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USER'S GUIDE

Omega Link

Firmware Upgrade Guide

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1. Introduction

The new Omega Link Gateway firmware version 1.2.10 for GW-001-2 and GW-001-3 provides new features and enhancements across connected wireless sensing devices in the Omega Link ecosystem. Once the gateway is installed with the new firmware, it will be able to upgrade all wireless connected SS-001 and SS-002 wireless sensing devices. New device firmware will also be made available for the IF-006 wireless interface and the SS-015 sensor through an over-the-air upgrade feature.

Important Note on Backward Compatibility: On SS-001 / SS-002 devices, if the main firmware is below version 2.10.0.0, the device cannot be upgraded using the over-the-air upgrade feature. Without a firmware upgrade on the device, there will be no adverse effect on its existing functionality or connectivity with the gateway, except new features won't be supported. SYNC can be used to upgrade the firmware to 2.10.0.0. The firmware can be found here: **https://omegaupdates.azurewebsites.net/Firmware/SS-001-NA/SS-001_2.10.0.0.hex**

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2. New Features in Version 1.2.10

2.1. On Omega Link Gateways:

- Supports the register type for 3rd-party devices on Modbus
- Supports Omega Link Gateway OpenAPI for 3rd-party applications connection
- Displays a **Sensor Connection Status** on the webpage
- Custom NTP server

2.2. On Omega Link Wireless Sensing Devices:

- Battery-life Improvement with better power consumption performance
- Data Log recovery feature

3. Conducting a Gateway Firmware Upgrade

3.1. Upgrading a New Gateway (GW-001-02 & GW-001-03)

A user who intends to setup a brand new, out-of-the-box Omega Link Gateway will automatically have the latest firmware version downloaded during the setup process upon establishing an Internet connection to the gateway device.

3.2. Upgrading an Existing Gateway (GW-001-02 & GW-001-03)

To upgrade the firmware on an existing Omega Link Gateway, the user must use a web browser to log in to their Omega Link Cloud account by navigating to **https://cloud.omega.com**. Once the user is logged in to their Cloud account, a yellow icon will appear on the Gateway tile of the Cloud user interface.

Figure 1: When an Omega Link Gateway firmware update is available, the icon will turn yellow

Step 1: Click on the icon.

Step 2: Click on the **Upgrade Firmware** button and then wait for the gateway to reboot.

Figure 2: The Update Firmware button will appear in the pop-up when available

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Important: Since this is a special upgrade, the user is required to upgrade the device twice. The first upgrade is for the transitional firmware. The second upgrade is the final firmware.
It is recommended that the devices be powered by USB connection during the upgrade process.

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4. Conducting a Wireless Sensing Device Firmware Upgrade

4.1. Upgrading a New Wireless Sensing Device (SS-001 / SS-002 & IF-006 / SS-015)

Important: All Omega Link Wireless Sensing devices will need to undergo a radio firmware upgrade in addition to a traditional firmware upgrade. This is a total of **2 firmware upgrades**.

Device	Firmware Update #1 (Transitional)	Firmware Update #2 (Final)
IF-006 / SS-015	2.1.3.3	2.5.1.5
SS-001 / SS-002	1.1.3.2	5.1.0.3

Firmware Update 1: The first firmware upgrade to the wireless sensing devices will occur automatically once the wireless sensing device is paired to an upgraded Omega Link Gateway.

Firmware Update 2: There are two-methods to complete the second firmware update. The first method requires un-pairing and re-pairing the wireless sensing device from the Omega Link Gateway, OR by navigating to the gateway internal user interface. Both methods will be described in the following section.

Important: Since this is a special upgrade, you are required to upgrade the device twice. The first upgrade is for the transition firmware. The second upgrade is the final firmware.
It's recommended that the devices be powered by USB connection during the upgrade process.

4.2. Upgrading an Existing Wireless Sensing Device (SS-001 / SS-002 & IF-006 / SS-015)

Important: All Omega Link wireless sensing devices will need to undergo a radio firmware upgrade in addition to a traditional firmware upgrade. This is a total of **2 firmware upgrades**. The following instructions are intended for users who are upgrading an existing wireless sensing device and users who are completing the second firmware upgrade for their brand new, wireless, sensing device. Since this is a special upgrade, you are required to upgrade the device twice. The first upgrade is for the transition firmware. The second upgrade is the final firmware.
It's recommended that the devices be powered by USB connection during the upgrade process.

