1 YEAR
WARRANTY

OMEGA™

User's Guide

Shop online at omega.com

e-mail: info@omega.com
For latest product manuals: www.omega.com/en-us/pdf-manuals

GW-002-1-LTE

Long Range LTE Enabled Gateway with Cloud Connectivity

omega.com info@omega.com

Omega Engineering, Inc:

800 Connecticut Ave. Suite 5N01, Norwalk, CT 06854, USA
Toll-Free: 1-800-826-6342 (USA & Canada only)
Customer Service: 1-800-622-2378 (USA & Canada only)
Engineering Service: 1-800-872-9436 (USA & Canada only)

Tel: (203) 359-1660
e-mail: info@omega.com

Fax: (203) 359-7700

Omega Engineering, Limited:

1 Omega Drive, Northbank,
Irlam Manchester M44 5BD
United Kingdom

Omega Engineering, GmbH:

Daimlerstrasse 26 75392
Deckenpfronn Germany

Table of Contents

1 Notes, Cautions, and Warnings

If the equipment is used in a manner not specified in this manual, the protection by 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 set up and use the Omega Link Gateway.

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 Wireless LTE Gateway (GW-002-1-LTE) is a high-performance wireless gateway that allows for seamless connection for up to 40 long-range Omega Link Smart Sensor Devices. The LTE network-enabled connectivity ensures a direct, wireless cellular connection to the Omega Link Cloud. The local built-in web server is accessible through an RJ45 port. The GW-002-1-LTE supports both Modbus TCP and RTU RS232/RS485 and has one USB port to enable local smart probe connections.

The product is ready to go right out of the box and features an internal SIM card with 1 year of LTE service. This service is activated upon shipment and provides one year of connectivity from the gateway to the Omega Link cloud. Annual renewals can be purchased through the Omega website.

Important: The LTE service associated with your Omega Link Wireless LTE Gateway activates when your device is shipped to you. Begin using your product as soon as possible once you have received it.

Refer to the following LED Status Indicator table to identify the different Gateway behaviors and statuses.

LED Color	Status Description
Amber/Orange (solid)	Gateway is powered on; no network connection
Green (blinking repeatedly)	Gateway is in Pairing Mode or Firmware Upgrade was successful
Amber/Orange (blinking + reboot)	Gateway firmware automatic update
Red (blinking)	Gateway is powering on or Firmware Upgrade in progress
Green (solid)	IP Address successfully obtained or network connection successful
No Light	Unit is off or in Sleep Mode

Important: Do not power on the Omega Link Gateway or Omega Link Smart Sensor before the Gateway registration is complete. Refer to section **4 Omega Link LTE Gateway First-Time Setup** for more information.

3 GW-002 Hardware Overview

The GW-002-1-LTE offers the following measurement interface options:

- Smart Sensor one-button pairing
- 1x USB 2.0 Connector
- Serial Data and Alarm 5-pin screw terminal
- 1x RJ45 connector for local access

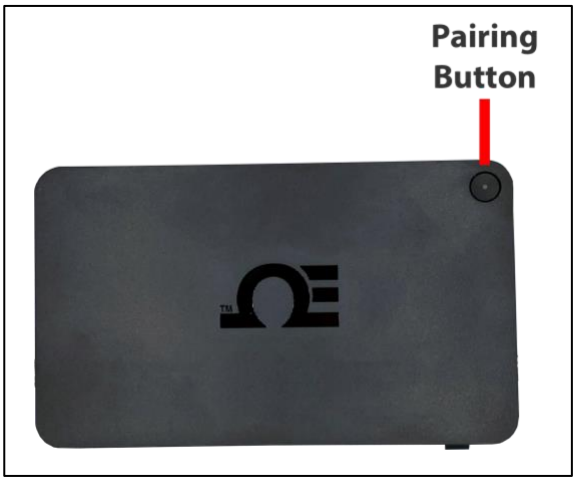

Figure 1: Gateway Wireless Pairing Button

3.1 Smart Sensor Pairing

Pairing an Omega Link Smart Sensor to your Omega Link Wireless LTE Gateway is made easy with one-button pairing. Simply press the pairing button on your gateway and press the pairing button on your Smart Sensor to connect the two. Your Smart Sensor will now be visible on your Omega Link Cloud interface.

3.2 USB 2.0 Connectors

The USB 2.0 connector is used to connect Omega Link Smart Probes with an Omega Link IF-001 Smart Interface Cable directly to your gateway.

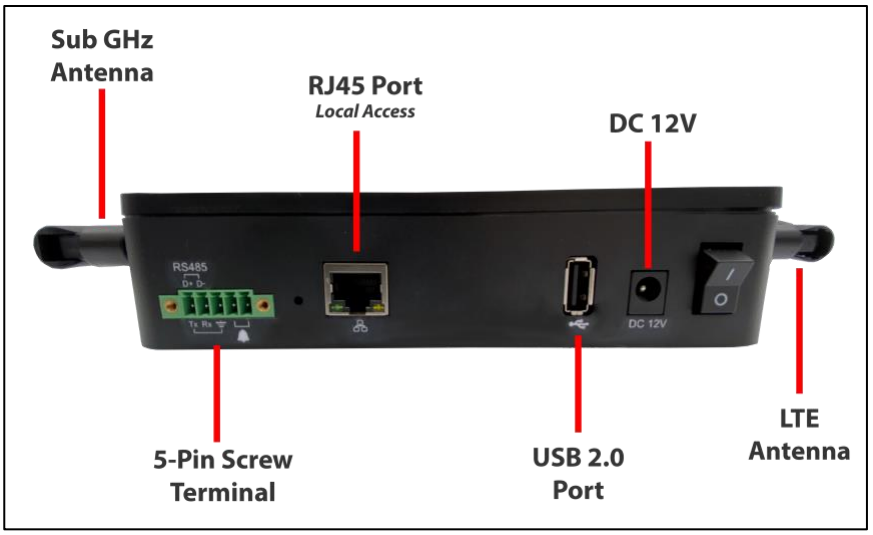

Figure 2: GW-002 Series input connectors (varies by model)

3.3 Serial Data and Alarm Connector

The 5-pin screw terminal can accept RS232 or RS485 inputs from authorized Omega accessories and devices such as OM240, CN616A, and DP612. The 5-pin screw connector on the gateway is labeled as follows:

Pin	Description
Pin 1	TX (D+)
Pin 2	RX (D-)
Pin 3	GND
Pin 4	Alarm (N/O)
Pin 5	Alarm (N/O)

Contact Omega or visit our website to see other compatible devices.

3.3.1 Alarm Relay Wiring

The 5-pin screw terminal can be used to connect a peripheral alarm relay that will be triggered if the gateway loses network connection to the Omega Link Cloud.

Note: This alarm will not detect a cabling or wiring issue. The alarm will sound if the Gateway cannot reach the Omega Link Cloud network.

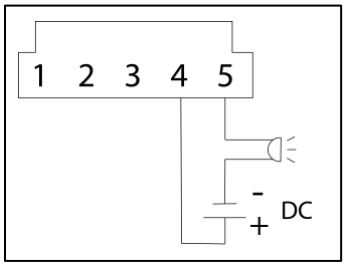

Figure 3: Sample alarm relay wiring diagram

3.4 RJ45 Port

An RJ45 port is provided for local network access and can be used for ModBus TCP devices only. It does not offer internet access.

4 Omega Link LTE Gateway First-Time Setup

To register your Omega Link Gateway with Omega Link Cloud, you must first create and register an Omega Link Cloud account. Using any device with a web browser, complete the following steps:

4.1 Create an Omega Link Cloud account and Register the GW-002 Device

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

Step 2: Click **Sign Up** and complete the registration process.

Once the user credentials are verified, the user can sign in and will be presented with the Omega Link Cloud homepage.

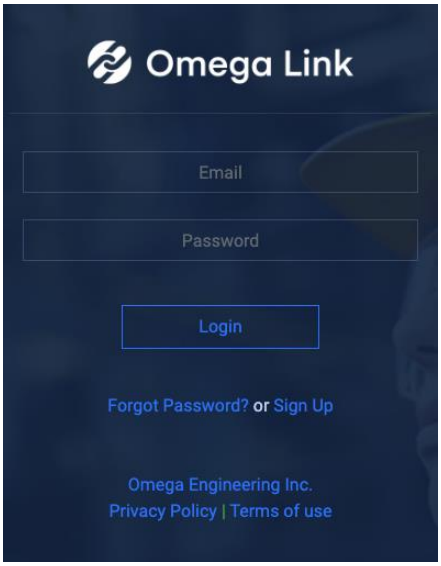

Figure 4: Omega Link Cloud login

Step 3: From the cloud homepage, click **Add Gateway**.

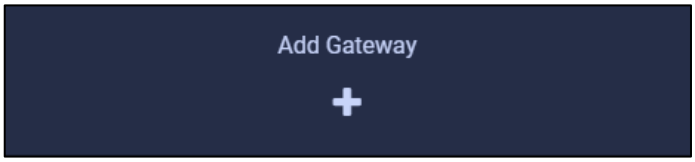

Figure 5: Omega Link Cloud Add Gateway button

Step 4: Type in the ***Gateway ID (GID)*** from the label on your gateway.

Step 5: Type in the ***Registration ID (RID)*** from the label on your gateway and click **Register**.

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

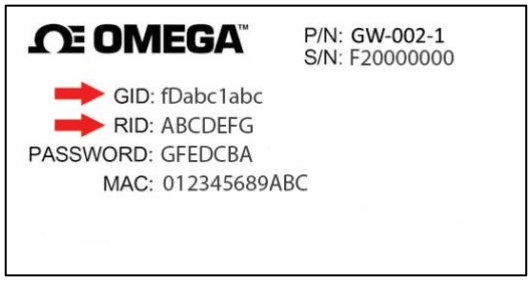

Figure 6: Sample Omega Link Gateway label

Step 6: Once you have successfully registered your gateway, an icon will appear next to your registered device. The icon will disappear once the registered gateway is powered on.

4.2 Assemble and Power on the GW-002 Device

Refer to the LED color status table below and follow these instructions to power on the GW-002 unit:

LED Color	Status Description
Amber/Orange (solid)	Gateway is powered on; no network connection
Green (blinking repeatedly)	Gateway is in Pairing Mode or Firmware Upgrade was successful
Amber/Orange (blinking + reboot)	Gateway firmware automatic update
Red (blinking)	Gateway is powering on or Firmware Upgrade in progress
Green (solid)	IP Address successfully obtained or network connection successful
No Light	Unit is off or in Sleep Mode

Once your gateway is registered to your Omega Link Cloud, follow these instructions to power on your gateway:

Step 1: Connect the Sub GHz antenna and the LTE antenna included with your gateway to the sides of the gateway housing.

Step 2: Connect the DC 12V adapter to the back of the gateway.

Step 3: Turn the power switch on the gateway to the ON position.

Step 4: The LED light on the **Pairing Button** will blink red to indicate that it is booting up.

