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Omega Link Cloud Guide

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1 Notes, Cautions, and Warnings

If the equipment is used in a manner not specified in this manual, the protection of the equipment may be impaired.

Do not operate the equipment in flammable or explosive environments.

It is important to read and follow all precautions and instructions in this manual before operating or commissioning this device as it contains important information relating to safety and EMC. Failure to follow all the safety precautions may result in injury and/or damage to the equipment.

The following labels identify information that is especially important to note:

Note: Provides information that is important to successfully navigate the Omega Link Cloud user interface.

Caution or Warning: Informs about the risk of electrical shock.

Caution, Warning, or Important: Informs of circumstances that can affect the functionality of the instruments and must refer to accompanying documents.

2 Introduction

The Omega Link Cloud provides device management, state and status monitoring, data logging, and analytics on all connected Omega Link Smart Sensing devices and compatible 3rd party sensing devices through a robust web user interface. Accounts can be created and accessed by visiting: http://cloud.omega.com. Subscriptions can be purchased by visiting: https://www.omega.com/en-us/omega-link-cloud.

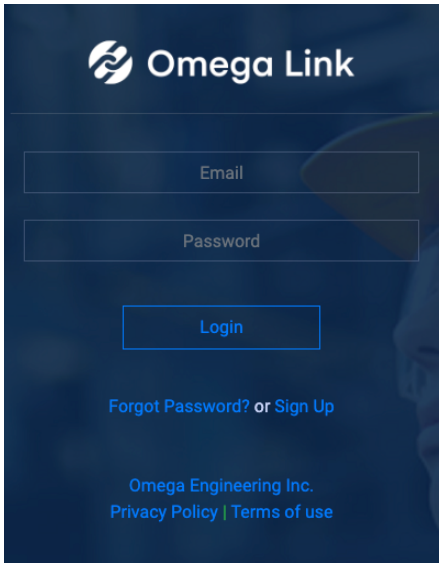


Figure 1: Omega Link Cloud login

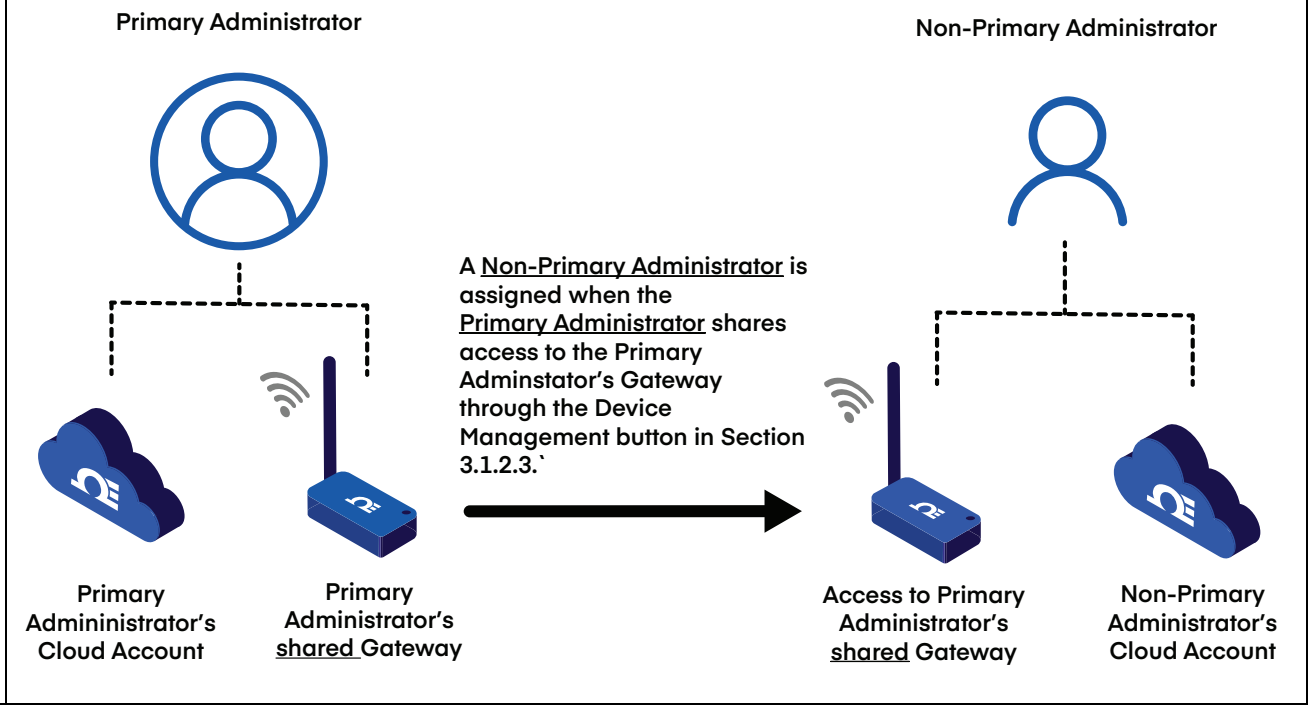
2.1 Cloud Account User Registration

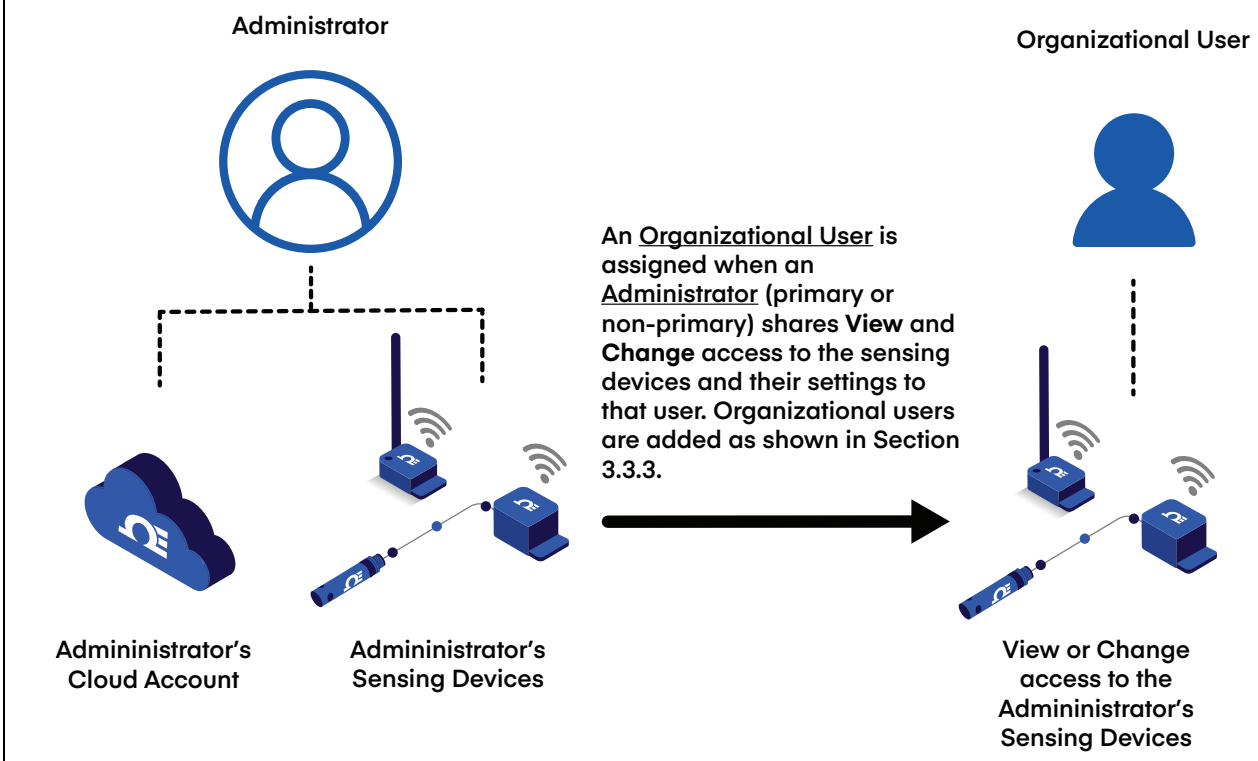
Using any device with a web browser, complete the following steps:

Step 1: Open your browser to **cloud.omega.com**.

Step 2: Click **Sign Up** and complete the registration process. This will require a valid email address.

