ZUMNET-OD-GW-RF, ZUMMESH-OD-KOM, ZUMMESH-OD-7P

Zūm® Outdoor Wireless Lighting System

Product Manual

Crestron Electronics, Inc.

The original language version of this document is U.S. English.
All other languages are a translation of the original document.

Regulatory Model: M202217003, M202217004, M202217005, M202217006, and M202217007

Contents

Overview

Crestron Zūm® Outdoor is a distributed lighting control system. The Zūm Outdoor system provides control of up to 500 nodes and allows seamless integration of third-party occupancy sensors and photocells.

These Zūm Outdoor devices are available:

- ZUMNET-OD-GW-RF
- ZUMMESH-OD-7P-277V
- ZUMMESH-OD-7P-277V-DLS
- ZUMMESH-OD-7P-480V
- ZUMMESH-OD-7P-480V-DLS
- ZUMMESH-OD-KOM-277V
- ZUMMESH-OD-KOM-480V-SMA
- ZUMMESH-OD-KOM-480V
- ZUMMESH-OD-KOM-480V-SMA

Features

Refer to the following sections for information on the features provided by various Zūm® Outdoor system models.

This section provides the following information:

ZUMNET-OD-GW-RF Features

The ZUMNET-OD-GW-RF is a 2-way RF Wireless Gateway designed for use with Crestron® Zūm Outdoor wireless devices. A single ZUMNET-OD-GW-RF can manage up to 500 ZUMMESH-OD nodes (ZUMMESH-OD-KOM and ZUMMESH-OD-7P both sold separately). The ZUMNET-OD-GW-RF uses a web-based application to manage and control the light fixtures in addition to scheduling dimming, grouping, sensor input capabilities, remote monitoring, and management.

Key features include:

- Uses Zūm® Outdoor self-forming and self-restoring wireless mesh network
- Remote control, scheduling, and sensor configuration
- Reliable and encrypted communication
- Supports over-the-air (OTA) firmware updates
- Flexible event-based scheduling system
- Lighting fixture fault monitoring and reporting
- Connects up to 500 nodes
- Includes wireless router for communications with a local network
- Provides real-time status updates for each light fixture, including energy usage, light status, sensor analysis, and more
- Gateway hosts Crestron Web UI for system control and management
- Gateway mounts in the enclosure

Zum® Outdoor Wireless Mesh Network

Zūm Outdoor wireless mesh technology provides peer-to-peer RF communications without the need for physical control wiring, hubs, or gateways. Zūm mesh outdoor devices act as routing nodes to relay

wireless commands between them without disruption. Adding Zūm mesh devices to a space increases the range and stability of the peer-to-peer mesh network by providing multiple redundant signal paths. Each Zūm mesh device auto negotiates its RF channel to provide robust communication.

Self-Forming and Self-Restoring Wireless Mesh Network

Zūm Outdoor wireless mesh technology auto-searches and establishes connections in a network. If a wireless connection in the network is not working, the Zūm mesh device disables the path and reroutes the data to ensure seamless communication. Once the device restores, the Zūm device automatically rejoins the network.

Flexible Event-based Scheduling System

Event-based scheduling allows the creation of quick and flexible lighting schedules. The series of lights are manageable for better real estate planning.

Lighting Fixture Fault Monitoring and Reporting

Fault monitoring and reporting applications help to for control, monitoring, commissioning, and programming of individual or groups of lights in a network to prevent issues.

Web User Interface for System Control and Management

This gateway hosts the configuration screens for the system control and management. The system can schedule events and adjust the lighting based on feedback from daylight and motion sensors.

OTA Firmware Updates

Over-the-air (OTA) firmware updates reduce operational costs by providing an efficient update process that does not require direct access to the device. Updates are made remotely and deployed incrementally to make sure that the system remains functional.

ZUMMESH-OD-7P Features

The ZUMMESH-OD-7P is a wireless network-connected lighting controller with dimming, energy-metering, remote monitoring and management, and sensor input capabilities. A single ZUMMESH-OD-7P has sensor inputs for both occupancy and daylight sensors. The nodes provide 12VDC power to the sensors. It has 4kV fault tolerance and control persistency. The status and health of the light fixtures are continuously monitored. The 7-pin (ANSI 136-41) dimming (NEMA) receptacles aid in a quick and simple installation.

Key features include:

- Uses Zūm® Outdoor self-forming and self-restoring wireless mesh network
- Remote control, scheduling, and sensor configuration
- In-node scheduling: NEMA custom schedules are programmed to the node, with RTC (Remote Time Clock) built into each controller, schedules run with or without wireless connectivity
- Built-in power monitoring
- Sensor inputs for motion or light sensing
- Linear continuous dimming - high resolution dimming (100+ steps)
- Optional built-in photocell to report daylight levels (-DLS models only)
- Reliable and encrypted communication
- Supports over-the-air (OTA) firmware updates
- Flexible event-based scheduling system
- Lighting fixture fault monitoring and reporting

Zum® Outdoor Wireless Mesh Network

Zūm Outdoor wireless mesh technology provides peer-to-peer RF communications without the need for physical control wiring, hubs, or gateways. Zūm mesh outdoor devices act as routing nodes to relay wireless commands between them without disruption. Adding Zūm mesh devices to a space increases the range and stability of the peer-to-peer mesh network by providing multiple redundant signal paths. Each Zūm mesh device auto negotiates its RF channel to provide robust communication.

Self-Forming and Self-Restoring Wireless Mesh Network

Zūm Outdoor wireless mesh technology auto-searches and establishes connections in a network. If a wireless connection in the network is not working, the Zūm mesh device disables the path and reroutes the data to ensure seamless communication. Once the device restores, the Zūm device automatically rejoins the network.

Built-in Power Monitoring

Power monitoring tracks the real time energy usage of each node in the system to help control energy costs. By analyzing real data, organizations can make more educated decisions regarding the energy usage.

Daylight and Motion Sensor Inputs

Daylight and Motion Sensor inputs enable the use of hard-wired occupancy and daylight sensors with a Zūm commercial lighting system. The sensor enables the use of ultrasonic and dual-technology type sensors for outdoors. One or more motion-detecting sensors can be connected and configured to operate in either occupancy or vacancy-only mode. A photocell (not supplied) can be connected to support daylight harvesting. A built-in photocell (-DLS models only) is included to report daylight levels.

Linear Continuous Dimming – High-Resolution Dimming (100+ steps)

Linear continuous dimming provides one channel of dimming for commercial lighting applications. Supports a continuous dimming range of 1% to 100%.

Flexible Event-based Scheduling System

Event-based scheduling allows the creation of quick and flexible lighting schedules. The series of lights are manageable for better real estate planning.

Lighting Fixture Fault Monitoring and Reporting

Fault monitoring and reporting applications help to for control, monitoring, commissioning, and programming of individual or groups of lights in a network to prevent issues.

OTA Firmware Updates

Over-the-air (OTA) firmware updates reduce operational costs by providing an efficient update process that does not require direct access to the device. Updates are made remotely and deployed incrementally to make sure that the system remains functional.

ZUMMESH-OD-KOM Features

The ZUMMESH-OD-KOM is a wireless network-connected lighting controller with dimming, switching, energy metering, remote monitoring and management, and sensor input capabilities. The ZUMMESH-OD-KOM has sensor inputs for both occupancy and daylight sensors and can provide 12VDC power to the sensors. It has 4kV fault tolerance and control persistency. The status and health of the light fixtures are continuously monitored. The compact design with a waterproof feature enables mounting inside or outside a light fixture or pole for a quick and simple installation.

Key features include:

- Uses Zūm® Outdoor self-forming and self-restoring wireless mesh network
- Remote control, scheduling, and sensor configuration
- In-node scheduling: NEMA custom schedules are programmed to the node, with RTC (Remote Time Clock) built into each controller, schedules run with or without wireless connectivity
- Built-in power monitoring
- Sensor inputs for motion and light sensing with 12VDC output for sensors
- Two 0-10V dimming outputs
- Linear continuous dimming - high resolution dimming (100+ steps)
- Remote programmable high-end trim
- External antenna connection for installation locations that impede wireless signal (-SMA models only, antenna not included)
- Reliable and encrypted communication
- Supports over-the-air (OTA) firmware updates
- Flexible event-based scheduling system
- Lighting fixture fault monitoring and reporting

Zum® Outdoor Wireless Mesh Network

Zūm Outdoor wireless mesh technology provides peer-to-peer RF communications without the need for physical control wiring, hubs, or gateways. Zūm mesh outdoor devices act as routing nodes to relay wireless commands between them without disruption. Adding Zūm mesh devices to a space increases the range and stability of the peer-to-peer mesh network by providing multiple redundant signal paths. Each Zūm mesh device auto negotiates its RF channel to provide robust communication.

Self-Forming and Self-Restoring Wireless Mesh Network

Zūm Outdoor wireless mesh technology auto-searches and establishes connections in a network. If a wireless connection in the network is not working, the Zūm mesh device disables the path and reroutes the data to ensure seamless communication. Once the device restores, the Zūm device automatically rejoins the network.

Built-in Power Monitoring

Power monitoring tracks the real time energy usage of each node in the system to help control energy costs. By analyzing real data, organizations can make more educated decisions regarding the energy usage.

Daylight and Motion Sensor Inputs

Daylight and Motion Sensor inputs enable the use of hard-wired occupancy and daylight sensors with a Zūm commercial lighting system. The sensor enables the use of ultrasonic and dual-technology type sensors for outdoors. One or more motion-detecting sensors can be connected and configured to operate in either occupancy or vacancy-only mode. A photocell (not supplied) can be connected to support daylight harvesting.

Linear Continuous Dimming – High-Resolution Dimming (100+ steps)

Linear continuous dimming provides one channel of dimming for commercial lighting applications. Supports a continuous dimming range of 1% to 100%.

Remote Programmable High-End Trim

Provides high-end trim for one or multiple zones, which helps with energy optimization.

Optional External Antenna

Connect an external antenna (SMA models only, antenna not included) to improve radio coverage in the Zūm outdoor system when the node is mounted inside an enclosure or the signal is blocked by an obstruction.

Flexible Event-based Scheduling System

Event-based scheduling allows the creation of quick and flexible lighting schedules. The series of lights are manageable for better real estate planning.

Lighting Fixture Fault Monitoring and Reporting

Fault monitoring and reporting applications help to for control, monitoring, commissioning, and programming of individual or groups of lights in a network to prevent issues.

OTA Firmware Updates

Over-the-air (OTA) firmware updates reduce operational costs by providing an efficient update process that does not require direct access to the device. Updates are made remotely and deployed incrementally to make sure that the system remains functional.

Specifications

Refer to the following sections for more information on the specifications for various Zum Outdoor Wireless Lighting system.

This section provides the following information:

ZUMNET-OD-GW-RF Specifications

Product specifications for the ZUMNET-OD-GW-RF are provided below.

Product Specifications

Power Requirements

Voltage	100-240VAC

Wireless Communications

RF Transceiver	Zum Outdoor wireless, 2-way RF, 2.4 Ghz
Topology	Mesh topology
Device Type	Gateway; Coordinates the mesh network, routes data to nodes, and communicates with network
Coverage Range (typical)	**Gateway to Node:** 2,000 ft (610 m); **Node to Node:** 2,000 ft (610 m) Maximum of 10 hops on the mesh network between the Gateway and the last node
Wireless N Router	IEEE 802.11a, IEEE 802.11b, IEEE 802.11g, WiFi 4 (802.11n), IPv4, IPv6

Wired Communications

Router	Ethernet (IPv4, IPv6); Router mode, Repeater mode, and AP mode
Gateway	Ethernet and USB

Connections - Router

WAN	(1) 8-pin RJ-45, female; 100Base-TX Ethernet port; Connects to existing network modem or switch
LAN	(4) 8-pin RJ-45, female; 100Base-TX Ethernet port; Connects to Gateway
DC IN	(1) DC power connector; 12VDC power input, 0.5A max; Power supply included

Connections - Gateway

ETHERNET	(1) 8-pin RJ-45, female; 100Base-TX Ethernet port; Connects to Router
USB	(1) USB, female; Connects to PC for configuration without an Ethernet connection; Provides power when there is no power connection

Power	(1) DC power connector; 5VDC power input; Power supply included

Environmental

Temperature	-40° to 122° F (-40° to 50° C)
Humidity	5% to 95% RH (noncondensing)

