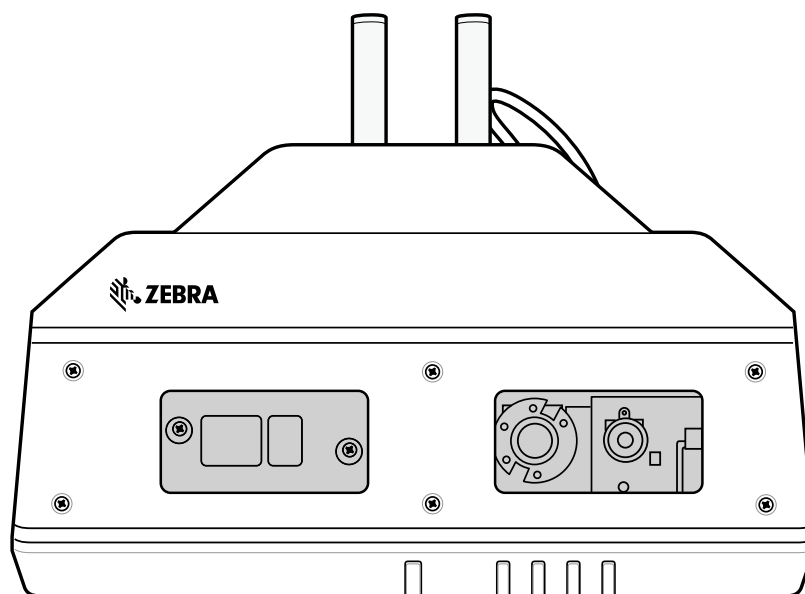


TM2000



Configuration Guide



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TM2000 Configuration

Introduction

This guide provides instructions on getting LMU devices online and to enable the management and monitoring of LMU devices via the Configuration Management and Monitoring (CMM) tool.

CMM Overview

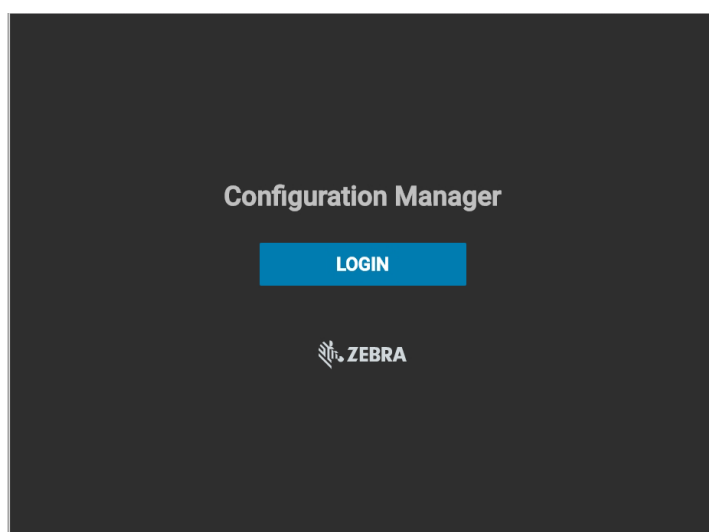
The Configuration Management and Monitoring (CMM) tool provides a web-accessed user interface that allows SPS (Smart Pack Solutions) site administrators to efficiently configure, monitor, and troubleshoot aspects of a site deployment.

Logging In to CMM

To access CMM:

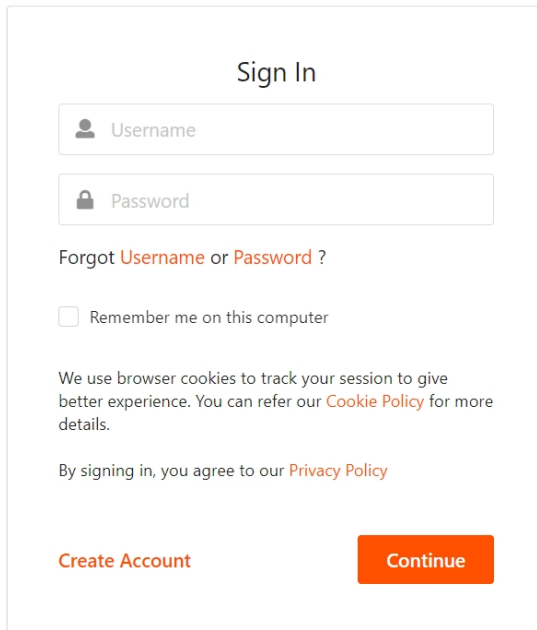
1. Open a browser and enter the DNS name (not the IP address for CMM).
2. Select **Login**.

Figure 1 CMM Login Screen



3. Enter your **Username** and **Password** and select **SIGN IN**. The CMM home screen displays.

Figure 2 CMM Sign In Screen



The image shows a sign-in form titled "Sign In". It contains two input fields: "Username" with a person icon and "Password" with a lock icon. Below these fields is a link "Forgot Username or Password?". There is a checkbox labeled "Remember me on this computer". A paragraph of text states: "We use browser cookies to track your session to give better experience. You can refer our [Cookie Policy](#) for more details." Below this is another line: "By signing in, you agree to our [Privacy Policy](#)". At the bottom, there are two buttons: "Create Account" and "Continue".

Sign In

Username

Password

Forgot [Username](#) or [Password](#) ?

☐ Remember me on this computer

We use browser cookies to track your session to give better experience. You can refer our [Cookie Policy](#) for more details.

By signing in, you agree to our [Privacy Policy](#)

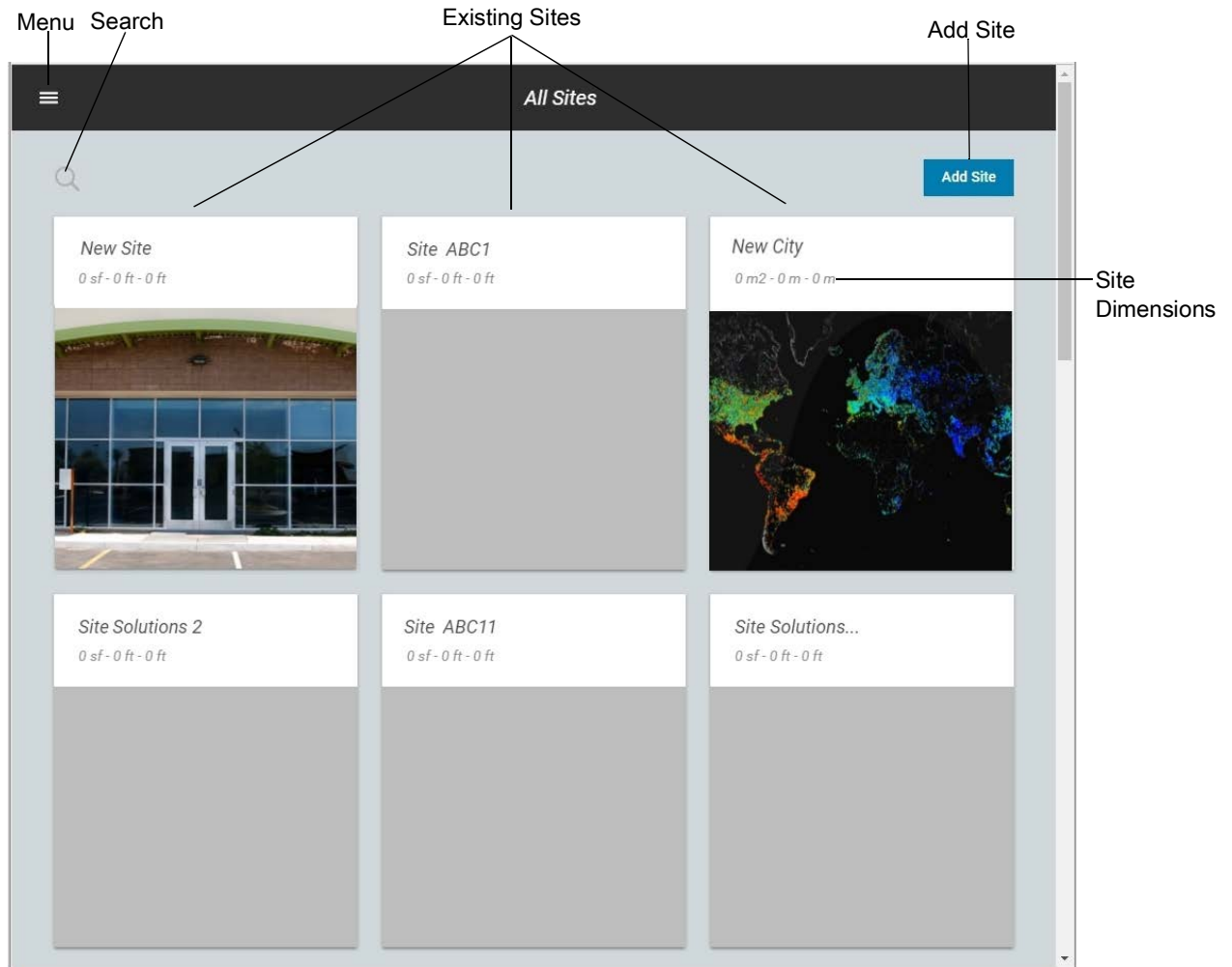
[Create Account](#) [Continue](#)

The CMM home screen displays.