Below is a table describing the different kinds of users:

Primary Administrator User	The primary administrator user account is the main account that the Omega Link Gateway is originally registered to.
Non-Primary Administrator User	

Non-Administrator User	

Note: Only administrator users (primary or non-primary) need to register individual Omega Link Cloud accounts. Organizational users do not need to register an Omega Link Cloud account.

If one account will be shared among multiple users in a company/ organization, it is highly recommended that access to the email address account be created and shared among all team members who will have primary administrator access in case of organizational changes. (Ex: omegalinkcloud@yourcompany.com)

Once the user credentials are verified, the user can login to the primary administrator account and will be presented with the Omega Link Cloud homepage. The primary administrator will have the opportunity to register Omega Link Gateways, change subscription tiers, and create additional user accounts.

Important: If multiple Administrator users will be registered under the same company name, it is important that the company name be typed the same way for each admin registration to ensure proper operation when assigning devices.

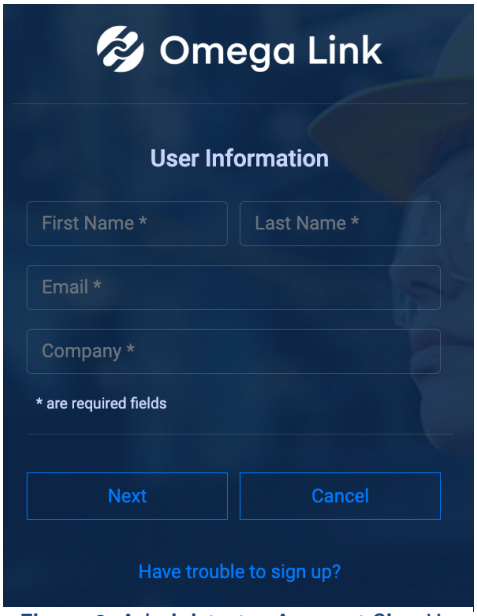


Figure 2: Administrator Account Sign Up

3 Navigating the Omega Link Cloud User Interface

The primary user interface tabs (**Devices**, **Historian**, and **System**) and their functionality are described in the sections that follow.

3.1 Devices

After signing in, the **Devices** tab immediately presents the readings of all registered Omega Link Gateways and their connected sensing devices. From here, users may access connected gateway details, add additional gateways to the cloud account, monitor device health, and access specific sensor analytics.

