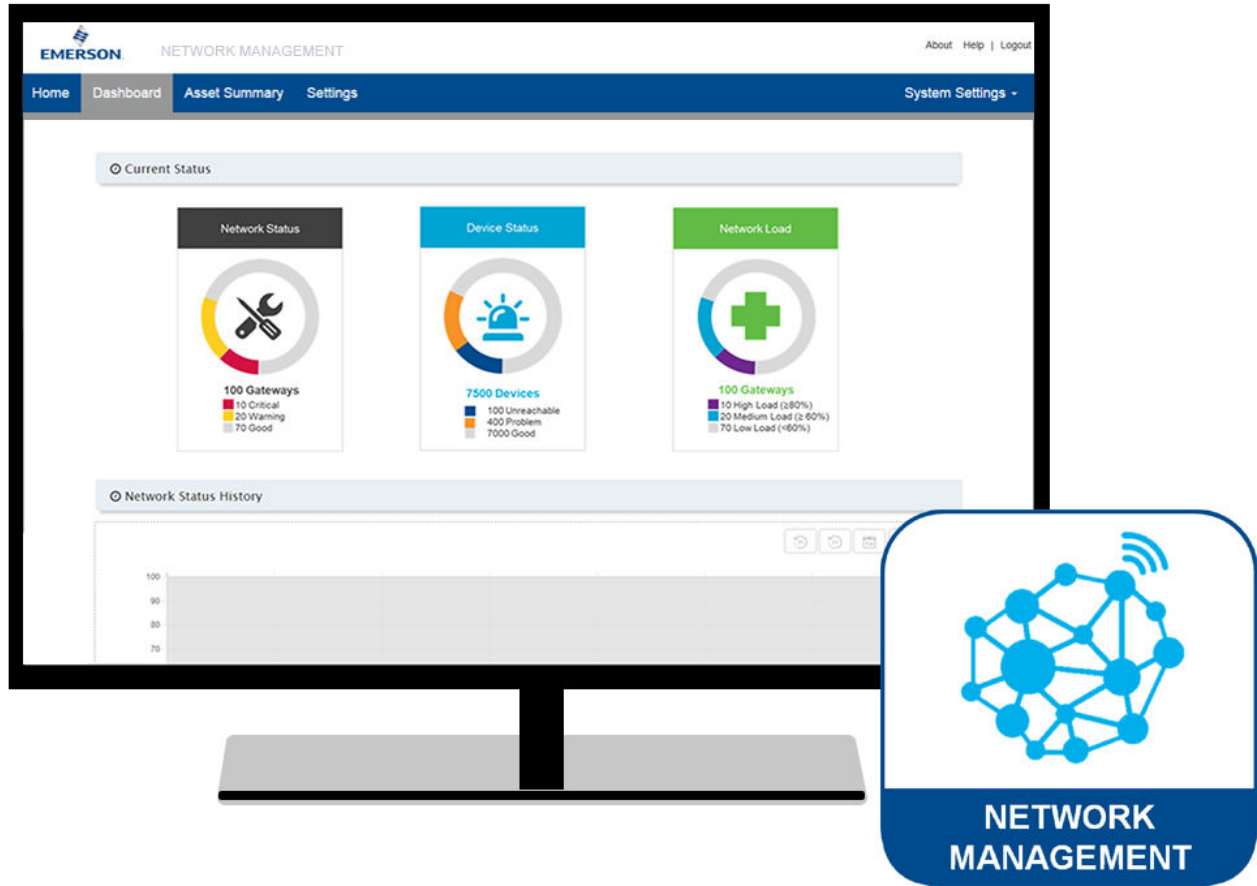


Emerson Plantweb Insight™

Network Management Application



Safety

⚠ WARNING

Physical access

Unauthorized personnel may potentially cause significant damage to and/or misconfiguration of end users' equipment. This could be intentional or unintentional and needs to be protected against.

Physical security is an important part of any security program and fundamental in protecting your system. Restrict physical access by unauthorized personnel to protect end users' assets. This is true for all systems used within the facility.

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1 Overview

1.1 Document overview

The Plantweb Insight Network Manager application allows users to monitor and manage Emerson *WirelessHART*® gateways, networks, and field instruments across their entire enterprise from a single location. This manual provides guidance for installing, configuring, and troubleshooting the Plantweb Insight Network Management Application. It assumes that the Plantweb Insight Framework is installed and that *WirelessHART* gateways and field instruments have been installed and configured. For additional information, refer to the documents listed in [References](#).

1.2 References

- [Plantweb Insight Framework Manual](#)
- [Network Management Product Data Sheet](#)
- [Emerson Wireless 1410S Gateway](#)
- [Emerson™ Wireless Security](#)

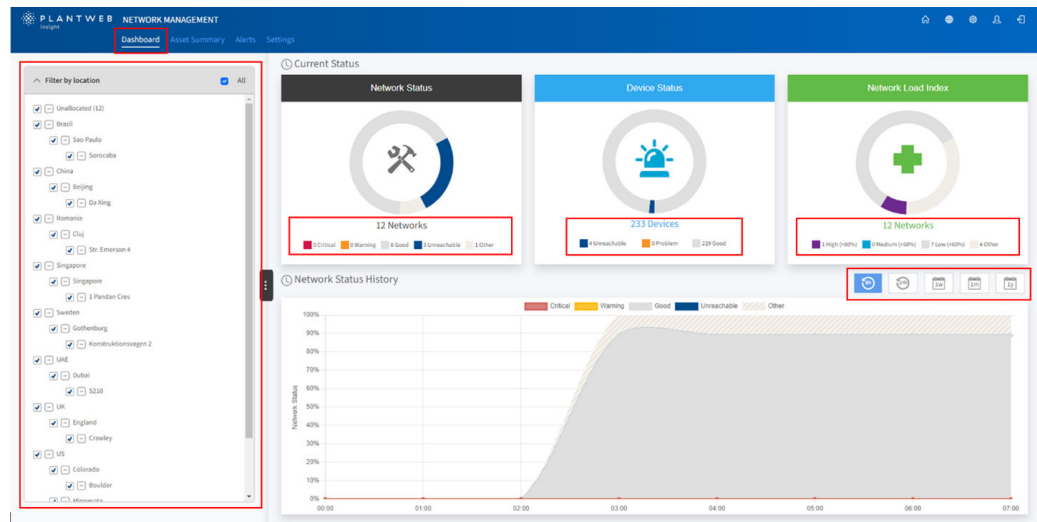
1.3 Main views

The Insight Network Management application includes four main pages: **Dashboard**, **Asset Summary**, **Alerts**, and **Settings**. The following sections provide a summary of the information that can be found on each page.

1.3.1 Dashboard page

The **Dashboard** page provides an aggregated view of the status of all the assets within a wireless network. It offers a high-level perspective on the health of the wireless networks connected to the **Network Management** application, ranging from the overall health of gateways and devices to the individual load on each gateway. Emerson Dual *WirelessHART*® Gateways will show up as two networks in the **Network Management** application. See [Dashboard](#) for detailed information about the content of the **Dashboard** page.

Figure 1-1: Dashboard page



1.3.2 Asset Summary page

The **Asset Summary** page provides an overview of all assets, enabling quick identification via filter and search functions. Users can prioritize information by sorting and exporting data to create custom reports. See [Asset summary](#) for detailed information about the content of the **Asset Summary** page.