CMM Home Screen

The CMM home screen displays all existing sites, includes a search icon for locating particular sites, and a menu button that provides access to site and user management features.

Figure 3 CMM Home Screen



Resource Management

Resource management allows you to access and manage device and server information.

The **Resources** tab includes the following information:

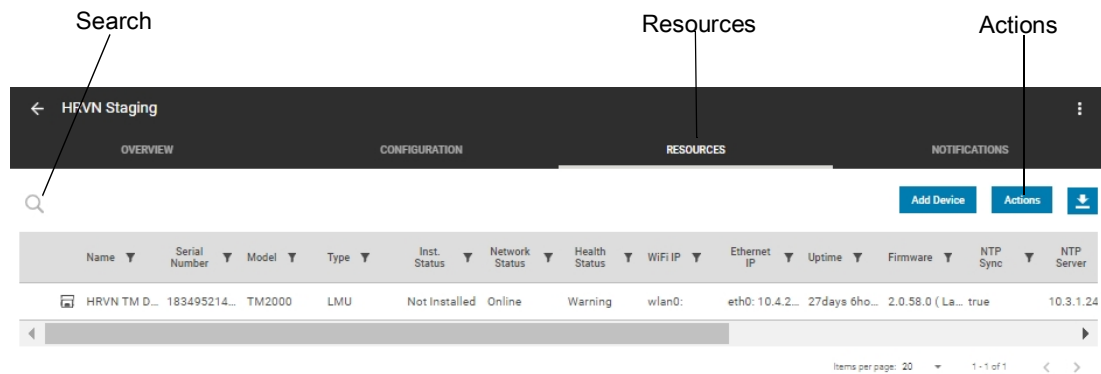
- **Name** - LMU given name
- **Serial Number** - LMU serial number
- **Model** - LMU model type
- **Type** - Device type
- **Inst Status** - Installation status (Installed or Not Installed)
- **Network Status** - Status of network (Offline or Online)
- **Health Status** - Reports the status of the device warning events.

Viewing Device and Server Information

To view and manage devices for a particular site:

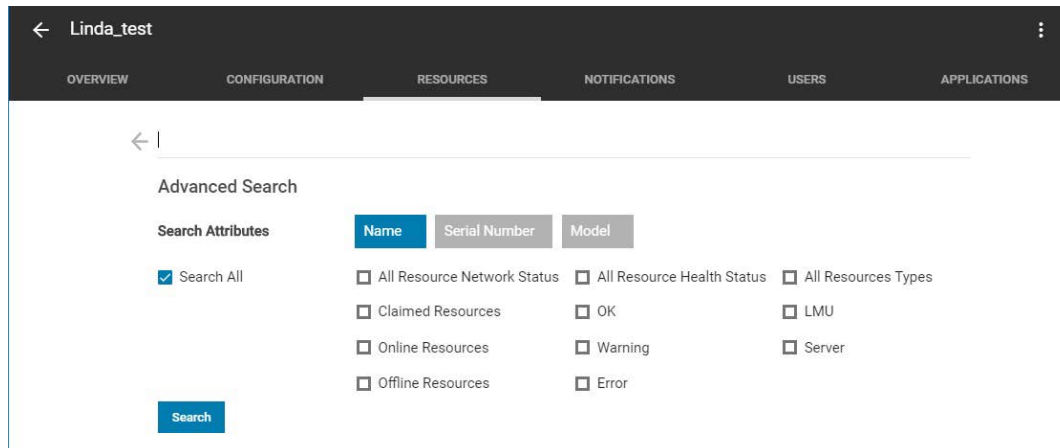
1. On the home page, select the desired site (see [Figure 3 on page 6](#)).
2. Select the **Resources** tab to view a list of all servers and devices installed at the site, as well as status information for each.

Figure 4 Resources Tab



3. To narrow the list:
 - a. Select the **Search** icon (see [Figure 4](#)).

Figure 5 Resources Search Screen



- b. In the **Search Attributes** row, select the desired attribute to search: **Name**, **Serial Number**, or **Model**.
 - c. Select the desired resource check boxes for the items to display or select the **Search All** check box to select all of the options.
 - d. In the search field, enter text representing some or all of the attribute chosen.
 - e. Select **Search**.
4. To perform actions such as settings or commands to selected devices:
 - a. Select **Actions** (see [Figure 4](#)).

Figure 6 Device Type Window

The screenshot shows a 'Device Type' configuration window. It features a dark header bar with the title 'Actions' and a close icon. The main content area is divided into three sections: 'Device Type' (with a dropdown menu currently showing 'LMU' and an option to 'Select a device sub-type'), 'Scope' (with a dropdown menu), and 'Action Type' (with a dropdown menu). A vertical scrollbar is visible on the right side of the content area. At the bottom right, there are two buttons: 'CANCEL' and 'DONE'.

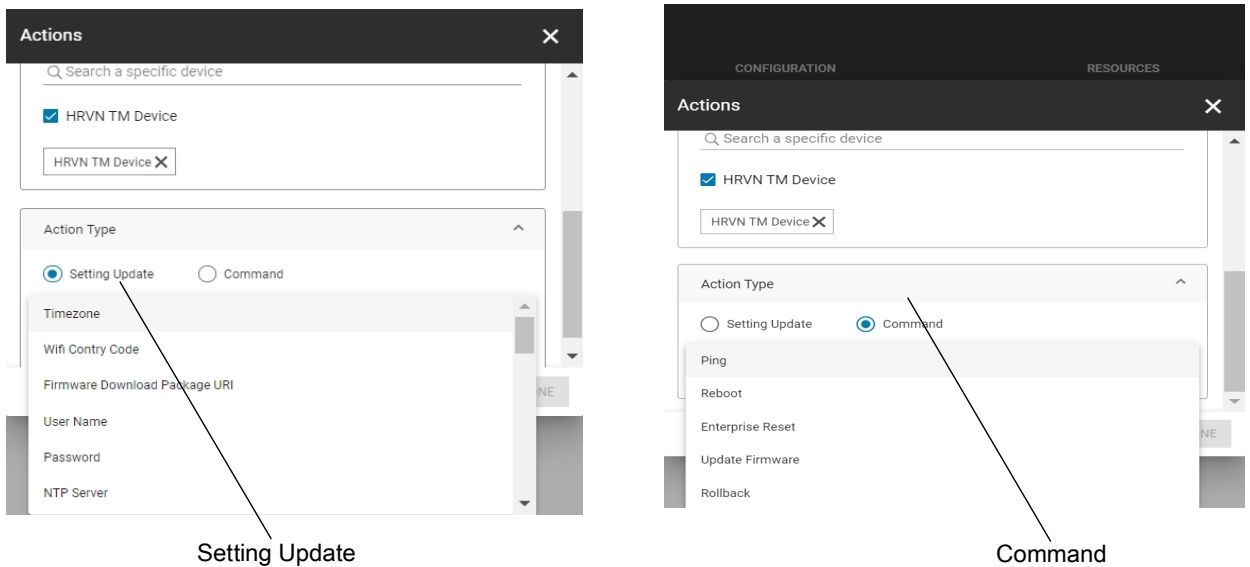
- b. Click on the **Device Type** drop-down menu and select a device.
- c. Click on the **Device Sub-type** drop-down menu and select a specific device type.

Figure 7 Scope Window

The screenshot shows a 'Scope' configuration window. It features a dark header bar with the title 'Actions' and a close icon. Below the header, there is a dropdown menu showing 'LMU TM2000'. The 'Scope' section is expanded, showing a list of checkboxes: 'All LMUs' (checked) and 'HRVN TM Device' (checked). Below the list is a search bar with the text 'Search a specific device'. At the bottom right, there are two buttons: 'CANCEL' and 'DONE'.

- d. Under **Scope**, select the **All LMUs** for the entire list of devices or select the specific device check boxes.
- e. Under **Action Type**, select **Setting Update** or **Command**.

Figure 8 Action Type Window



f. In the **Select an action** field, select the desired action.