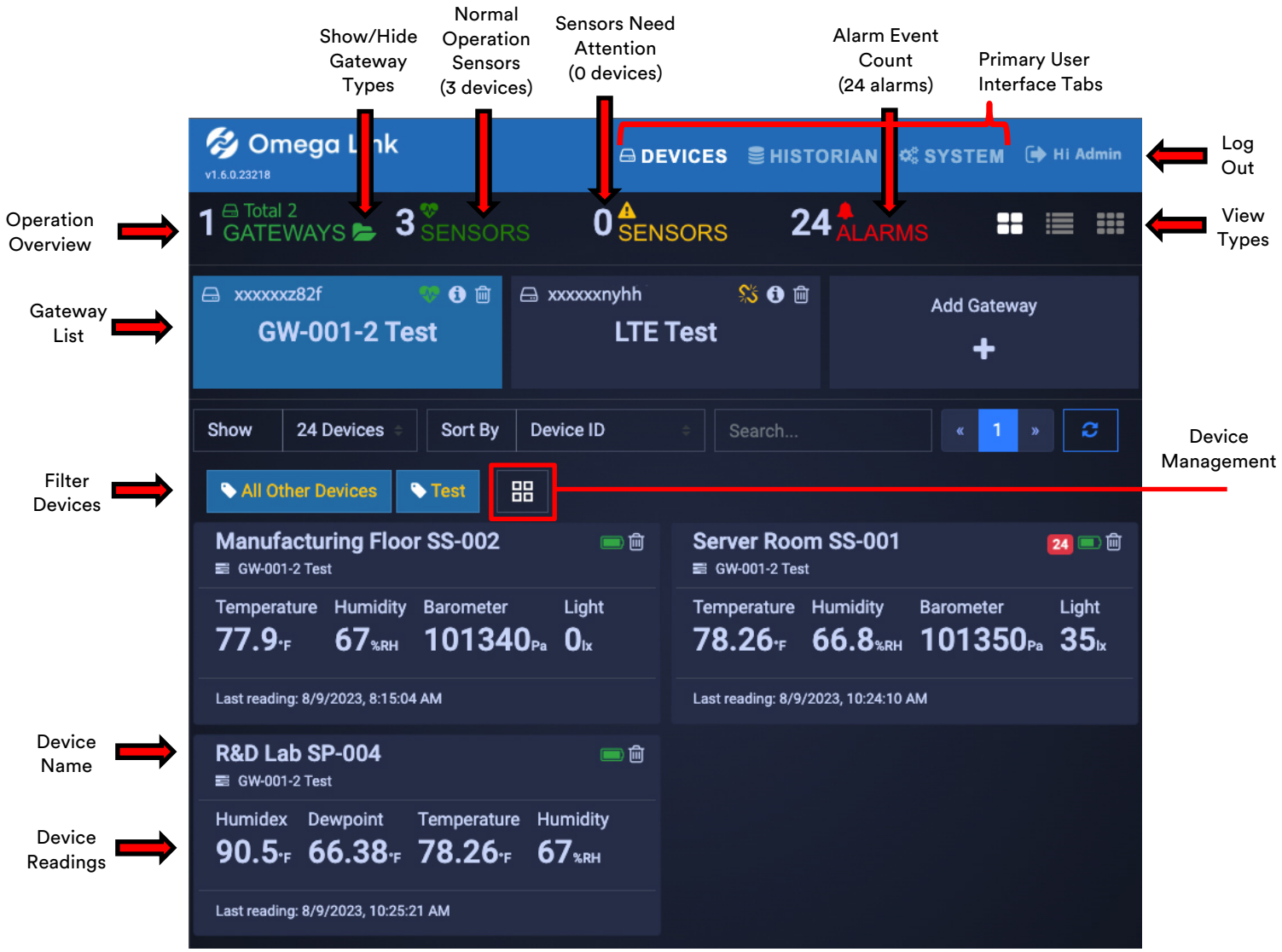


Figure 3: Omega Link Cloud Devices tab

3.1.1 Registering an Omega Link Gateway to Omega Link Cloud

After logging in, follow the steps below to connect an Omega Link Gateway to the Omega Link Cloud.

Step 1: From the Omega Link Cloud Devices homepage, click **Add Gateway**.

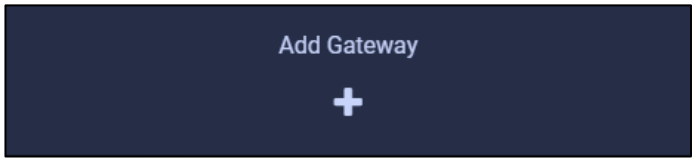


Figure 4: Omega Link Cloud Add Gateway button

Step 2: Type in the ***Gateway ID (GID)*** from the label on your gateway.

Step 3: Type in the ***Registration ID (RID)*** from the label on your gateway and click **Register**.

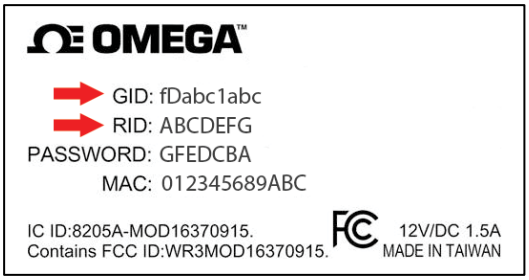


Figure 5: Sample Omega Link Gateway label

Important: The label containing your Gateway ID and Register ID is located at the bottom of the gateway unit.

Step 4: Once the gateway has been successfully registered, an icon will appear next to your registered device.

Note: The icon indicates incomplete device provisioning between the Omega Link Gateway and the Cloud. If the icon persists for more than 5 minutes after the gateway registration, power cycle the gateway device to reattempt device provisioning. Users can access the internal gateway UI to check the status log of the device if the issue persists.

Once you have access to your account and have completed your initial device pairing, you will be presented with your connected devices on the Omega Link Cloud interface.

3.1.1.1 Gateway Details

To view your gateway details or change the name of your device, click the icon associated with the gateway you wish to view. From here, you will be able to change your gateway name and view your gateway ID, firmware version, model number, initial boot-up date and time, hardware type, manufacturer, and last recorded device heartbeat.

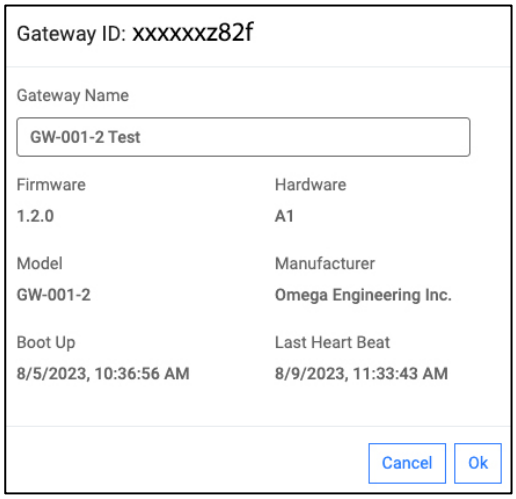


Figure 6: Omega Link Cloud registered gateway details

3.1.1.2 Situational Amber LED Status Indicator During Initial Boot-Up

Occasionally, the LED status indicator of the Omega Link Gateway will display a solid amber light. This solid amber light indicates that there is no internet connection to the Omega Link Gateway. This can be verified by navigating to the internal gateway user interface using a web browser (refer to the Omega Link Gateway user's manual for more information on accessing the internal gateway user interface). Should this occur, the user or company's IT department must open firewall ports and IP addresses to allow the connection to occur.