Construction

Material	Plastic, IP67 rated
Mounting	Surface mount

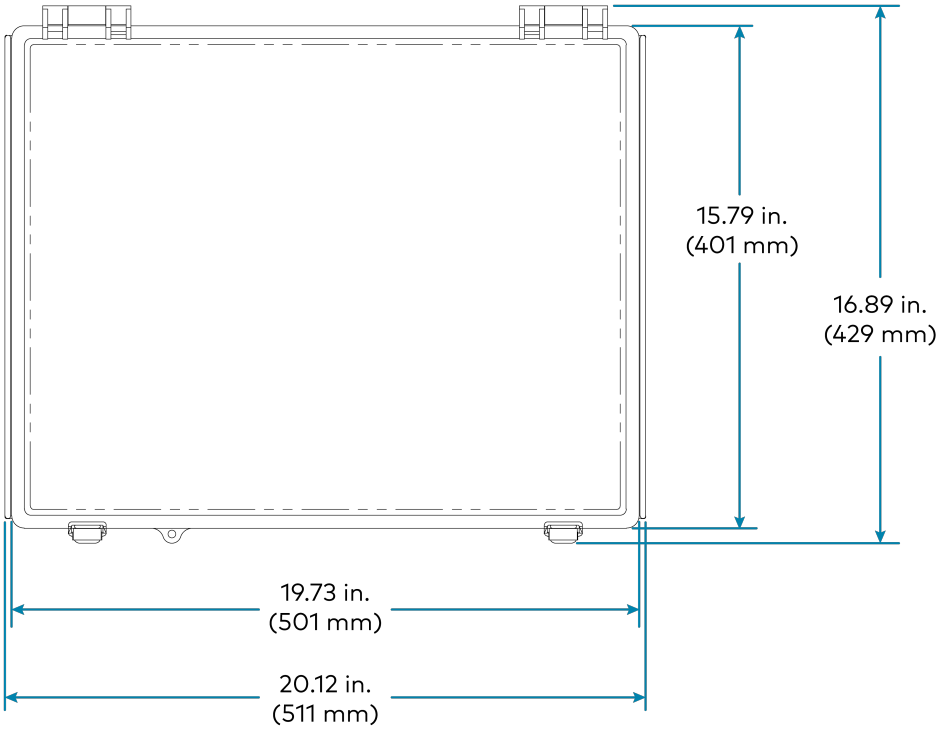
Dimensions

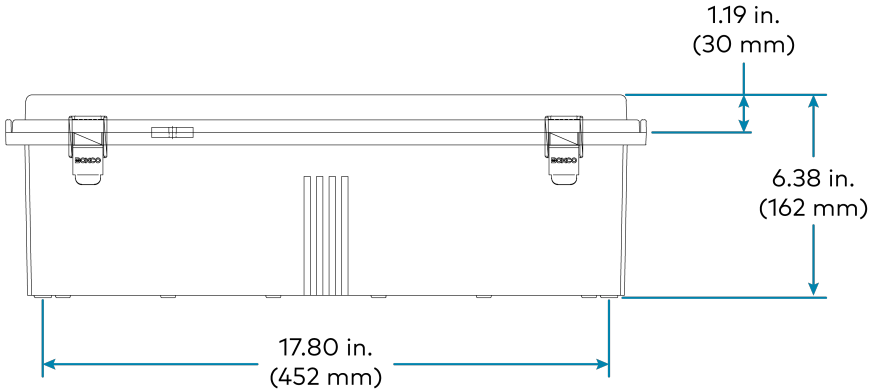
Height	20.1 in. (511 mm)
Width	16.9 in. (429 mm)
Depth	6.3 in. (160 mm)

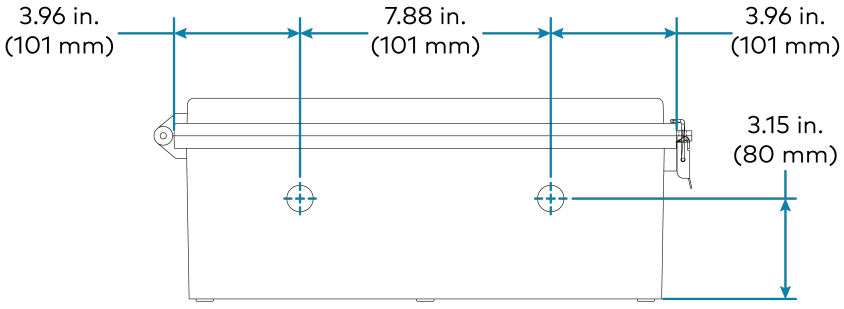
Regulatory Model: M202217003, M202217005, and M202217007
FCC, DLC

To search for product certificates, refer to support.crestron.com/app/certificates.

Dimension Drawings







ZUMMESH-OD-7P Specifications

Product specifications for the ZUMMESH-OD-7P are provided below.

Product Specifications

Power Requirements

Voltage	277VAC Models: 120-277VAC (+/- 10%) 480VAC Models: 347-480VAC (+/- 10%)

Load Control

Dimming Output	(1) 0-10V, 20mA
Max Load Current	277VAC Models: 10A 480VAC Models: 5A
Surge Protection (Controller only)	4kV (Lighting load protection provided by lighting load's circuit breaker)

Wireless Communications

RF Transceiver	Zum Outdoor wireless, 2-way RF, 2.4 Ghz
Topology	Mesh topology
Device Type	Node; Routes data between nodes and gateway
Coverage Range (typical)	**Gateway to Node:** 2,000 ft (610 m); **Node to Node:** 2,000 ft (610 m) Maximum of 10 hops on the mesh network between the Gateway and the last node

Connections

7-Pin Connector	(1) 7-pin NEMA connector; Connects to ANSI 136-41 receptacle; **Load:** Load, Red wire; **L:** Line, Black wire; **N:** Neutral, White wire; **Pin 1:** Dimming -, Gray wire; **Pin 2:** Dimming +, Violet wire; **Pin 3:** Sensor input, Orange wire; **Pin 4:** Sensor Input, Brown wire

Environmental

Temperature	-40° to 122° F (-40° to 50° C)
Humidity	5% to 95% RH (noncondensing)

Construction

Material	Plastic, IP67 rated
Mounting	NEMA-rated 7-pin

Dimensions

Height	2.5 in. (64 mm)
Width	4.6 in. (116 mm)
Depth	4.6 in. (116 mm)

Weight

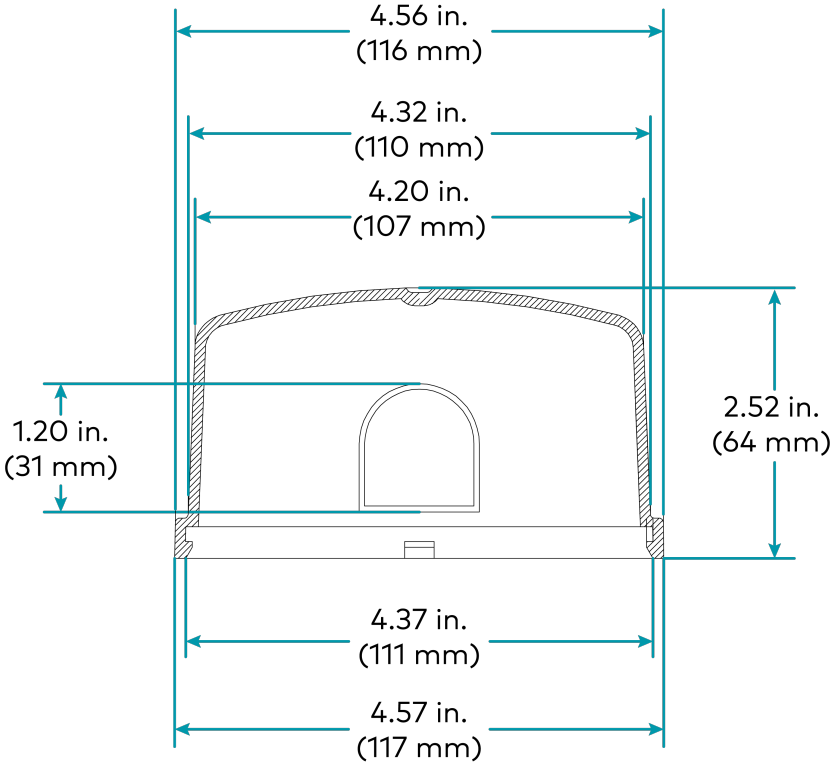
0.835 lb (0.378 kg)

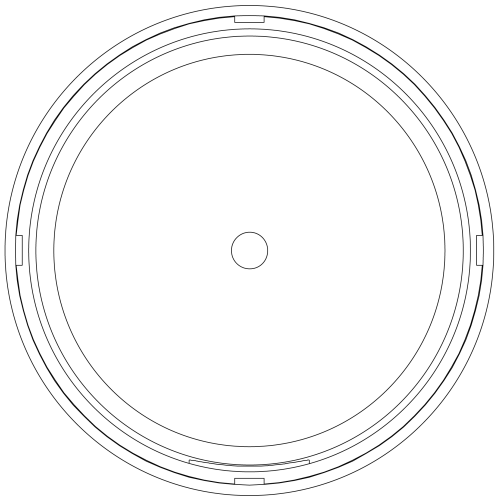
Compliance

Regulatory Model: M202217004
FCC, DLC

To search for product certificates, refer to support.crestron.com/app/certificates.

Dimension Drawings





ZUMMESH-OD-KOM Specifications

Product specifications for the ZUMMESH-OD-KOM are provided below.

Product Specifications

Power Requirements

Voltage	277VAC Models: 120-277VAC (+/- 10%) 480VAC Models: 347-480VAC (+/- 10%)

Load Control

Dimming Output	(1) 0-10V, 20mA
Max Load Current	277VAC Models: 10A 480VAC Models: 5A
Surge Protection (Controller only)	4kV (Lighting load protection provided by lighting load's circuit breaker)

Wireless Communications

RF Transceiver	Zum Outdoor wireless, 2-way RF, 2.4 Ghz
Topology	Mesh topology
Device Type	Node; Routes data between nodes and gateway
Coverage Range (typical)	**Gateway to Node:** 2,000 ft (610 m); **Node to Node:** 2,000 ft (610 m) Maximum of 10 hops on the mesh network between the Gateway and the last node

Connections

Control	(1) 8-wire cable for load control, flying lead, class 2; 22 AWG (0.34 mm^2); **White:** 12V output; **Red:** 3.3V output; **Brown:** Analog control 10V, channel 1; **Orange:** Analog control 10V, channel 2; **Black:** Analog control ground; **Yellow:** Light sensor input; **Blue:** Motion sensor input; **Green:** Sensor input ground
Power	(1) 3-wire cable for power, flying lead, class 1; 18 AWG (0.75 mm^2); **Black:** Hot, line power input; **White:** Neutral from line power, to LED neutral; **Red:** Switched power output, to LED power
Antenna	(1) Connection for antenna (-SMA models only, antenna not included)

Environmental

Temperature	-40° to 122° F (-40° to 50° C)
Humidity	5% to 95% RH (noncondensing)

Construction

Material	Plastic, IP67 rated
Mounting	Pole surface mounted 1/2 in. conduit knock-out mount

Dimensions

Height	1.70 in. (43 mm)
Width	6.20 in. (158 mm)
Depth	3.6 in. (92 mm)

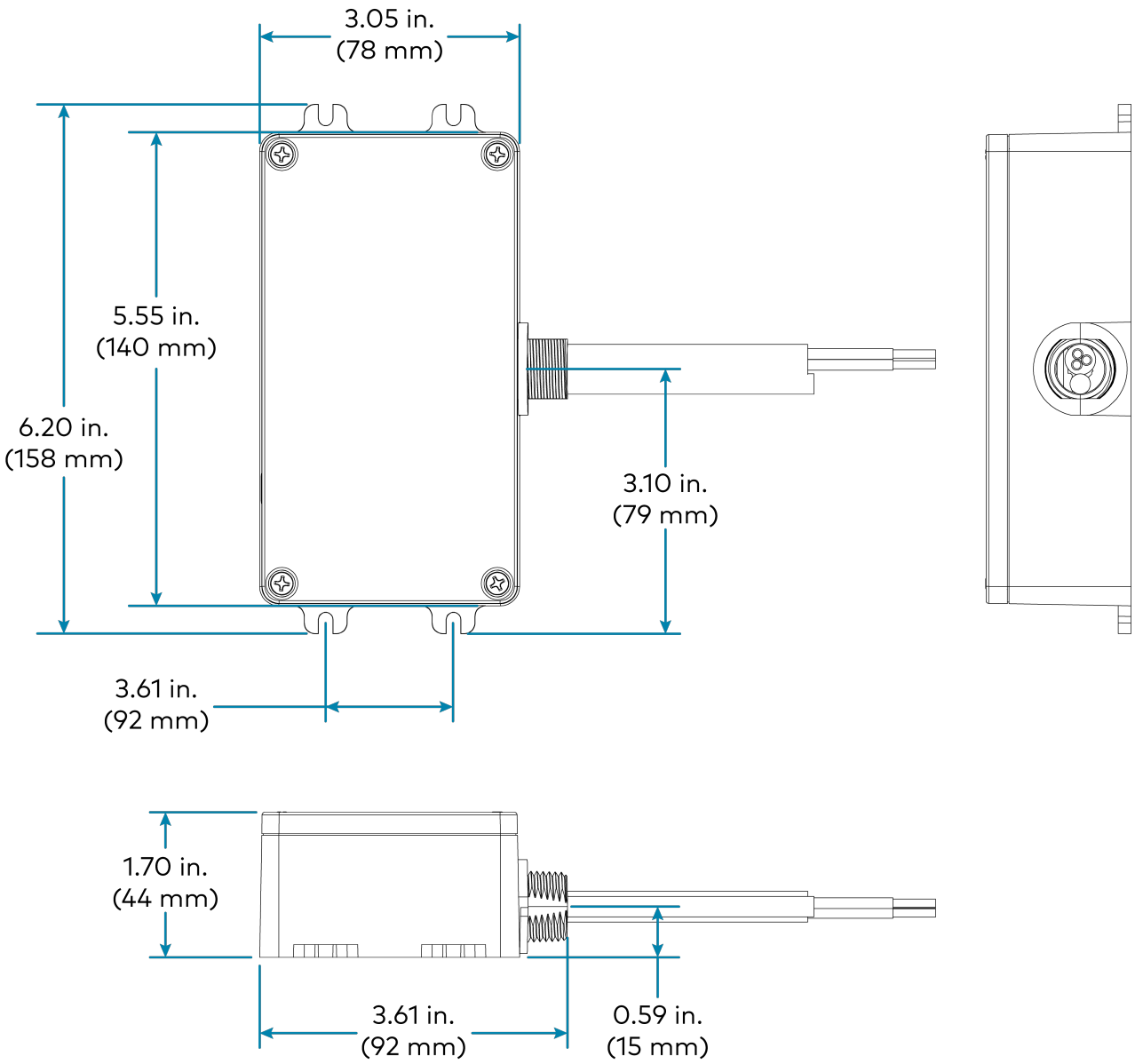
Weight

1.016 lb (0.460 kg)

Regulatory Model: M202217006
FCC, DLC

To search for product certificates, refer to support.crestron.com/app/certificates.

Dimension Drawings



Installation

Refer to the following sections for information on how to install and set up Zum Outdoor Wireless lighting system.