Setting Update options:

- **Timezone** - Sets the timezone in which the device is used.
- **Wifi Country Code** - Wifi for the country that the device resides.
- **Firmware Download Package URL** - URL to SFTP setting.
- **User Name** - User name for SFTP server.
- **Password** - SFTP server password.
- **NTP Server** - Network Time Protocol server.
- **Horizontal Offset** - Horizontal offset from center of load point as installed (measured in feet).
- **Desired Angle** - Desired angle reading of LMU.
- **Angle Error Threshold** - The number of degrees difference between the measured and configured elevation angles, +/-, at which the LMU declares an alert and sets its LEDs accordingly.
- **Watchdog Enabled** - Controls whether or not the LMU is checking its watch dog timer. True enables watchdog and False disables watchdog.
- **Minimized RGB Storage** - When enabled (true), the Image (RGB) Files are purged based on Image (RGB) Storage in minutes. When Minimize RGB Storage is not enabled (false), the Image (RGB) files are purged daily based in the Image (RGB) Storage Time.
- **Image (RGB) Storage Time (day/minute)** - Determines how often the RGB files are purged.
- **Depth Storage Time, max at 10 (day)** - Depth frame storage.
- **3D Storage Time (min)** - Determines how often the PCD is purged.
- **Distance from camera to door** - Distance from LMU to trailer/container door.
- **Image capture width dimension** - Width of image capture.
- **Image capture height dimension** - Height of image capture.
- **Trailer is an inbound or outbound** - Direction of trailer/container; (1 = inbound, 0 = outbound).

- **TLA Backend Server Address** - The hostname or IP of the SPX backend server with which the LMU communicates.
- **CMM Server Address and Port** - Server address for CMM and Port.
- **Redis/Kafka server** - Server for Redis or Kafka.
- **CCTV Enabled** - Enable or disable video.
- **RGB Frame Rate** - Frequency at which images display.
- **Use Door_AJAR ML** - Enable/Disable machine learning to detect if door is fully opened.
- **LMU Human Blur** - Options include: replace existing image, save to separate image, or disable feature.
- **TMU Algorithm Setup (tmu_algorithms.xml)**
- **tmu_algorithms.xml Current Version** - Allows you to select one of the saved tmu_algorithms.xml copies as the current version. If the version of that file does not exist, the new version setting is not taken.
- **General Device Setup (tmu.xml)** - Allows you to directly push all the device configuration parameters (other than algorithms params) into the LMU device.
- **tmu.xml current version** - Allows user to select one of the saved tmu.xml copy as current version. If the version of that file does not exist, the new version setting is not taken.

Command options:

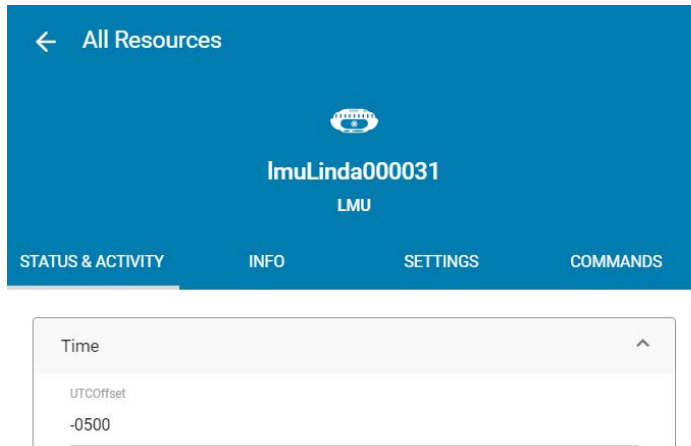
- **Ping** - Device responds to command by incrementing the value of the pingResponse property. This command has no payload.
- **Reboot** - Reboot the device to restore from an unexpected firmware failure.
- **Enterprise Reset** - Restore the device from factory setting, keep the WiFi and CMM connection.
- **Update Firmware** - Update firmware with the selected version saved in CMM server.
- **Rollback** - Firmware roll back to previous version.

- g. Click on the **Select an action** drop-down menu to select an action from the list.
- h. If required, enter the setting value.

Configuring Device and Server Information

Select the device for which to view or configure listed under the **Resource** tab (see [Figure on page 11](#)).

Figure 9 Resource Option Tabs

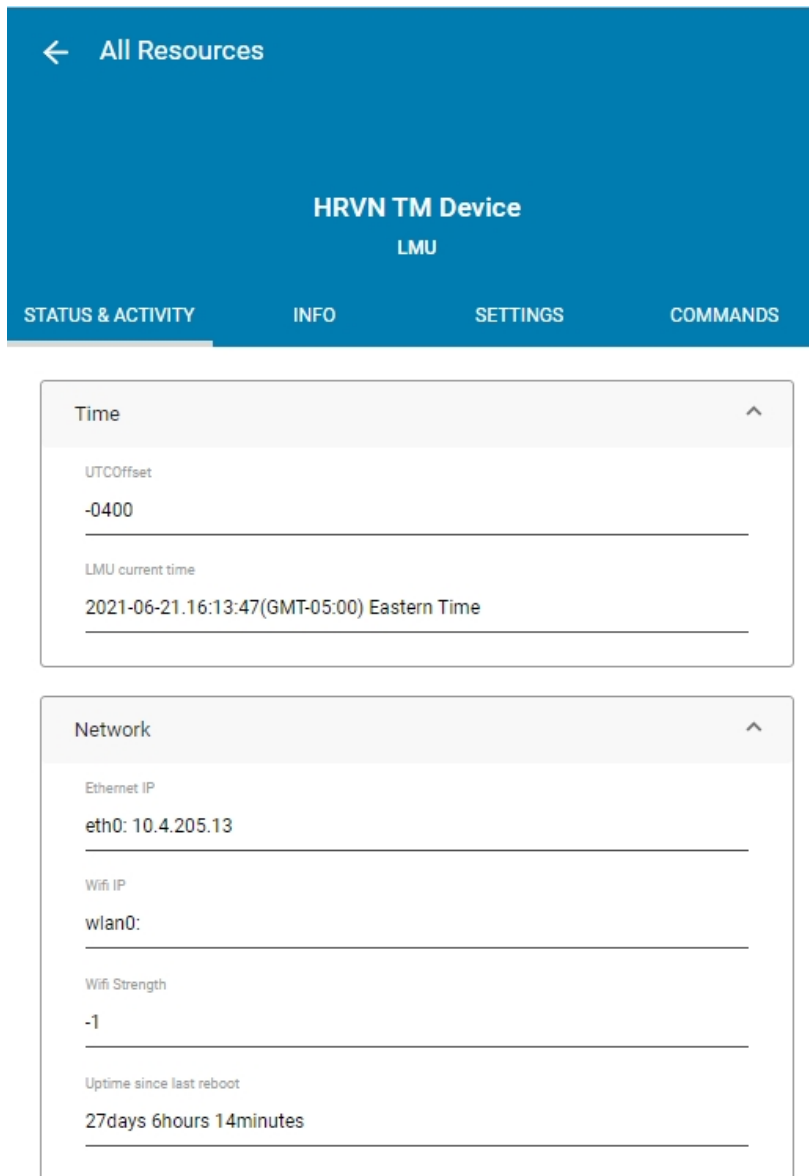


The following resource option tabs display:

- **Status & Activity** - Read Only
- **Info** - Read Only
- **Settings** - Used to change the configuration of the device.
- **Commands** - Performs executable commands such as, firmware update, reboot, firmware roll back.

Status & Activity

Figure 10 Status & Activity Tab: Time and Network



The Status & Activity information (see [Figure 10](#)) is as follows:

Time

- **UTCOffset** - Difference in hours and minutes between the TMU device and Coordinated Universal Time (UTC).
- **LMU Current Time** - Current time of the LMU.

Network

- **Ethernet IP** - Ethernet IP addresses assigned to the connectivity interface (e.g. IPv4, IPv6, etc.).
- **Wifi IP** - WiFi IP addresses assigned to the connectivity interface. Including the SSID.
- **Wifi Strength** - Strength of the wireless network.
- **Uptime Since Last Reboot** - Time (in minutes) since the last device reboot.

Figure 11 Status & Activity Tab: Firmware

Firmware
^

Download State
Downloaded

Update Result
SUCCESS

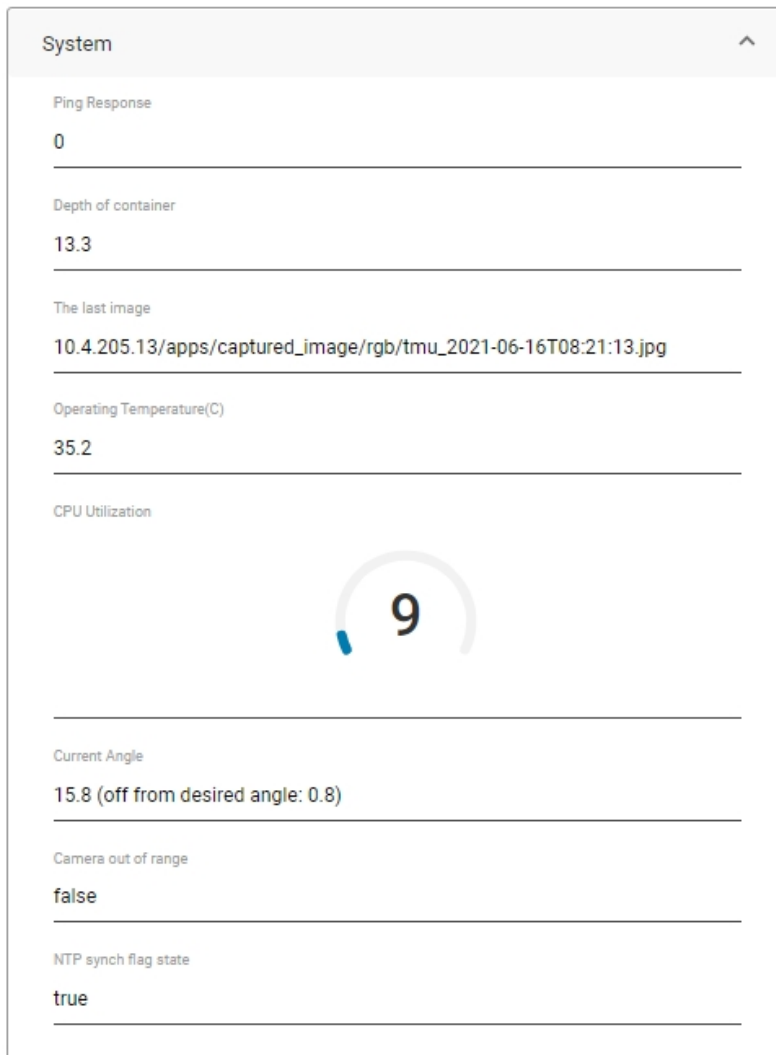
Last Updated Package Name
2.99.44_build

Download Progress
100 %

Firmware (see [Figure 11](#))