3.1.2 Management

Clicking the Management  icon allows administrator users to create customizable groups of gateways, assign gateways to other admintrators, and assign gateway alarm notifications to other users. The "Group" feature allows admin users to group gateway devices and organizational users. Groups of users will have permission to view, change, and/or receive alarm notifications from the sensors associated with the gateways in the group.

3.1.2.1 Creating a Device Group and Adding Devices

To create a **Device Group** and add sensing devices to that group, follow these instructions:

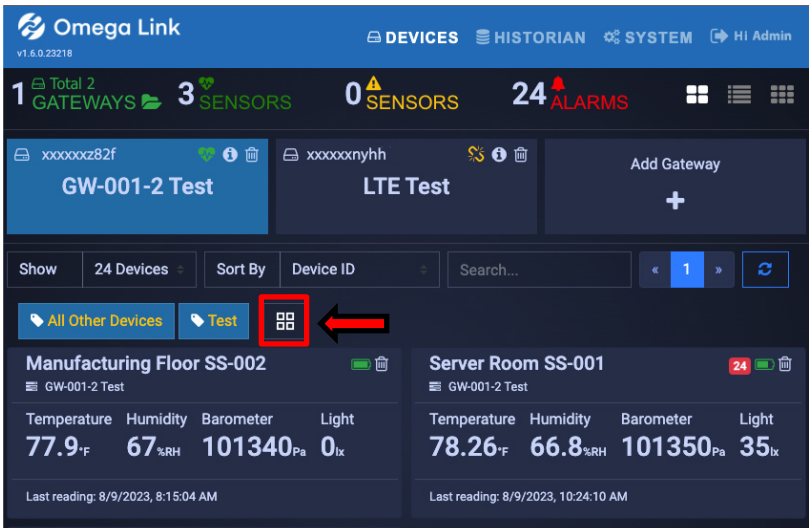


Figure 7: Omega Link Cloud devices homepage

Step 1: On the Omega Link Cloud homepage, click on the Management icon  .

Step 2: Click **Groups**, then click **Add Group** and create a name for your group. Click **Create** to finalize.

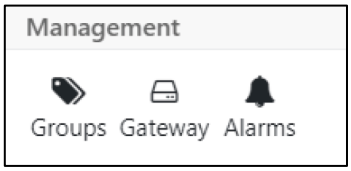


Figure 8: Device Management options

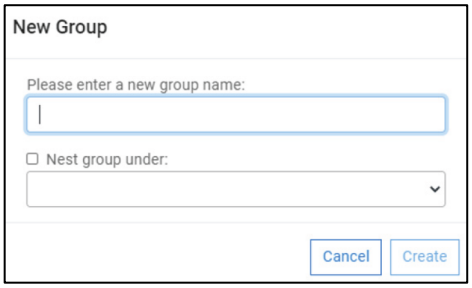


Figure 9: New Group Interface

Note: The dropdown for **Nest Group Under** can be disregarded.

Step 3: Once your group is created, a pop-up window will appear with the title **Manage Device Groups**. Click the icon to add a user's email address and grant them access to the group. Click **OK** to finalize the changes.

Note: Before adding a user to a group, the user must be granted access to the Omega Link Cloud account by completing the steps outlined in section **3.3.3.1 How to Add** .

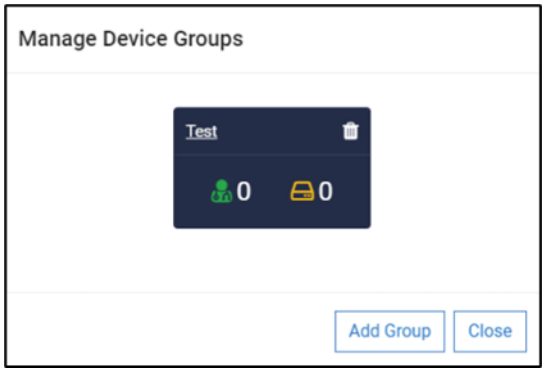


Figure 10: Device group management interface

Step 4: Once back on the **Manage Device Groups** window, click the icon to add sensing devices to your newly created group. Click **OK** to finalize the changes.