This section provides the following information:

- ZUMNET-OD-GW-RF Installation
- ZUMMESH-OD-7P Installation
- ZUMMESH-OD-KOM Installation

ZUMNET-OD-GW-RF Installation

Use the following procedures to install the ZUMNET-OD-GW-RF.

In the Box

Qty.	Description
1	ZUMNET-OD-GW-RF, Centralized Controller and Wireless Gateway, 100-240VAC, Zūm® Outdoor Wireless Communications, Mounted in exterior rated enclosure

Install the ZUMNET-OD-GW-RF

The ZUMNET-OD-GW-RF may be mounted to a pole or a flat surface.

Pole Placement

To mount the ZUMNET-OD-GW-RF on a pole, a third-party pole mount kit (not supplied) is required (such as an L-COM® HGZ-PMT13 or equivalent).

> **NOTE**: Select a location that provides direct line of sight between the ZUMNET-OD-GW-RF and at least two other lighting controllers in the network. The ZUMNET-OD-GW-RF must be mounted vertically with the conduit coming out of the bottom of the unit. The wireless signals may get obstructed if the ZUMNET-OD-GW-RF is mounted horizontally.

To mount ZUMNET-OD-GW-RF on a pole:

1. Mount the ZUMNET-OD-GW-RF to a pole using compatible L-com pole straps.
2. Fix the ZUMNET-OD-GW-RF with the straps to the pole.

Surface Placement

To place ZUMNET-OD-GW-RF on a surface:

1. Use four 0.25 in. diameter screws that fit the 0.310 in. diameter mounting holes and support 50 lbs. of weight.
2. Attach the ZUMNET-OD-GW-RF to the surface vertically with the screws provided.

> **NOTE**: Once the ZUMNET-OD-GW-RF is mounted, a licensed electrician should connect power to the ZUMNET-OD-GW-RF wiring compartment according to national, state, and local electrical codes and requirements. The three connection points in the wiring compartment are Black for Line, White for Neutral, and Green for Ground.

ZUMMESH-OD-7P Installation

Use the following procedure to install the ZUMMESH-OD-7P.

> **NOTE:** Each light fixture requires one ZUMMESH-OD-7P or ZUMMESH-OD-KOM.

In the Box

Qty.	Description
1	ZUMMESH-OD-7P, 0-10V Dimmer, 1 Feed, Zūm® Outdoor Wireless Communications – 7-Pin NEMA Mount

> **NOTE**: Record the MAC addresses prior installing the node. The MAC address is on a label on the bottom of the node.

Mount the ZUMMESH-OD-7P

> **NOTE**: The fixture must have an ANSI C136.41 receptacle installed and wired before the ZUMMESH-OD-7P can be installed.

To mount the ZUMMESH-OD-7P to an ANSI C136.41 receptacle:

1. Make sure the wide blade connector of the ZUMMESH-OD-7P matches the wide blade position of the receptacle.
2. Twist the ZUMMESH-OD-7P node clockwise until it locks firmly to the ANSI C136.41 receptacle.

ZUMMESH-OD-KOM Installation

Use the following procedure to install the ZUMMESH-OD-KOM.

> **NOTE:** Each light fixture requires one ZUMMESH-OD-7P or ZUMMESH-OD-KOM.

In the Box

Qty.	Description
1	ZUMMESH-OD-KOM, 0-10V Dimmer, 2 Channels, 1 Feed, Zūm® Outdoor Wireless Communications, Universal – Knock out mount

> **NOTE**: Record the MAC addresses prior installing the node. The MAC address is on a label on the bottom of the node.

Install the ZUMMESH-OD-KOM

To install the ZUMMESH-OD-KOM:

Make Power Connections

1. Connect the electrical service black wire to the line input on the ZUMMESH-OD-KOM.
2. Connect the black wire of the LED fixture to the load output on the ZUMMESH-OD-KOM.
3. Connect the electrical service white wire (neutral) to the neutral input on the ZUMMESH-OD-KOM.
4. Connect the white wire (neutral) from the LED fixture to the electrical service white wire (neutral).

Make Dimmer Connections

1. Connect the DIM- wire on the LED fixture to the COM (black) on the ZUMMESH-OD-KOM.
2. Connect the DIM+ wire on the LED fixture to the DIM OUT1 on the ZUMMESH-OD-KOM.
3. Switch power on to the fixture. The light should turn on.

NOTE: When switched on, lamps should turn on to full brightness, with approximately 10VDC signal on the DIM+ wire using the DIM- wire as reference.

Make Sensor Connections (Optional)

1. Connect the ZUMMESH-OD-KOM Light Sensor IN to the light sensor output and Motion Sensor IN to the motion sensor output (if applicable).
2. Connect the ZUMMESH-OD-KOM COM (green) signal to the common (ground) connection on the sensor(s).
3. Connect the ZUMMESH-OD-KOM +12V OUT output to the power input on the sensor(s).

   NOTE: The ZUMMESH-OD-KOM output must be connected to the power input of the sensor.

4. Connect the ZUMMESH-OD-KOM input to the Common (ground) signal on the sensor(s).

Configuration

Refer to the following sections for information on how to set up an IP address, administrator account, and how to configure timezone and location.

This section provides the following information:

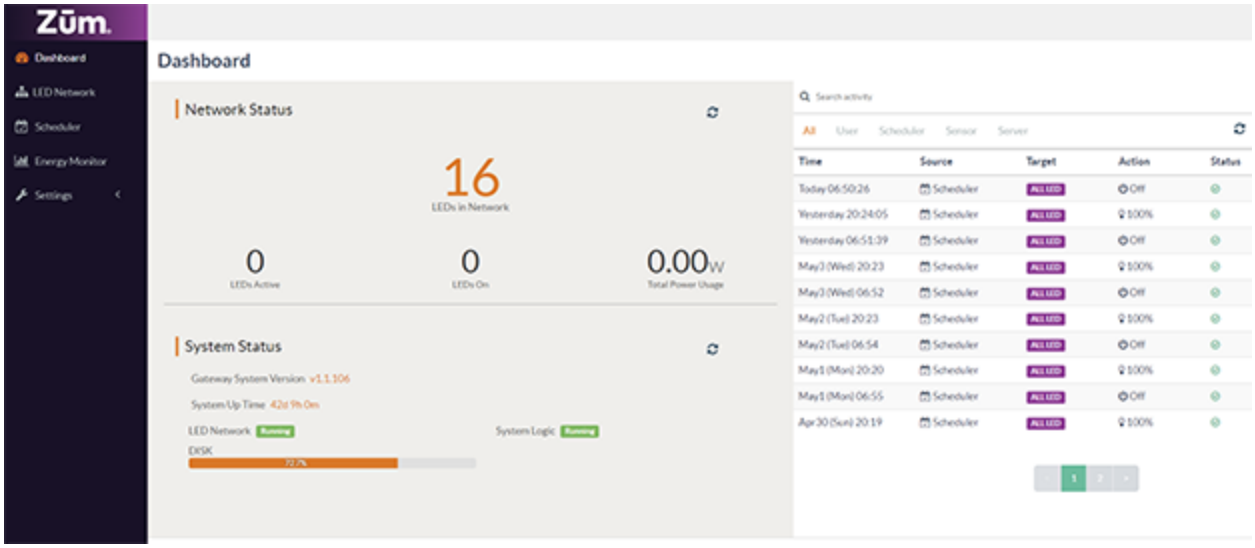
Log In

Use the following procedures to log into the ZUMNET-GW-RF and wireless router.

Log into the ZUMNET-GW-RF

To log into the ZUMNET-GW-RF:

1. Enter the IP address of the gateway into a web browser.
2. Enter the user name and password for the gateway. The default user name for the ZUMNET-GW-RF is **admin** and the password is **meshnetwork**.
3. The **Dashboard** screen is displayed.



Log into the Wireless Router

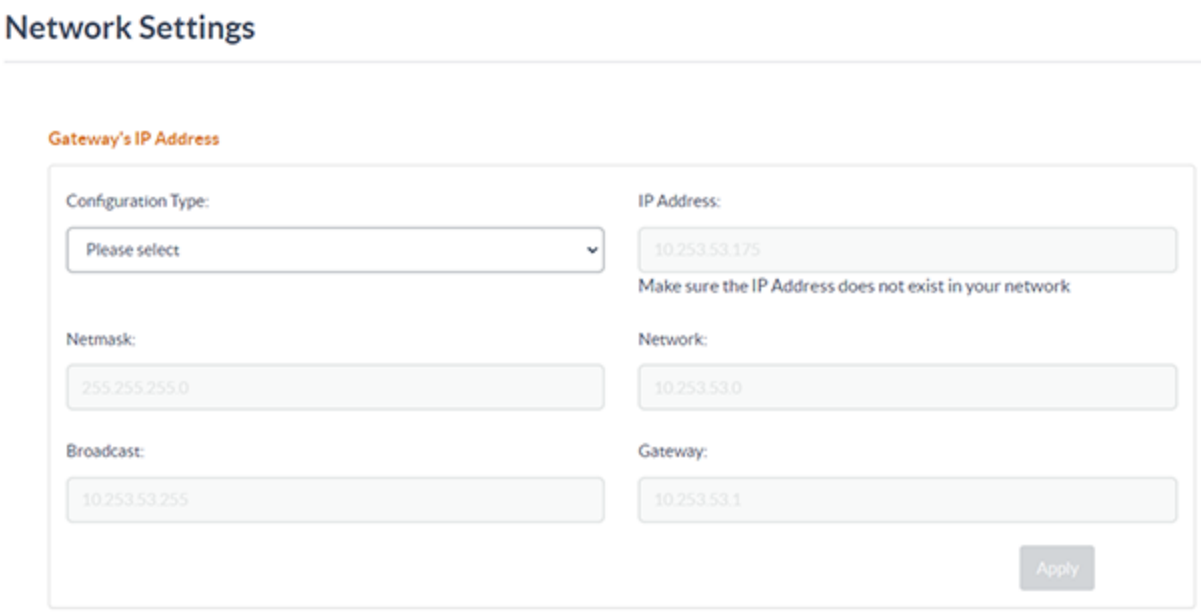
To log into the wireless router:

1. Enter the IP address of the router into a web browser.
2. Enter the user name and password for the gatewa. The default user name for the gateway is **admin** and the password is **meshnetwork**.

Assign a Static IP Address for Gateway

To assign a static IP address for the gateway:

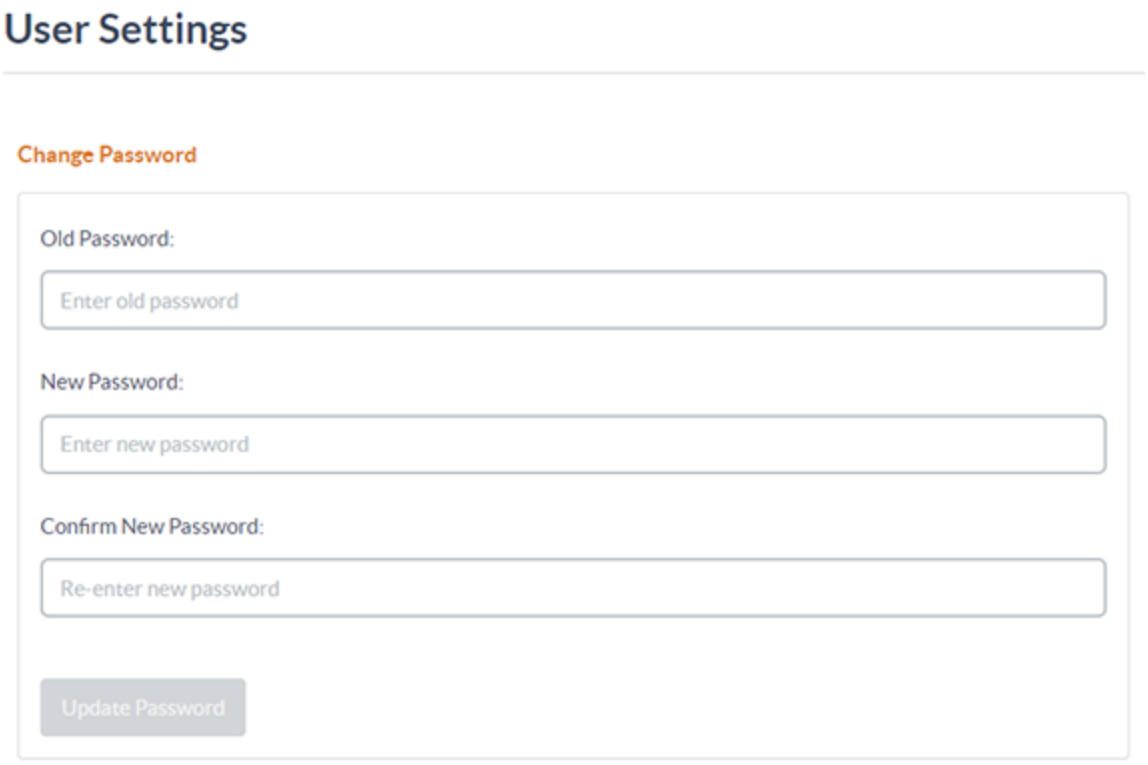
1. Go to **Settings > Network Settings**.
2. Select **Static** under the **Configuration Type** drop-down menu.
3. Enter the static IP address in the **IP Address** text box.
4. Select **Apply**.



Change the Administrator Password

To change the administrator password:

1. Go to **Settings > User Settings.**
2. Type the current password in the **Old Password** box.
3. Type the desired password in the **New Password** box and then type it again in the **Confirm New Password** box to confirm.
4. Select **Update Password**.