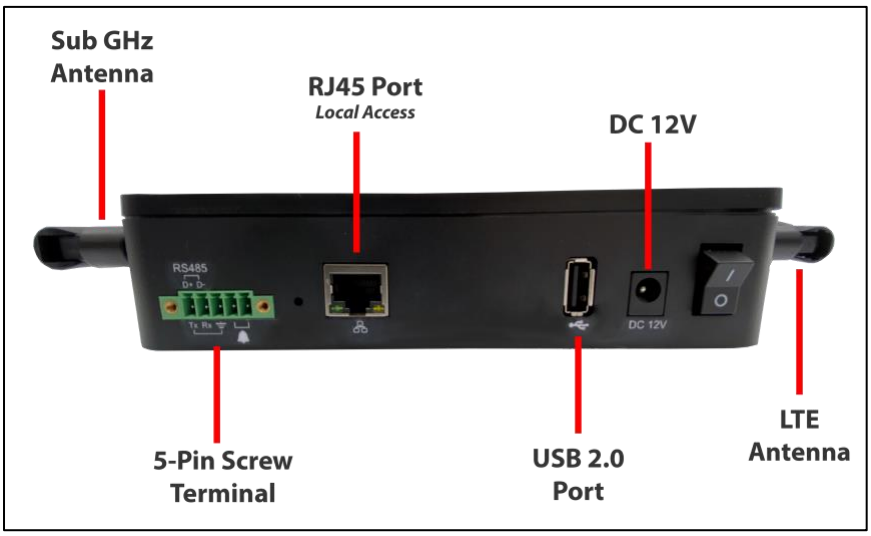

Figure 7: GW-002 Series input connectors (varies by model)

Note: If the LED light is solid red, your gateway is unable to connect to the network and there may be an issue with the cellular service. Contact Omega Engineering for additional help.

Once the gateway is communicating through the LTE network, the light will stay a solid green. Your gateway can now accept connections from an Omega Link Smart Sensor, wired sensors, and controller devices such as TCP ModBus or Serial ModBus depending on the gateway model you have purchased.

5 First-Time Gateway Internal User Interface Access

Important: A firmware update for the GW-002 is required to access the internal UI as listed below. The latest firmware is automatically installed when the GW-002 is connected to the Internet.

All Omega Link Gateway models contain an internal user interface (UI) that is used to manually upgrade firmware, add wired sensing devices to the gateway, and add other external accessories and peripherals. The GW-002 comes with a factory default Static IP, however, DHCP can be enabled from the gateway internal UI. To access the internal gateway UI for the first time, connect the gateway unit directly to a PC using an RJ45 Ethernet cable and follow the steps below:

Important: The GW-002-LTE gateway has a default static IP address of **192.168.0.50**.

Step 1: Navigate to the **Windows Control Panel** and click **Network and Sharing Center**.

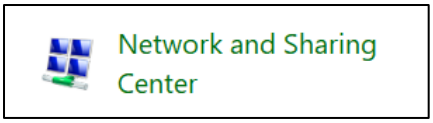

Figure 8: Windows Network and Sharing Center

Step 2: Click the **Unidentified Network** Connection.

Figure 9: Unidentified Network - Gateway Direct to PC

Step 3: Click **Properties**

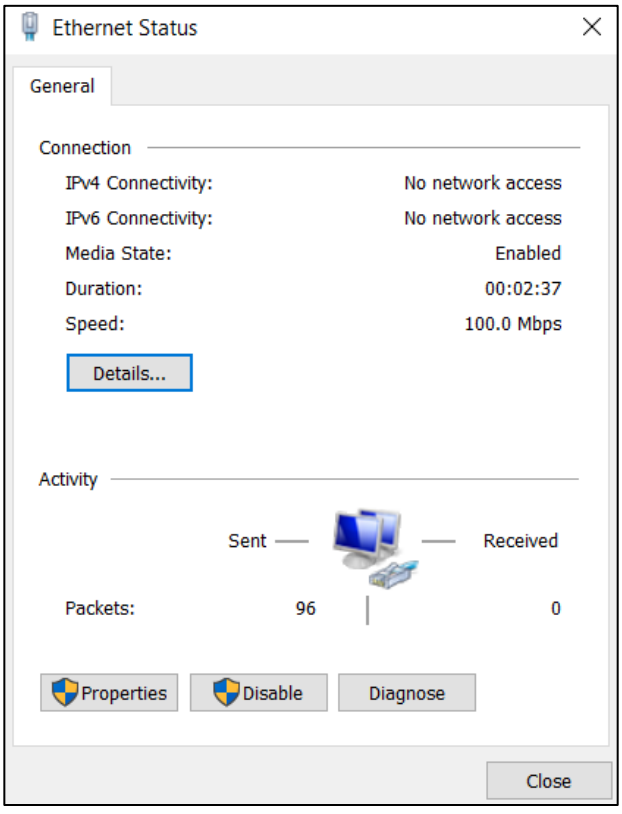

Figure 10: Ethernet Status menu

Step 4: Click **Internet Protocol Version 4 (TCP/IPv4)** to highlight the selection and then click Properties.

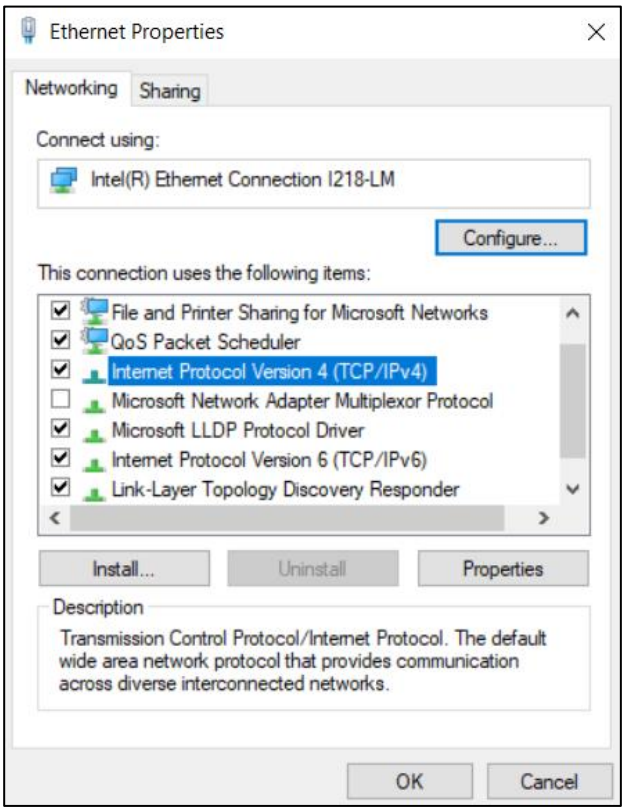

Figure 11: Ethernet Properties and TCP/IPv4)

Step 5: Fill out the field for the IP address with the following:

192.68.0.XXX
(Where **XXX** is any value that is **NOT** 50)

Fill the Subnet Mask field with the following:
255.255.255.0

Click **OK** to finalize the changes

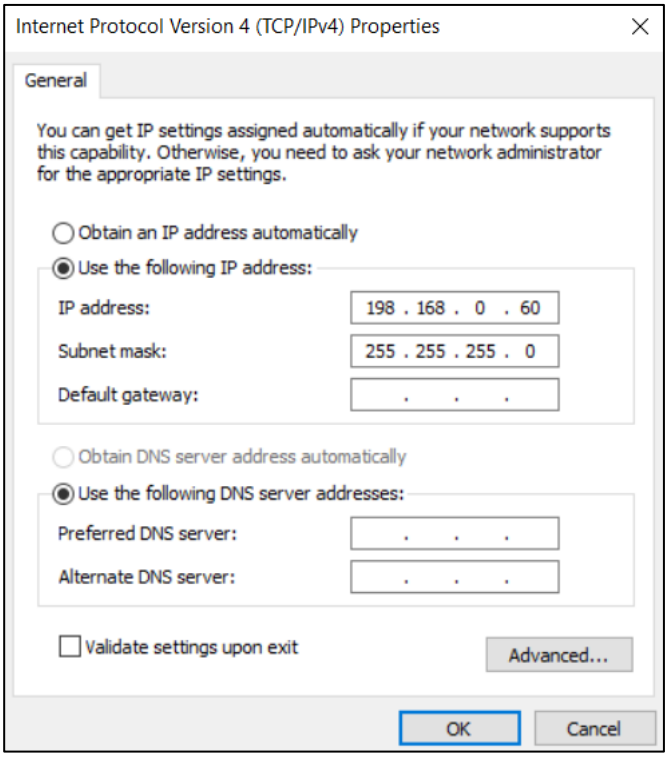

Figure 12: Internet Protocol Version 4 (TCP/IPv4) Properties

Step 6: Open a web browser and navigate to the following address to access the web UI:

http://192.168.0.50

Step 7: From the gateway UI login screen, enter the password on the rear label of the unit. When entered successfully, the user will be prompted to create a new password.

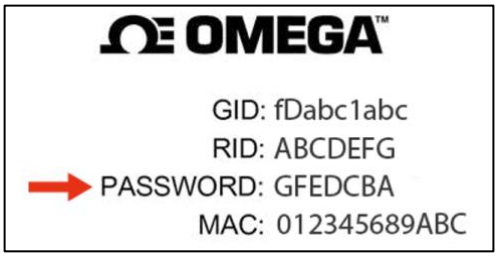

Figure 13: Gateway unit label

Once the user has accessed the UI for the first time, they may leave the network settings as DHCP, or they may choose a Static IP under the **Network Settings** menu of the gateway UI.

5.1 Connected Devices – Main Interface

The **Connected Devices** tab is the default page that appears when a user has successfully signed in to the internal gateway UI. From here, users can add wired devices to the gateway to have them appear in your Omega Link Cloud or OEG account. Wirelessly paired devices will appear here as well.