- **Download State** - Indicates the current firmware download state: Idle (before downloading or after updating); Downloading; Downloaded.
- **Update Result** - Firmware download result: Success; Insufficient storage; oom, Connection lost during download; CRC failed; unsupported pkg; invalid URL.
- **Last Updated Package Name** - The package name from the last firmware update using CMM.
- **Download Progress** - Percentage of download complete.

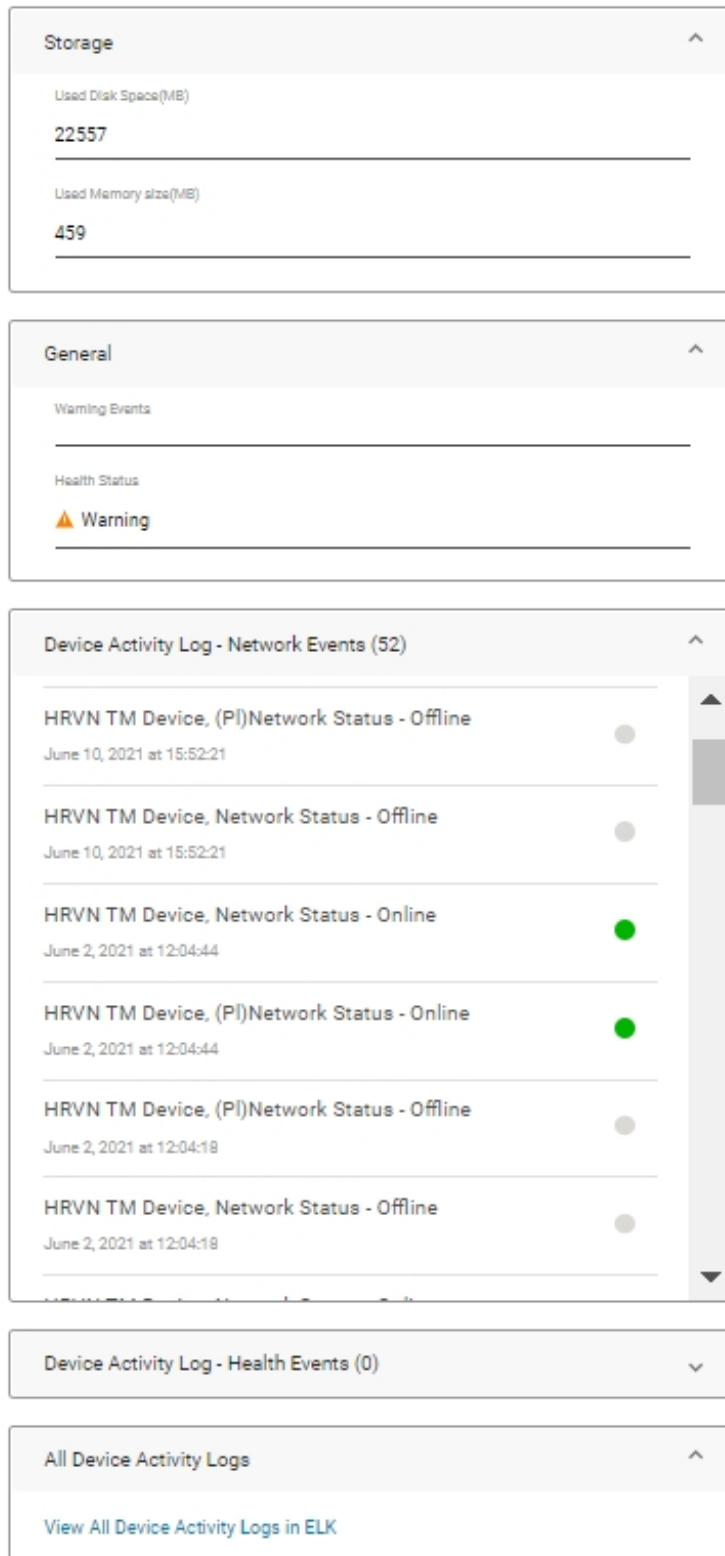
Figure 12 Status & Activity Tab: System



System (see [Figure 12](#))

- **Ping Response** - Device increments the value of this property on receipt of a ping command from the cloud.
- **Depth** - Depth of the container/trailer calculated by the algorithm.
- **The Last Image** - Last image captured by the unit.
- **Operating Temperature (C)** - Current LMU operating temperature measured in Celsius.
- **CPU Utilization** - CPU utilization percentage.
- **Current Angle** - Current angle reading of LMU.
- **Camera out of range** - True (out of camera range) or false (not out of camera range).
- **NTP Synch Flag State** - Boolean flag (true or false) indicates if the LMU has successfully synchronized its system time with a Network Time Protocol (NTP) server (LMU relies on an NTP server for time).

Figure 13 Status & Activity Tab: Storage and General



Storage (see [Figure 13](#))

- **Used Disk Space (MB)** - Total disk space used measured in MB.

- **Used Memory Size (MB)** - Total RAM used measured in MB.

General (see [Figure 13](#))

- **Warning Events** - Reports events which cause the error.

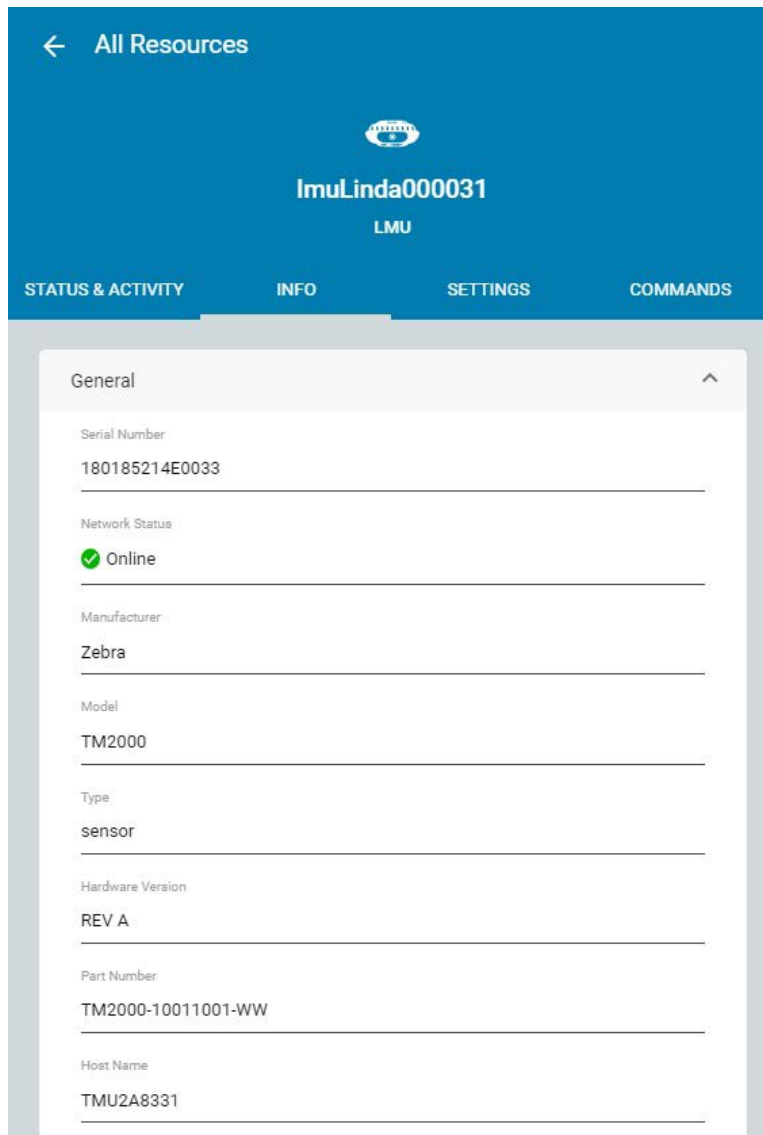
Under the Health Events status, events include a colored indicator. A Green indicator is fine, and an Orange indicator is a warning event and an error code is associated with a warning event as follows:

- [Cert_expiration]
 - [Camera_sensor]
 - [Depth_sensor]
 - [Door_AJAR]
 - [Camera_OutOfRange]
- **Health Status** - An Okay status indicates that the camera sensor or depth sensor is working properly. If the camera sensor or depth sensor has a problem, or the mounted angle is beyond the threshold (see elevation angle error threshold resource in Settings Tab: System and WiFi Region on page 20), it returns false as an alarm.