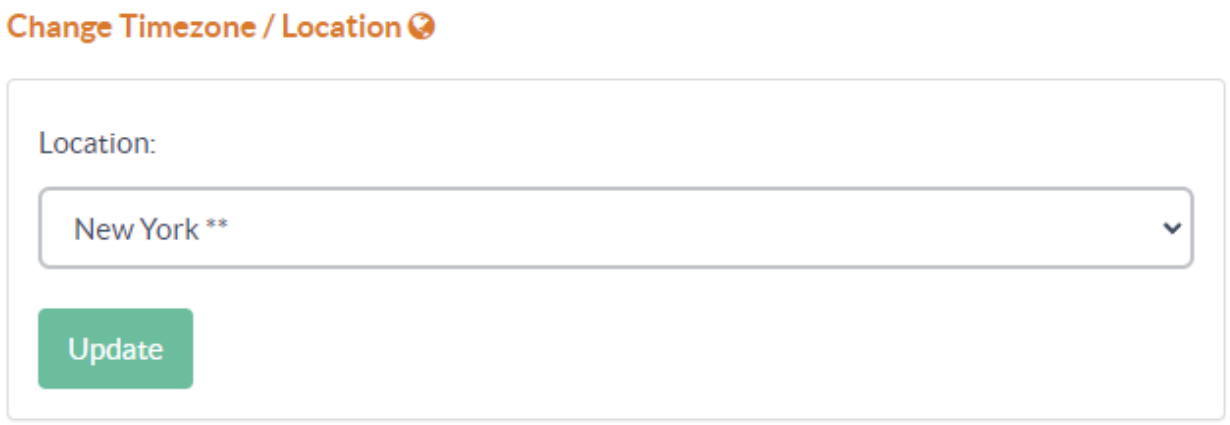


Set Location and Timezone

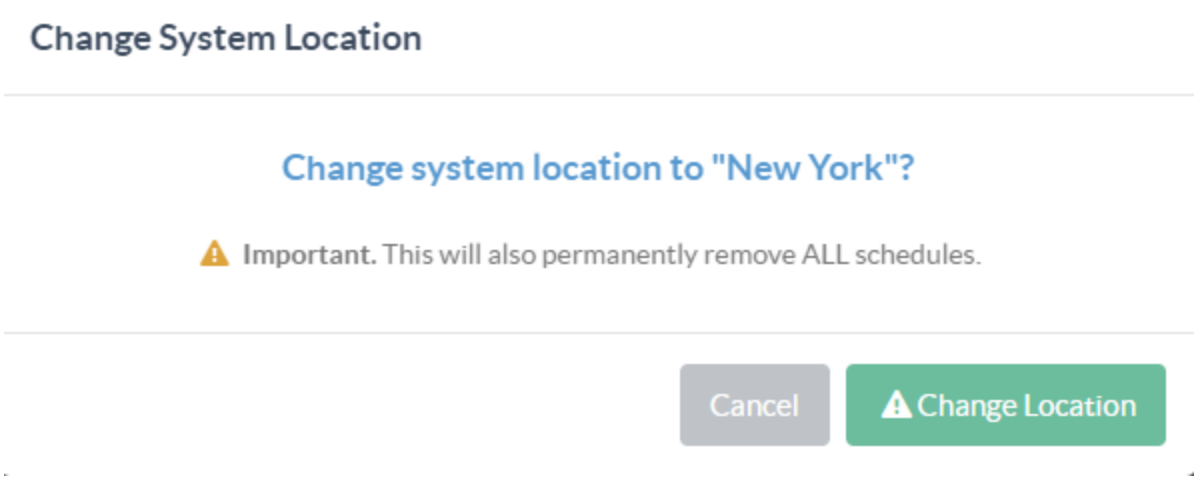
To set a location and timezone:

> **NOTE:** All schedules are removed when changing the location setting.

1. Go to **Settings > Gateway Settings**.
2. Choose the city closest to, and in the same timezone as, the current location of the LED system using the **Location** drop-down menu.
3. Select **Update**.

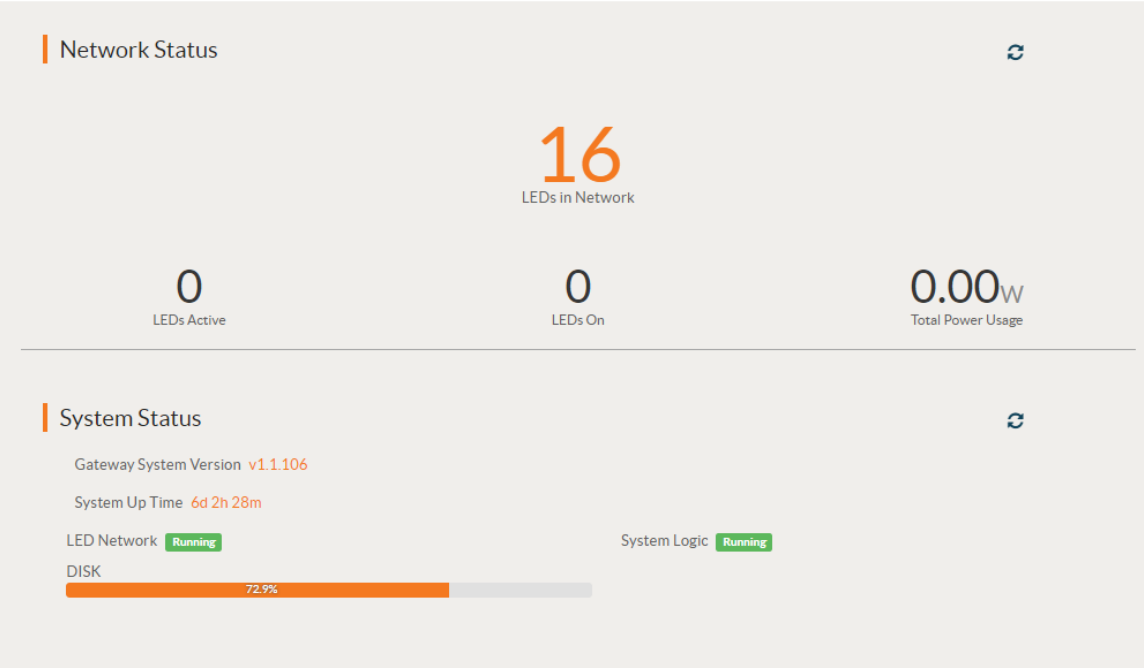


4. The **Change System Location** confirmation dialog-box appears. Select **Change Location** to confirm the change in location and timezone.



Network Status

To check the current network status, go to **Dashboard** page displayed on the **Zum Outdoor LiteView** page.



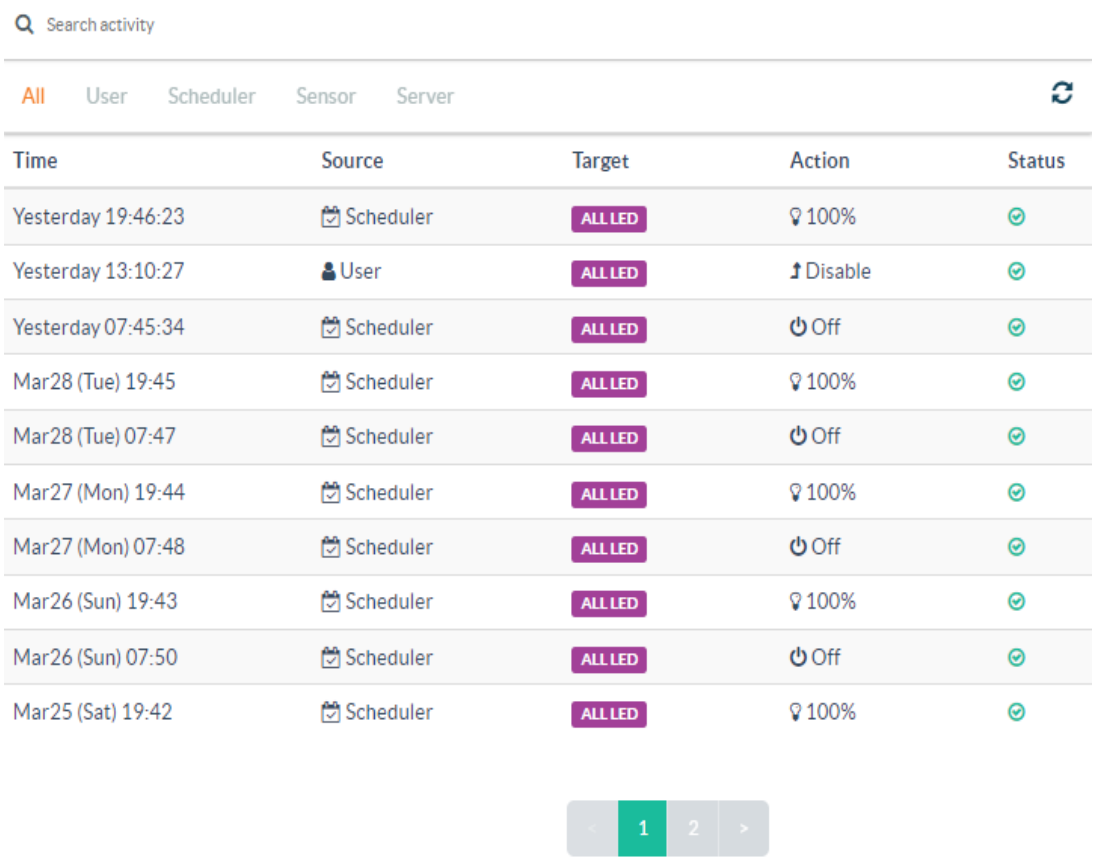
The **Network Status** section displays the following:

- **LEDs in Network:** Displays the number of nodes commissioned to the network.
- **LEDs Active**: Displays the number of nodes that are currently powered up for communication.
- **LEDs On**: Displays the number of LEDs that are currently turned on.
- **Total Power Usage:** Displays the current total wattage of the LED system.

Recent Activities

To check recent activities:

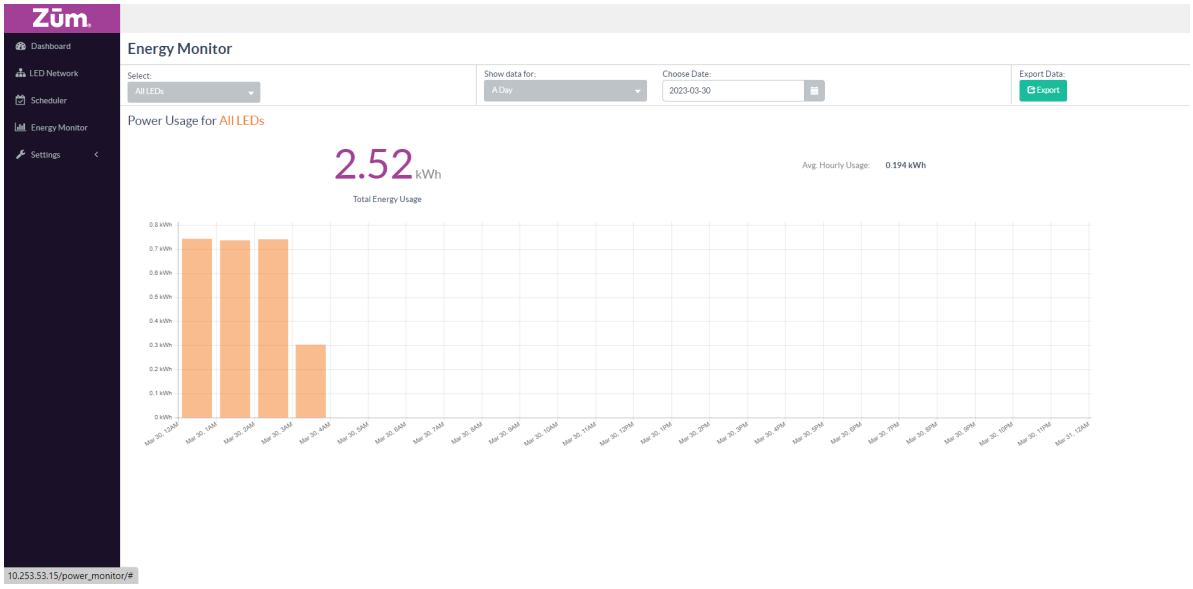
1. Go to the **Dashboard** page displayed on the **Zum Outdoor LiteView** page.
2. On the right side of the **Dashboard** page, the list of recent activities are displayed.



3. To filter the activities based on the initiator of the activity, select the **All**, **User**, **Scheduler**, **Sensor**, or **Server** filter.
4. For each activity, you can identify the following:
    a. Timestamp (Time)
    b. The source of LED control action (Sender)
    c. The target LEDs (Target)
    d. The type of LED control (Action)
    e. Its status (Status)

Energy Monitor

View and export energy usage for the system.



View Energy Usage

To view the energy usage:

1. Go to the **Energy Monitor** page displayed on the **Zum Outdoor LiteView** page.
2. For a single LED, under the **Select** drop-down, select a single LED to display the energy usage.
3. For a group of LEDs, under the **Select** drop-down, select the group of LEDs to display the energy usage.
4. To check the energy usage for a day, under **Show data for**, choose a day from the **Calendar** displayed.
5. To check the energy usage for a month, under **Show data for**, choose a month from the **Calendar** displayed.

Export Energy Usage

To export the energy usage, filter the energy usage data as described in View Energy Usage on page 37 and then select **Export**.

Upload a Map

To upload a map:

1. Go to **LED Network** and then select **Map View**.
2. In the top-right corner, select **Settings** and then **Upload Map**.

   > **NOTE**: The image must be a BMP, JPG, or PNG format, cannot contain - or _, and must be less than 10MB.

3. Select an image and then select **OK**.

To place node locations on the map:

1. Go to **LED Network** and then select **Map View**.
2. Select **Edit Locations**.
3. Drag each node to its desired location. Select a node to get more details about the node.
4. Select **Confirm Locations**.

Node Management

Refer to the following sections for information on how to add, edit, and delete nodes.