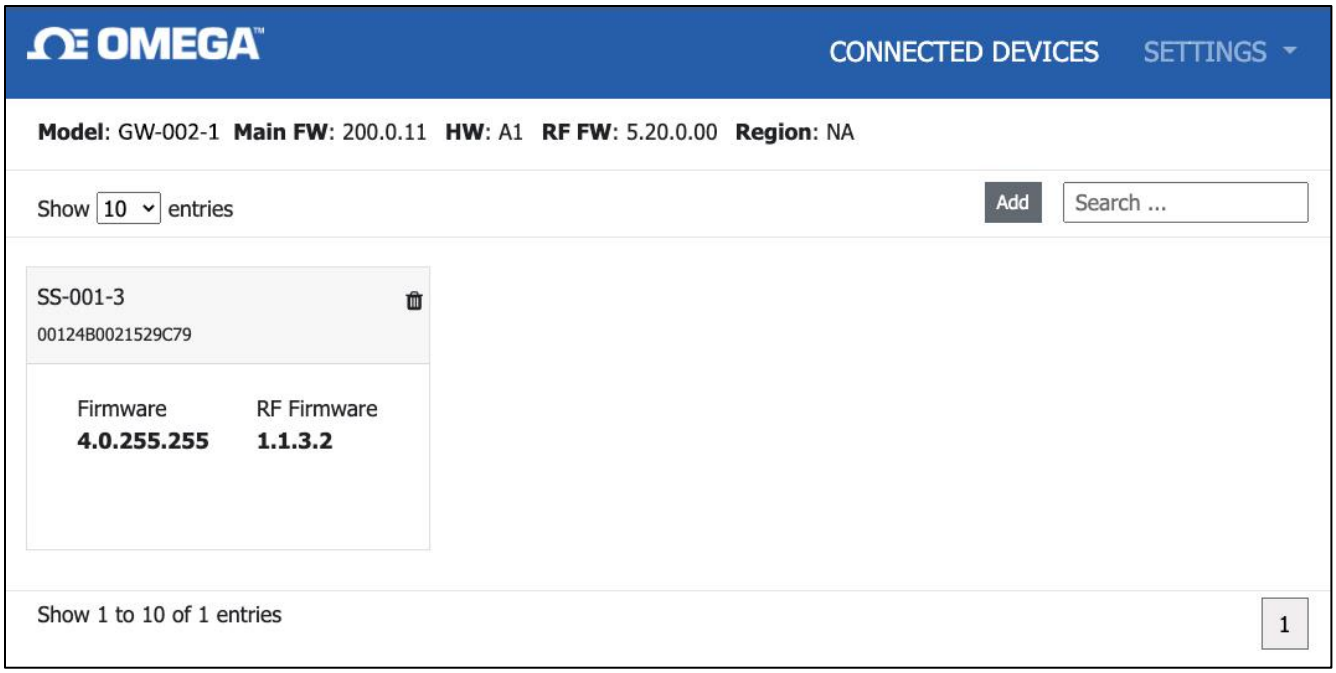

Figure 14: Gateway web UI main page - Connected Devices

To pair a wired device to your gateway from the internal gateway web UI, begin by clicking the 

button at the top right of the web page. For more information on how to pair a wireless sensing device such as an Omega Link Smart Probe or Smart Sensor, refer to section: **6 How to Pair a Sensing Device to an Omega Link Gateway**.

5.1.1 Controller

When adding a controller, ensure the **Product Family** dropdown is set to **Controller**, and choose your controller type from the **Product Model** dropdown. You can then set the communication parameters for your device including the interface type, baud rate, data bits, stop bits, parity, device ID, and reading interval.

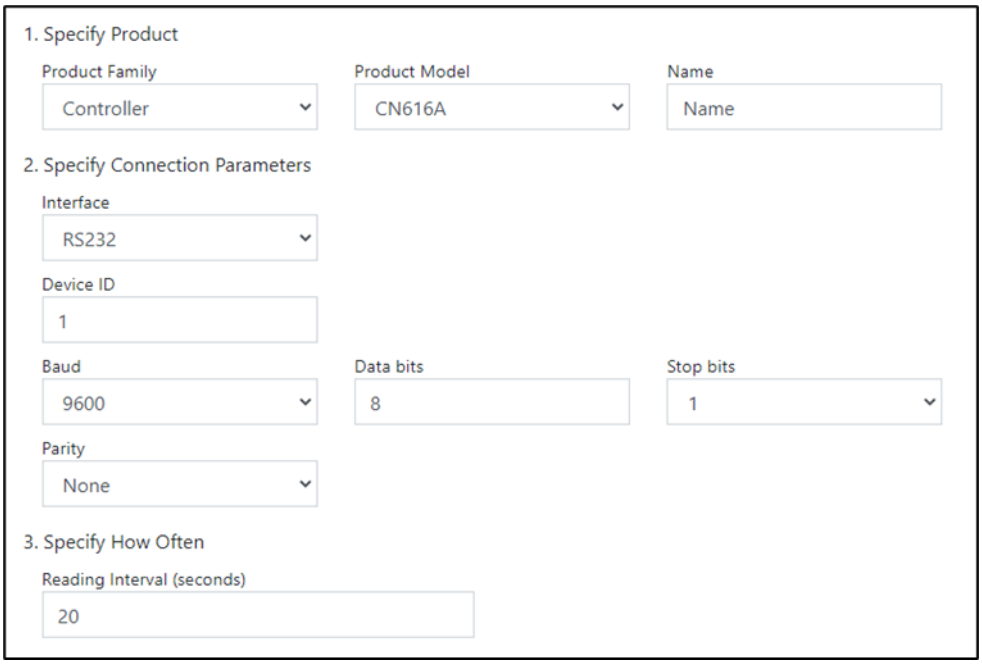

Figure 15: Add Device – Controller Setup

5.1.1.1 Omega Platinum

Omega Platinum controllers being added to the GW-002 require users to identify the IP address and Port number of the Controller device.

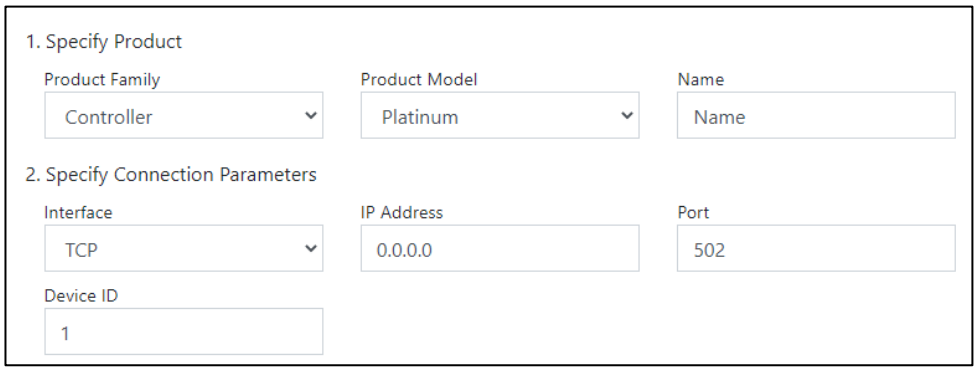

Figure 16: Platinum series controller Add Device interface

5.1.2 DAQ

To add a DAQ device, select it from the **Product Family** dropdown and select your **Product Model** from the dropdown. You can then set the communication parameters for your device including interface type, IP address, port number, device ID, and reading interval.

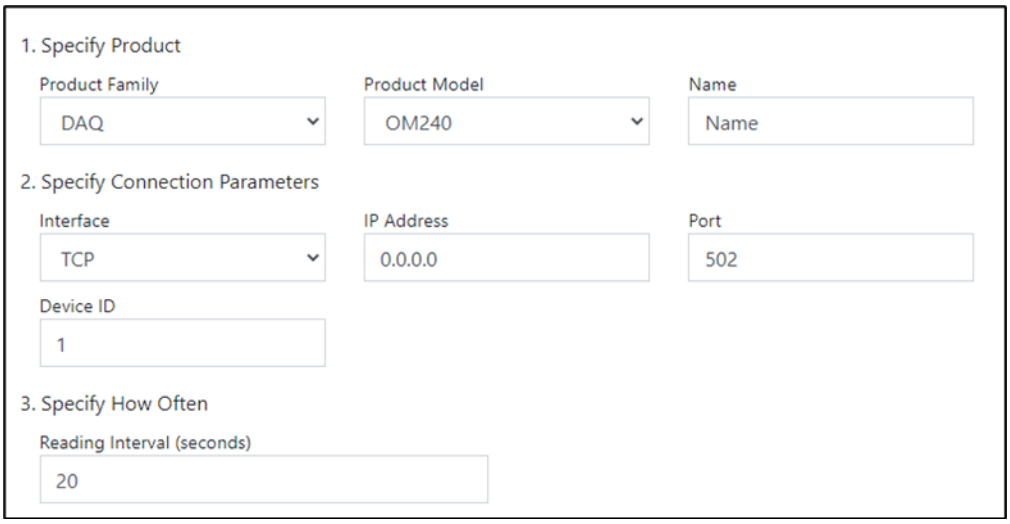

Figure 17: DAQ series Add Device interface

Omega DAQ devices require users to know the IP address of their controller device. An IP scanner software can be used to identify the DAQ IP address.

5.1.3 Meter

To add a Meter device, select it from the **Product Family** dropdown and select your **Product Model** from the dropdown. You can then set the communication parameters for your device including the interface type, baud rate, data bits, stop bits, parity, device ID, and reading interval.

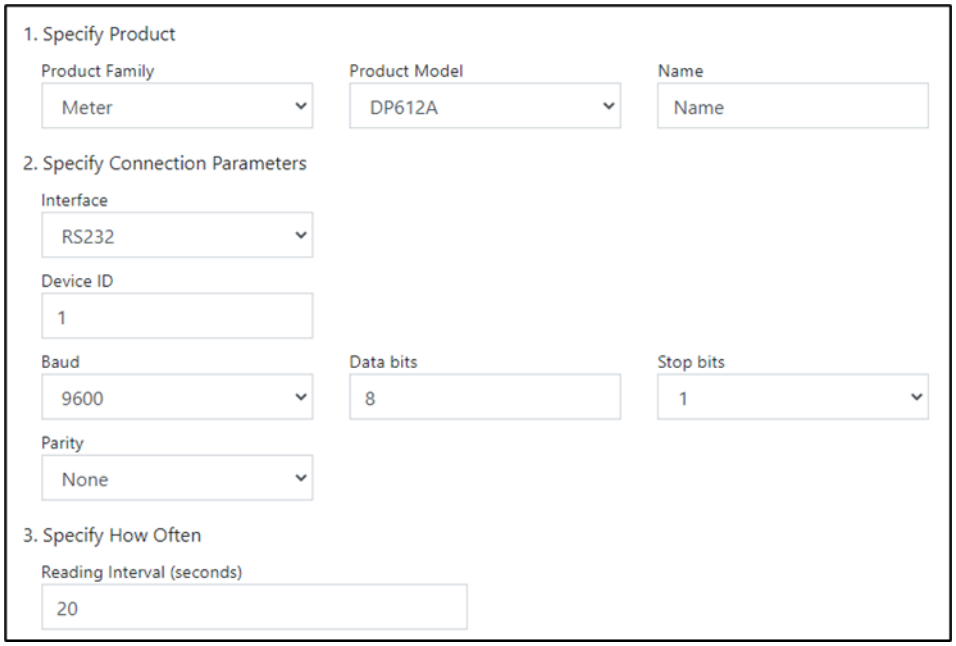

Figure 18: Meter Add Device interface

5.1.4 Probe

To add a Smart Probe, select it from the **Product Family** dropdown and select your **Product Model** from the dropdown. You can then set the communication parameters for your device including the interface type, device ID, and reading interval.

