		Graph	
Parameter	Visible	Parameter Units	
mV/gpt	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> mV/gpt	
pH	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> pH	
mVORP	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> mVORP	
%DO	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> %DO	
DO Concentration	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> ppm <input type="radio"/> mg/L	
EC	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> µS/cm <input type="radio"/> mS/cm	
Absolute EC	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> µS/cm* <input type="radio"/> mS/cm*	
Resistivity	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> Ω·cm <input type="radio"/> KΩ·cm <input type="radio"/> MΩ·cm	
TDS	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> ppm <input type="radio"/> ppt <input type="radio"/> mg/L <input type="radio"/> g/L	
Salinity	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> PSU	
Seawater	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> ppt <input type="radio"/> ‰ <input type="radio"/> ‰S	
Turbidity	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> NTU	
Temperature	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> °C <input type="radio"/> °F <input type="radio"/> K	
Pressure	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> psi <input type="radio"/> mmHg <input type="radio"/> mmHg <input type="radio"/> mbar <input type="radio"/> atm <input type="radio"/> kPa	

Save

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.

Parameters		Graph													
Graph	Visible	mV/gp	pH	mVORP	%DO	DO Conc.	EC	Abs. EC	Resistivity	TDS	Salinity	Seawater	Turbidity	Temperature	Pressure
Graph 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Graph 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Graph 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Graph 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Graph 5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Save

6. HI97115 MARINE PHOTOMETER

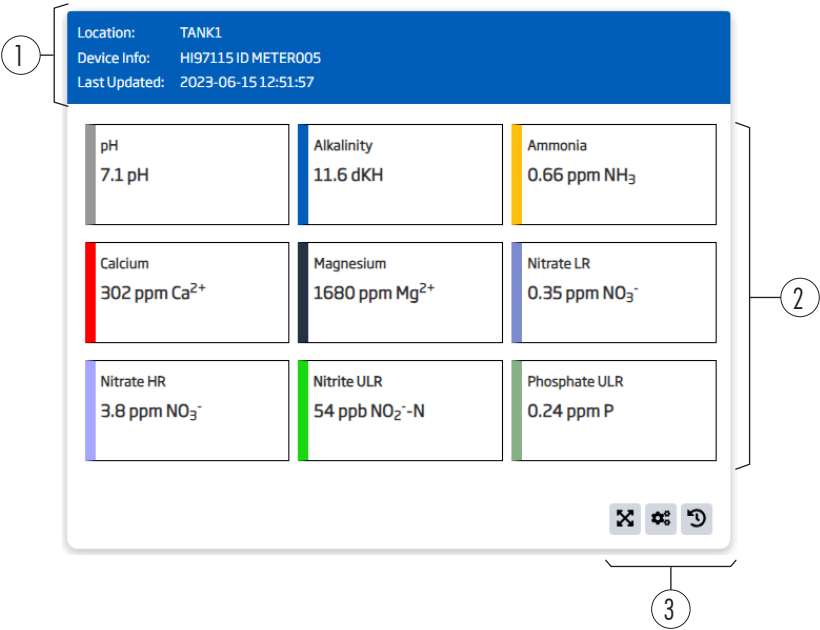
6.1. ADD DEVICE




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

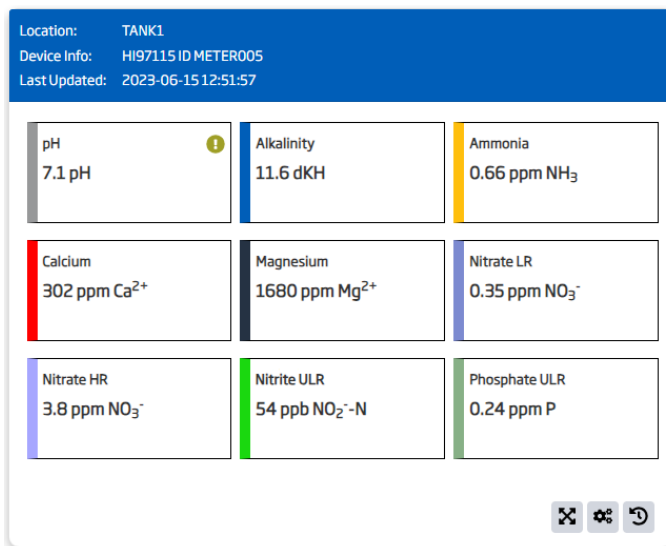
The device dashboard is the default view for Hanna Cloud, and it provides an overview of all the devices and the last recorded activity.