This section provides the following information:

- Add a Node to the Network
- Remove a Node
- Edit a Node Description

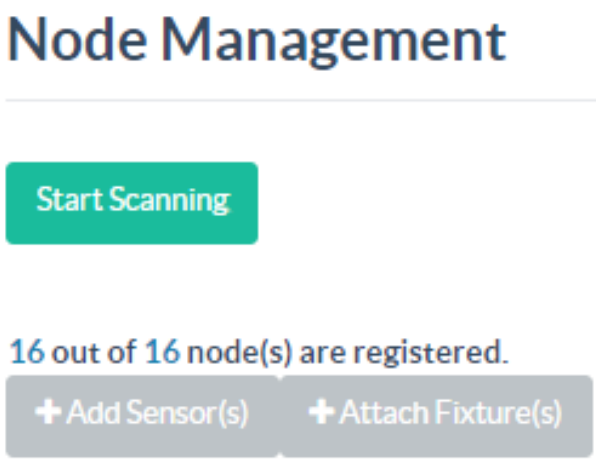
Add a Node to the Network

To add a node to the network:

1. Confirm all of the nodes are powered up.
2. Go to **Settings > Node Management**.
3. To search for nodes, select **Start Scanning**. The nodes that are discovered are displayed in the **Nodes** list. Nodes that are not registered are displayed with a yellow background.

   > **NOTE:** The number of nodes in the system is displayed below the **Start Scanning** and **Stop Scanning** button. The number of unregistered nodes is also shown.

   When all nodes are displayed, select **Stop Scanning**.



4. For each unregistered node, enter the **ID**, **Description**, and **Location**, and then select **Register**. Upon successful registration, the node's background will change to white.

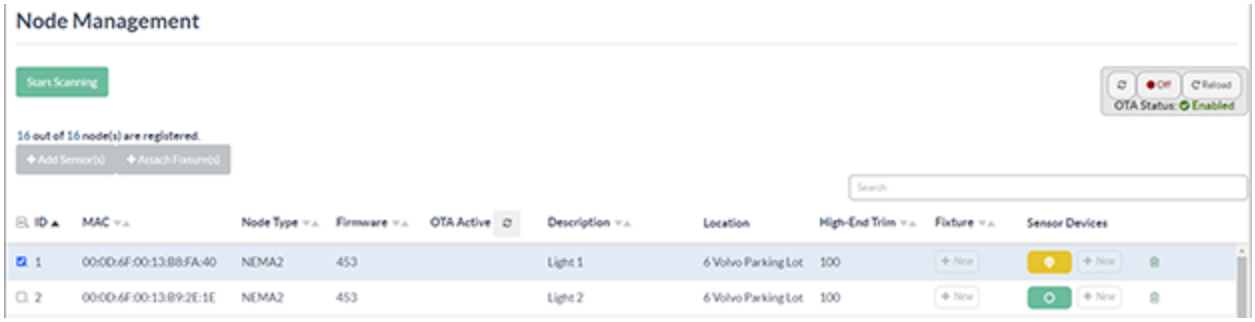
   > **TIP:** The **ID**, **Description**, and **Location** is used for reference while commissioning the system.

Remove a Node

> **NOTE**: The related data (schedules, activity history, and energy usage data) will also be removed.

To remove a node:

1. Go to **Settings > Node Management**.
2. Select the row containing the target node set for deletion.

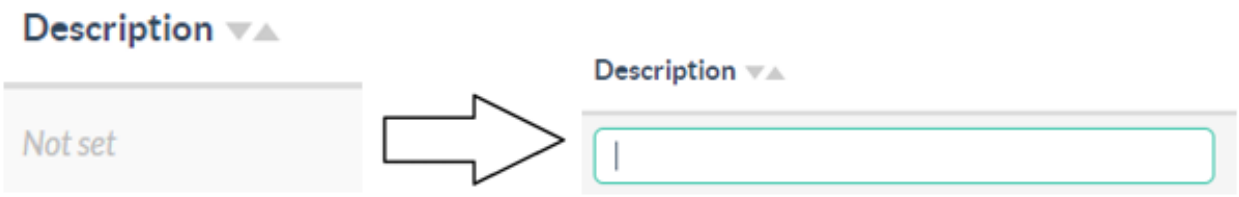


3. Select the **Delete** and then **Remove Node** to confirm.

Edit a Node Description

To edit a node description:

1. Go to **Settings > Node Management.**
2. Double-click the **Not set** field. The border of the text box color changes to green and values can be entered.



3. To save, click outside the text box.

   A green notification is displayed at the top of the screen to indicate that the change was successful.

Group Management

Refer to the following sections for information on how to create or delete a group and how to add a node to a group.

This section provides the following information:

- Create and Rename Groups
- Add a Node to a Group
- Delete a Node from a Group
- Delete a Group

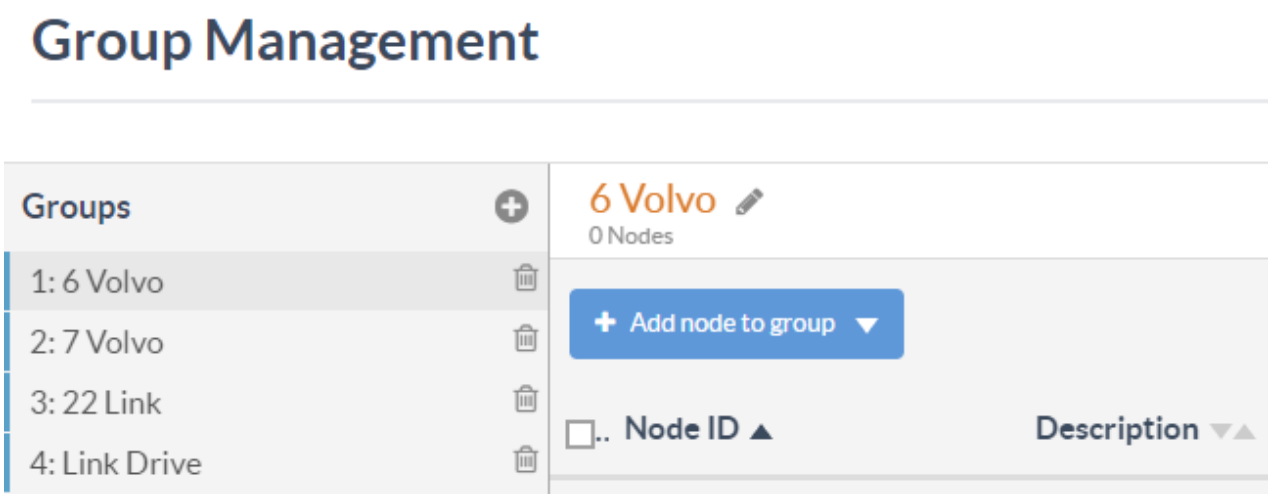
Create and Rename Groups

Create and rename groups in the system.

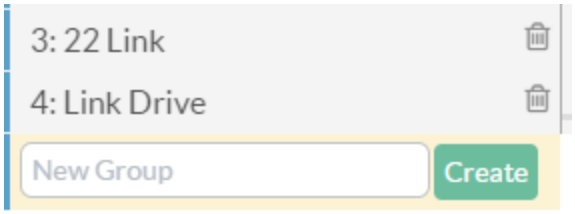
Create a New Group

To create a new group:

1. Go to **Settings > Group Management**.
2. On the **Groups** list, select **Add Group**.



3. Enter the group name in the **New Group** field and then select **Create**.

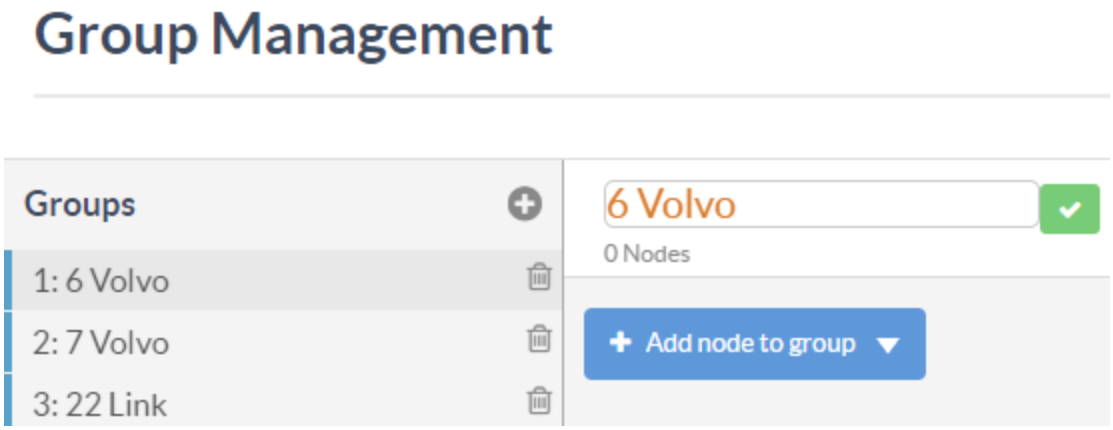


Edit a Group Name

To change the name of a group:

1. Select the **Edit Group** next to the existing group name.
2. Enter the group name in the group name field.

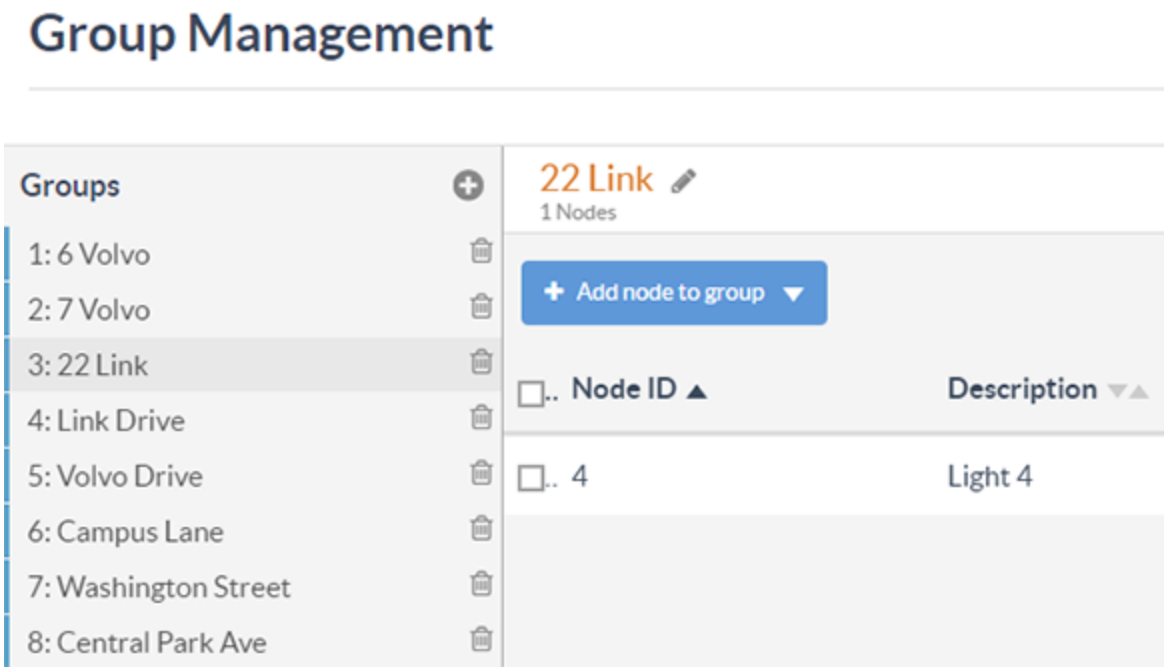
3. Select **Save**.



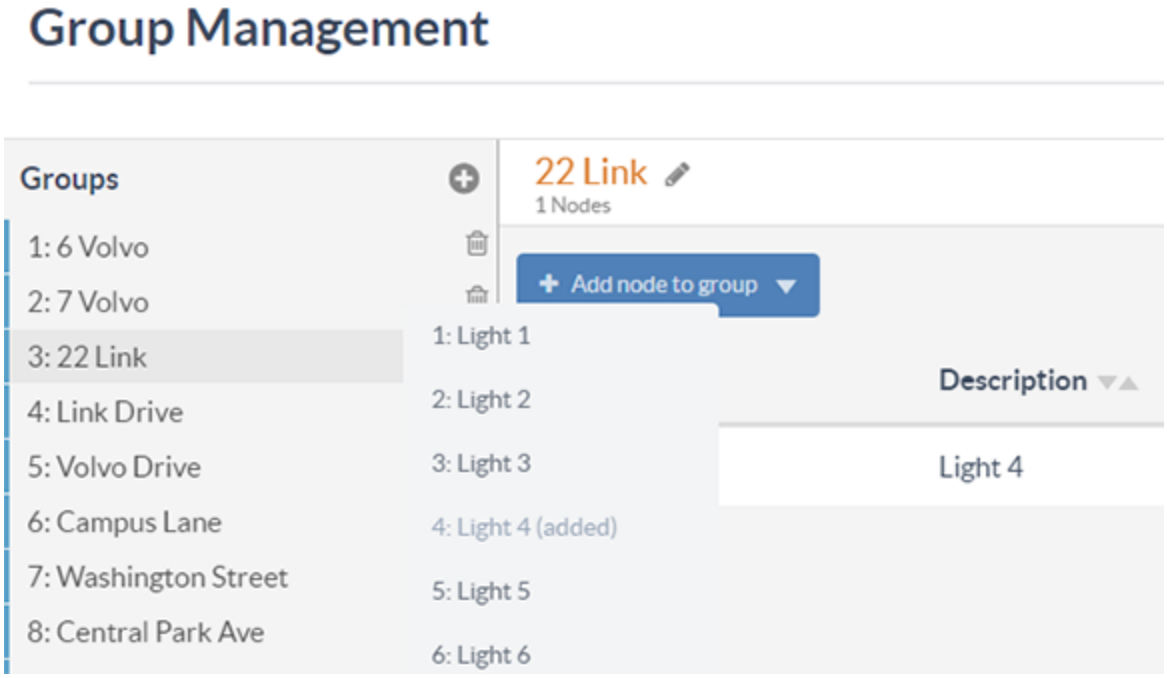
Add a Node to a Group

To add a node to a group:

1. Go to **Settings > Group Management**.
2. On the **Group Management** section, select a group from the **Groups** list.