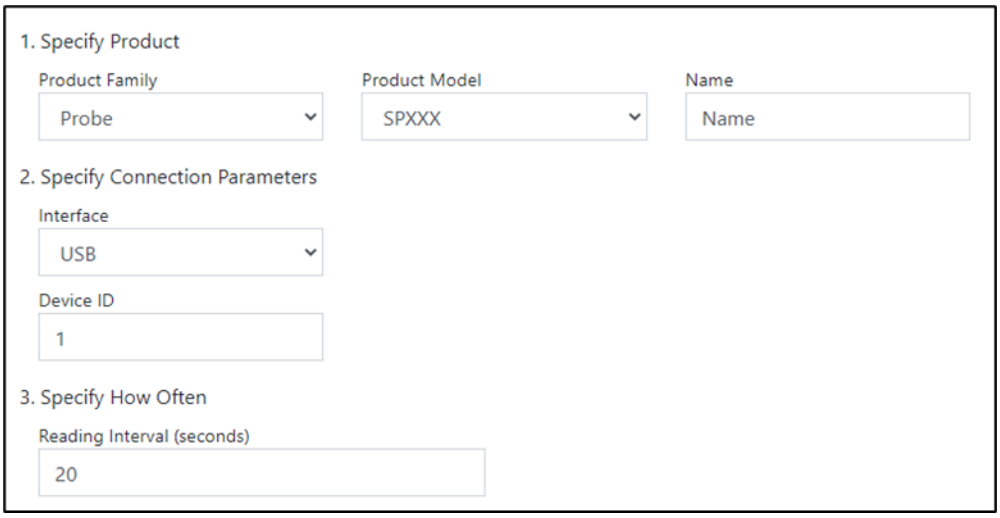

Figure 19: Omega Link Smart Probe Add Device interface

5.2 GW-002 Settings

Click the settings tab to view log data, update gateway firmware versions, change security passwords, and view current network settings.

5.2.1 Network Settings

To view and change the Network settings, select it from the **Settings** dropdown at the top right of the webpage UI. From here, you can change your gateway device name and change your **IP Assignment** between DHCP and Static IP.

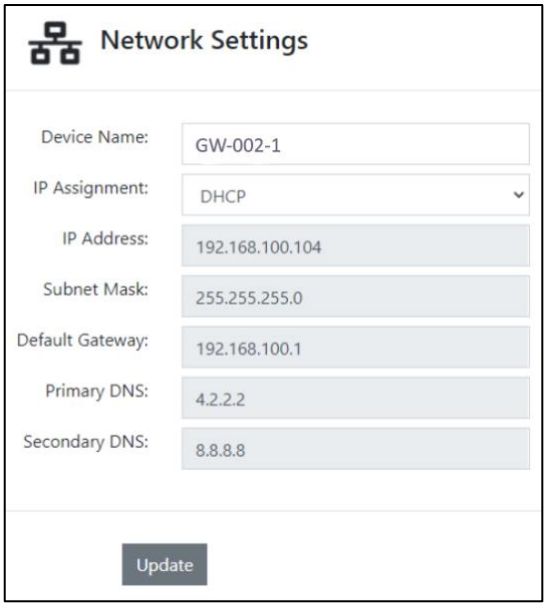

Figure 20: Gateway UI Network Settings

5.2.2 Security Settings

To manage the password required to access your gateway web UI, select the **Security** option from the **Settings** dropdown at the top right of the webpage UI.

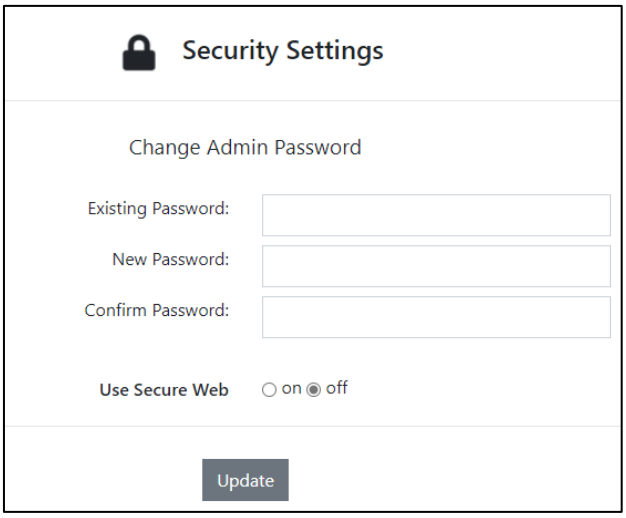

Figure 21: Gateway UI Password and Security Settings

5.2.3 System Settings

To update your gateway firmware version, factory reset your device, or soft reboot your device, select **System** from the **Settings** dropdown at the top right of the webpage UI. When updating the firmware version, click **Check Online** to download the latest firmware version available for your gateway. Then, click the  icon to find the file on your computer. Finally, click **Upload** to get the latest firmware on your gateway.

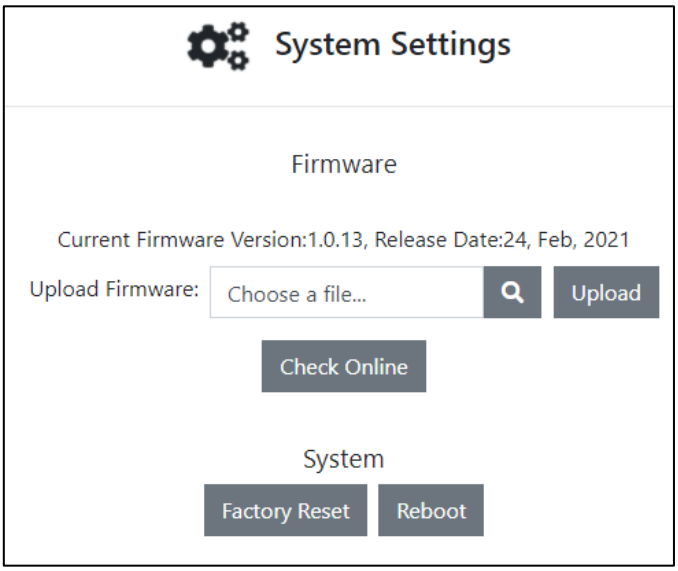

Figure 22: Gateway UI System Setting, Firmware update, and Factory Reset interface

Warning: Clicking the **Factory Reset** button erases all saved data and configurations. Your gateway will be changed back to the default, out-of-the-box settings.

5.2.3.1 Updating the Firmware on an Omega Link Gateway

Once in the **System Settings**, the user may click the magnifying glass icon accompanying the **Upload Firmware** box to open the **File Explorer**. Select the new firmware file and click **Open**. Click **Upload** to confirm the firmware upgrade. A red LED on the gateway will indicate that the upgrade is in process.

Once the update process is complete, log out and log back in. The new firmware version will appear on the main page of the internal gateway interface.

5.2.4 Log

Select **Log** from the **System** dropdown to view a time-stamped report of the events that have occurred with your gateway.

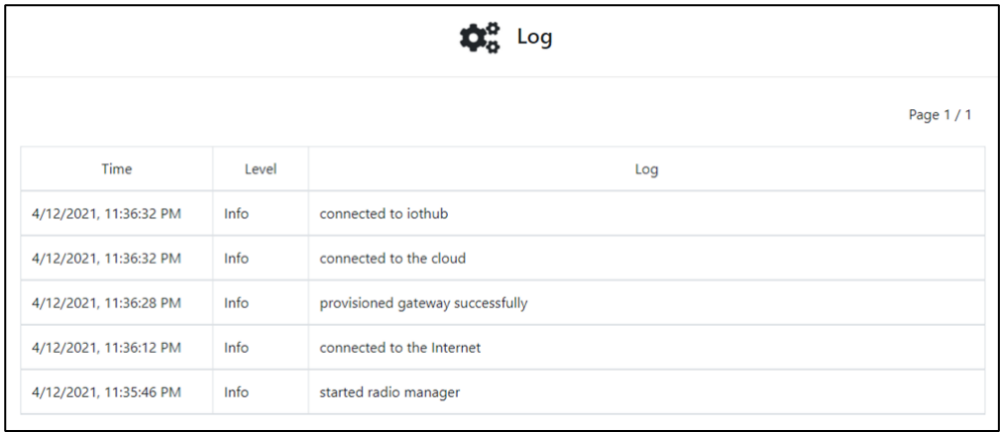

Figure 23: Gateway UI Log table

6 How to Pair a Sensing Device to an Omega Link Gateway

Refer to either the Wireless Pairing or Wired Pairing instructions as applicable.

6.1 Wireless Pairing

Pairing your wireless Smart Interface (IF-006) or Smart Sensor is made easy with a one-button pairing system between the IF-006 or Smart Sensor and the Omega Link Gateway.

Step 1: Push the pairing button once on your Smart Sensor or IF-006 device. The LED Status Indicator will blink green indicating it is in Pairing Mode.

Step 2: Quickly push the pairing button on the Omega Link Gateway. The LED on the Gateway will blink green indicating the Gateway is in Pairing Mode.

When the IF-006 or Smart Sensor has been successfully paired to the Omega Link Gateway, the LED will stop blinking on both devices.

6.2 Wired Pairing

Wired Smart Probes connected directly to an Omega Link Gateway with an IF-001 cable or IF-002 will need to add the device to the Gateway Internal User Interface.

The **Connected Devices** tab is the default page set once you are signed in to the internal gateway UI. From here, you can add devices to your gateway to have them appear in your Omega Link Cloud account.

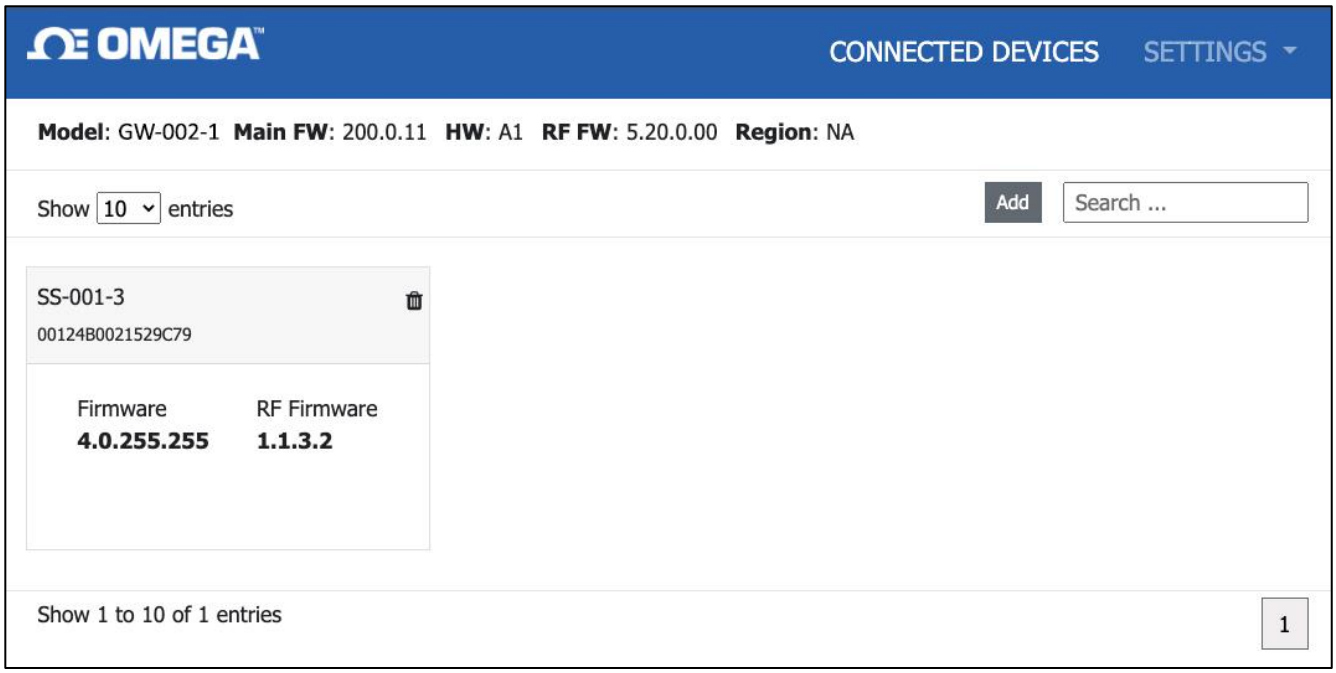

Figure 24: Gateway Internal User Interface

To add a device to your gateway from the internal gateway web UI, begin by clicking the 

button at the top right of the web page. Refer to section **5.1 Connected Devices – Main Interface** for more information.