Device Activity Log - Network Events - Listing of LMU network activity (see [Figure 14](#)).

Device Activity Log - Health Events - Listing of LMU health activity (see [Figure 14](#)).

Figure 14 Info Tab: General



Info

The items listed under Info are as follows:

General (see [Figure 14](#))

- **Serial Number** - Unique device serial number.
- **Network Status** - Online or offline status of the network connection.
- **Manufacturer** - Name of manufacturer of the device.
- **Model** - Type of device model.
- **Type** - Device type as reported by the device.
- **Hardware Version** - Current hardware version of the device.
- **Part Number** - Device part number.
- **Host Name** - A label that is assigned and used to identify a device connected to a computer network.

Figure 15 Info Tab: Firmware Version and Network

The screenshot displays two sections of the configuration interface. The top section, titled 'Firmware Version', contains four rows of information: 'Boot Loader' with value '2.0.2.0 (Last: 2.0.2.0)', 'Operating System' with value '2.0.5.0 (Last: 2.0.5.0)', 'File System' with value '2.99.23.0 (Last: 2.99.23.0)', and 'Firmware' with value '2.99.44.0 (Last: 2.99.43.0)'. The bottom section, titled 'Network', contains three rows: 'WiFi adapter MAC address' with value '94:FB:29:2A:83:31', 'Ethernet adapter MAC address' with value '94:FB:29:2A:83:33', and 'Bluetooth Mac Address' which is currently empty.

Firmware Version	
Boot Loader	2.0.2.0 (Last: 2.0.2.0)
Operating System	2.0.5.0 (Last: 2.0.5.0)
File System	2.99.23.0 (Last: 2.99.23.0)
Firmware	2.99.44.0 (Last: 2.99.43.0)

Network	
WiFi adapter MAC address	94:FB:29:2A:83:31
Ethernet adapter MAC address	94:FB:29:2A:83:33
Bluetooth Mac Address	

Firmware Version (see [Figure 15](#))

- **Boot Loader** - Version of the bootloader in the device.
- **Operating System** - Version of operating system in the device.
- **File System** - Version of file system in the unit.
- **Firmware** - Firmware that is currently installed on the device.

Network (see [Figure 15](#))

- **WiFi Adapter MAC Address** - LMUs unique hardware number on the WiFi card adapter.
- **Ethernet Adapter MAC Address** - Hardware identification number that identifies each device on the network with the use of an Ethernet adapter.
- **Bluetooth MAC Address** - A unique identifier assigned to each Bluetooth device by the manufacturer.

Figure 16 Info Tab: Storage

The screenshot displays the 'Storage' section of the configuration interface. It contains two rows of information: 'Disk size(MB)' with value '40443' and 'Memory Size(MB)' with value '934'.

Storage	
Disk size(MB)	40443
Memory Size(MB)	934

Storage (see [Figure 16](#))

- **Disk Size (MB)** - Total disk space measured in MB.
- **Memory Size (MB)** - Total memory size measured in MB.

Figure 17 Info Tab: Certificate



The screenshot shows a configuration window titled 'certificate'. It contains two fields, each with a label and a text input area. The first field is labeled 'CMM server cert expiration Date' and contains the date '2022-11-06'. The second field is labeled 'CA cert expiration Date' and contains the date '2048-03-22'. There is an upward-pointing arrow icon in the top right corner of the window.

Field Label	Value
CMM server cert expiration Date	2022-11-06
CA cert expiration Date	2048-03-22

Certificate (see [Figure 17](#))

- CMM server cert expiration Date - CMM Certificate status reporting. Within one month of the cert expiration date, the "Warning events" resource sends out a [Cert_expiration] notification.
- CA cert expiration Date - Zebra CA root certificate status reporting. Within one month of the cert expiration date, the "Warning events" resource sends out a [Cert_expiration] notification.

Settings

The options in the settings tab may be edited. To edit a settings option:

1. Select the **Edit** icon (see [Figure 20 on page 22](#)).
2. Select or enter the desired information.
3. Select **Update**.

Figure 18 Settings Tab: System and WiFi Region

← All Resources

HRVN TM Device


LMU

STATUS & ACTIVITY

INFO

SETTINGS

COMMANDS

System  Edit

Timezone

(GMT-05:00) Eastern Time

NTP Server

10.3.1.248

Watchdog Enabled

false

TLA Backend Server Address

super-spx-stage.zebra.engineering

CMM Server Address and Port

super-spx-stage.zebra.engineering:5673

Redis/Kafka server

kafka

CCTV Enabled

false

RGB Frame Rate


10

Use Door_AJAR ML

false

LMU Human Blur

Create Separate

Wifi Region 

Wifi Contry Code

--

The Settings options (see [Figure 18](#)) are as follows:

System

- **Timezone** - Sets the timezone in which the device is used.
- **NTP Server** - Defines one NTP servers for LMU to use commandType set.
- **Watchdog Enabled** - Controls whether or not the LMU is checking its watch dog timer. Select an option from using drop-down arrow: **True** to enable watchdog and **False** to disable watchdog.
- **TLA Backend Server Address** - The hostname or IP of the SPX backend server with which the LMU communicates.
- **CMM Server Address and Port** - Server address for CMM and Port.
- **Redis/Kafka server** - Server for Redis or Kafka.
- **CCTV Enabled** - Enable/disable video.
- **RGB Frame Rate** - Frequency at which images display.
- **Use Door_AJAR ML** - Enable/disable machine learning to detect if door is fully opened.
- **LMU Human Blur** - Options include: replace existing image, save to separate image, or disable feature.

WiFi Region

- **WiFi Country Code** - The WiFi for the country that the device resides.

Figure 19 Settings Tab: Settings Activity



- **Settings Activity** - List of activities performed in settings.

Figure 20 Settings Tab: Firmware Update and Camera

SFTP/FTP Firmware Update

Firmware Download Package URI

User Name

Password

Camera

Horizontal Offset

-1.31

Desired Angle

15.0

Angle Error threshold

2.0

Distance from camera to door

0.603560

Image capture width dimension

640

Image capture height dimension

480

Trailer is an inbound or outbound (1 = inbound, 0 = outbound)

0

Firmware Update (see [Figure 20](#))

- Firmware Download Package URL** - This setting allows the user to input the SFTP location plus the new build package name.
 For example: **sftp://10.17.218.81/mnt/ftp/LMU2.0/2.99.47_build**
 The SFTP location is sftp://10.17.218.81/mnt/ftp/LMU2.0/ and the new firmware build name is 2.99.47_build.
- User Name** - User name for SFTP server.
- Password** - SFTP server password.

To perform a batch firmware update (on multiple LMUs), see [Batch Firmware Updates on page 27](#).

Camera (see [Figure 20](#))

- **Horizontal Offset** - The horizontal offset from center of load point as installed (measured in feet).
- **Desired Angle** - The measured and desired elevation angles.
- **Angle Error Threshold** - The number of degrees difference between the measured and configured elevation angles, +/-, at which the LMU declares an alert and sets its LEDs accordingly.
- **Distance from Camera to Door** (measured in meters)
- **Image Capture Width Dimension**
- **Image Capture Height Dimension**
- **Trailer is an Inbound or Outbound** (1=inbound, 0=outbound)

Figure 21 Settings Tab: Image Files Retention

Image Files Retention

Minimized RGB Storage

false

Image(RGB) Storage Time (day/minute)

30d

Depth Storage Time, max at 10 (day)

7

3D Storage Time (min)

30

Image Files Retention

- **Minimized RGB Storage** - When enabled (true), the Image (RGB) Files are purged based on Image (RGB) Storage in minutes. When Minimize RGB Storage is not enabled (false), the Image (RGB) files are purged daily based in the Image (RGB) Storage Time.
- **Image (RGB) Storage Time (day/minute)** - Determines how often the RGB files are purged. Default value on the LMU is 30d (30 Days).
- **Depth Storage Time, max at 10 (day)** - Depth frame storage.
- **3D Storage Time (min)** - Determines how often the PCD is purged.