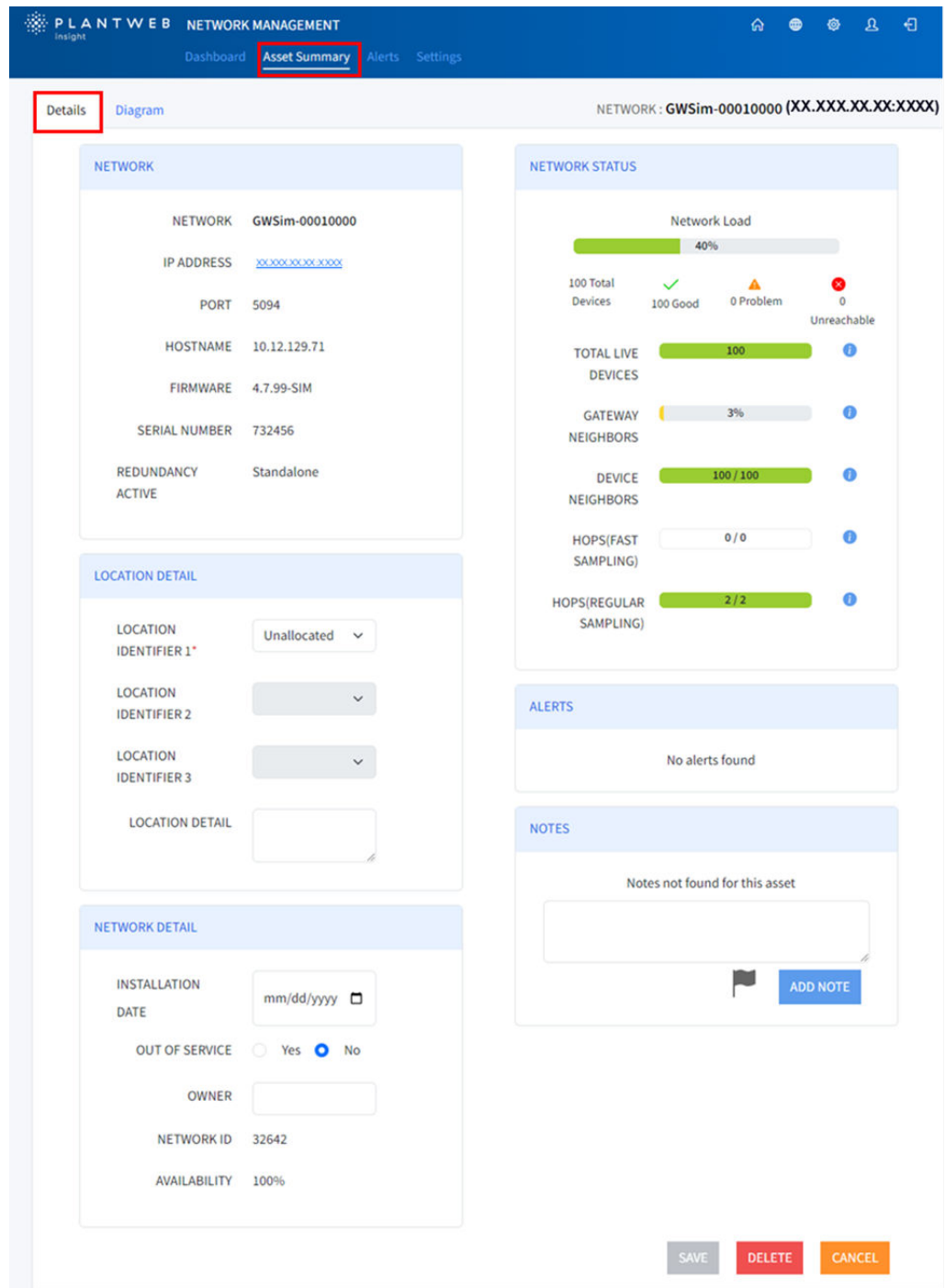
Figure 1-2: Asset Summary page

Network	Location	Network Status	Network Load Index	Good Devices	Problem Devices	Unreachable Devices	Status Duration	Flag
GWSim-00010000 (00.XXX.XX.XX.XXX.X)	Unallocated	GOOD	40%	100	0	0	36 days	🚩
GWSim-00020000 (00.XXX.XX.XX.XXX.X)	Unallocated	UNREACHABLE	---	---	---	---	8 days	🚩
GWSim-00030000 (00.XXX.XX.XX.XXX.X)	Unallocated	GOOD	25%	24	0	0	518 days	🚩
GWSim-00040000 (00.XXX.XX.XX.XXX.X)	Unallocated	GOOD	82%	26	0	0	518 days	🚩
GWSim-00050000 (00.XXX.XX.XX.XXX.X)	Unallocated	GOOD	24%	17	0	0	518 days	🚩
GWSim-00060000 (00.XXX.XX.XX.XXX.X)	Unallocated	GOOD	44%	27	0	0	36 days	🚩
GWSim-00070000 (00.XXX.XX.XX.XXX.X)	Unallocated	GOOD	25%	16	0	0	518 days	🚩
GWSim-00080000 (00.XXX.XX.XX.XXX.X)	Unallocated	GOOD	6%	16	0	0	518 days	🚩
NetGW42 (00.XXX.XX.XX.XXX.X)	Unallocated	UNREACHABLE	---	---	---	---	8 days	🚩

1.3.3 Details page

The **Details** page provides important information on the individual usage of a gateway or device, as well as its connection to a user's wireless network. Additionally, it enables them to record the location and installation date of the device or Gateway. See [Asset details](#) for detailed information about the content of the **Details** page.

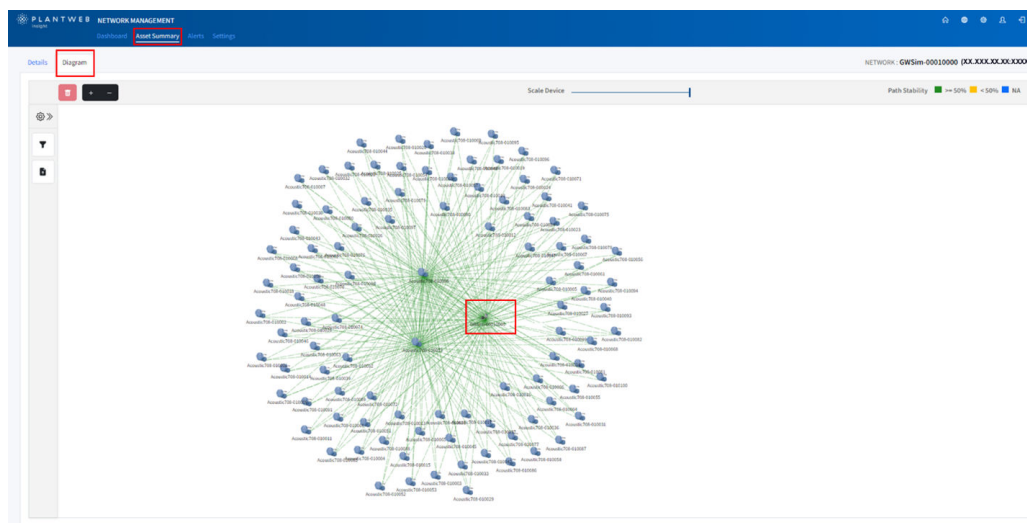
Figure 1-3: Details page



1.3.4 Diagram page

The **Diagram** page displays the mesh network created by a user's wireless devices. It illustrates the connection strength and the number of neighboring devices for each device. See [Asset details](#) for detailed information about the content of the **Diagram** page.

Figure 1-4: Diagram page



1.3.5 Alerts page

The **Alerts** page displays all the notifications associated with devices or gateways connected to the **Network Management** application. Users can customize these notifications in the **Settings** page as outlined in [Settings page](#). See [Alerts](#) for detailed information about the content of the **Alerts** page.