7 Navigating Omega Link Cloud

The Omega Link Cloud is the bridge between Omega Link Smart Sensing devices and getting your data when you need it on any device with a web browser. The Omega Link Cloud delivers state and status monitoring, data logging, visualization, and analytics. Accounts can be created and accessed by visiting: http://cloud.omega.com

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.

7.1 Devices

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

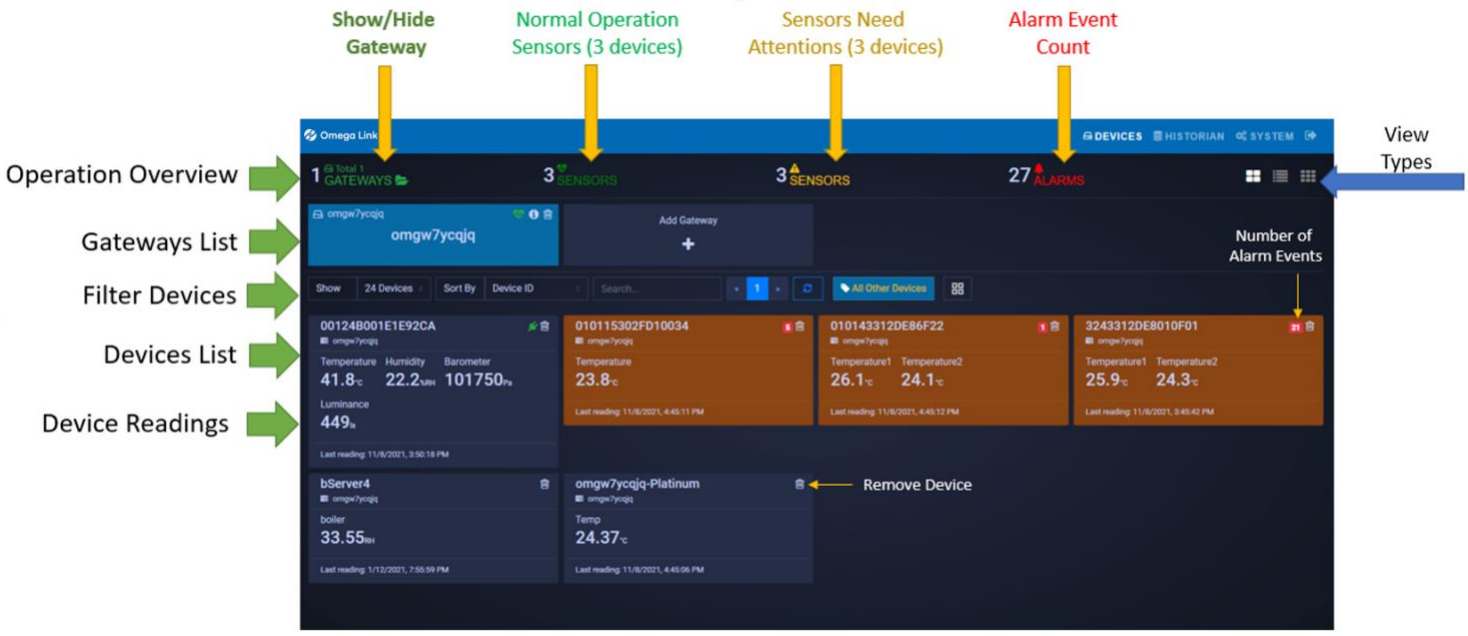

Figure 25: Omega Link Cloud main interface - Devices

7.1.1 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.

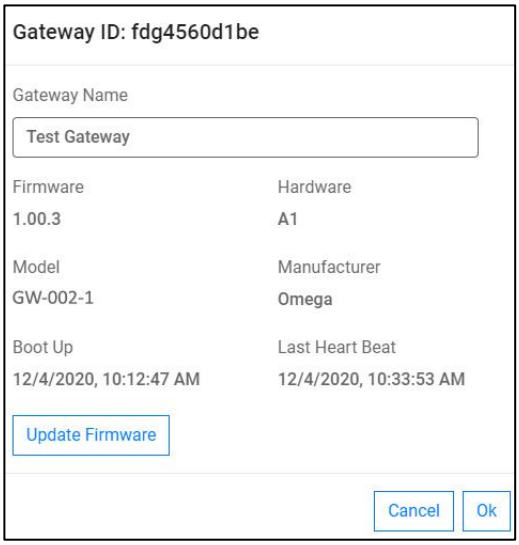

Figure 26: Omega Link Cloud registered gateway details

7.1.2 Management

Clicking the management icon allows you to create customizable groups of gateways, assign gateways to admins, and assign alarm notifications to other users.

7.1.2.1 User and Device Assignment

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.

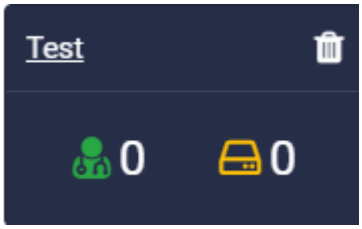

Figure 27: Omega Link Cloud Users and Groups

7.1.2.2 Creating a Device Group and Adding Devices

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

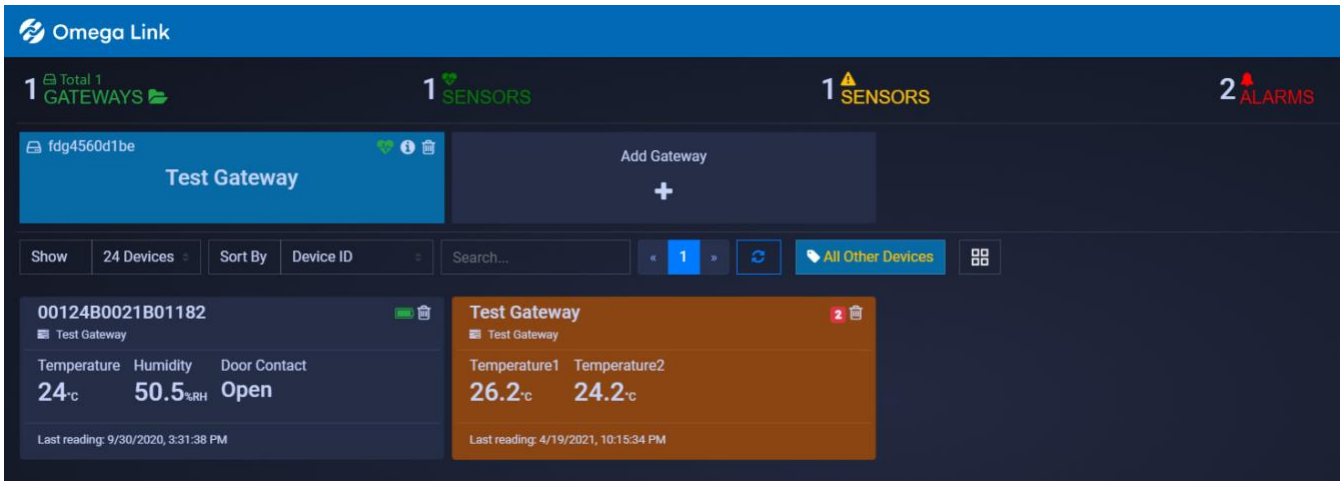

Figure 28: Omega Link Cloud devices homepage

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.

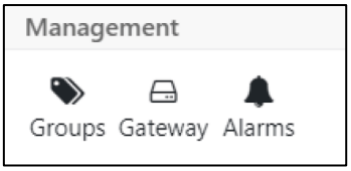

Figure 29: Device Management options

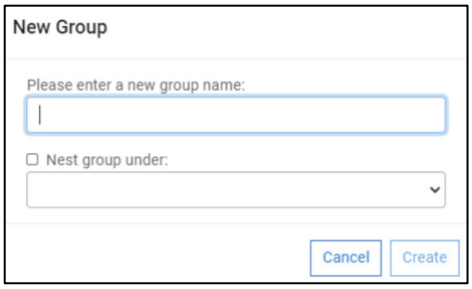

Figure 30: New Group Interface

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 **7.3.3.1 How to Add Users**.

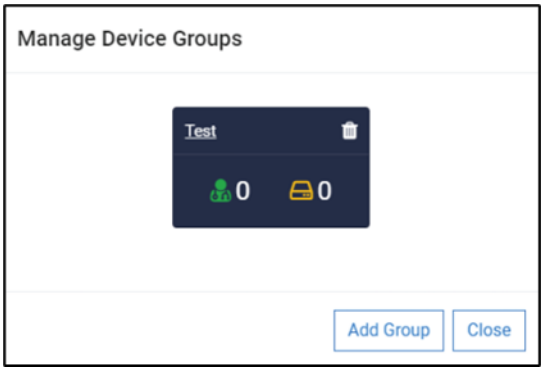

Figure 31: Device group management interface

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.

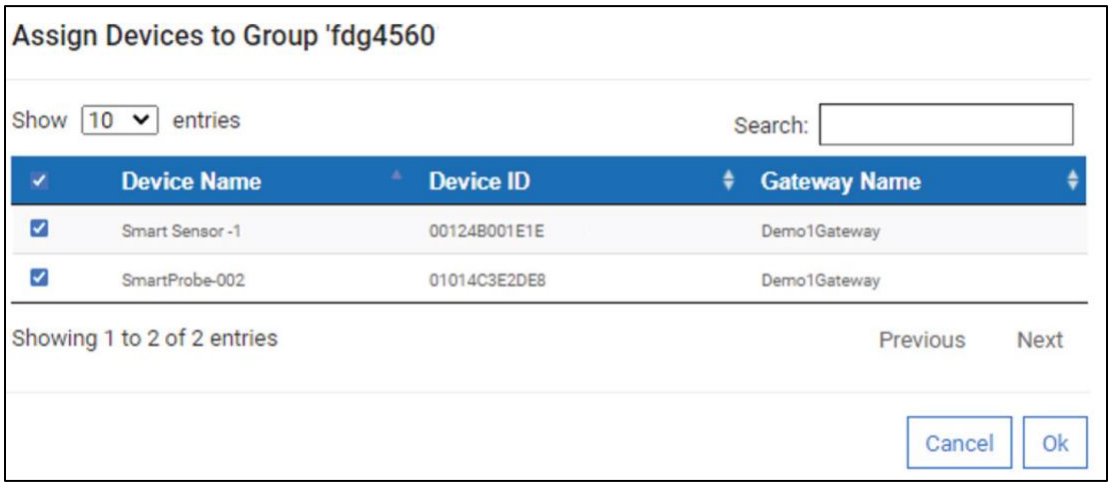

Figure 32: Assigning a device to a specific group

7.1.2.3 *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.