Commands

The Command options are executable. To execute a command, select **Execute** under the desired option(s):

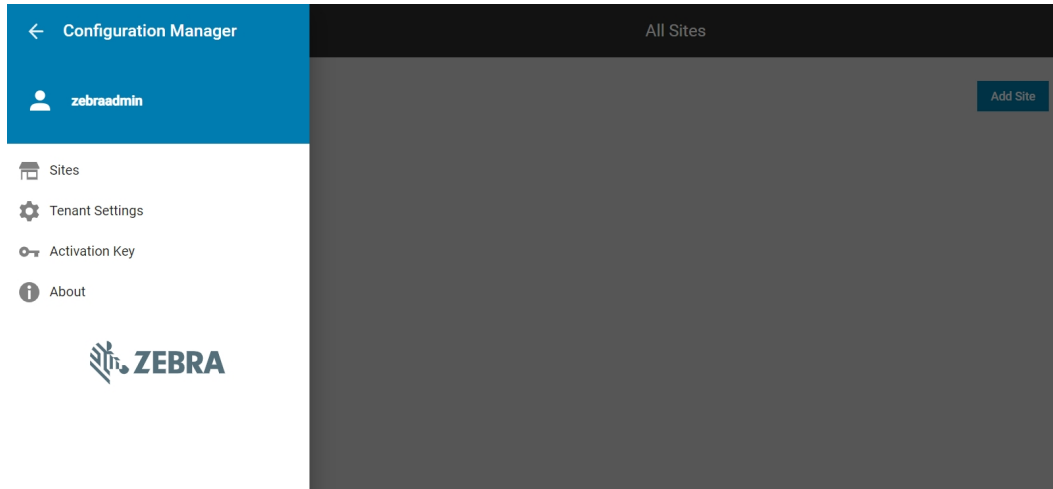
- **Ping** - Device responds to command by incrementing the value of the pingResponse property. This command has no payload.
- **Reboot** - Reboot the device to restore from an unexpected firmware failure.
- **Roll Back** - Firmware roll back to previous version.

- **Enterprise Reset** - Restore the device from factory setting, keep the WiFi and CMM connection.
- **Update Firmware** - Update firmware with the selected version saved in CMM server.

To update the firmware:

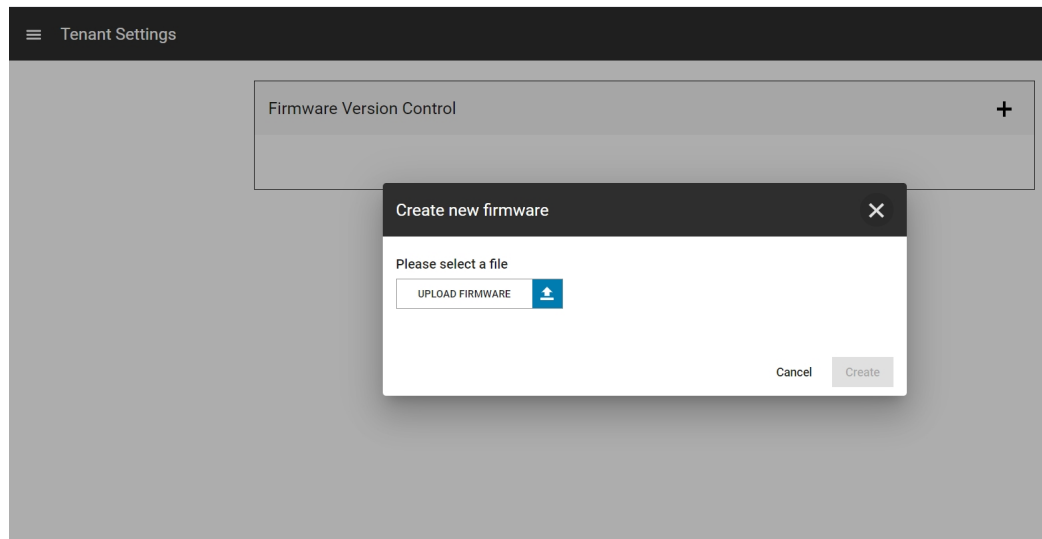
- Obtain the correct firmware .zip file from Artifactory:
<https://artifactory-ny.zebra.com:443/artifactory/local-ny-dcs-dev/SmartPack>.

Figure 22 Configuration Manager Options



- To upload the firmware build zip file to the CMM server for firmware update, click the upper left menu to expand and display options.
- Click **Tenant Settings**.

Figure 23 Create New Firmware Window



- Click **+** next to **Firmware Version Control**. The **Create new firmware** window displays.
- Click on the **Upload Firmware** icon and select the desired file.
- Click **Create**.

Figure 24 Firmware Version Control Screen

Firmware Version Control		
LMU		
Version	Device Sub-Type	File Name
3.0.55		build-3.0.55.zip
3.0.54		build-3.0.54.zip

vii. From the CMM Command, select the correct build file from the drop-down list.

Figure 25 Update Firmware Screen

Update Firmware

Update firmware with the selected version saved in CMM server

build-3.0.55.zip

EXECUTE

viii. Click **Execute**.



NOTE: After getting the release build .zip file, run MD5 utility on it and compare the MD5 value with the checksum content inside **TM2000_TLA_checksum.txt** in Artifactory. Both should match.

Figure 26 Commands Tab

The screenshot shows the 'COMMANDS' tab selected in the TM2000 Configuration interface. The tab bar at the top includes 'STATUS & ACTIVITY', 'INFO', 'SETTINGS', and 'COMMANDS'. Below the tab bar, there are five command cards:

- Ping**: Device responds to command by incrementing the value of the pingResponse property. This command has no payload. [EXECUTE]
- Reboot**: Reboot the device to restore the device from unexpected firmware failure. [EXECUTE]
- Enterprise Reset**: Restore the Device from factory setting, keep the WIFI and CMM connetion. [EXECUTE]
- Update Firmware**: Update firmware with the selected version saved in CMM server. There is no available value for this command. [EXECUTE (disabled)]
- Roll Back**: Firmware rollback to previous version. [EXECUTE]

At the bottom, there is a 'Commands Activity (0)' section with a dropdown arrow.

IX. Click on the **STATUS & ACTIVITY** tab. Scroll to the **Firmware** section to display the update progress.

Figure 27 Confirm Command Execution

The screenshot shows a confirmation dialog box with the text 'Do you really want to execute this command?'. Below the text are two buttons: 'CANCEL' and 'CONFIRM'.

X. The confirmation screen displays. Select **Confirm**.

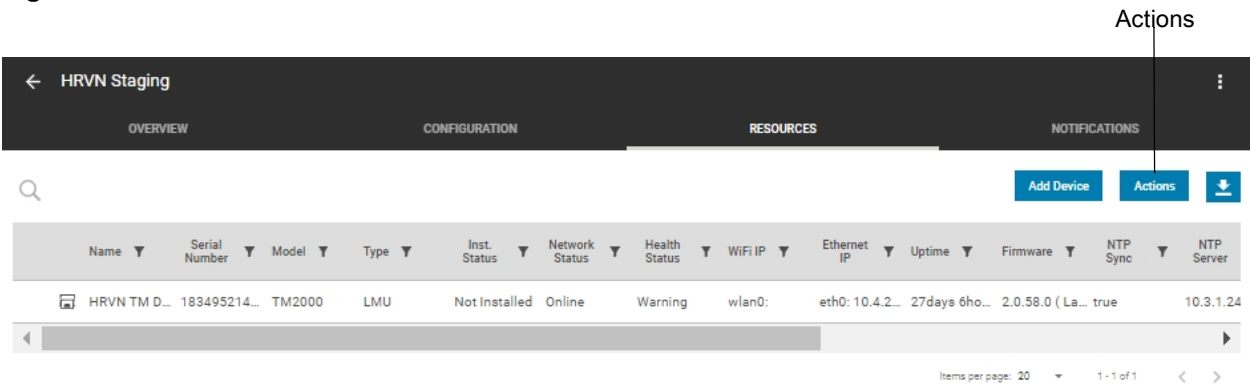
Batch Firmware Updates

There are two options for performing a batch update (updating the firmware on multiple LMUs). Either use Action-Settings or Actions-Command.

Using Action-Settings to Update Firmware

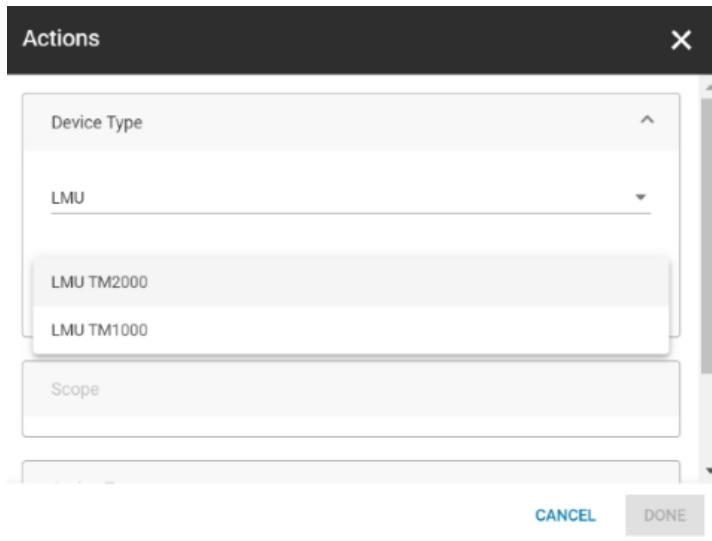
- 1. Under the **Resources** tab, click **Actions**.