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.

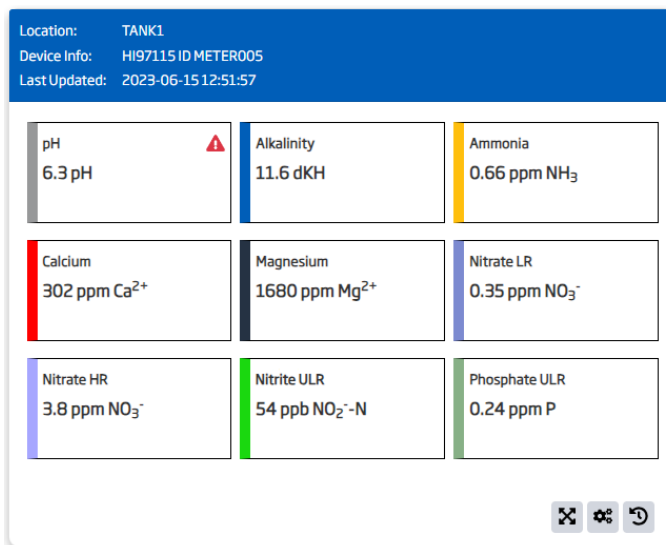


1. Header	Displays the location name, device information, and the date and time the device was last synced.
2. Measurements	Displays the last set of readings.
3. Action buttons	 Tank details
	 Graph and parameter settings
	 Log history

- 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.


HI97115 Marine Photometer

Location	Device Info	Last Updated	Status	
 TANK1	HI97115 ID METER005	2023-08-18 10:13:56	 Under Range	    

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.

<p>pH Marine</p> <p>6.9 pH</p> <p>2023-06-15 13:04:42</p> <p>Target: 6.3 to 8.5 pH</p>	<p>Alkalinity Marine</p> <p>11.6 dKH</p> <p>2023-06-15 11:11:59</p> <p>Target: 0.0 to 20.0 dKH</p>
<p>Ammonia Marine</p> <p>0.66 ppm NH₃</p> <p>2023-06-15 11:12:48</p> <p>Target: 0.00 to 2.50 ppm NH₃</p>	<p>Calcium Marine</p> <p>302 ppm Ca²⁺</p> <p>2023-06-15 11:13:03</p> <p> Outside Target Range</p> <p>Target: 200 to 300 ppm Ca²⁺</p>
<p>Magnesium Marine</p> <p>1680 ppm Mg²⁺</p> <p>2023-06-15 11:13:15</p> <p>Target: 1000 to 1800 ppm Mg²⁺</p>	<p>Nitrate Marine LR</p> <p>0.35 ppm NO₃⁻</p> <p>2023-06-15 11:13:32</p> <p>Target: 0.00 to 5.00 ppm NO₃⁻</p>
<p>Nitrate Marine HR</p> <p>3.8 ppm NO₃⁻</p> <p>2023-06-15 11:13:45</p> <p>Target: 0.0 to 75.0 ppm NO₃⁻</p>	<p>Nitrite Marine ULR</p> <p>54 ppb NO₂⁻-N</p> <p>2023-06-15 11:13:58</p> <p>Target: 0 to 200 ppb NO₂⁻-N</p>
<p>Phosphate Marine ULR</p> <p>0.24 ppm P</p> <p>2023-06-15 11:14:31</p> <p>Target: 0.00 to 0.29 ppm P</p>	