Figure 1-5: Alerts page

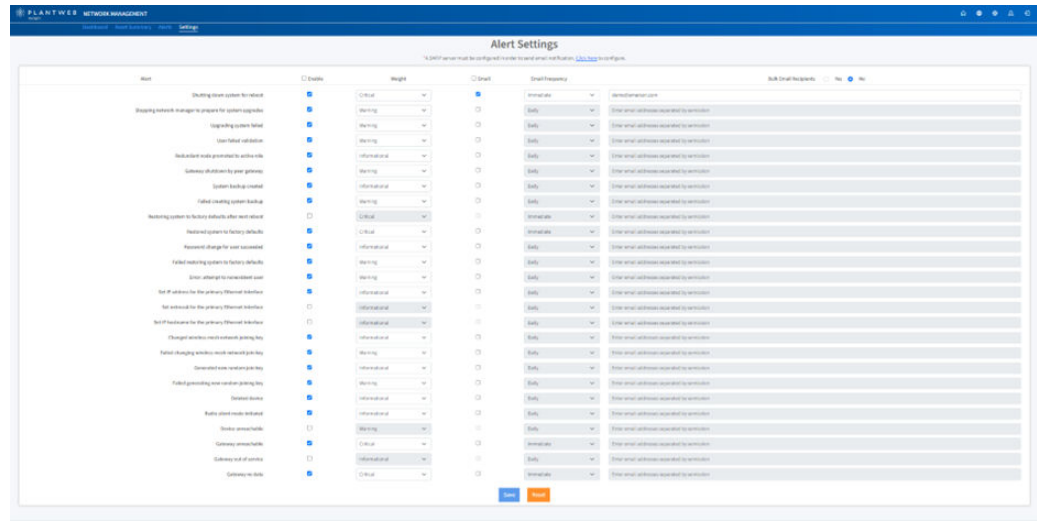
The screenshot shows the 'Alerts' page in the PLANTWEB NETWORK MANAGEMENT interface. It displays a table of alert notifications. The table has columns for Network, Alert Type, Alert Weight, Event Time, Acknowledge, Acknowledge Time, and Acknowledge Username. A red box highlights the 'Alert Type' column header. The table contains several rows of alerts, including system backups and device reachability issues.

Network	Alert Type	Alert Weight	Event Time	Acknowledge	Acknowledge Time	Acknowledge Username
videmo_net1 (00.000.XX.XX.XXX)	System backup created	Informational	July 11, 2024 9:02 AM	<input type="checkbox"/>		
ibotock (00.000.XX.XX.XXX)	Device reachable: BK2A_648(HRT)_6AD069	Informational	July 11, 2024 8:34 AM	<input type="checkbox"/>		
ibotock (00.000.XX.XX.XXX)	Device reachable: BK4A_648(HRT)_30224A	Informational	July 11, 2024 8:27 AM	<input type="checkbox"/>		
ibotock (00.000.XX.XX.XXX)	Device reachable: BK2B_702(HRT)_0FAB77	Informational	July 11, 2024 8:27 AM	<input type="checkbox"/>		
ibotock (00.000.XX.XX.XXX)	Device unreachable: BK2A_648(HRT)_6AD069	Informational	July 11, 2024 8:18 AM	<input type="checkbox"/>		
ibotock (00.000.XX.XX.XXX)	Device reachable: BK2A_3051_0FDFD0	Informational	July 11, 2024 8:18 AM	<input type="checkbox"/>		
ibotock (00.000.XX.XX.XXX)	Device unreachable: BK2B_702(HRT)_0FAB77	Informational	July 11, 2024 8:18 AM	<input type="checkbox"/>		
ibotock (00.000.XX.XX.XXX)	Device unreachable: BK2A_3051_0FDFD0	Informational	July 11, 2024 8:10 AM	<input type="checkbox"/>		
vilhangp (00.000.XX.XX.XXX)	Gateway reachable	Critical	July 11, 2024 7:42 AM	<input type="checkbox"/>		

1.3.6 Settings page

The **Settings** page is application specific and allows the user to toggle which alerts they would like to be notified for and the weight of the alerts. This ranges from system reboots to devices being deleted. See [Settings page](#) for detailed information about the content of the **Settings** page.

Figure 1-6: Settings page



2 Start-up and configuration

2.1 Pre-Configuration considerations

2.1.1 Field instrument considerations

Install, commission, and ensure all devices are connected to the Emerson *WirelessHART*[®] Gateway before configuring the **Network Management** application. For more details on the Emerson *WirelessHART* Gateway, reference:

- [Emerson Wireless 1410S Gateway with 781S Smart Antenna Product Data Sheet](#)
- [Emerson Wireless 1410S Gateway Quick Start Guide](#)
- [Emerson Wireless 1410S Gateway and 781S Smart Antenna Reference Manual](#)

2.1.2 Downloading asset view and updates

Procedure

1. Login to [MyEmerson](#).
2. Click **Licensed Software** under **MySoftware** on the bottom left of the screen.
3. Launch the **Licensed Application Portal**.
4. Select **Licensed Application** category.
5. Search for **Asset View**.

2.1.3 Installing the Network Management application

To install the **Network Management** application, make sure the application file is downloaded. Once this has been done, use the following steps:

Procedure

1. Click on the **Settings** icon (gear wheel) in the top right corner of Plantweb Insight.
2. Select **Platform settings** from the drop-down menu.
3. In the **Platform setting** menu, select **Manage Applications and Licenses**.
4. Under **Install App** select the **Browse button**.
5. Select the installation file.
6. Press **Install**.

2.1.4 Installing updates to network management

Procedure

1. In Plantweb Insight, go to **Platform Settings** → **Manage Applications**.
2. Uninstall any applications that have a newer version available. Do not check **Clean Uninstall** unless necessary.
3. If necessary, update the Plantweb Insight platform. For instructions on this process refer to the [Plantweb Insight Framework Manual](#).
4. Install compatible versions of any applications that have been updated.

Figure 2-1: How to Install

The screenshot shows the PlantWeb Platform Settings interface. The top navigation bar includes the PlantWeb logo and a 'HOME' link. The main content area is titled 'Platform Settings' and contains a list of configuration options. A red box highlights the 'Platform Settings' option, with a circled '1' next to it. Below this, the 'Manage Applications and Licenses' option is highlighted with a red box and a circled '3'. The bottom section of the screenshot shows the 'Manage Apps and Licenses' page, which has tabs for 'Applications' and 'Licenses'. The 'Applications' tab is active, and the page title is 'Install App'. Below the title, there is a text prompt: 'To install a new application make sure you have the installation package available: an .asc file'. A red box highlights the 'BROWSE' button and the file name 'nma-v3.2.0-build-53.app.20', with a circled '4' next to the button and a circled '5' next to the file name. Below this, the 'INSTALL' button is highlighted with a red box and a circled '6'.

PLANTWEB insight HOME

Platform Settings
Manage platform configurations

Data Source Config
Define the data source endpoint

Platform Settings
Define the PWI settings

Backup and Restore
Backup and restore your system settings.

Network Configuration
Manage Network Configurations

Certificate Management
Manage Default, User provided and Peer certificates

Manage Applications and Licenses
Install and Uninstall Applications, Update Licenses

Protocols and Ports
Manage Protocols and Ports configurations

Active Directory
Manage LDAP Connections

SMTP and Platform Notifications
Manage SMTP Connections and Platform Notification Settings

Modbus Mapping
Download Modbus Mapping

Remote Audit Logging
Manage Remote Audit Logging

Enable IOTCS
Enable IOTCS Capabilities

Location Hierarchy
Manage Location Hierarchy

About
Services versions

PLANTWEB insight PLATFORM SETTINGS

Manage Apps and Licenses
Install Apps and licenses

Home / Platform Settings / Manage Applications and Licenses

Applications Licenses

Install App

To install a new application make sure you have the installation package available: an .asc file