Figure 28 Resources Tab: Actions



- 2. Click on the **Device Type** drop-down arrow and select **LMU**.

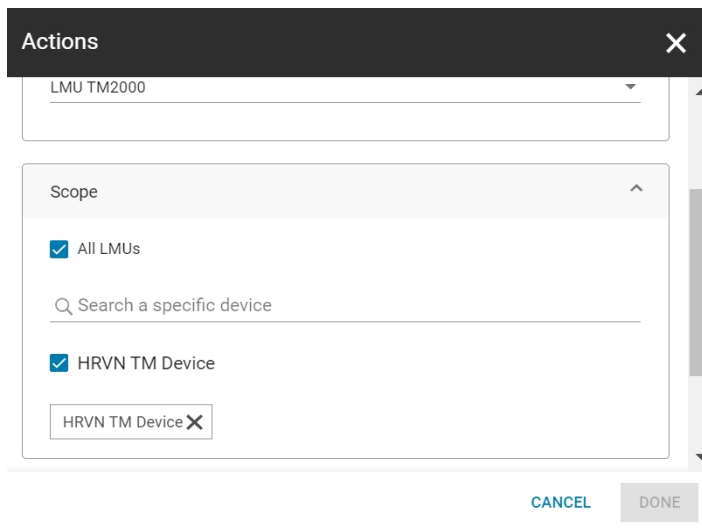
Figure 29 Actions: Device Type



The screenshot shows the 'Actions' dialog box with the 'Device Type' section expanded. The 'Device Type' dropdown is set to 'LMU'. The 'LMU' dropdown is open, showing 'LMU TM2000' and 'LMU TM1000'. The 'Scope' section is visible below. At the bottom right, there are 'CANCEL' and 'DONE' buttons.

3. Click on the **Select a device sub-type** drop-down arrow and select **TM2000**.

Figure 30 Actions: Scope



The screenshot shows the 'Actions' dialog box with the 'Scope' section expanded. The 'LMU TM2000' dropdown is selected. The 'Scope' section is expanded, showing 'All LMUs' and 'HRVN TM Device' check boxes, both of which are checked. A search bar is also present. At the bottom right, there are 'CANCEL' and 'DONE' buttons.

4. Under **Scope**, select the desired LMU check boxes to update or select the **All LMUs** check box to select all of the LMUs listed.

Figure 31 Actions: Setting User Name

The screenshot shows a dialog box titled "Actions" with a close button (X) in the top right corner. Inside the dialog, there is a list of four items, each with a close button (X): "LMUC:88:FE", "LMUC:85:e3", "LMUC:86:04", and "LMUC:88:74". Below this list is a section titled "Action Type" with two radio buttons: "Setting Update" (which is selected) and "Command". Under "Action Type", there is a dropdown menu labeled "User Name" and a text input field labeled "Enter setting value". At the bottom of the dialog, there are two buttons: "CANCEL" and "DONE".

5. Under **Action Type**, select **Setting Update**.
6. Click on the **Select an action** drop-down arrow and select **User Name**.
7. In the **Enter setting value** field, enter the SFTP server user name.
8. Click **DONE**.

Figure 32 Actions: Password

The screenshot shows a dialog box titled "Actions" with a close button (X) in the top right corner. Inside the dialog, there is a list of four items, each with a close button (X): "LMUC:88:FE", "LMUC:85:e3", "LMUC:86:04", and "LMUC:88:74". Below this list is a section titled "Action Type" with two radio buttons: "Setting Update" (which is selected) and "Command". Under "Action Type", there is a dropdown menu labeled "Password" and a text input field labeled "Enter setting value". At the bottom of the dialog, there are two buttons: "CANCEL" and "DONE".

9. Click on the **Select an action** drop-down arrow and select **Password**.
10. In the **Enter setting value** field, enter the Password (the files are located locally; enter the Password for your SFTP server).
11. Click **DONE**.

Figure 33 Actions: Firmware Package

Actions

LMUC:86:04 X

LMUC:88:FE X

LMUC:85:e3 X

LMUC:88:74 X

Action Type

☒ Setting Update

☐ Command

Firmware Download Package URI

Enter setting value

CANCEL

DONE

- 12.Set SFTP user name and password (see [Firmware \(see Figure 11\) on page 13](#)).
- 13.Click on the **Select an action** drop-down arrow and select **Firmware Download Package URI**.
- 14.In the **Enter setting value** field, enter the URL to the SFTP setting (see [Firmware \(see Figure 11\) on page 13](#)).
- 15.Click **DONE**.

Using Action-Command to Update Firmware

- 1. Under the **Resources** tab, click **Actions**.

Figure 34 Resources Tab: Actions

HRVN Staging

OVERVIEWCONFIGURATIONRESOURCESNOTIFICATIONS

Actions

Add Device

Actions

Name	Serial Number	Model	Type	Inst. Status	Network Status	Health Status	WiFi IP	Ethernet IP	Uptime	Firmware	NTP Sync	NTP Server
HRVN TM D...	183495214...	TM2000	LMU	Not installed	Online	Warning	wlan0:	eth0: 10.4.2...	27days 6ho...	2.0.58.0 (La...	true	10.3.1.24

Items per page: 201 - 1 of 1

- 2. Click on the **Device Type** drop-down arrow and select **LMU**.

Figure 35 Actions: Device Type

The screenshot shows the 'Actions' dialog box with the 'Device Type' section expanded. It features a dropdown menu currently set to 'LMU'. Below the dropdown, two options are listed: 'LMU TM2000' and 'LMU TM1000'. The 'Scope' section is visible below but not yet expanded. At the bottom right of the dialog are 'CANCEL' and 'DONE' buttons.

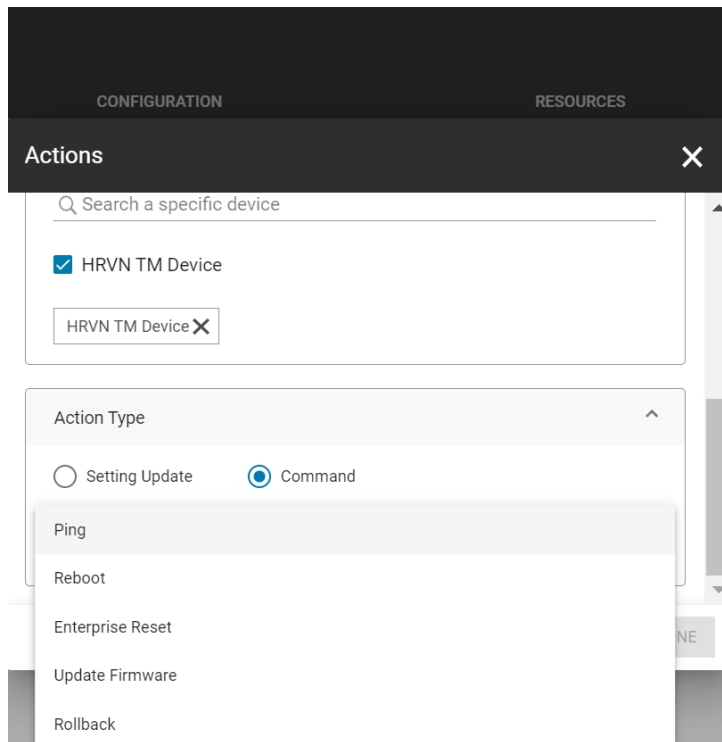
3. Click on the **Select a device sub-type** drop-down arrow and select **TM2000**.

Figure 36 Actions: Scope

The screenshot shows the 'Actions' dialog box with the 'Scope' section expanded. The 'LMU TM2000' option is selected in the dropdown above. The 'Scope' section contains two checked checkboxes: 'All LMUs' and 'HRVN TM Device'. Below these is a search bar with the placeholder text 'Search a specific device'. At the bottom right of the dialog are 'CANCEL' and 'DONE' buttons.

4. Under **Scope**, select the desired LMU check boxes to update or select the **All LMUs** check box to select all of the LMUs listed.

Figure 37 Actions: Setting User Name



5. Under **Action Type**, select **Command**.
6. See **Update Firmware** on [page 24](#) for detailed instructions.

Site Configuration

Configuring a Site

Sites and devices may be added and configured using CMM.

Adding a Site

To add a site:

Figure 38 Add Site



1. On the home page, select **Add Site**.

Figure 39 Add Site Details Window

The screenshot shows a dark-themed window titled "Add site" with a close button (X). Below the title bar is a progress indicator with three steps: 1 (selected), 2, and 3. The main content area is titled "Site Information" and includes a "Required Field*" label. Below this, there is a paragraph: "Enter the site name, address, and image URL in the fields below. This information will be used to identify your site amongst other sites you add and can be updated at any time." The form contains three sections: "Site Name*" with a text input field and a character count "0 / 60"; "Site Description" with a text input field and a character count "0 / 60"; and "Site Address:" with two text input fields labeled "Street Address" and "Street Address line 2". At the bottom right, there are "Cancel" and "Next" buttons.