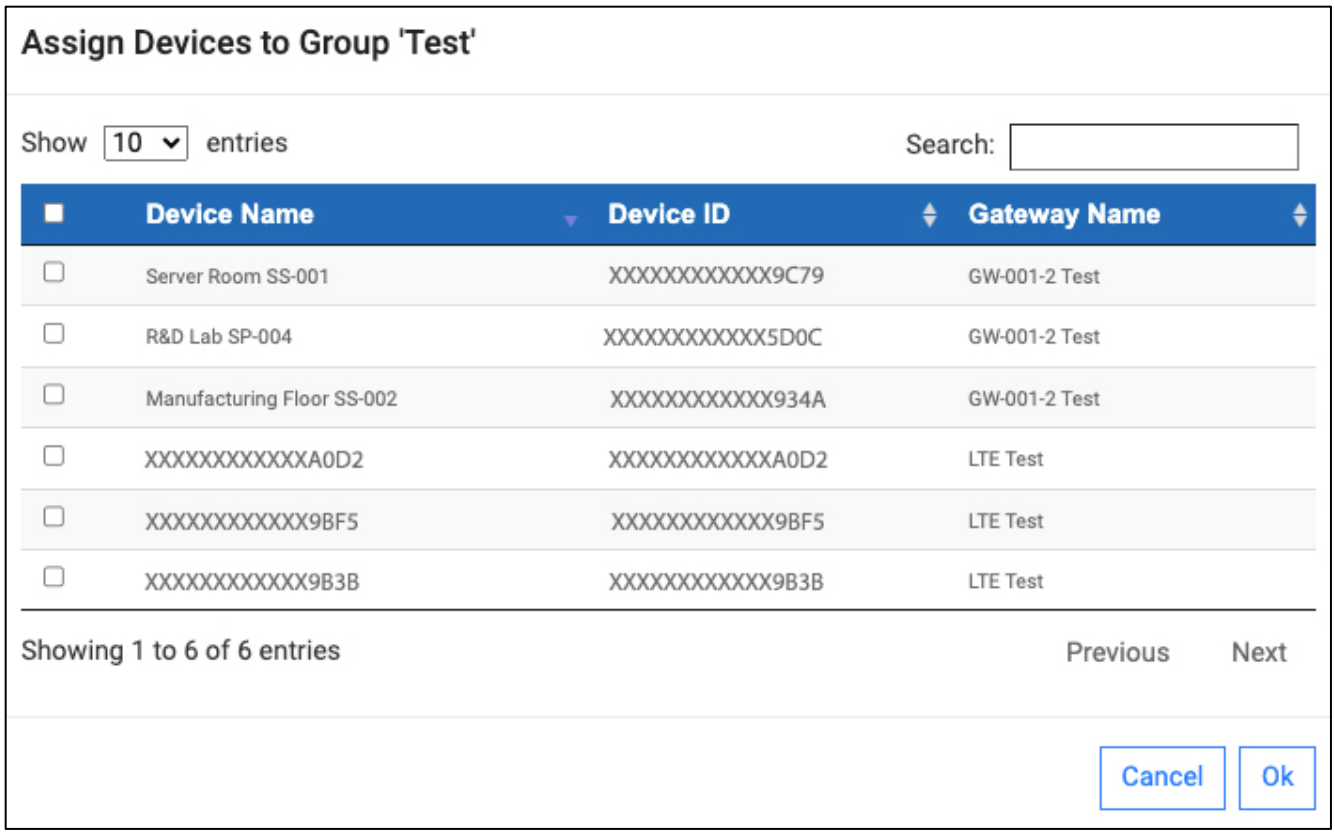


Figure 11: Assigning a device to a specific group

3.1.2.2 User and Device Assignment

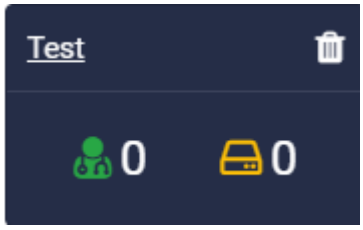


Figure 12: Omega Link Cloud Users and Groups

To assign users to devices, click the Groups 

icon, and click **Add Group**. After naming your group, you can click on these icons to add users and devices to your group.

3.1.2.3 Assign Gateway to Admin (Admin Only)

To assign a gateway to an admin, click the Gateway 

icon. Enter the admin's email address and select the gateway that will be assigned to them. Click **Assign Gateway** to finalize.

Important: If multiple Administrator users will be registered under the same company name, it is important that the company name be typed the same way for each admin registration to ensure proper operation when assigning devices.

3.1.2.4 Assign Alarm Notifications

To assign gateway alarms to other users, click the Alarms 

icon. Select your gateway, select the users to be assigned the alarm notifications, and click **Confirm Assign** to finalize.

3.1.3 Sensor Analytics

To access the analytics of a specific sensor, click on the measurements of the sensor you wish to view.

3.1.3.1 Measurements

The measurements tab displays graphs of the readings recorded by your sensor. It allows users to change between live readings and specified ranges of time. All data points, except for ***Real Time***, are downsampled to 10 minutes for 24 hours and 1 hour for 7 days and 30 days. Custom range downsampling will be based on the Reporting Interval when plotted on the Omega Link Cloud interface regardless of the Cloud subscription level. All Real Time logged data fully remains in the Historian. See section **3.2 Historian** for more information.

Note: Data backfilled from offline sensor devices will not have the subscription level downsampling rate appear in the Measurements chart if the custom range is greater than 24 hours. However, the data gathered while the sensor was offline (but still powered on) is preserved as long as there is still space in the internal memory. In case the sensor memory is full, the oldest data will be overwritten first.

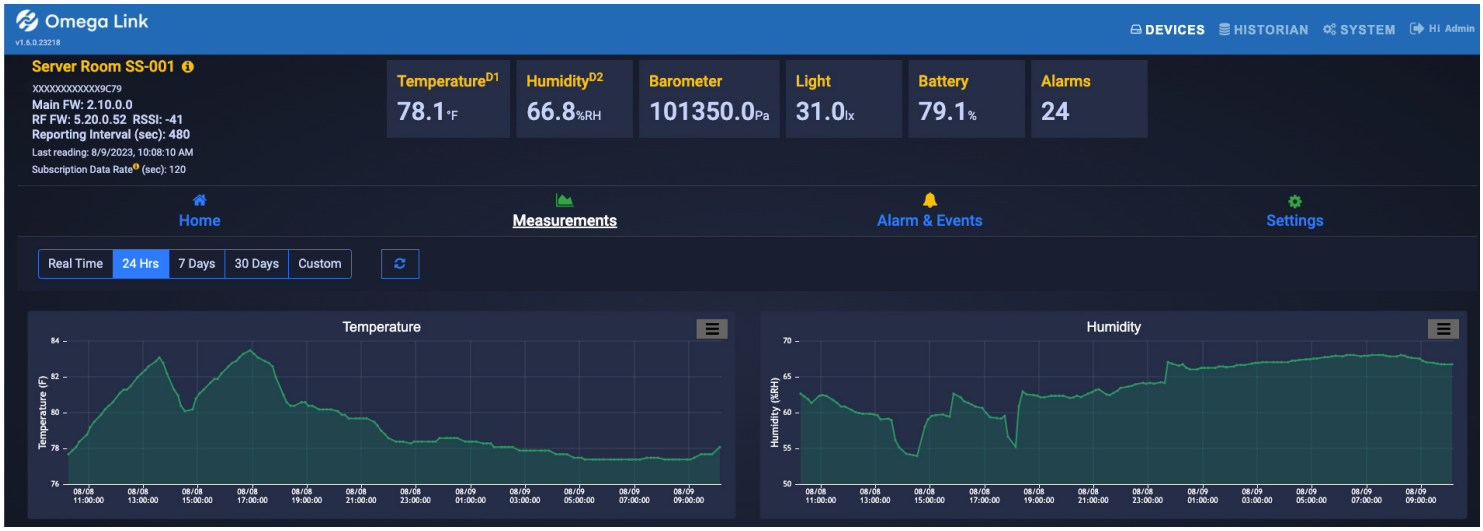


Figure 13: Omega Link Cloud sensor measurements – Graph View

3.1.3.2 Alarms and Events

The Alarms and Events tab displays all alarms and events that were triggered by this device. Each alarm and event include a short message describing the nature of the alarm or event.