7.1.2.4 *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.

7.1.3 Sensor Analytics

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

7.1.3.1 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 down sampled to 10 minutes when plotted on the Omega Link Cloud interface regardless of the Cloud subscription level. All Real Time data fully remains in the Historian. See section ***7.2* Historian** for more information.

Figure 33: Omega Link Cloud sensor measurements – Graph View

7.1.3.2 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 34: Omega Link Cloud Alarms and Events interface

7.1.3.3 *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.

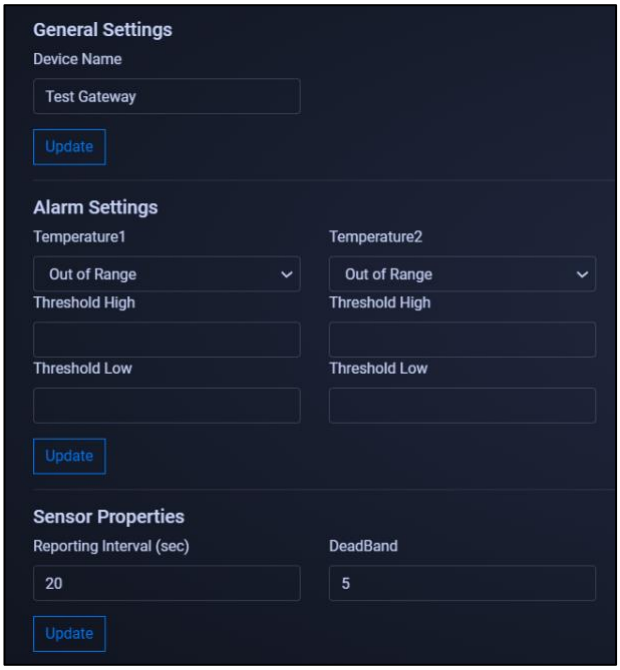

Figure 35: Omega Link Cloud Settings

7.1.3.4 *What is Deadband in the Alarm 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 shut down.

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.

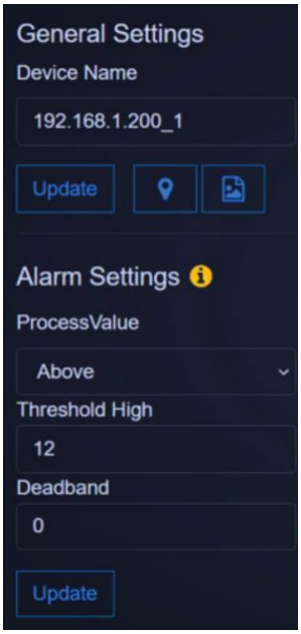

Figure 36: General Settings

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.

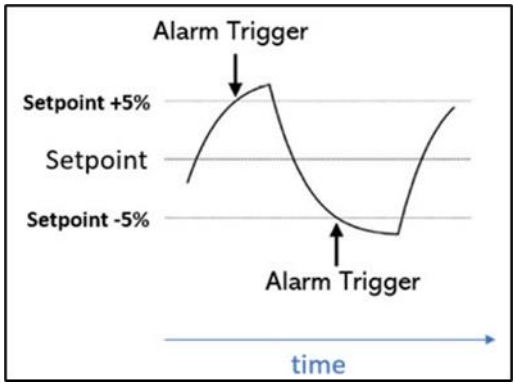

Figure 37: Setpoint as a percentage

In OEG, the deadband feature in the alarm settings is expressed as an absolute value. 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.

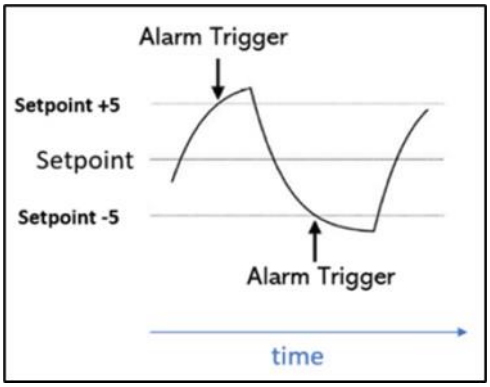

Figure 38: Setpoint as an absolute value

7.2 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 39: Omega Link Cloud Historian interface

7.2.1 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.

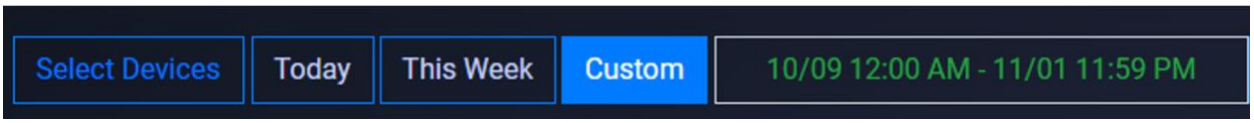

Figure 40: Historical Data Report parameters

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

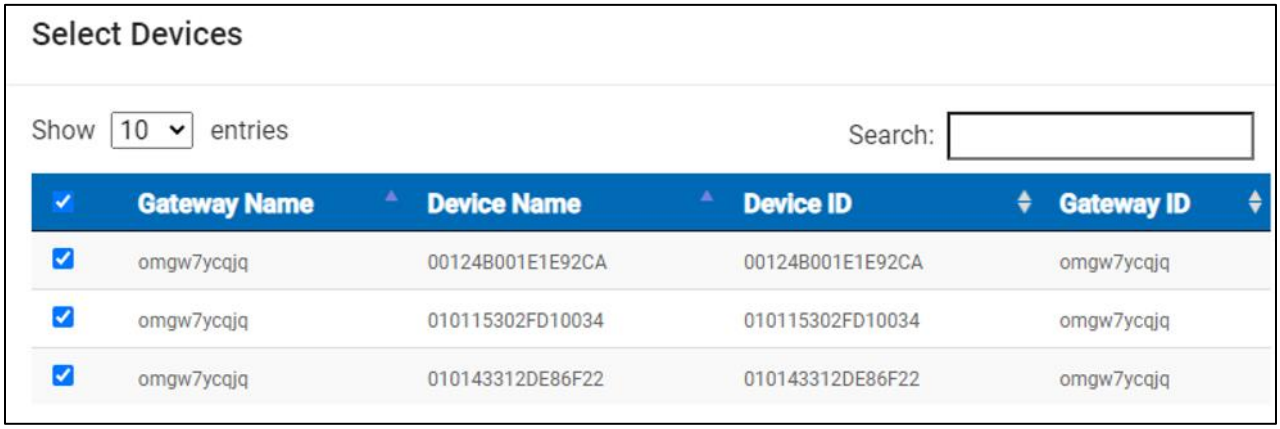

Figure 41: Historical Data Report Select Devices interface

Select a period or a range of dates

To specify the range of time the report will cover, users can select ***Today***, ***This Week***, or ***Custom*** date and time. Click ***Apply*** to finalize the changes.

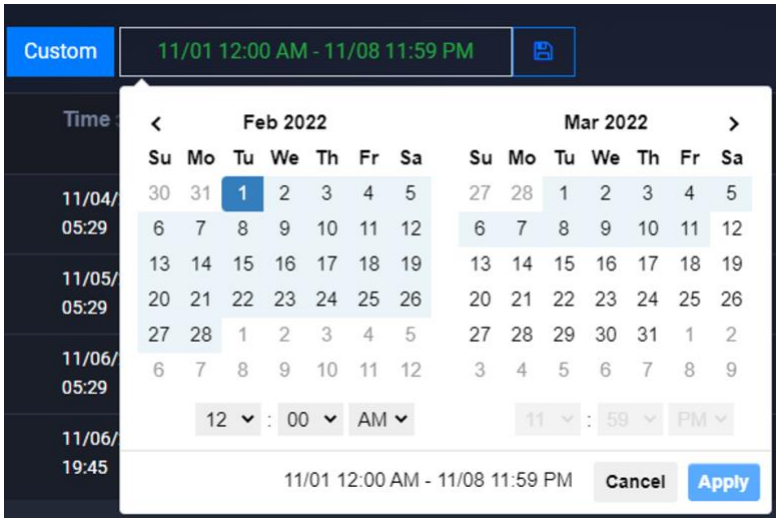

Figure 42: Custom date range calendar interface

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***.

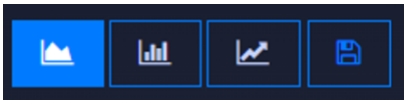

Figure 43: Graph data viewing options

Plot Time Series

Figure 44: Plot time series graph view

Plot Histogram

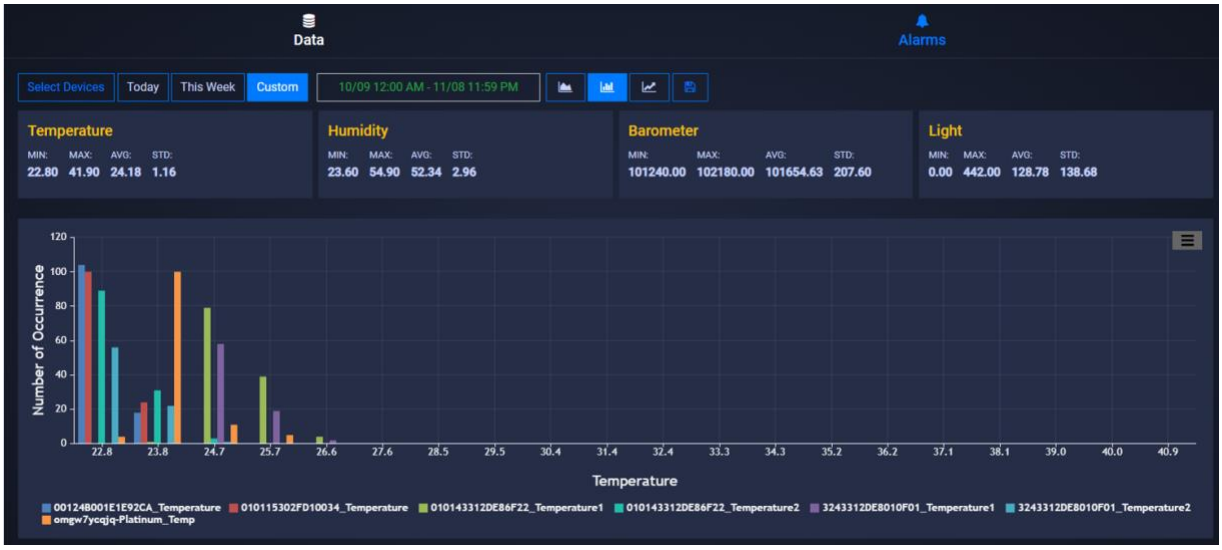

Figure 45: Plot Histogram graph view

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 46: Plot Prediction graph view

7.3 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 includes contact information for technical support and feedback.