Note

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

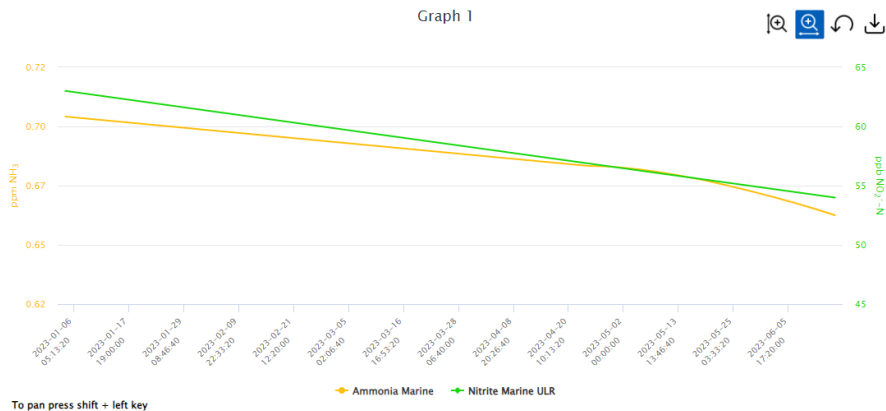
<p>Notes (2023-06-15 17:04:42)</p> <p>Added water</p>
--

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.

<p>pH Marine</p> <p>6.9 pH</p> <p>2023-06-15 13:04:42</p> <p>Target: 6.3 to 8.5 pH</p> <p></p>	<p>Alkalinity Marine</p> <p>11.6 dKH</p> <p>2023-06-15 11:11:59</p> <p>Target: 0.0 to 20.0 dKH</p> <p></p>
<p>Ammonia Marine</p> <p>0.66 ppm NH₃</p> <p>2023-06-15 11:12:48</p> <p>Target: 0.00 to 2.50 ppm NH₃</p> <p></p>	<p>Calcium Marine</p> <p>302 ppm Ca²⁺</p> <p>2023-06-15 11:13:03</p> <p> Outside Target Range</p> <p>Target: 200 to 300 ppm Ca²⁺</p> <p></p>
<p>Magnesium Marine</p> <p>1680 ppm Mg²⁺</p> <p>2023-06-15 11:13:15</p> <p>Target: 1000 to 1800 ppm Mg²⁺</p> <p></p>	<p>Nitrate Marine LR</p> <p>0.35 ppm NO₃⁻</p> <p>2023-06-15 11:13:32</p> <p>Target: 0.00 to 5.00 ppm NO₃⁻</p> <p></p>
<p>Nitrate Marine HR</p> <p>3.8 ppm NO₃⁻</p> <p>2023-06-15 11:13:45</p> <p>Target: 0.0 to 75.0 ppm NO₃⁻</p> <p></p>	<p>Nitrite Marine ULR</p> <p>54 ppb NO₂⁻-N</p> <p>2023-06-15 11:13:58</p> <p>Target: 0 to 200 ppb NO₂⁻-N</p> <p></p>
<p>Phosphate Marine ULR</p> <p>0.24 ppm P</p> <p>2023-06-15 11:14:31</p> <p>Target: 0.00 to 0.29 ppm P</p> <p></p>	

- 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.

pH Marine



Reading	Unit	Date	Status	Note
6.9	pH	2023-06-15 13:04:42		Added water
7.1	pH	2023-06-15 12:53:53		
6.3	pH	2023-06-15 12:51:57	Under Range	
6.9	pH	2023-06-15 11:11:45		

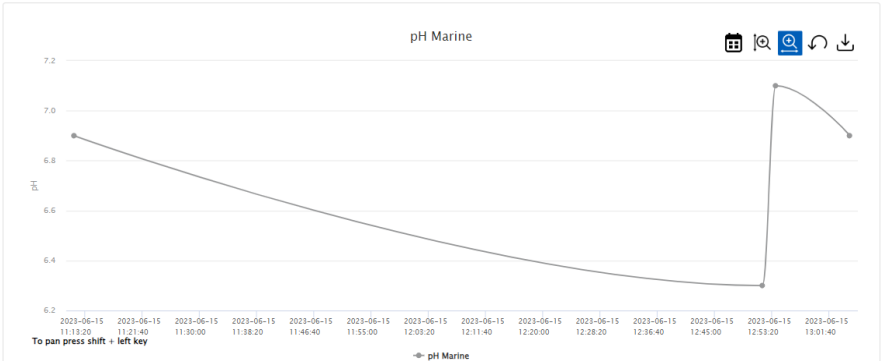
Showing 1 to 4 of 4 entries

<

>

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

The settings menu can be used to change the displayed parameters.