Figure 14: Omega Link Cloud Alarms and Events interface

3.1.3.3 Settings (Define Alarms and Events)

The Settings tab allows users to change all settings relevant to how the device interacts with the Omega Link Cloud. Users can customize the device name, alarm/event thresholds, and sensor reporting properties.

To set a local alarm output once you are in the **Settings** tab, define the parameters of the alarm by defining the threshold. Your alarm can be configured to trigger when readings go **Above**, **Below**, or **Out of Range** of your defined threshold. Once you have defined your alarm parameters, click **Update** to finalize your changes.

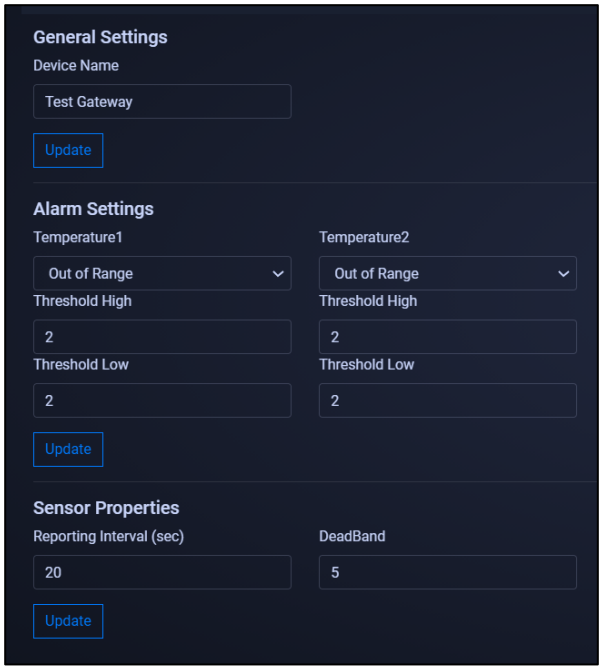


Figure 15: Omega Link Cloud Settings

3.1.3.4 What is Deadband in Settings?

It is standard to establish the desired threshold or setpoint to trigger an alarm when a condition is met. Triggering an alarm repeatedly in a short period, however, can produce unwanted results, such as having the alarm flip between inactive and active several times and triggering unwanted actions tied to that alarm as a result. Additionally, the constant alarm email notifications may result in an email service shutdown.

To solve the alarm chattering issue, Omega has implemented a Deadband feature into

the Omega Link Cloud. Also known as hysteresis, the deadband establishes a range, or threshold, of values from the setpoint that the Omega Link Cloud will accept before the alarm is triggered. The deadband threshold can either be defined as an absolute value or as a percentage of the setpoint value.

In the Omega Link Cloud, the deadband feature in the alarm settings is expressed as a percentage. For example, if a user enters a value of 5 in the deadband text box, a range of +5% to -5% from the threshold has been established and the alarm will not be triggered within that region.

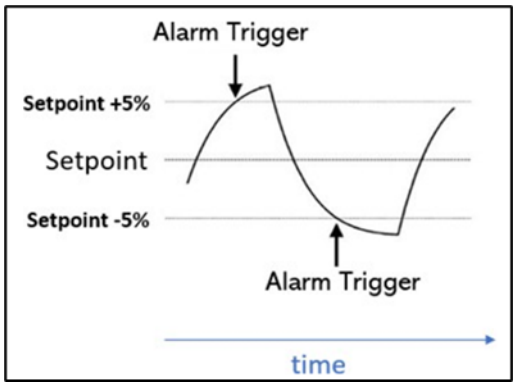


Figure 16: Setpoint as a percentage

3.2 Historian

The Historian tab allows users to create reports of past readings within a range of time and presents them as a graph. Through the Historian tab, users can export their chart data as a .csv file. Begin by clicking **Select Devices** and making your selection. Select the range of time your wish to view and choose a graph type from the selection. Your data will then be displayed and ready for export.

Figure 17: Omega Link Cloud Historian interface

3.2.1 How to Generate a Historical Data Report

The Historian tab allows users to create reports of past readings within a range of time and presents them as a graph. Through the Historian tab, users can export their chart data as a .csv file. Begin by clicking **Select Devices** and making your selection. Select the range of time your wish to view and choose a graph type from the selection. Your data will then be displayed and ready for export.

Users can begin to generate a *Historical Data Report* by clicking the ***Select Devices*** button.

Figure 18: Historical Data Report parameters

Users can then select the desired device(s) to add to the report by clicking the associated checkboxes. Click **OK** to finalize the selection.

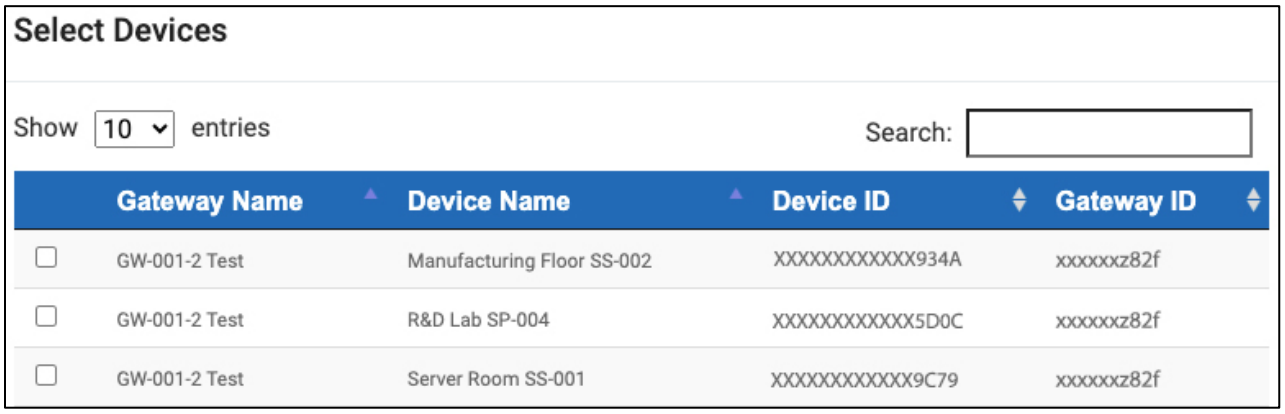


Figure 19: Historical Data Report Select Devices interface

Select a period or a range of dates

To specify the range of time the report will cover, users can select **24 Hrs, 7 Days, 30 Days**, or **Custom** date and time. Click **Apply** to finalize the changes.