2. Enter the following information for the new site within the number of characters specified below each field:
 - Site Name
 - Site Description
 - Site Address
3. Select **Next**.

Figure 40 Device Status Notifications

✕ Add site

1

2

3

Device Status Notifications

Review which device status events will trigger an email notification, and specify email recipient(s) for each email notification that will be sent.

Network Status Notifications

Offline ●

Enter email address

Add

The following users will be notified when any device network status reports offline:

Online ●

Enter email address

Add

The following users will be notified when any device network status reports online:

Back

Next

- Under **Network Status Notifications**, enter the email address for the contact to be notified when a device reports Offline and/or Online, then select the **Add** button. Enter additional addresses if required.

To remove an email address, select the **X** next to the email address.

Figure 41 Health Status Notifications

Add site

1 2 3

Health Status Notifications

Error !

The following users will be notified when any device network status reports error:

Enter email address Add

Warning ⚠

The following users will be notified when any device network status reports warning:

Enter email address Add

OK ✓

The following users will be notified when any device network status reports ok:

Enter email address Add

Back Next

- Under **Health Status Notifications**, enter email addresses for the contacts to be notified when a device network status reports an error, a warning, or an OK, and select the **Add** button. Repeat to enter additional addresses.

To remove an email address, select the **X** next to the email address.

Figure 42 Review Site Details Screen

Add site

1 2 3

Review Site Details

Review the site information and device status notifications below. Tap the Add Site button to create the site.

Site Information

Site Name:
test

Site Description:

Site Address:

Site Image:
No Image

Back Add Site

- Select **Next**.

7. Review the site details for accuracy. If the information is correct, select **Add Site**.

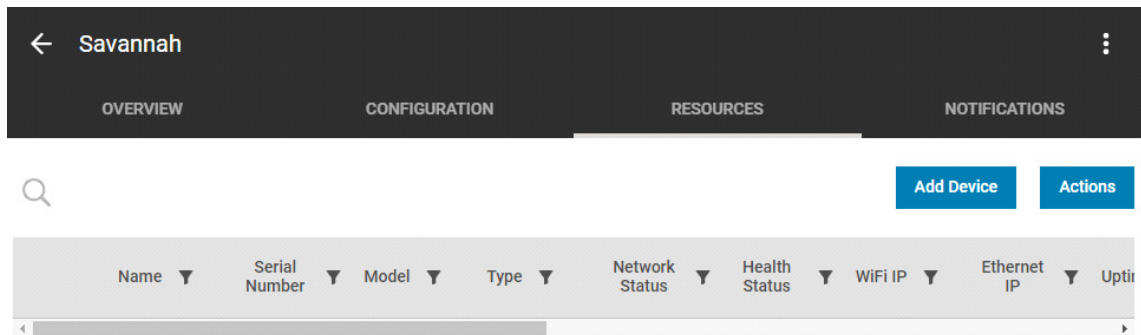
To edit information, select the **Back** button and enter the desired information. Once revisions are complete, select **Next** until the Review Site Details screen appears and select **Add Site**.

Adding a Device

To add a device:

1. On the home page, select the desired site.
2. Select the **Resources** tab.

Figure 43 CMM Configuration Tab

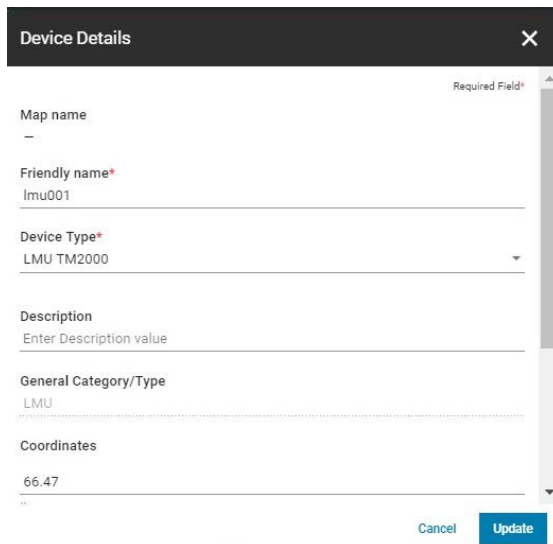


3. Select **Add Device**.

Figure 44 Device Details Window

4. The **Device Details** window displays.

Figure 45 Completed Device Details Window



The screenshot shows a 'Device Details' window with a dark header bar containing the title and a close button. The main content area is white and contains several form fields. A 'Required Field' label is visible in the top right corner. The fields are: 'Map name' (empty), 'Friendly name*' (containing 'Imu001'), 'Device Type*' (a dropdown menu showing 'LMU TM2000'), 'Description' (containing 'Enter Description value'), 'General Category/Type' (containing 'LMU'), and 'Coordinates' (containing '66.47'). At the bottom right, there are two buttons: 'Cancel' and 'Update'.

Field	Value
Map name	
Friendly name*	Imu001
Device Type*	LMU TM2000
Description	Enter Description value
General Category/Type	LMU
Coordinates	66.47

5. Enter the required information:

- **Friendly Name** - Enter a friendly name for the device.
- **Device Type** - Click on the device type drop-down arrow and select a device from the list.
- **Serial Number** - The LMU serial number.

6. Select **Update**.

7. Select **Finish**.

Device Status Notifications

Email Notifications

If email addresses are not entered during initial setup (as shown in [Figure 40 on page 35](#) and [Figure 42 on page 36](#)) or if you want to include additional email addresses for contacts to receive device status notifications, you may enter email contacts as follows:

1. On the home page, select the desired site (see [Figure 38 on page 33](#)).

Figure 46 Notifications Tab

Name	Notification Type	Device Type	Status	Description
Health Status - Warning Standard		All Devices	Enabled	Standard Notification
Health Status - Error Standard		All Devices	Enabled	Standard Notification
Network Status - Online Standard		All Devices	Enabled	Standard Notification
Network Status - Offline Standard		All Devices	Enabled	Standard Notification
Health Status - Ok Standard		All Devices	Enabled	Standard Notification

Items per page: 20 1 - 5 of 5

2. Select the **Notifications** tab. A list of Notifications displays.
3. Next to the desired Notification Type, select the **Menu Options Icon** to expand the menu options.
4. Select **Edit**.

Figure 47 Expression Tab

Network Status - Online
ALL DEVICES

DETAILS EXPRESSION NOTIFICATION CONTENT

Device Type
All Devices
Select a device sub-type

Scope

Expression

Cancel Update

5. Select the **Expression** tab to send an email.

Figure 48 Send Email Option

Network Status - Online
ALL DEVICES

DETAILS EXPRESSION NOTIFICATION CONTENT

1

Add Condition: [AND](#) [OR](#)

THEN

☒ SEND EMAIL

Enter email address [Add](#)

☐ SEND SMS

[Cancel](#) [Update](#)

6. Scroll down and select the **Send Email** check box.

Figure 49 Enter Email Addresses

Network Status - Offline
ALL DEVICES

DETAILS EXPRESSION NOTIFICATION CONTENT

4

Add Condition: [AND](#) [OR](#)

THEN

☒ SEND EMAIL

jack.smith@zebra.com [Add](#)

john.doe@zebra.com [X](#)

jane.doe@zebra.com [X](#)

[Cancel](#) [Update](#)

7. In the **Enter email address** field, enter the desired email address and select **Add**. Enter additional addresses as needed and select **Add** after each entry.

To remove an email address, select the **X** next to the email address.

8. Select **Update**.

Notification Content

To set up notification content:

1. On the home page, select the desired site (see [Figure 38 on page 33](#)).
2. Select the **Notifications** tab (see [Figure 46 on page 39](#)). A list of Notifications displays.
3. Next to the desired Notification Type, select the **Menu Options Icon** to expand the menu options (see [Figure 46 on page 39](#)).
4. Select **Edit**.
5. Select the **Notification Content** tab.

Figure 50 Notification Content Tab

The screenshot shows a modal window titled "Notification Name" with a sub-header "DEVICE TYPE". It has three tabs: "DETAILS", "EXPRESSION", and "NOTIFICATION CONTENT", with the latter being the active tab. The content is organized into two sections: "Email Notification" and "SMS Notification". The "Email Notification" section has two radio button options: "Start with a new notification" and "Start with a template". The "SMS Notification" section has a radio button option "Start with a new notification" which is selected. Below this, there is a "Message" label and a text input field with the placeholder "Enter your message". At the bottom right of the modal are "Cancel" and "Create" buttons.

6. Select the desired notification options:

- Under **Email Notification**, select **Start with a new notification** or **Start with a template**.
- Under **SMS Notification**, select **Start with a new notification** and enter the desired message.

7. Select **Create**.