BROWSE nma-v3.2.0-build-53.app.20

INSTALL

2.2 Application settings

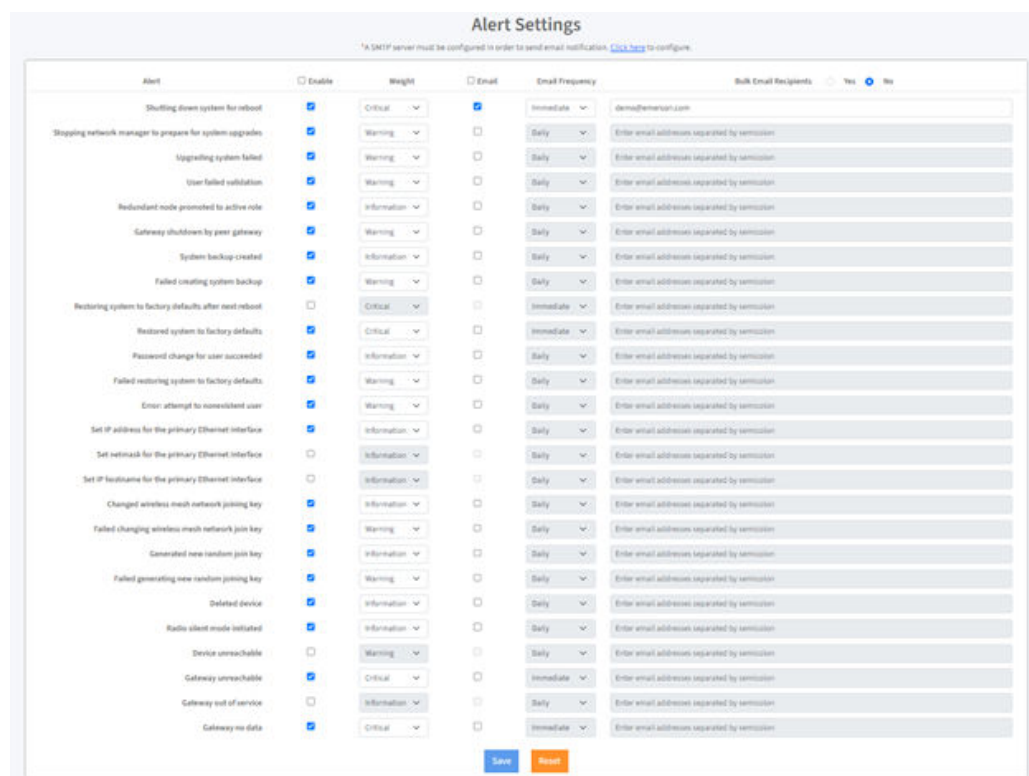
In the Network Management application, it's important to configure the application settings prior to setting up individual assets, which are wireless networks. The settings govern the alert system, dictating how notifications are managed and displayed.

The application allows the user to customize where these alerts are sent by updating the email recipient section. Before receiving alerts, a SMTP server must be configured using the link at the top middle of the settings page. Notifications can be configured to be sent in real-time for immediate action or summarized at the end of the day for a comprehensive overview of the day's activities and alerts.

Table 2-1: Alert Classification

Alert Level	Description
Informational	Updates on normal operations and minor changes that don't affect performance
Warning	Potential issues that may escalate if overlooked, prompting users to take preventative measures
Critical	Urgent problems that require immediate attention to prevent significant disruptions or security risks

Figure 2-2: Settings Page



2.3 Adding assets

2.3.1 Initial start-up

After completing the **Application settings** section, click on the **Asset Summary** page located in the upper left corner. Then, once the asset summary page is open, select the **CONFIGURE ASSETS** button.

Figure 2-3: Configure Assets Button

Network	Location	Network Status	Network Load Index	Good Devices	Problem Devices	Unreachable Devices	Status Duration	Flag
GWSim-00010000 (00.XXX.XX.XX.XXX.X)	Unallocated	GOOD	40%	190	0	0	36 days	🚩
GWSim-00020000 (00.XXX.XX.XX.XXX.X)	Unallocated	UNREACHABLE	---	---	---	---	8 days	🚩
GWSim-00030000 (00.XXX.XX.XX.XXX.X)	Unallocated	GOOD	25%	24	0	0	518 days	🚩
GWSim-00040000 (00.XXX.XX.XX.XXX.X)	Unallocated	GOOD	82%	26	0	0	518 days	🚩
GWSim-00050000 (00.XXX.XX.XX.XXX.X)	Unallocated	GOOD	24%	17	0	0	518 days	🚩
GWSim-00060000 (00.XXX.XX.XX.XXX.X)	Unallocated	GOOD	44%	27	0	0	36 days	🚩
GWSim-00070000 (00.XXX.XX.XX.XXX.X)	Unallocated	GOOD	25%	16	0	0	518 days	🚩
GWSim-00080000 (00.XXX.XX.XX.XXX.X)	Unallocated	GOOD	6%	16	0	0	518 days	🚩
NextGen42 (00.XXX.XX.XX.XXX.X)	Unallocated	UNREACHABLE	---	---	---	---	8 days	🚩

Showing 1 to 12 of 12 | 25 records per page

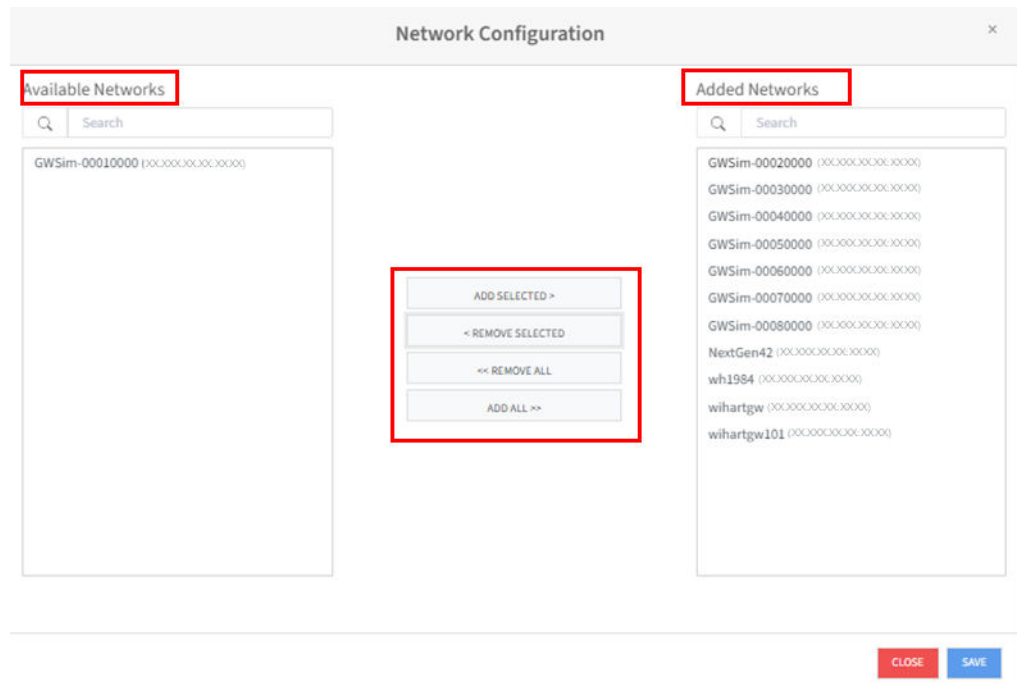
2.3.2 Assets

After clicking the **CONFIGURE ASSETS** button, the **Network Configuration** screen will appear. To view networks, gateways must first be added to Plantweb Insight. For more information on adding devices to Plantweb Insight, reference the [Plantweb Insight Framework Manual](#). Once added, these gateways as well as those already added to the **Network Management** application will show. To add a gateway, the user can select one or multiple networks by holding the **CTRL** key and clicking on them. Then, click **Add Selected** to add the chosen networks. Alternatively, a user can add all their connected gateways by clicking **Add All**.

Note

Assets in the **Network Management** application are individual networks. For example, for a gateway that has dual **WirelessHART®**, there will be two individual networks that can be configured.