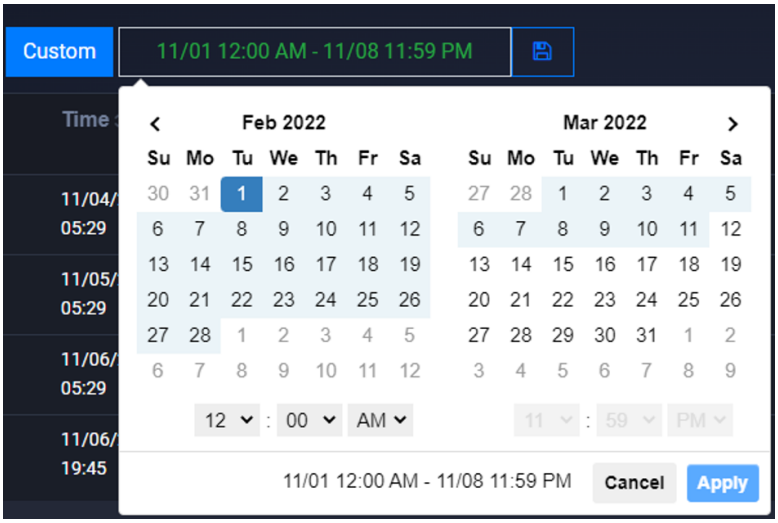


Figure 20: Custom date range calendar interface

Save the Result/Export Chart Data

Users can save and export the generated data by clicking the save icon  . A .csv file of the data will be generated and the user will be prompted to download the file.

Graph Data Presentation

The Historian interface provides three methods of presenting graphed data: **Plot Time Series**, **Plot Histogram**, and **Plot Prediction**.

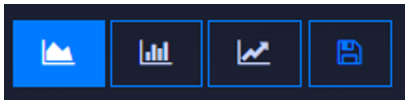


Figure 21: Graph data viewing options

Plot Time Series

Figure 22: Plot time series graph view

Plot Histogram

Figure 23: Plot Histogram graph view

Plot Prediction

To utilize the **Plot Prediction** feature, enter the date and time of the value you would like to predict and click the **Predict Future Values** button to display the data.

Figure 24: Plot Prediction graph view

3.3 System Settings

The System settings for the Omega Link Cloud allow you to customize your profile information, the units of measure displayed, user access permission, subscription management, and include contact information for technical support and feedback.

3.3.1 Profile

The Profile tab allows users to configure settings such as associated email addresses, passwords, security questions, and notifications.

Using the email address associated with the account or by providing an SMS email address, users can receive notifications directly whenever an alarm or event is triggered.

Passwords can be updated by entering the old password in the text box and then entering and confirming the new password as directed on the webpage. Security questions can be configured at the bottom of the Profile webpage.

Important: Ensure the Notification checkboxes are properly marked according to the type of notification alert the user would like to receive.