Note

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

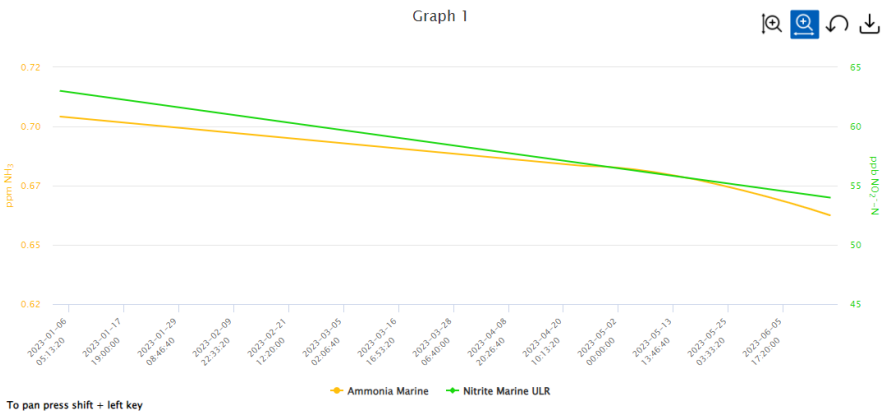
Notes (2023-06-15 17:04:42)
Added water

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.



To pan press shift + left key

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.

Parameters

Graph

Information

Parameter	Visible	Target Range		Unit
		Low	High	
 pH Marine	<input checked="" type="checkbox"/>	<input type="text" value="6.3"/>	<input type="text" value="8.6"/>	pH
 Alkalinity Marine	<input checked="" type="checkbox"/>	<input type="text" value="0.0"/>	<input type="text" value="20.0"/>	dKH
 Ammonia Marine	<input checked="" type="checkbox"/>	<input type="text" value="0.00"/>	<input type="text" value="2.50"/>	ppm NH ₃
 Calcium Marine	<input checked="" type="checkbox"/>	<input type="text" value="200"/>	<input type="text" value="600"/>	ppm Ca ²⁺
 Magnesium Marine	<input checked="" type="checkbox"/>	<input type="text" value="1000"/>	<input type="text" value="1800"/>	ppm Mg ²⁺
 Nitrate Marine LR	<input checked="" type="checkbox"/>	<input type="text" value="0.00"/>	<input type="text" value="5.00"/>	ppm NO ₃ ⁻
 Nitrate Marine HR	<input checked="" type="checkbox"/>	<input type="text" value="0.0"/>	<input type="text" value="75.0"/>	ppm NO ₃ ⁻
 Nitrite Marine ULR	<input checked="" type="checkbox"/>	<input type="text" value="0"/>	<input type="text" value="200"/>	ppb NO ₂ ⁻ -N
 Phosphate Marine ULR	<input checked="" type="checkbox"/>	<input type="text" value="0.00"/>	<input type="text" value="0.29"/>	<input checked="" type="radio"/> ppm P
		<input type="text" value="0.00"/>	<input type="text" value="0.90"/>	<input type="radio"/> ppm PO ₄ ³⁻

Save

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.

Parameters **Graph** Information

Graph	Visible	Parameters								
		pH	Alkalinity	Ammonia	Calcium	Magnesium	Nitrate LR	Nitrate HR	Nitrite ULR	Phosphate ULR
Graph 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Graph 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Graph 3	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Graph 4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Graph 5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Save

Information

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

Parameters **Graph** **Information**

Tank Details

Location: TANK1

Tank Photo:

Upload

The following formats are allowed: JPG, JPEG, PNG and GIF. Image must not exceed 1MB.

Device Details

Meter ID: METER005

Model: HI97115

Serial No: 904230259111

Firmware: v1.04

Bluetooth: decsep

Language: English v3.2

CERTIFICATION

All Hanna® instruments conform to the CE European Directives.



RoHS
compliant



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.