Figure 2-4: Network Configuration



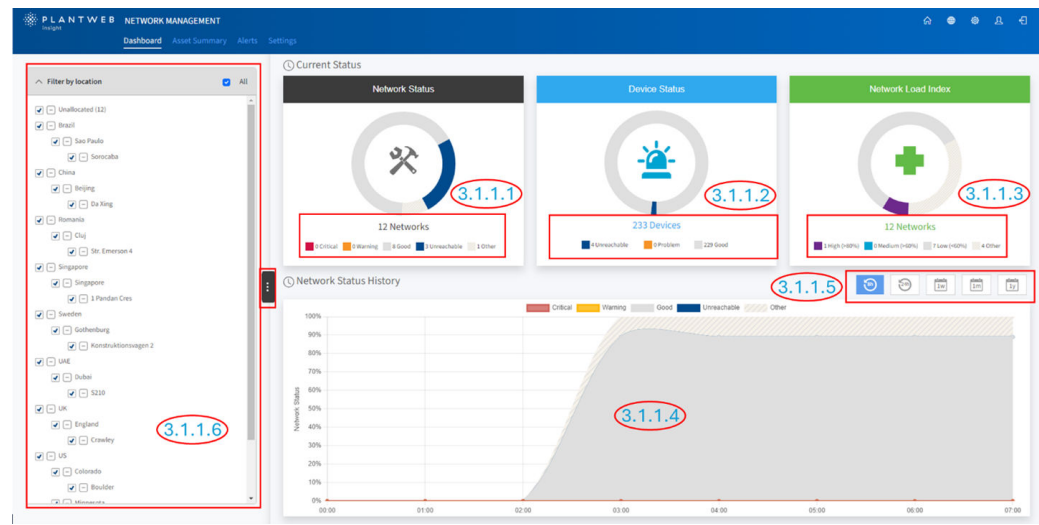
3 Operating the application

3.1 Application main views

3.1.1 Dashboard

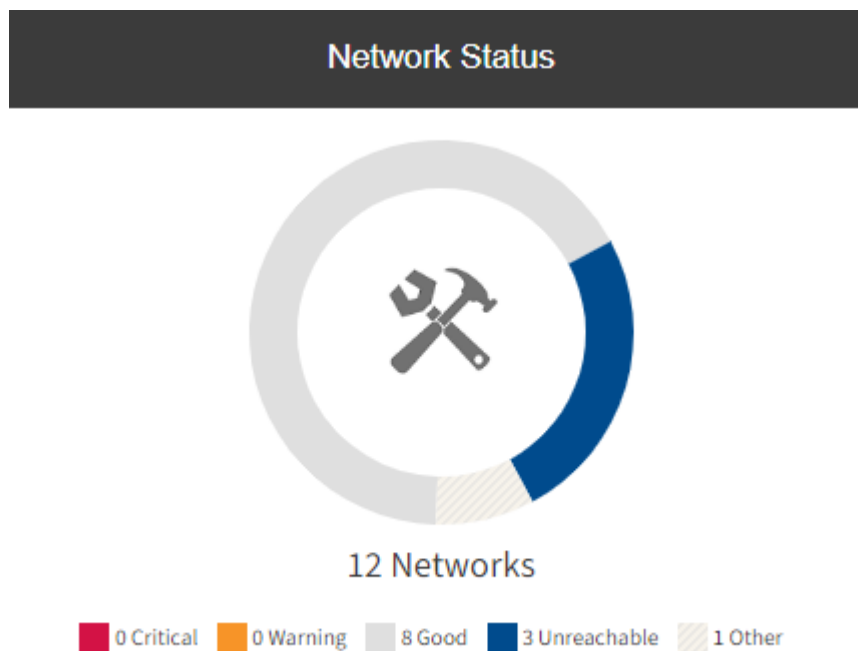
Users can navigate to the dashboard to see an aggregated view into the status of their gateways and devices. From this view, they will be able to clearly determine whether their network is running as intended and whether their devices are connected properly to a gateway.

Figure 3-1: Network Management Dashboard



Network Status

Figure 3-2: Network Status



The **Network Status** section shows the health of a user's gateways. When a user accesses the menu, they learn about the usage % of user gateways, and the raw number of networks that are in Good, Warning, Critical, Unreachable, and Other conditions. Characteristics of Good, Warning, and Critical networks are shown in [Network Status](#). Networks are Unreachable if Plantweb Insight is no longer receiving data from the gateway. Other conditions are:

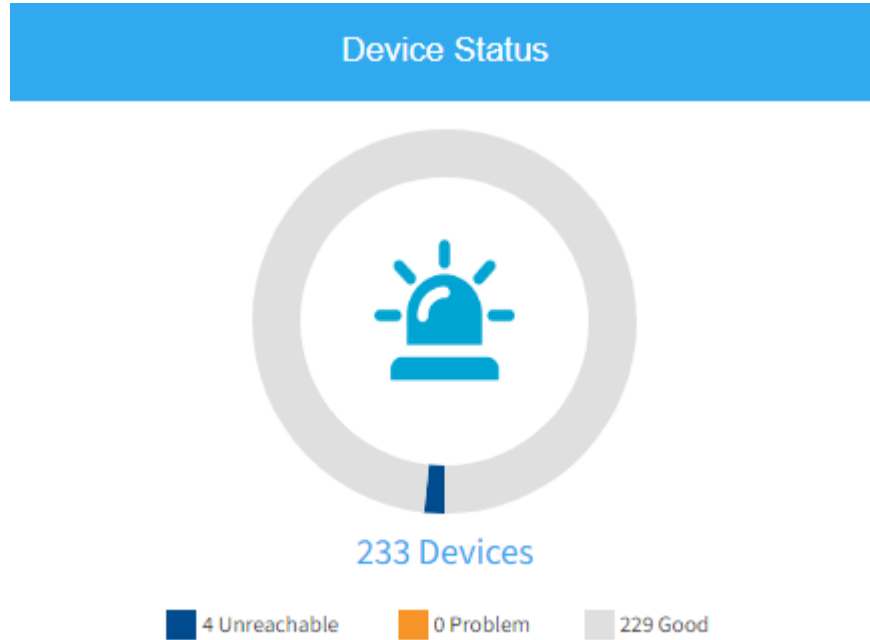
Out of service	When a gateway is set to Out of service, it will no longer give alerts and is a way to avoid nuisance alerts after a gateway reboot or maintenance.
No Data	means that the gateway is no longer receiving data from any devices.
Pending status	means a gateway is transitioning from one state to another.

Table 3-1: Network Status

	Good	Warning	Critical
Reliability	≥ 99%	99% > & ≥ 98%	< 98%

Device Status

Figure 3-3: Device Status



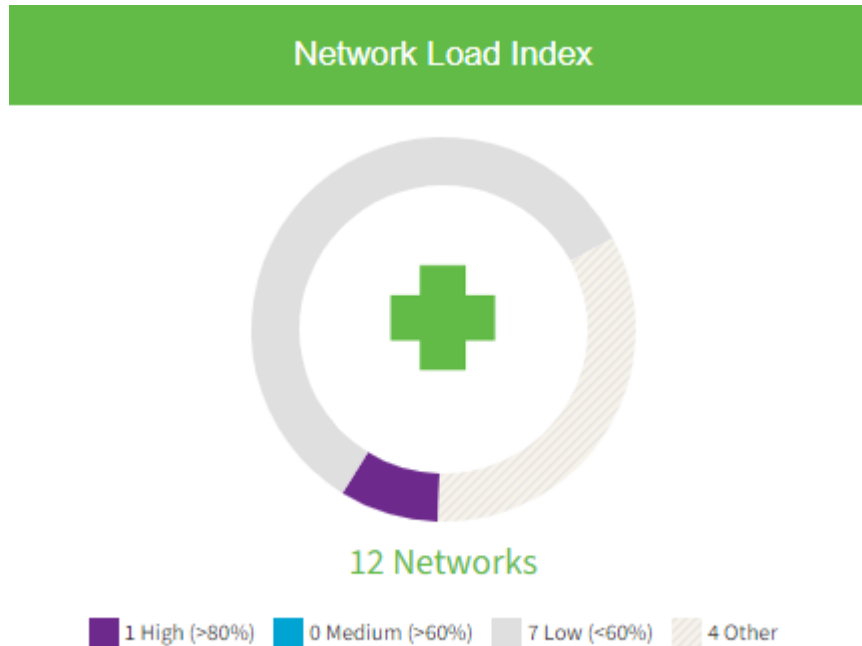
The **Device Status** page shows the raw number of devices that are connected to user gateways and separates them into three categories Good, Problem, and Unreachable. These device state descriptions are displayed in [Table 3-2](#).