7.3.1 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 then entering and confirming the new password as directed on the webpage. Security questions can be configured at the bottom of the Profile webpage.

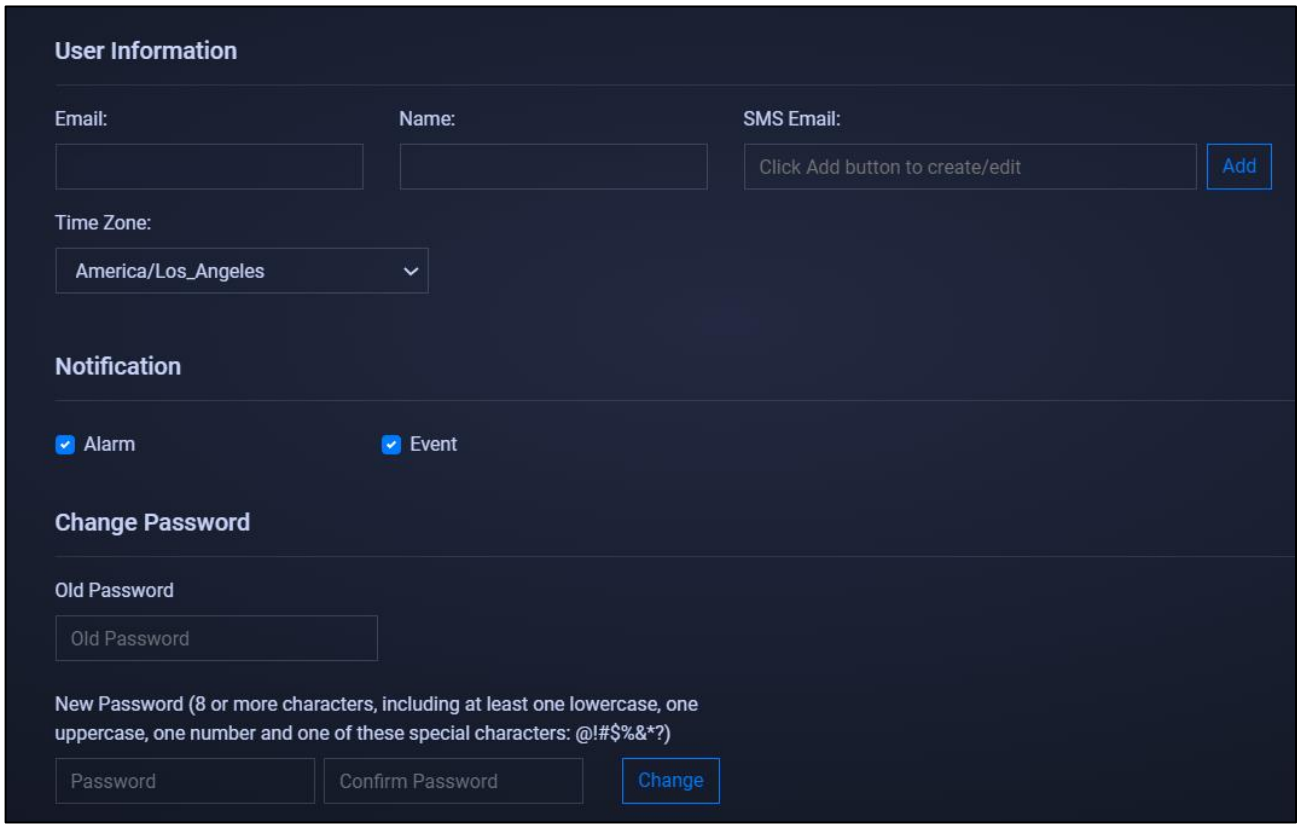

Figure 47: Omega Link Cloud Profile settings

7.3.2 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.

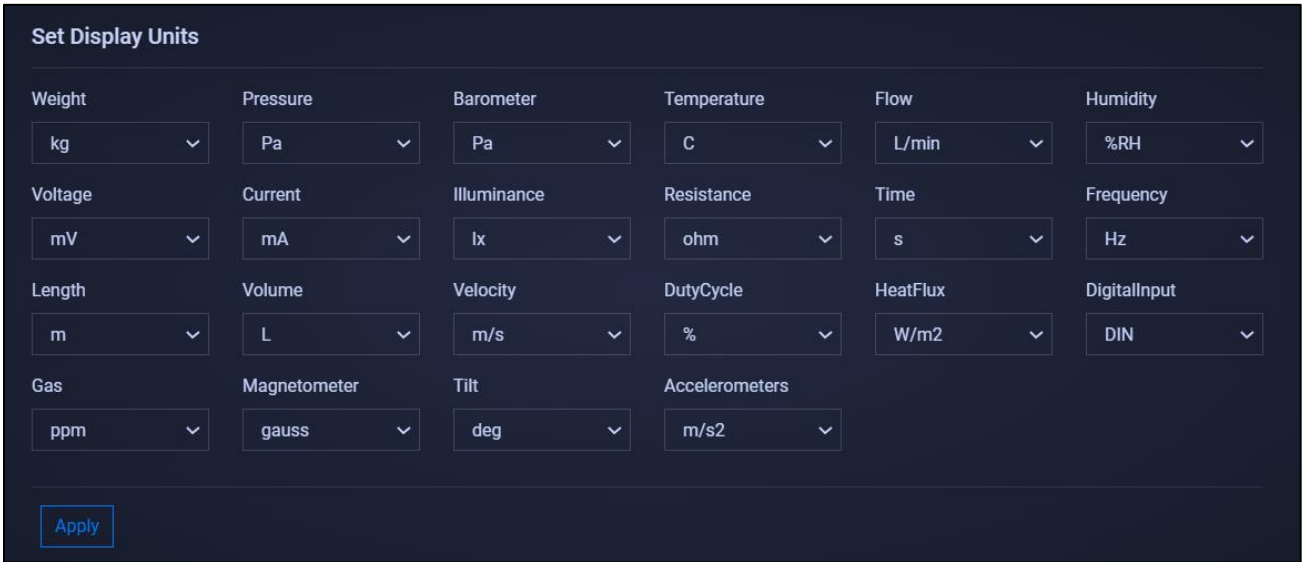

Figure 48: Omega Link Cloud local display units

7.3.3 Users

The Users tab allows you to give others access to view the data for your gateway on their Omega Link Cloud accounts. To add a user, enter their email address in the text box and choose **Can Change** or **Can View** to grant full access or restrict access, respectively.

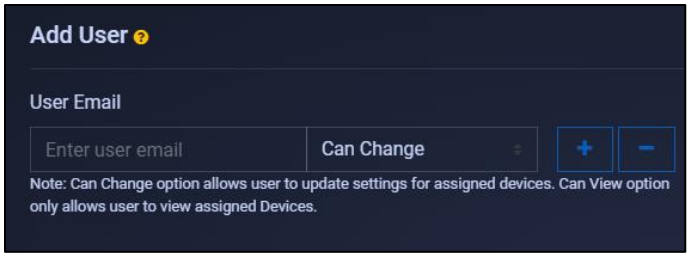

Figure 49: Omega Link Cloud Add or Remove user access

7.3.3.1 How to Add Users

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

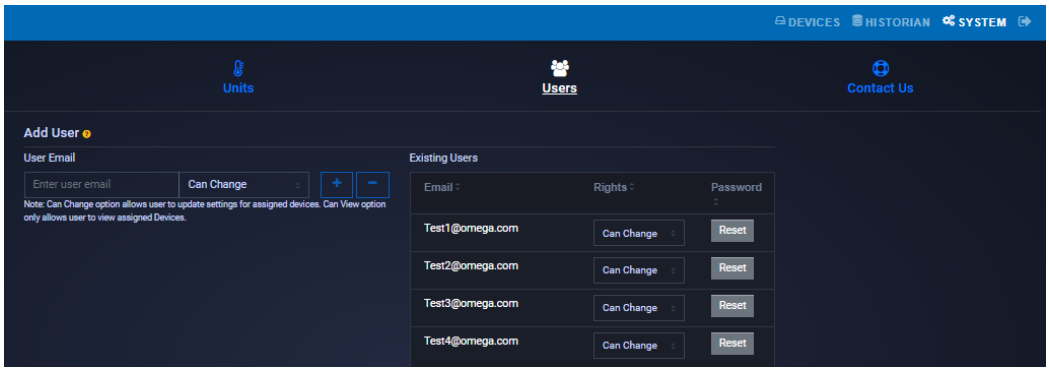

Figure 50: Omega Link Cloud Users tab

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.

7.3.4 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.

7.3.5 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.

Note: Changing the units of measurement only affects the readings displayed on the Omega Link Cloud. Omega Link sensing devices interpret data in SI.

7.4 How to Remove a Paired Smart Sensor from a Gateway

To remove a paired Smart Sensor (such as the SS-001) from a 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 .

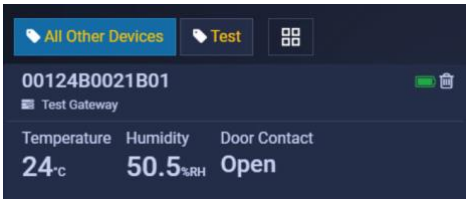

Figure 51: Omega Link Cloud UI Smart Sensor readings

7.4.1 How to Move a Paired Smart Sensor to a Different 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 being 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.

8 How to Replace the GW-002 Device SIM Card

If the user chooses to replace the SIM card included in the GW-002 device, they may refer to the following instructions to complete the replacement process.

Step 1: Power off the GW-002 device and remove the rubber feet on the bottom of the gateway and indicated in the figure below to expose the three screws.

Figure 52: GW-002 Device Rubber Feet

Step 2: Unscrew all four screws indicated in the figure below. The user may then remove the top cover of the GW-002 device casing.

Figure 53: GW-002 Device Screws

Step 3: Remove the included SIM card and insert the new SIM card. Ensure the SIM card is inserted fully into the slot.