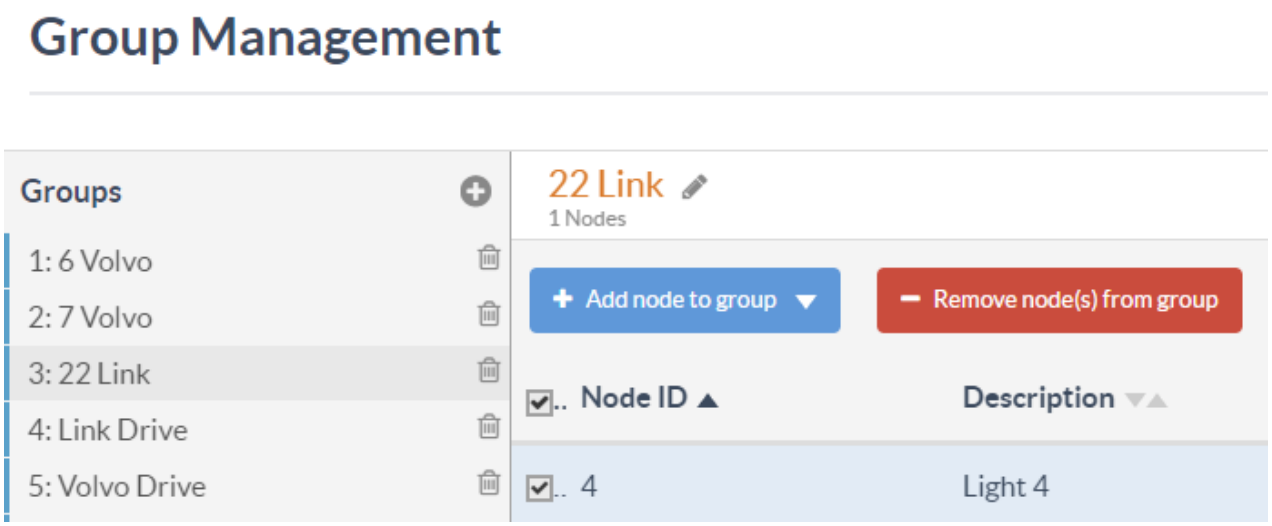
3. Select **Add node to group**, and then select a node from the list of nodes.



Delete a Node from a Group

To delete a node from a group:

1. Go to **Settings > Group Management**.
2. On the **Group Management** section, select a group from the **Groups** list.



3. In the **Nodes** list, select a node to remove and then select **Remove node(s) from group**..

Delete a Group

To delete a group:

1. Go to **Settings > Group Management**.
2. On the **Group Management** section, select the group to be deleted, and then select **Delete**.

LED Control

Refer to the following sections for information on how to control a single LED, group of LEDs or all the LEDs. In addition, the voltage, power consumption, and current can be checked in real-time.

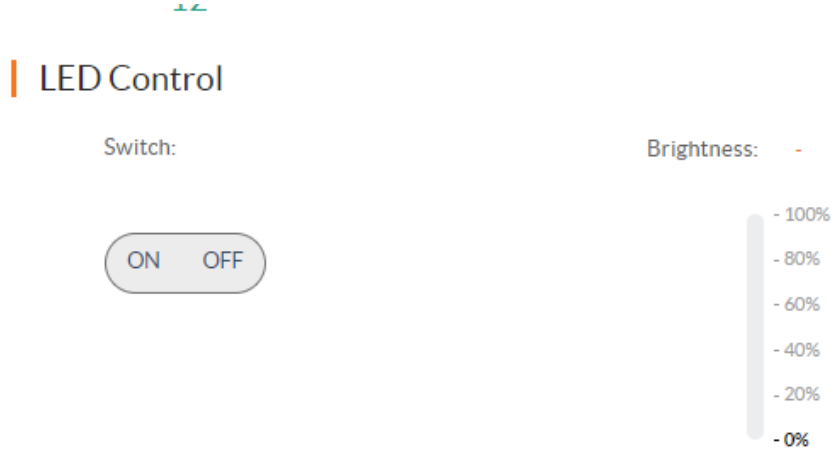
This section provides the following information:

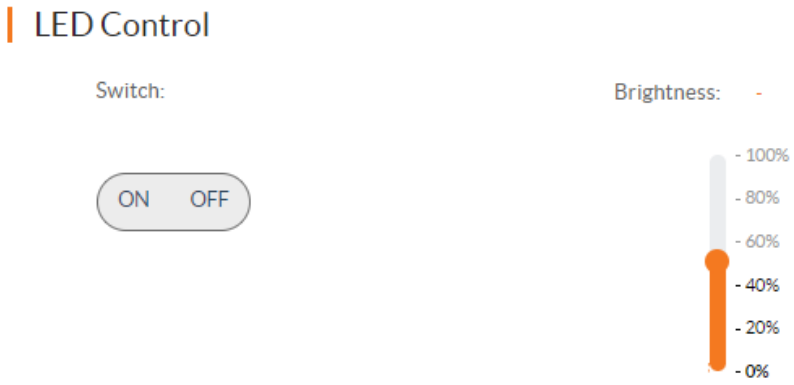
- Control a Single LED
- Control a Group of LEDs
- Control all LEDs
- Check Real-time Power Reading, Voltage, and Current

Control a Single LED

To control a single LED:

1. Go to **LED Network** section and select **Grid View** tab.
2. Select the target LED.
3. Select On or Off to turn the LED on or off. A blue circle indicates that the LED is on, and a red circle indicates that the LED is off.
4. Drag the **Brightness** slider under **LED Control** up or down to adjust the brightness. The blue circle around the LED icon will change according to the current brightness level of the LED. For example, a full circle indicates 100% brightness, and a quarter of a circle indicates 25% brightness.

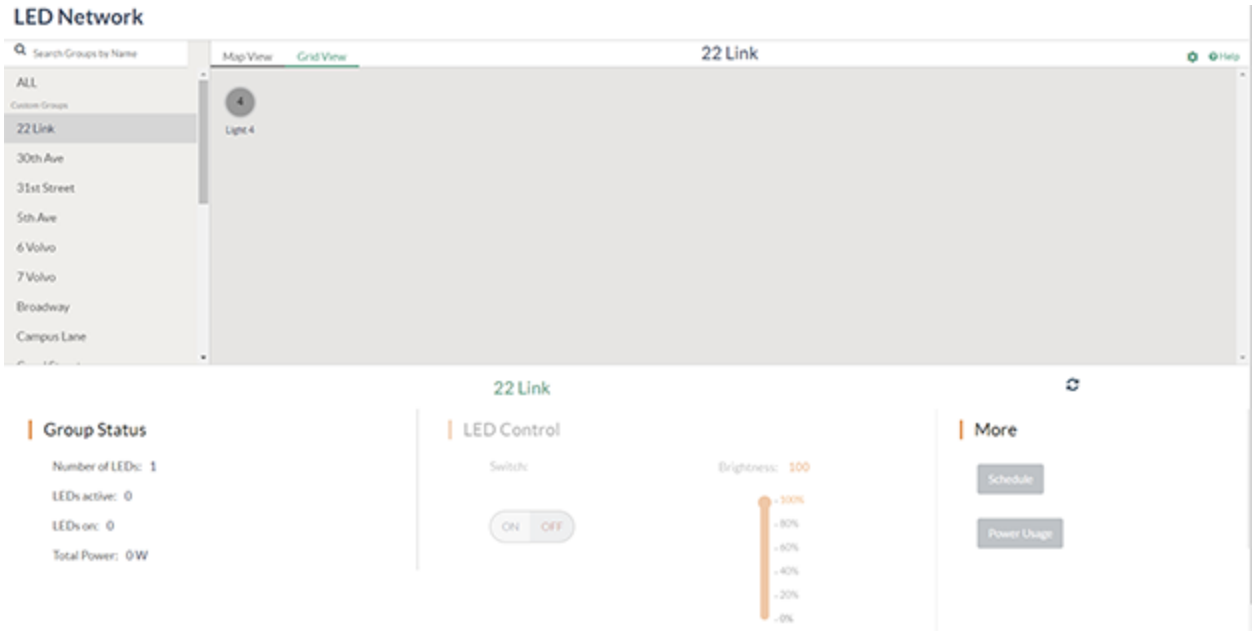




Control a Group of LEDs

To control a group of LEDs:

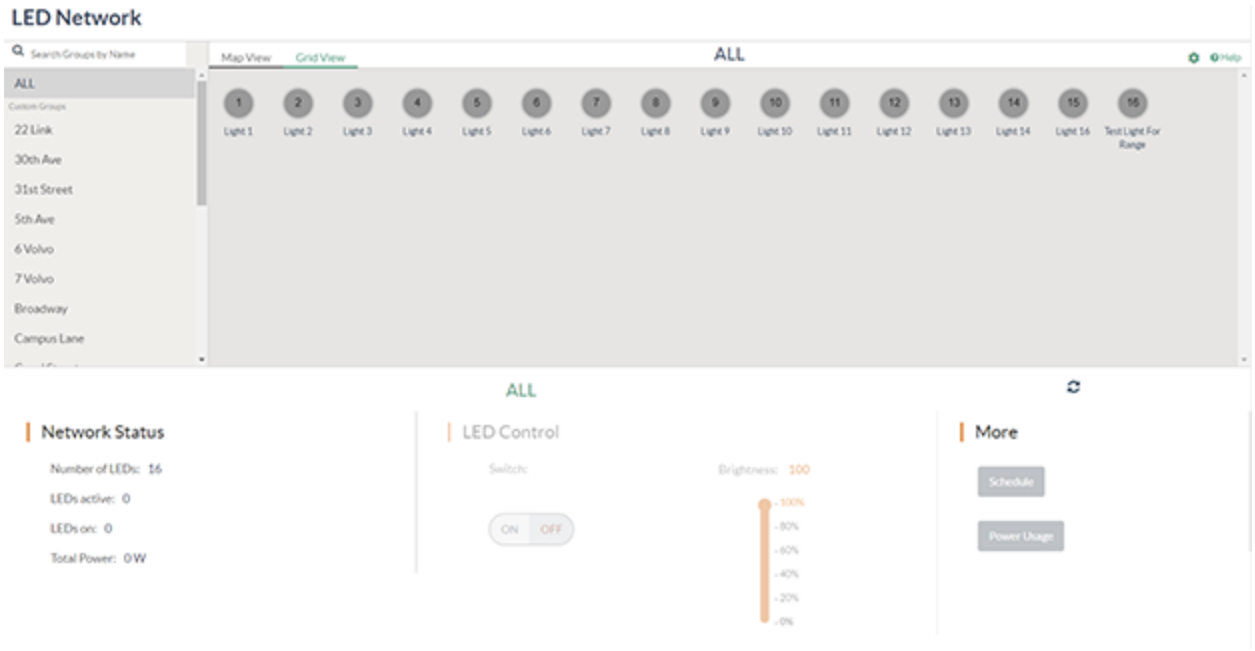
1. Go to the **LED Network** section.
2. On the **LED Network** section, select the target group of LEDs. The control buttons are displayed at the bottom-center of the page.
3. Select On or Off to turn the LED on or off.
4. In the **LED Network** section, drag the slider to the desired brightness.



Control all LEDs

To control all LEDs:

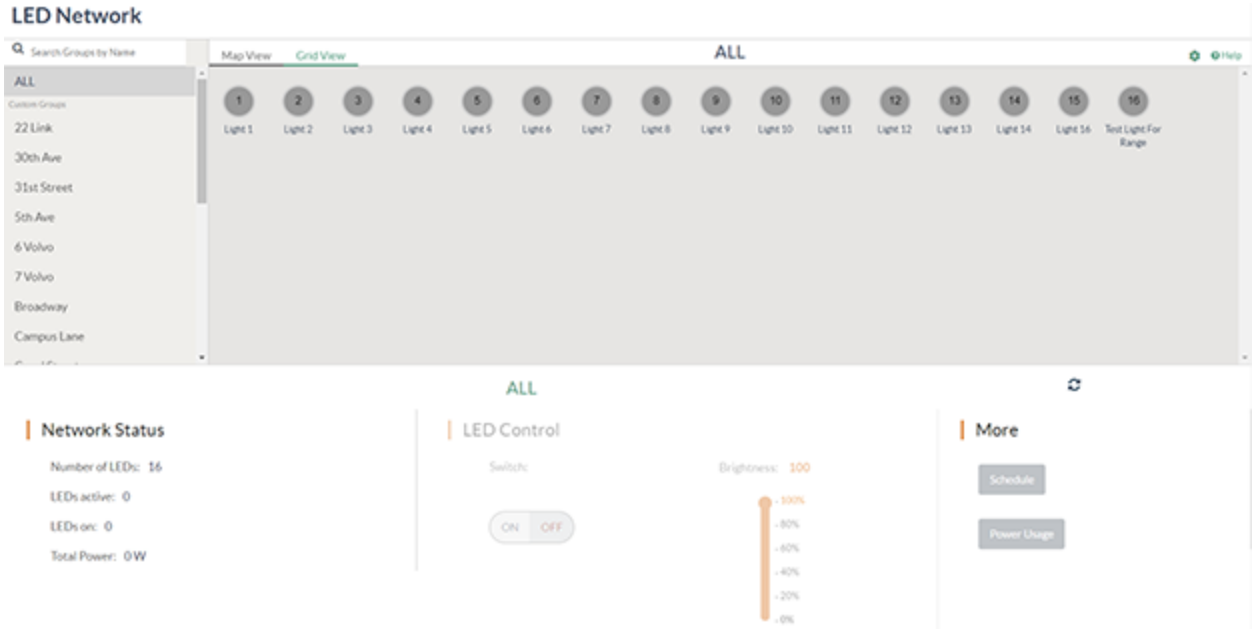
1. Go to the **LED Network** section.
2. On the **LED Network** section, select **All**.
3. Select On or Off to turn the LED on or off.
4. Drag the **Brightness slider** under LED Control up or down to adjust the brightness.