Table 3-2: Device Status

Device status	Description
Good devices	Devices having reliability $\geq 99\%$
Problem devices	Devices having reliability $< 99\%$
Unreachable devices	Devices cannot be reached by the gateway

Network Load Index

Figure 3-4: Network Load Index



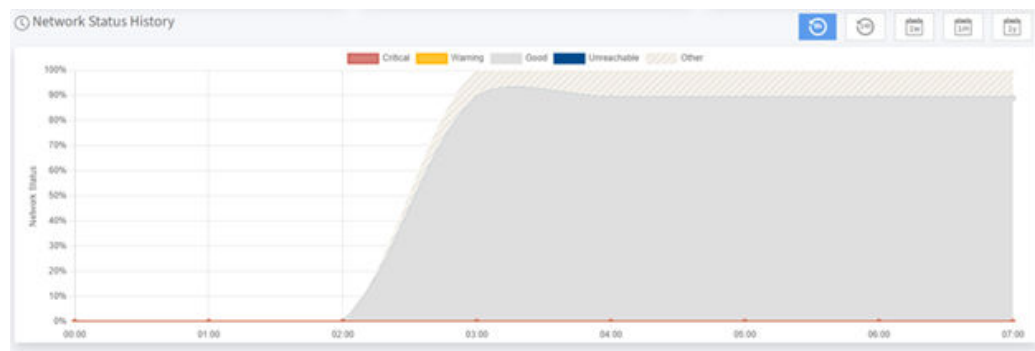
The **Network Load Index** menu shows information about the loading of the gateways being monitored. It classifies the gateways into four different categories based on the percentage of total capacity, **Low** (< 60%), **Medium** (80% > & > 60%), **High** (> 80%), and **Other** (either out of service or no data). Network load is based on multiple factors including the number of devices, type of device, and update rate. The gateways are split up in this way to notify whether a gateway is close to capacity/carrying more of the load than others.

Note

Always follow wireless best practices to optimize gateway load management.

Network Status History graph

Figure 3-5: Network Status History Graph



The **Network Status History** graph shows network health status data for the time period selected as stated in [Configurable time period](#), pulled from the **Network Status** section above. These values are the same as [Network Status](#) and their descriptions are as stated in that section.

Configurable time period

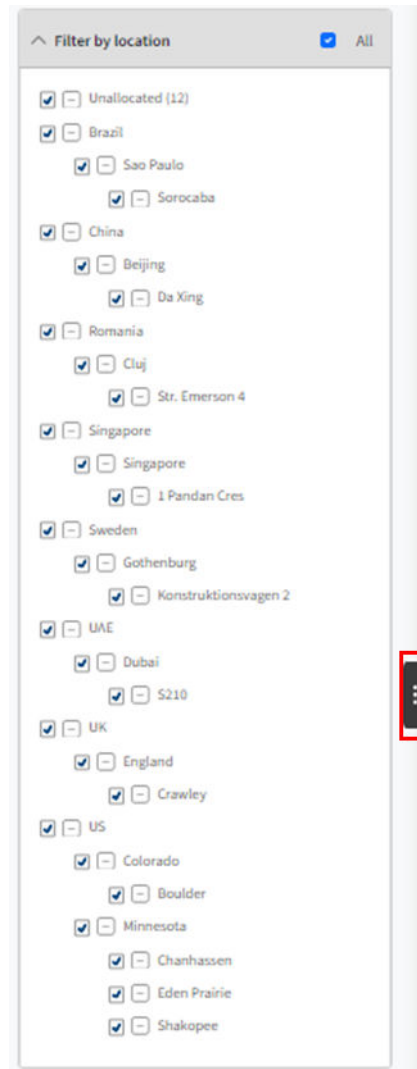
A user can configure the display period shown at the middle right of the dashboard. This changes the view of the **Network Status History** chart. The standard options available are:

- 8 hours
- 24 hours
- 1 week
- 1 month
- 1 year

These selections allow users to view how the network has performed over time.

Filter by Location

Figure 3-6: Filter by Location



The **Filter by Location** feature is accessible on the **Dashboard**, **Asset Summary**, and **Alerts** sections. This functionality enables the user to filter not just by site, but also by more granular subdivisions such as floor, room, or section. To toggle this page, use the three dots located on the dark grey bar on the left side of the screen in all the pages mentioned previously. A user can add hierarchy information within the platform settings of Plantweb Insight.

3.1.2 Asset summary

Figure 3-7: Asset Summary Page

Network	Location	Network Status	Network Load Index	Good Devices	Problem Devices	Unreachable Devices	Status Duration	Flag
GWSim-0010000 (00.XXX.XX.XX.XXX.X)	Unallocated	GOOD	40%	100	0	0		
GWSim-0020000 (00.XXX.XX.XX.XXX.X)	Unallocated	UNREACHABLE	---	---	---	---		
GWSim-0030000 (00.XXX.XX.XX.XXX.X)	Unallocated	GOOD	25%	24	0	0		
GWSim-0040000 (00.XXX.XX.XX.XXX.X)	Unallocated	GOOD	82%	26	0	0		
GWSim-0050000 (00.XXX.XX.XX.XXX.X)	Unallocated	GOOD	24%	17	0	0		
GWSim-0060000 (00.XXX.XX.XX.XXX.X)	Unallocated	GOOD	44%	27	0	0		
GWSim-0070000 (00.XXX.XX.XX.XXX.X)	Unallocated	GOOD	25%	16	0	0		
GWSim-0080000 (00.XXX.XX.XX.XXX.X)	Unallocated	GOOD	6%	16	0	0		
NextGen42 (00.XXX.XX.XX.XXX.X)	Unallocated	UNREACHABLE	---	---	---	---		

Showing 1 to 12 of 12 | 25 records per page

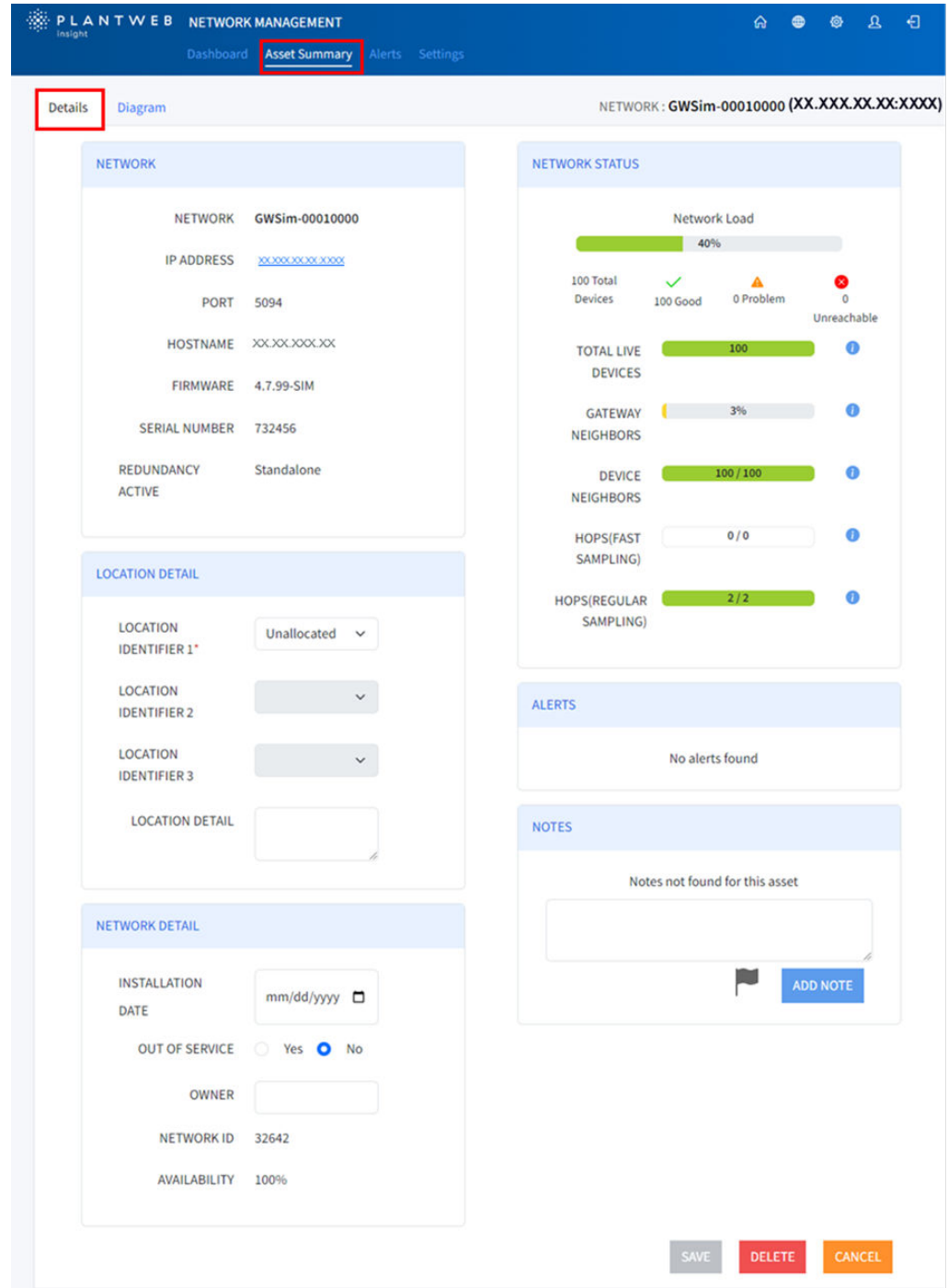
To access the **Asset Summary** page, navigate to the top-left corner and click on the **Asset Summary** page. This tab provides a comprehensive overview of all Gateways and their networks, complete with filter and search functions for quick and efficient identification. Users can filter assets by various criteria, including:

- **Network**
- **Location**
- **Network Status**
- **Network Load Index**
- **Good Devices**
- **Problem Devices**
- **Unreachable Devices**
- **Owner**
- **Network ID**
- **IP Address**
- **Hostname**
- **Firmware Version**
- **Redundancy**
- **Availability**
- **Status Duration**
- **Flag**

Additionally, users can prioritize the displayed information by sorting and have the option to export data for the creation of custom reports. Within the **Network Management** application, the **Asset Summary** page displays all the gateways that have been added to the Network Management application.

3.1.3 Asset details

Figure 3-8: Details Tab



The Details page offers a comprehensive look at a network's identity and overall status. There are six main sections on this page:

- Network
- Location Detail
- Network Detail
- Network Status
- Alerts
- Notes

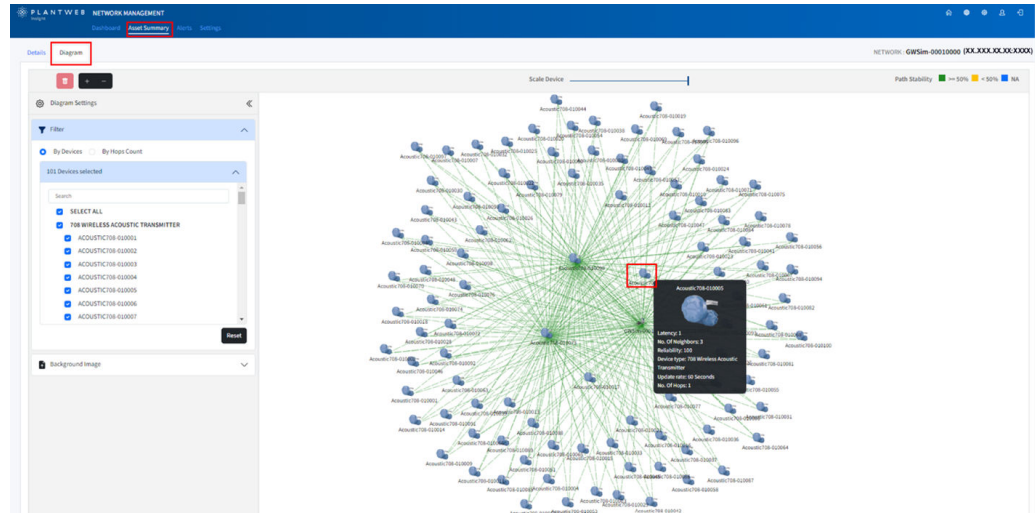
From these sections, users can assign identifying information about their gateway, where it is within their facility, when it was installed, whether it is in service, the network owner and any notes associated with the device. As well, the status of the network and alerts associated with the network are also shown in this section. **Network Status** based on Emerson's best practices described in the following section.

Best Practices:

- Number of Devices:
 - **Rule:** There should be at least 5 live devices on the network.
 - The total number of live devices is displayed.
- Gateway Neighbors:
 - **Rule:** At least 25% of devices should be neighbors with the gateway.
 - The percentage of devices that are neighbors with the gateway is indicated.
- Device Neighbors:
 - **Rule:** Each device should have at least 3 neighbors with more than 70% path stability.
 - The count of devices with 3 or more neighbors at 70% or greater path stability is shown.
- Hops (Fast Sampling):
 - **Rule:** Devices with fast sampling rates (1 sec - 8 sec) should have fewer than 2 hops.
 - The number of fast sampling devices with less than 2 hops to the Gateway is displayed, alongside the total number of fast sampling devices.
- Hops (Regular Sampling):
 - **Rule:** Devices with regular sampling intervals (16+ sec) should have fewer than 7 hops.
 - The number of regular sampling devices with less than 7 hops to the Gateway is presented, in addition to the total number of regular sampling devices.

3.1.4 Asset Diagram

Figure 3-9: Diagram Tab



The **Network Diagram** tab shows the live mesh arrangement of a Gateway's wireless network. This shows the gateway along with all the devices that are connected to it and how they connect to one another.

When an individual device is clicked on, it shows the number of neighboring devices along with its

- Identity
- Latency
- Update rate
- Number of hops
- Reliability

This is more clearly shown in [Table 3-3](#). Devices can be filtered by the device or the hops count in the filter section on the left hand side of the screen.

A double click isolates the neighboring devices for a selected device. The diagram shows lines in between devices which are considered paths. Emerson's recommended values for path stability and RSSI values can be seen in [Table 3-4](#).

Additionally, users can add background images to give a better idea of where their devices may be throughout their plant. These images can be JPG, JPEG, PNG, or SVG files up to 5 MB in size. Users can also adjust the transparency of the background image. With or without these images, devices can be dragged and dropped to the desired location on this page by the user and can be scaled in size using the bar at the top middle of the screen as well adjusting zoom to better representation of device position.

Table 3-3: Network Diagram

Characteristic	Description
Latency	Time in milliseconds from transmitter to gateway
Number Of Neighbors	Number of devices that a transmitter communicates with

Table 3-3: Network Diagram (continued)

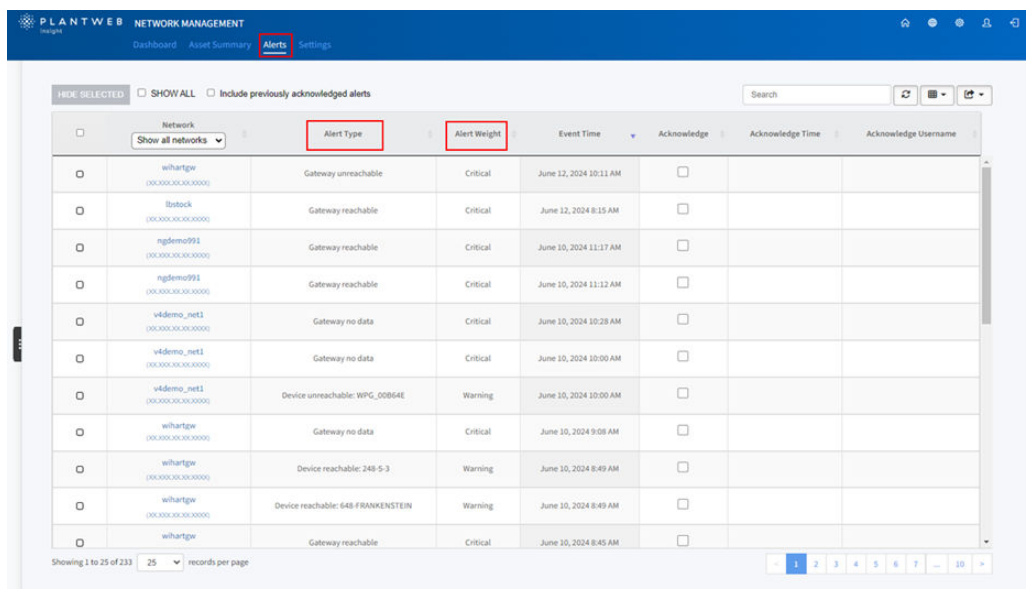
Reliability	Percentage of data sent by a transmitter and received on time by the gateway
Device Type	The identity of the transmitter or gateway
Update Rate	How often the transmitter takes a measurement and sends it to a gateway
Number Of Hops	Number of devices a transmitter travels through to the gateway (1 is direct)