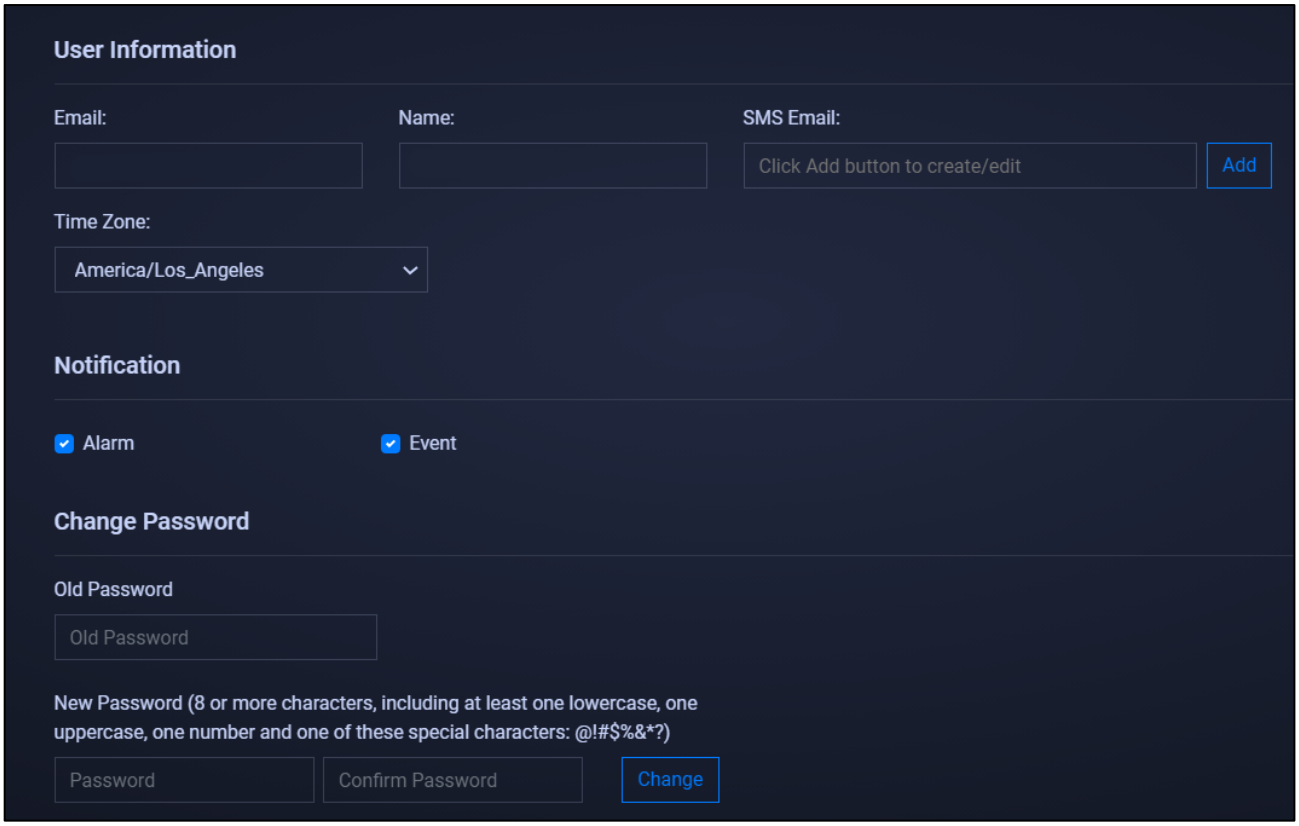


Figure 25: Omega Link Cloud Profile settings

3.3.2 Units

The Units tab allows users to set their preferred units of measure as they appear on the Omega Link Cloud. Changing the units here does not change the units of your sensing devices. It only changes the unit of measure as it appears on the Omega Link Cloud.

Figure 26: Omega Link Cloud local display units

Note: Changing the units of measurement only affects the readings displayed on the Omega Link Cloud. Omega Link sensing devices interpret data according to the International System of Units (SI).

3.3.3 Users

The Users tab allows Administrator Users to add organizational users via email to the Omega Link Cloud account. This provides them permission to view or change the sensing device data associated with the account. To add a user, enter their email address in the text box and choose **Can Change** or **Can View** to grant access or restrict access.

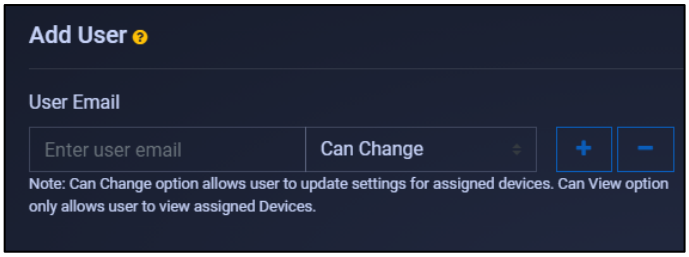


Figure 27: Omega Link Cloud Add or Remove user access

3.3.3.1 How to Add Organizational Users

To add organizational users to an Omega Link Cloud account, follow these steps:

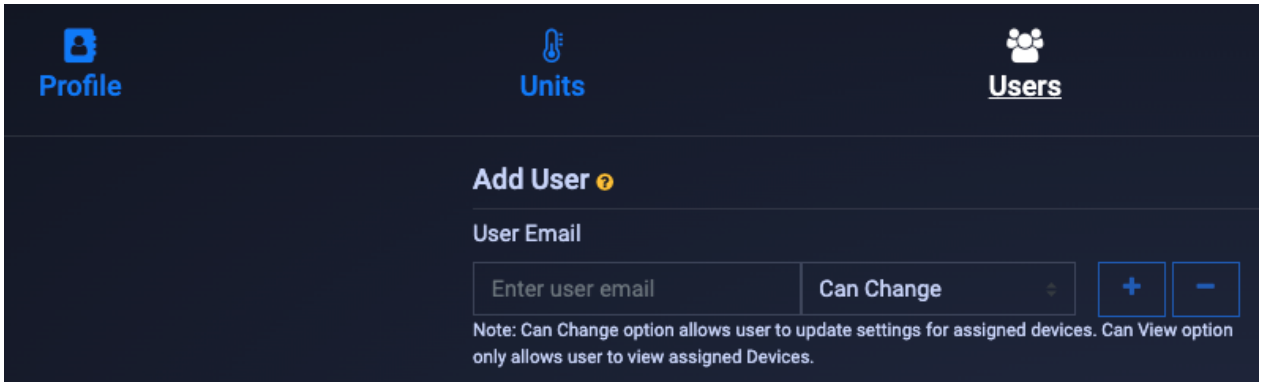


Figure 28: Omega Link Cloud Users tab

Step 1: On the Omega Link Cloud homepage, click on the **SYSTEM** tab, and click on **Users**. Enter the email address of the user you want to add.

Step 2: Click the dropdown next to the email address text box and select the level of access the new user will have: **Can Change** or **Can View**.

Step 3: Click the + icon to add the user. The email address of the new user will appear on the **Existing Users** table.

Step 4: Once the previous steps are complete, the new user will receive an email prompting them to register an Omega Link Cloud account. If no email is received within 10 minutes, the email may be in the user's spam folder.

3.3.4 Subscription

The Subscription tab shows your current subscription tier and provides a link to the Omega website should you choose to upgrade your subscription plan. If you purchased the subscription with a billing email different than your Omega Link Cloud account email, you may link the two here.

3.3.5 Contact Us

The Contact Us tab provides an email address link for direct engineering technical support. It also provides a text field for user feedback and comments.

3.4 How to Remove a Paired Smart Sensor from a Gateway

To remove a paired Smart Sensor (such as the SS-001) from a registered Omega Link Gateway, follow the steps below:

Step 1: Log in to the Omega Link Cloud account associated with the paired devices.

Step 2: From the Omega Link Cloud device readings page, identify the Smart Sensor that will be removed, and click the Trash Can icon .

Figure 29: Omega Link Cloud UI Smart Sensor readings

3.4.1 How to Move a Paired Smart Sensor to a Different Omega Link Gateway

To move a paired Smart Sensor (such as the SS-001) to a different Gateway, follow the steps below:

Note: When moving a paired Smart Sensor to a different Gateway, alarm, and event thresholds may be triggered and notifications based on user preference may be delivered. Notifications sent as a result of the re-pairing process may be disregarded.

Step 1: Navigate to the Omega Link Cloud account that is associated with the Smart Sensor and remove the Smart Sensor from the account.

Step 2: Ensure the unit is powered with either a USB connection or batteries. Press and hold the Pairing Button on their Smart Sensor for 8 seconds so that the LED Status Indicator blinks red to factory reset the device, then release the pairing button.

After the factory reset, the LED Status Indicator on the Smart Sensor will turn Amber/Orange indicating the device is in pairing mode and is ready to be paired to a new Gateway.

WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by the company will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY/DISCLAIMER language, and, additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

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