Check Real-time Power Reading, Voltage, and Current

To check real-time power reading, voltage, and current:

1. Go to the **LED Network** page.
2. Select the target LED. The **LED Node Details** appears with a summary for the selected LED.



Sensor Management

Refer to the following sections for information on how to add, delete, enable or disable a sensor or group of sensors. In addition, target devices can be set for the sensor.

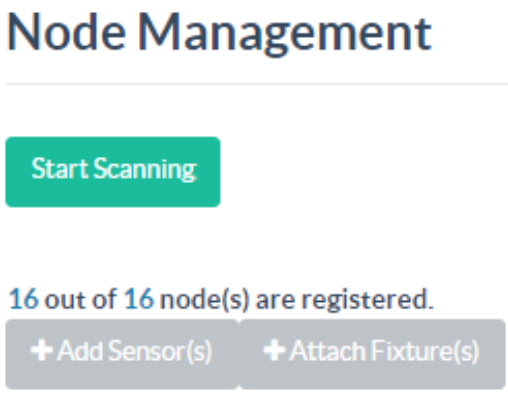
This section provides the following information:

Add a Sensor to a Node

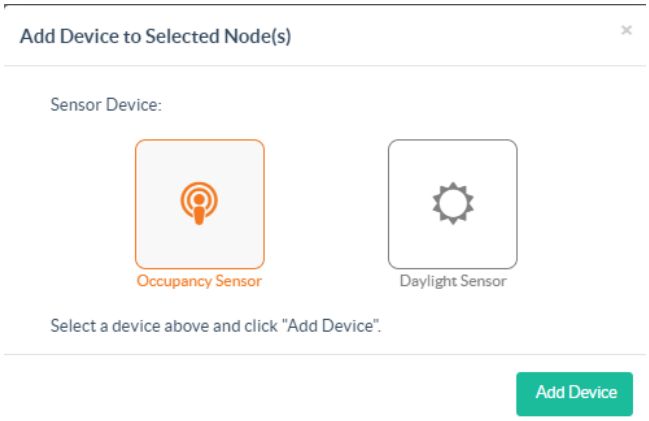
An Occupancy Sensor or a Daylight sensor can be added to a node.

To add a sensor to a node:

1. Go to **Settings > Node Management**. The list of available nodes are displayed.
2. Select the node and select **+Add Sensor**.



3. In the **Add Device to Selected Node(s)** menu, select **Occupancy Sensor** or **Daylight Sensor**.

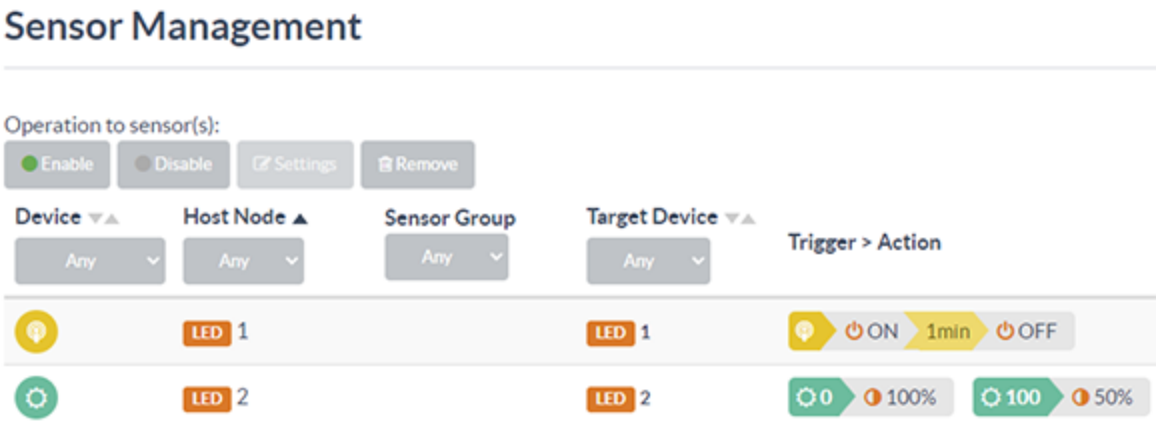


4. Select **Add Device**.

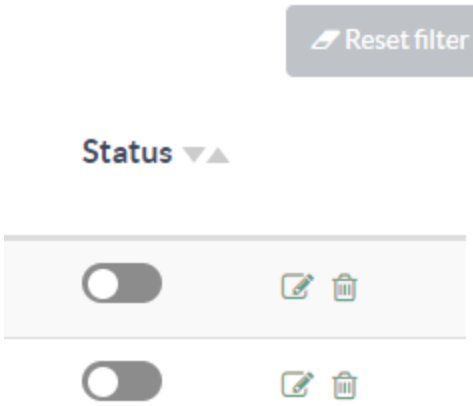
Filter the List of Sensors

To filter the list of sensors:

1. By default, all sensors appear in the sensor list. The list can be filtered to display by device type, host node, group, target device, or in combination.



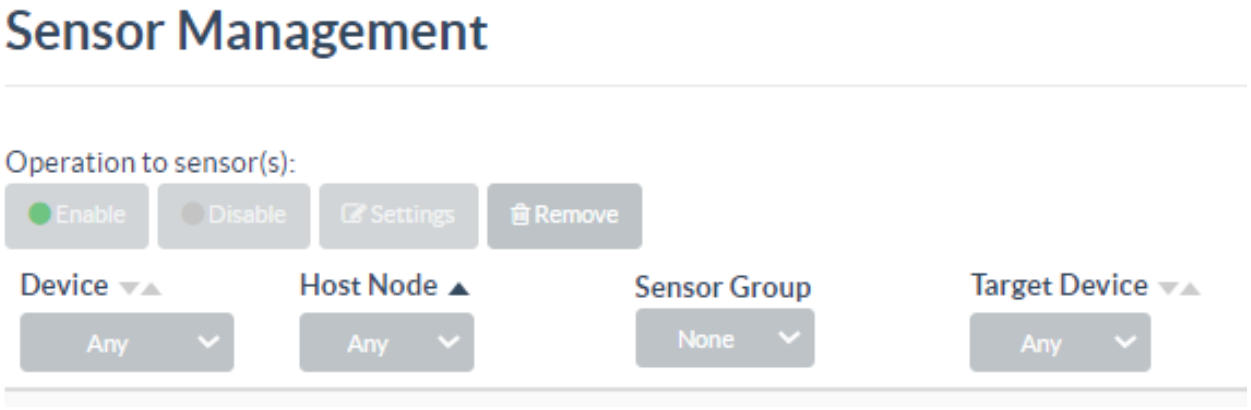
   - The **Device** drop-down menu contains **Any**, **Occupancy**, and **Daylight** options.
   - The **Host Node** drop-down menu contains **Any** and the list of host node options.
   - The **Sensor Group** drop-down menu contains **Any** and the list of sensor group.
   - The **Target Device** drop-down menu contains **Any** and the list of target devices.
2. Select **Reset filter** to clear the filters and display the default list of sensors.



Enable or Disable a Sensor

To enable or disable a sensor:

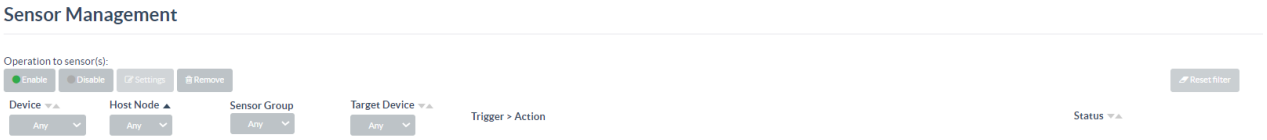
1. Go to **Settings > Sensor Management**. By default, a sensor is **disabled** when first added and must be manually enabled.
2. Select **Enable** to enable the selected sensor. All added sensors are identified by the node they are connected to and listed accordingly.



Enable or Disable all Sensors

To enable or disable all sensors:

1. Go to **Settings > Sensor Management**. To enable or disable all sensors, the filters must be in the default mode.
2. Select **Reset filter** located at the top left corner of the **Sensor Management** page for the filters to be listed in the default mode.

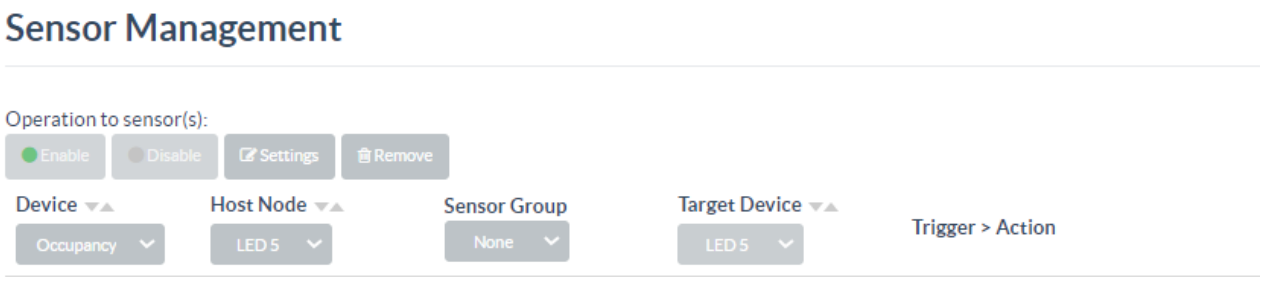


3. Select the **Enable** or the **Disable** button.
4. Click **Confirm** in the Enable Sensor Conformation or Disable Sensor Confirmation window to enable or disable all sensors.

Set the Target to a Single LED

To set the target to a single LED:

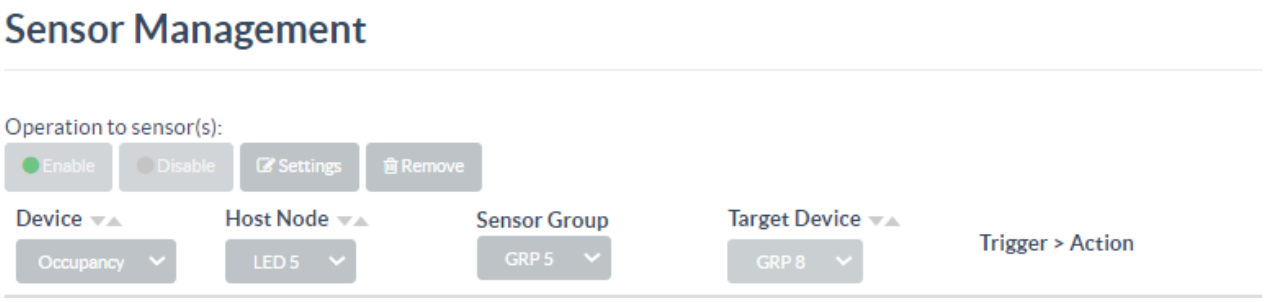
1. Go to **Settings > Sensor Management**.
2. Select the target device from the **Target Device** drop-down menu.
3. Select a single LED from the **Host Node** drop-down menu.



Set the Target to a Group of LEDs

To set the target to a group of LEDs:

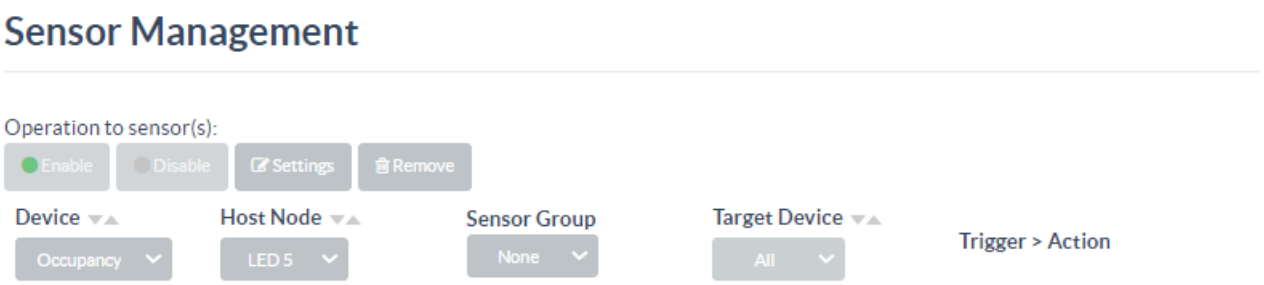
1. Go to **Settings > Sensor Management**.
2. Select the target device from the **Target Device** drop-down menu to set the target.
3. Select the LED group from the **Host Node** drop-down menu.



Set the Target to All LEDs on the Gateway

To set the target to all the LEDs on the Gateway:

1. Go to **Settings > Sensor Management**.
2. Select **All** from the **Target Device** drop-down list to set the target.