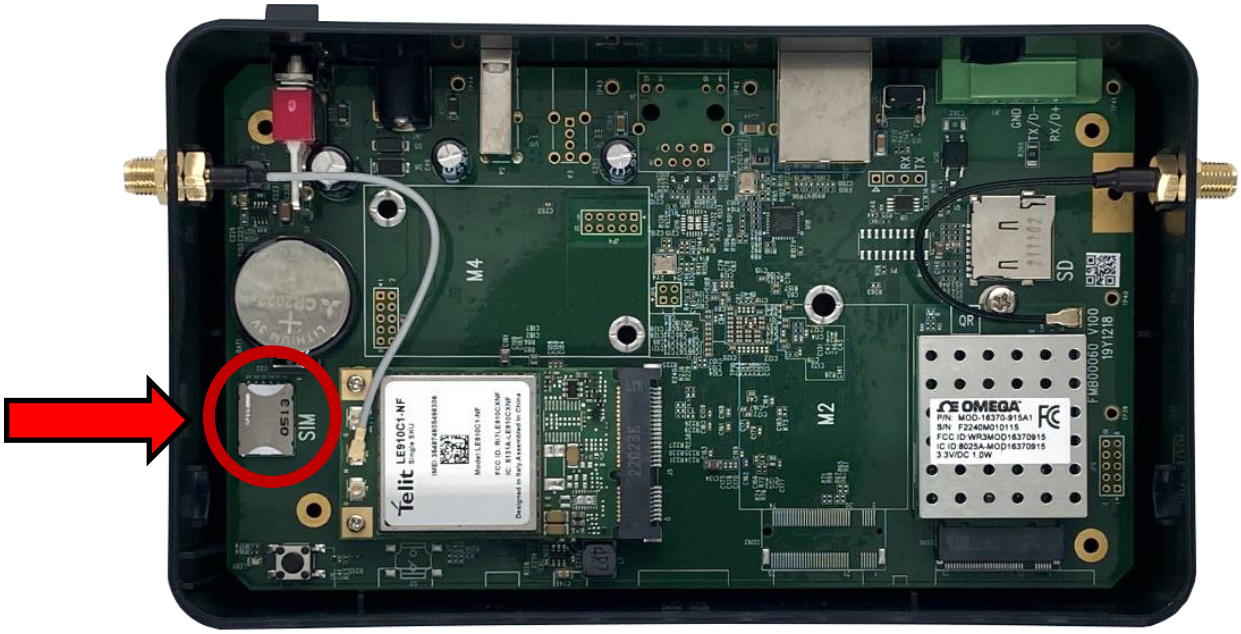

Figure 54: GW-002 Uncovered for SIM Card Access

Step 4: Carefully put the GW-002 device cover back in place and screw in the four screws that were previously removed. Place the rubber device feet back in place.

The new SIM Card is now installed. The GW-002 device may now be powered back on. To change the APN (Access Point Name) for the GW-002-LTE, please refer to the following section below.

8.1 Setting the APN (Access Point Name) for the GW-002-LTE

To change or set the APN for the GW-002-LTE from the internal gateway user interface, refer to the following instructions:

Step 1: Use an RJ45 Ethernet Cable to connect the GW-002-LTE to a Windows PC with Administrator access.

Step 2: Navigate to the internal gateway UI. If this is a first-time login, refer to **Section 5 First-Time Gateway Internal User Interface Access.**

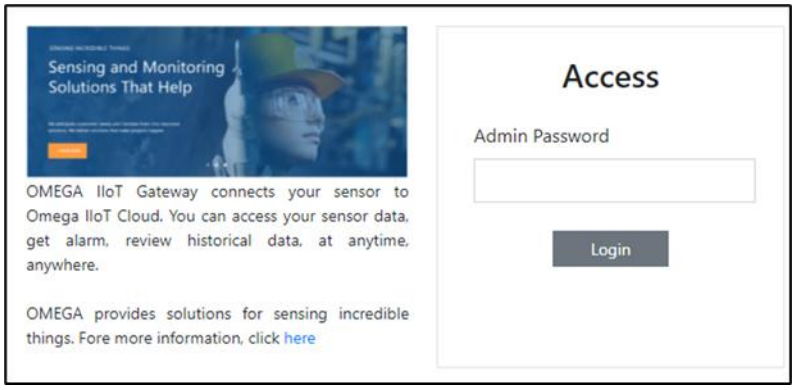

Figure 55: GW-002 Internal UI

Step 3: From the main home page of the user interface, click the **Settings** tab and then click the **LTE** option.

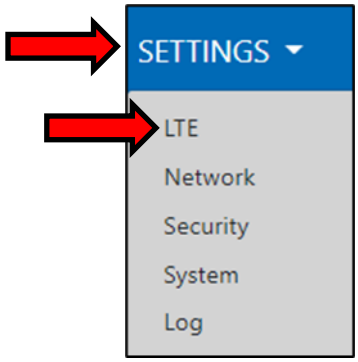

Figure 56: GW-002 Settings Tab - LTE

Step 4: Change the APN from **J108.com.attz** to **NXT17.com.attz**. Then click **Apply**.

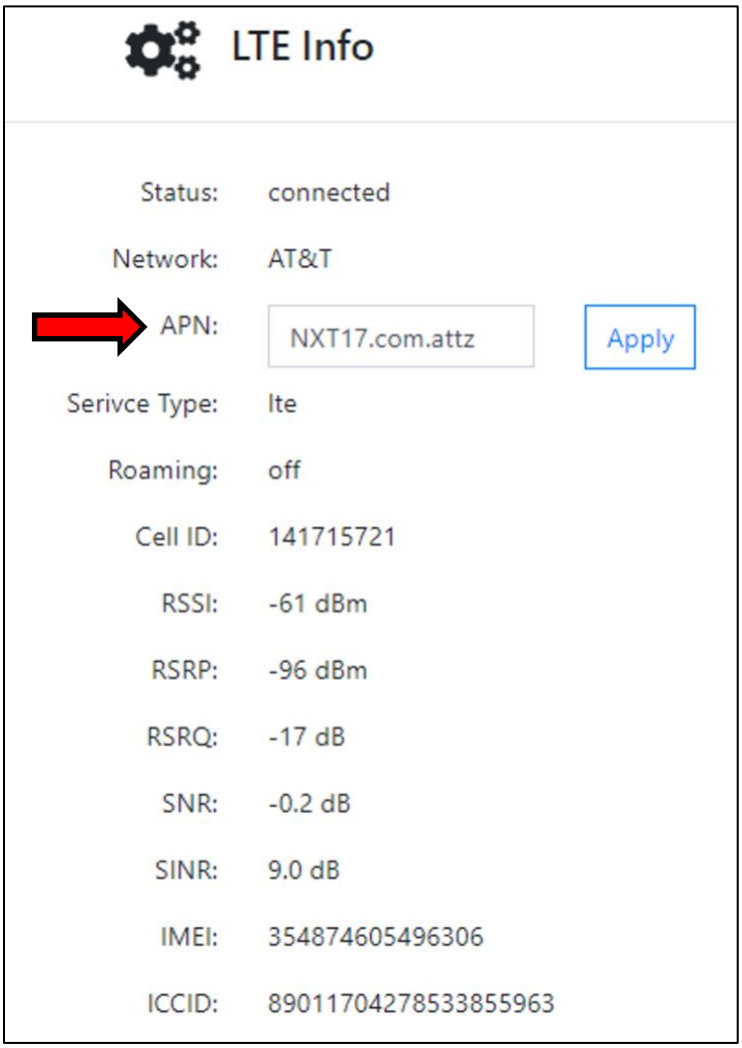

Figure 57: GW-002 Settings UI – LTE Info

Step 5: Reboot the GW-002 by powering off and powering back on the device. Allow time after the reboot for the GW-002 device to connect to the LTE network.

Once the device has completely rebooted, the device will be connected to the LTE network.

9 Certification

Safety:	EN 61010-1:2010
EMC:	EN 301 489-1 V2.2.0
	EN 301 489-3 V2.1.1
Radio:	EN 300 320-1 V3.1.1
	EN 300 220-2 V3.1.1

10 General Public License Statement

This product contains software that is subject to an open-source license agreement including GNU General Public License (“GPL”) or GNU Lesser General Public License (“LGPL”). With respect to the free/open-source terms, customers of this product have rights to acquire, modify and redistribute the source code in accordance of the terms of the GPL and LGPL. If you have any questions or wish to receive a copy of any source code that you may be entitled under the term, please contact us at:

iiot-opensource@omega.com

Please include the SKU of this product in your request.
The subject should be: **GW002 GPL license statement request**
The original source code is available on the corresponding hosting website.

GNU General Public License:
https://www.gnu.org/licenses/gpl-3.0.en.html

GNU Lesser General Public License:
https://www.gnu.org/licenses/lgpl-3.0.en.html

11 Specifications

Wireless Communication

Frequency*: 915 MHz

Range:** Up to 3.2 km

LTE Service Provider: AT&T

Supported LTE Bands: 2, 4, 12

**Wireless communication is only available on qualifying variants*

***Maximum range possible when Smart Sensor is powered by USB and without obstruction*

Power

AC Adapter: DC 12V @ 2A

Interface

RJ45: 1x port (TCP Modbus local configuration only. No internet access.)

USB: 1x USB 2.0

DC Jack: DC 12V power input

Serial Port: RS232/RS485

Alarm: SSR 36VDC 100mA

Antenna: • One Antenna for Sub-1G

• One Antenna for LTE network connectivity

Environmental

Rating: IP40

Operating Temperature: -20°C to 65°C (-4°F to 149°F,) non-condensing

Mechanical

Dimensions: 170 mm L x 100 mm W x 42 mm H (6.69” x 3.93” x 1.65”)

Certifications

Contains FCC ID: WR3-MOD16370915

Contains IC ID: 8205A-MOD16370915

Emission & Immunity for EMI/EMS

FCC: FCC Part 15B

Radio Frequency & Human Exposure/SAR

FCC: FCC Part 15C (15.247) FCC MPE

Safety

LVD: EN 62368-1

General

Max number of Smart Sensors: Up to 40 Smart Sensors can connect to the LTE Gateway unit.

All specifications are subject to changes without prior notifications. Please visit Omega.com for the latest information.

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.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

OMEGA is a trademark of OMEGA ENGINEERING, INC.

Where Do I Find Everything I Need for Process Measurement and Control? OMEGA...Of Course!

Shop online at omega.com

TEMPERATURE

- Thermocouple, RTD & Thermistor Probes, Connectors, Panels & Assemblies
- Wire: Thermocouple, RTD & Thermistor
- Calibrators & Ice Point References
- Recorders, Controllers & Process Monitors
- Infrared Pyrometers

PRESSURE, STRAIN AND FORCE

- Transducers & Strain Gages
- Load Cells & Pressure Gages
- Displacement Transducers
- Instrumentation & Accessories

FLOW/LEVEL

- Rotameters, Gas Mass Flowmeters & Flow Computers
- Air Velocity Indicators
- Turbine/Paddlewheel Systems
- Totalizers & Batch Controllers

pH/CONDUCTIVITY

- pH Electrodes, Testers & Accessories
- Benchtop/Laboratory Meters
- Controllers, Calibrators, Simulators & Pumps
- Industrial pH & Conductivity Equipment

DATA ACQUISITION

- Communications-Based Acquisition Systems
- Data Logging Systems
- Wireless Sensors, Transmitters, & Receivers
- Signal Conditioners
- Data Acquisition Software

HEATERS

- Heating Cable
- Cartridge & Strip Heaters
- Immersion & Band Heaters
- Flexible Heaters
- Laboratory Heaters

ENVIRONMENTAL MONITORING AND CONTROL

- Metering & Control Instrumentation
- Refractometers
- Pumps & Tubing
- Air, Soil & Water Monitors
- Industrial Water & Wastewater Treatment
- pH, Conductivity & Dissolved Oxygen Instruments

M5778/0223