Table 3-4: Path Characteristics

Characteristic	Description	Recommended Value
RSSI Signal Strength	Signal strength in dB between devices	> -75dB
Path Stability	Percentage of stability for all used communication paths	> 50%

3.1.5 Alerts

Figure 3-10: Alert page



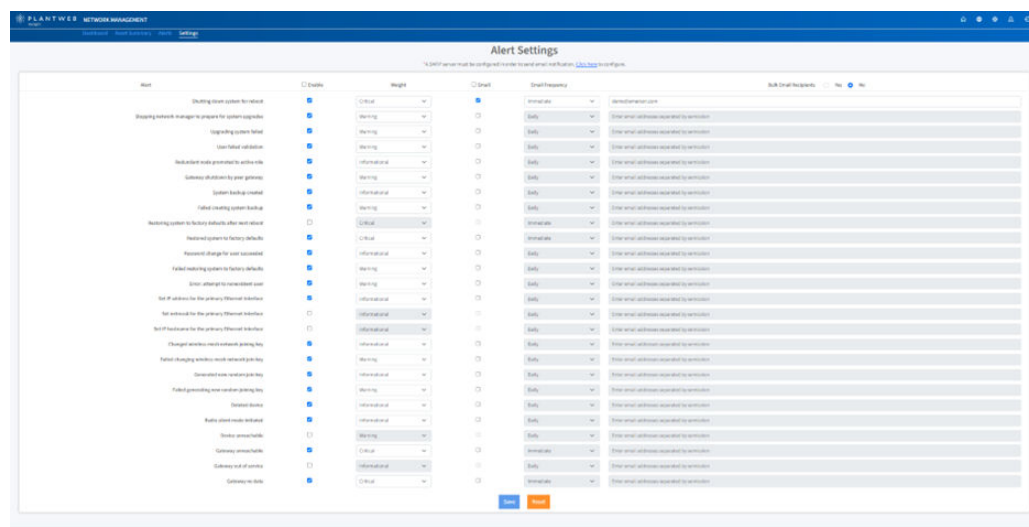
The **Alerts** page is designed to show notifications for gateways and their devices. Users can enable or disable these alerts in the **Settings** page, and some of these conditions will be discussed further in subsequent sections. The notifications vary in severity and can be classified as **Informational**, **Warning**, or **Critical**. This page allows users to organize and manage the alerts effectively. It provides sorting options by various criteria such as:

- Network
- Type
- Severity (referred to as "weight")
- Time
- Acknowledgment status

Additionally, it logs when an alert was acknowledged and by which user, as indicated by the username. This system ensures that users can promptly address and track issues within their network, maintaining smooth operations.

3.1.6 Settings page

Figure 3-11: Settings page



The **Settings** page displays a comprehensive list of potential alerts that can be integrated into the network management application. These alerts encompass a range of events and are included in [Table 3-5](#). Users can tailor these alerts to match their user defined criticality. Depending on the preferred method of notification, users can configure the system to send immediate or daily email alerts. The customization options also allow for notifications to be directed to a user's preferred email address for each separate type of alert. Additionally, the **Bulk Email Recipients** function is available to disseminate alerts to a large group of recipients, ensuring that all relevant parties are informed of critical events within the network. This can be done by click on Bulk Email Recipients at the top right of the settings page and add the email addresses separated by commas below. Once these changes have been made, make sure to save them with the button on the bottom of the screen. To reset the settings, press the **Reset** button.

Table 3-5: Alerts

Alert	Description
System shutdown for reboot	System required reboot, commonly from firmware upgrade or configuration change
Network manager stoppage in preparation for system upgrades	Alerts user that a network is going to shut down to apply system upgrades
System upgrade failures	The upgrade failed, will revert to previous version
User authentication failures	Failed to login
Promotion of a redundant node to an active role	Caused by switchover from secondary to primary gateway
Gateway shutdown initiated by a peer gateway	Shutdown initiated by either a primary or secondary gateway
System backup creation	Gateway backup zip file created

Table 3-5: Alerts (continued)

Failure to create a system backup	System backup file failed to be created
Factory default restoration post-reboot	Factory default restored successfully
Successful restoration to factory defaults	Gateway is restored to factory defaults
Successful user password changes	User changed password successfully
Failures in restoring the system to factory defaults	Gateway is not restored to factory defaults
Errors related to attempts involving non-existent users	Failed login, user not found
IP address configuration for the primary Ethernet interface	IP address for port 1
Netmask setting for the primary Ethernet interface	Netmask for port 1
Hostname setting for the primary Ethernet interface	Hostname assigned to port 1
Wireless mesh network joining key changes	The <i>WirelessHART</i> [®] join key was changed by user
Failures in changing the wireless mesh network joining key	The <i>WirelessHART</i> join key failed to be changed by user
Generation of a new random joining key	ACL (Access Control List) random join key generation
Failures in generating a new random joining key	Failure with ACL random join key generation
Device deletions	Devices deleted from gateway
Initiation of radio silent mode	Radio silent mode activated

4 Outputs/Notifications

4.1 OPC-UA

Note

When gateway command responses are received, the variable data are published to OPC-UA and Modbus. Additionally, there is a publish every ten minutes with the available values.

Tag	Permissions	Data type (ModBus)	Data-type (OPC-UA)	Tag Description	Possible Values
OOS	Read	Boolean	BOOLEAN	OOS state of the GW. This will be a read-only property 1 UNREACHABLE 0 REACHABLE	0 or 1
STATE	Read	UINT16	UINT16	Network Status of the GW is populated under this property We map each status with a number and publish the numeric value. 1 GOOD 2 WARNING 3 CRITICAL 4 NO DATA 5 UNREACHABLE	1,2,3,4 or 5
NETWORK_LOAD	Read	FLT32	FLOAT	Network Load category mapped with an integer Value 1 HIGH 2 MEDIUM 3 LOW 4 NO DATA 5 UNREACHABLE	1,2,3,4 or 5
GOOD_DEVICES_COUNT	Read	FLT32	FLOAT	No of good devices under this Gateway	Any number

PROBLEM_DEVICES_COUNT	Read	UINT16	UINT16	No of problem devices under this Gateway	Any number
UNREACHABLE_DEVICES_COUNT	Read	UINT16	UINT16	No of unreachable devices under this Gateway	Any number

For more information on set up and configuration of OPC-UA data connections refer to the [Emerson Plantweb Insight framework manual](#).

4.2 Email alerts

Email Alerts can be set to different weights and frequency. These weights include **Critical**, **Warning** and **Informational**. EmailFrequency can be set to **Daily** and **Immediate**. For daily emails, these emails will be sent at 00:00 UTC. For more information refer to [Settings page](#).

5 Troubleshooting

5.1 App fails to load properly

Users may choose to uninstall and re-install of the application fails to resolve the issue. If doing a clean uninstall, make sure to save a restorable backup of the application and its data. For information on installing the application reference [Downloading asset view and updates](#). For information on uninstalling, reference [How to uninstall](#).

6 Maintenance

6.1 How to update

Procedure

1. In the Plantweb Insight™ web interface, go to **Platform Settings** → **Manage Applications**.
2. Uninstall any applications that have a newer version available.

Note

Do not check **Clean Uninstall** unless necessary. A clean uninstall deletes all data stored on the app.

3. Install applicable upgrade bundle(s) (ASC files).
4. To initiate update effectivity, software prompts user to log out and log in.
5. Install compatible versions of any applications that have been updated.

6.2 How to uninstall

Procedure

1. In the Plantweb Insight™ web interface, go to **Platform Settings** → **Manage Applications**.
2. Uninstall any applications that have a newer version available. A clean uninstall deletes all data stored on the app.

For more information: [Emerson.com/global](https://emerson.com/global)

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