Device	Firmware Update #1 (Transitional)	Firmware Update #2 (Final)
IF-006 / SS-015	2.1.3.3	2.5.1.5
SS-001 / SS-002	1.1.3.2	5.1.0.3

Each device must undergo either method **twice** to apply both firmware upgrades. During the upgrade process, any logged data residing on the sensing device or smart interface will be pushed to the Omega Link Gateway. This process may take up to 10 minutes and the device will appear to be offline during this time. To avoid this logged data push, the user may consider clearing the logged data stored on the sensing device or smart interface. Alternatively, if the user wishes to save the log data, allow the process to occur (this may take up to 10 minutes). Refer to the appendix for more information. The two methods to complete the mandatory firmware upgrades are as follow:

Method 1: Un-pairing and Re-pairing a Wireless Omega Link Sensing Device

Step 1: Navigate to the Omega Link Cloud account containing the wireless device that will be removed.

Step 2: Click the icon associated with the wireless device that will be removed.

Figure 3: Trash Can icon is located within each Device Readings tile

Step 3: Wait for up to 2 minutes, the wireless Omega Link device LED status indicator should have an Amber / Orange light to indicate that the device is powered on and is no longer connected to an Omega Link Gateway.

Alternatively, if the LED does not change to amber / orange after 2 minutes, press and hold the Pairing Button on the SS-001 / SS-002 for 5 seconds or press and hold the pairing button on the IF-006 / SS-015 for 5 seconds. The devices will then restart and the LED indicator will turn solid amber / orange.

Figure 4: Pairing buttons on the SS-001 / SS-002 (left) and the IF-006 / SS-015 (right)

Once the wireless sensing device has been un-paired, the user may re-pair the device to trigger the second firmware update.

Step 4: Ensure the Omega Link Gateway and the wireless sensing device are within 5 ft. max of one another. This is an intentional security feature to prevent rogue pairing.

Step 5: Press and release the **Pairing Button** once on the Omega Link Gateway. The LED Status indicator will blink green indicating the device is in pairing mode.

Step 6: Quickly press and release the **Pairing Button** (Figure 4) once on the SS-001 / SS-002 or on the IF-006 / SS-015. The LED status indicator will blink green indicating the device is in pairing mode.

When the wireless sensing device has been successfully re-paired to the Omega Link Gateway, the second firmware update will commence. The LED status indicator on the wireless sensing devices will be a solid green color while the firmware update is in process and will flash green before stopping. The SS-001 / SS-002 or IF-006 / SS-015 will then restart and flash orange to indicate a successful pairing.

Important: Do not hold the pairing button for longer than 1 second to prevent accidental reset.

Method 2: Upgrade Using the Gateway Internal User Interface

To conduct the firmware updates through the gateway internal user interface, the user must have access to a device with a web browser on the same local network as the Omega Link Gateway that is paired to the wireless sensing devices. The instructions to complete the upgrade using this method are listed below:

Step 1: Using a device with a web browser on the same local network as the Omega Link Gateway, navigate to:

http://omegaiotgatewayXXXX.local

where **XXXX** should be replaced by the **last four digits of the Omega Link Gateway MAC address**. The label containing this information is located on the underside of the physical gateway device.

Figure 5: GW-001 hardware label

Step 2: Log in to the gateway UI using the password on the label located on underside of the physical gateway device.

Step 3: From the main gateway UI home page, the wireless devices that have a firmware update available will have a clickable **Update** button appear. Click the button to initiate the upgrade.

Figure 6: Gateway internal UI device firmware Update button

Step 4: Wait for the upgrade to process and complete.

Figure 7: Gateway internal UI device firmware update in progress

Step 5: Once the first update is complete, if a second firmware upgrade is available, a second **Update** button and firmware version will appear automatically.

Figure 8: Gateway internal UI device firmware second Update button

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Important: Please note that it could take approximately 6 minutes or more to complete on each upgrade. Since this is a special upgrade, you are required to upgrade the device twice. The first upgrade is for the transition firmware. The second upgrade is the final firmware.

It's recommended that the devices be powered by USB connection during the upgrade process.

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5. Appendix: Clear Log Data with SYNC Software

In some cases prior to conducting a firmware update on an Omega Link sensing or smart interface, the user may want to clear existing log data from those devices to avoid a log data push to from the device to the gateway that may last up to 10 minutes. To clear logged data from a sensing device, follow the instructions below:

Step 1: Use a Windows OS PC or laptop to run SYNC configuration software (the software can be downloaded here: **SYNC**

Step 2: Use a micro USB cable to connect to an SS-001 / SS-002 / SS-015 / IF-006 with connected smart probe to the PC or laptop running SYNC configuration software. SYNC will automatically detect the connected device.

Figure 9: USB port locations

Step 3: Once the device has been detected, click Capture Data on the top right of the SYNC user interface.

Step 4: In the Capture Data interface, click the Extract Data button.

Figure 10: SYNC user interface Capture Data tab and Extract Data button

Step 5: Clicking the Extract Data button will reveal more button options. Click the Clear Log Data button.

Figure 11: SYNC user interface Clear Log Data button

Step 6: A warning pop-up will appear. Click **Yes** to confirm the log data clear.

Figure 12: SYNC log data warning

Step 7: The user may only unplug the device once the process is complete.

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