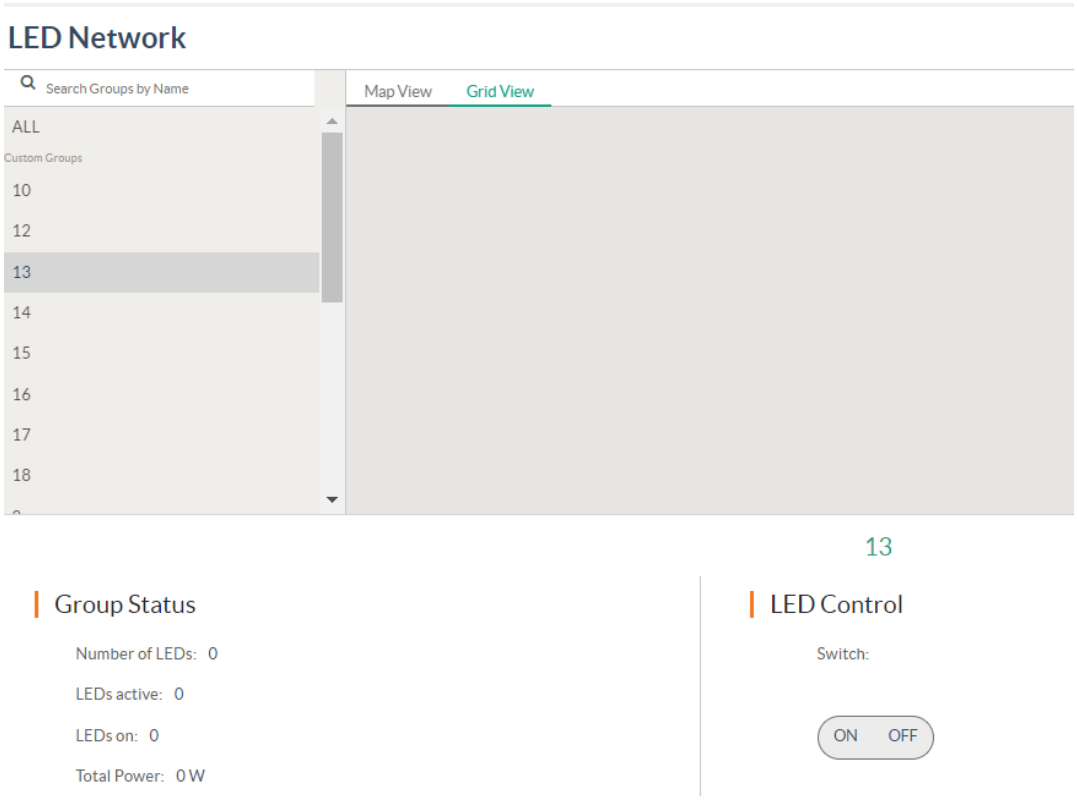
Occupancy Sensor Specific Actions

The occupancy sensor specific actions provide information after the selected sensor is triggered. The different actions are:

1. To change the initial brightness level after trigger, change the value in the **Brightness** text box to the desired brightness level .
2. To change the delay between the trigger and section action (by default, it is set to off) from the default of one minute, change the value in the **After no motion** text box. This delay must be whole numbers and can be no less than one.

To set up the follow-up rule for the motion sensor to turn off after one minute:

1. Select **Add Follow-up Rule**.
2. Set the intermediate brightness and delay for the action in the **Brightness** and the **After no motion** for text boxes, respectively.
3. Select **Switch ON/OFF** to turn the LED on or off.



Daylight Sensor Rules

Daylight sensor rules can be set up to control the light based on ambient light levels.

Change Action

To change the brightness:

1. To change the brightness level based on ambient light levels, select **Set Brightness** under the **Action** column.
2. To turn the light On or Off based on ambient light levels, select **Switch** under the **Action** column.

Change Range for Ambient Light Levels

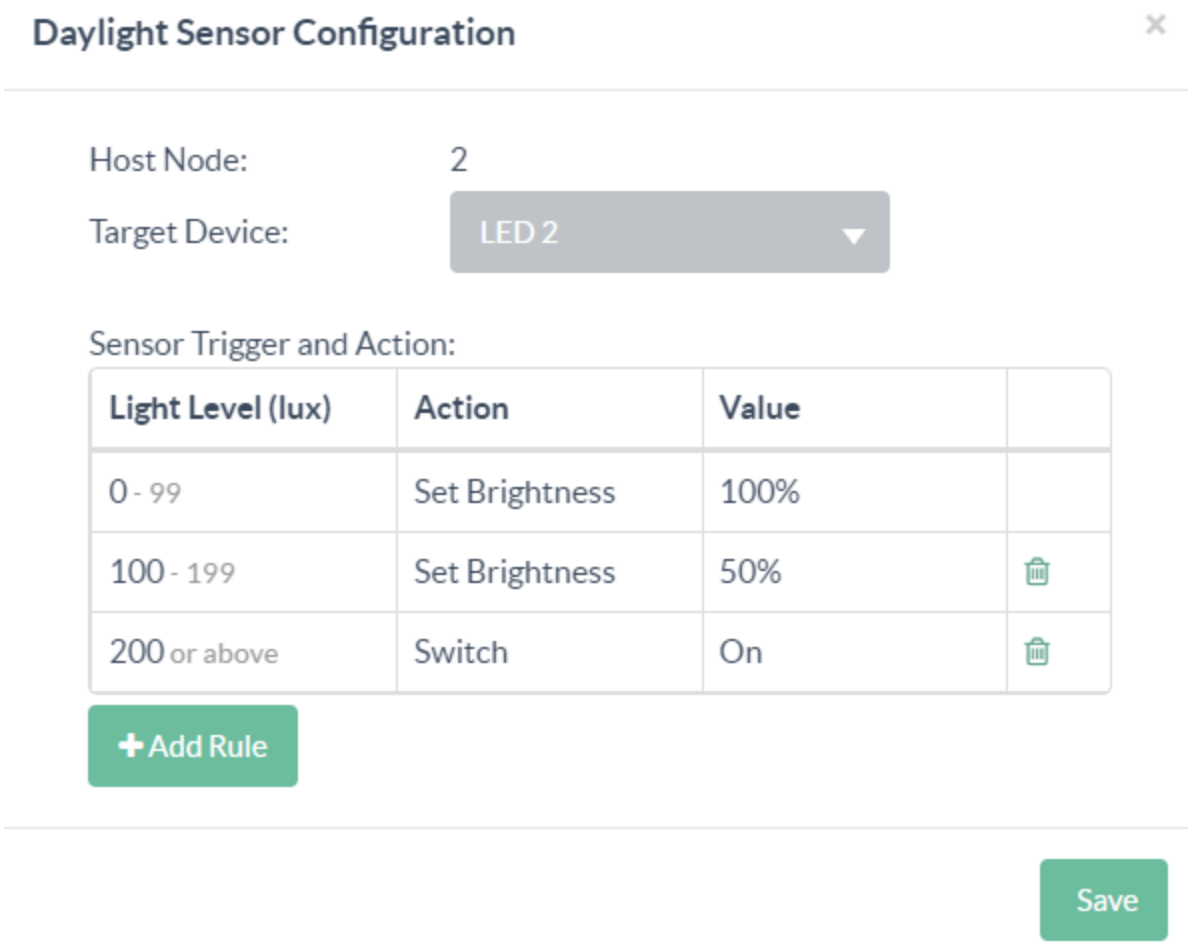
Only the lower range for ambient light levels can be changed.

1. To change the range of the first level, double-click the lower range of the level below the first level.
2. Enter a value higher than the new lower range of the level to change. For example, if you want to change the range of the first level from 0-99 to 0-300.
3. The lower range of the higher level changes automatically.

Add a Rule

To add a rule:

1. Select **Edit** for a daylight sensor.
2. In the **Daylight Sensor Configuration** window, select **Add Rule**.

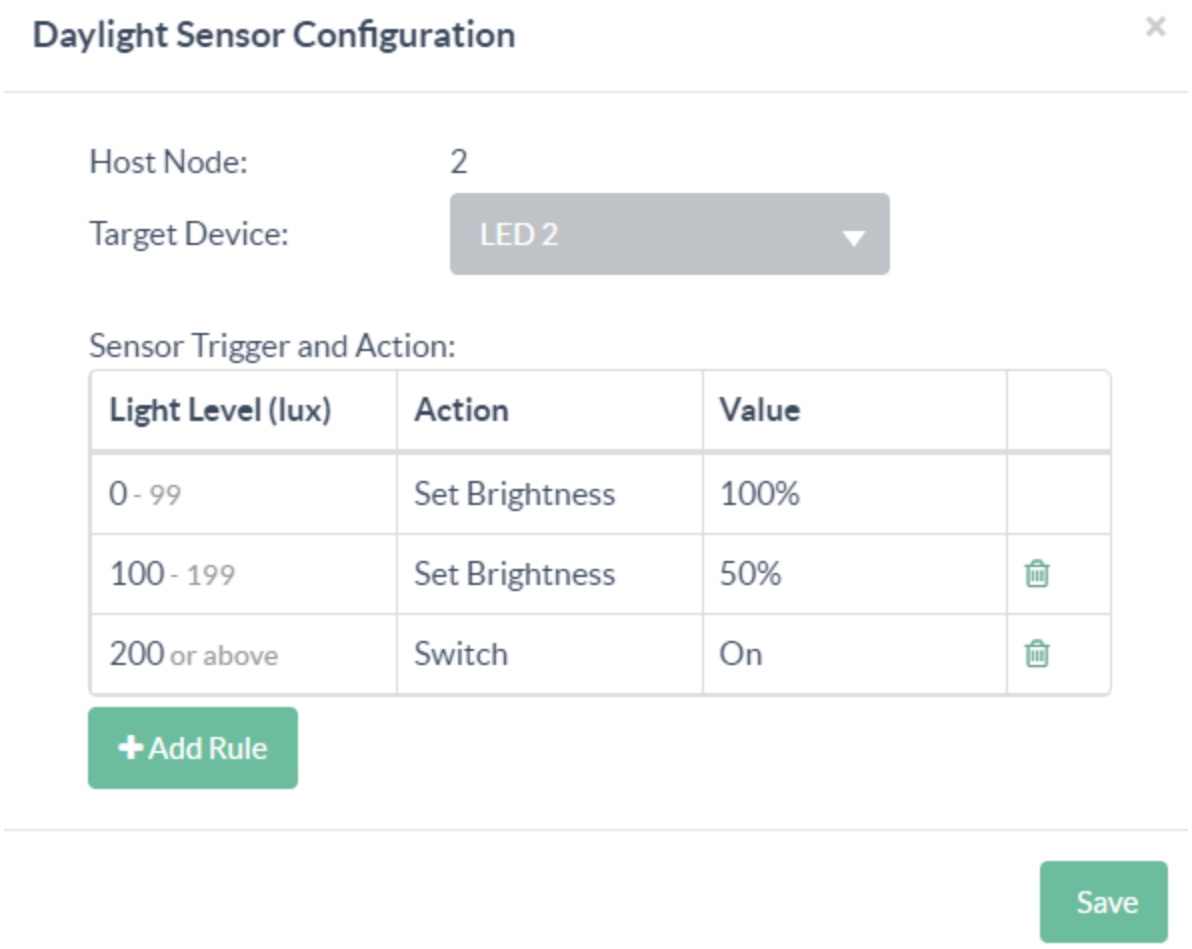


3. Configure the rule:
   - **Light Level (lux):** The light level assigned to trigger the rule. To assign a light level, select the **Light Level** and then enter a value.
   - **Action:** The function that is performed when the rule is triggered. To assign an action, select the **Action** and then select **Set Brightness** or **Switch**.
   - **Value:** The brightness level of the light. To assign a value when **Set Brightness** is selected, enter a light value between **0** and **100%** brightness. To assign a value when **Switch** is selected, select **On** or **Off**.
4. Select **Save**.

Delete a Rule

To delete a rule:

1. Select **Edit** for a daylight sensor.
2. In the **Daylight Sensor Configuration** window, identify a rule and then select **Delete**. The other levels will adjust their bounds for the removed level.



3. Select **Save** or **X** to close.

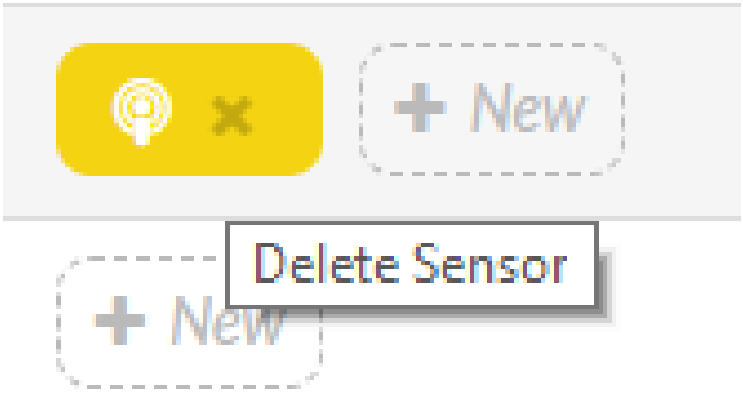
Delete a Sensor

Delete a sensor using the **Node Management** page or **Sensor Management** page.

Delete Sensor using the Node Management Page

To delete a sensor from the **Node Management** page:

1. Go to **Settings > Node Management**.
    a. From the list, locate the node you want to delete a sensor from.
    b. Hover over the corresponding sensor icon on the right side of the page, and note that an **x** appears in the button.
    c. Select **x**, and a select **Confirm** for deletion.

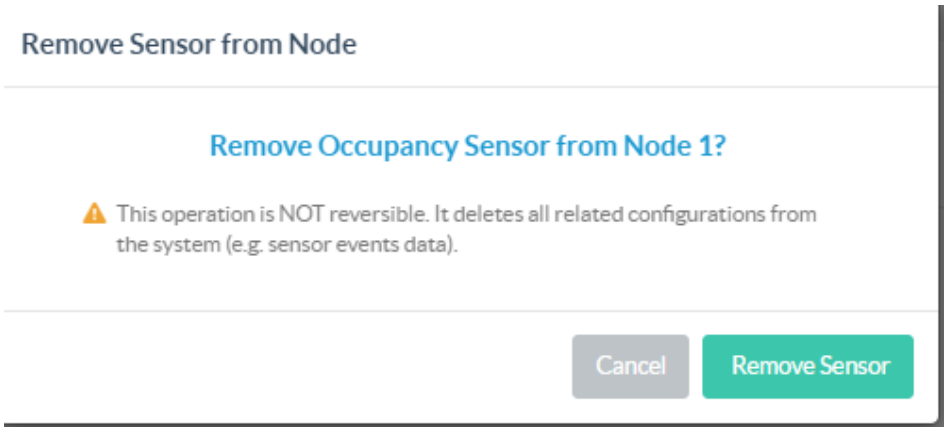


Delete Sensor using the Sensor Management Page

To delete a sensor using the **Sensor Management** page:

1. Go to **Settings > Sensor Management**.
2. Locate the row that lists the sensor and select the sensor for deletion.
3. Select **Delete** on the right-hand side of the page.
4. Select **Remove Sensor** to confirm deletion. The sensor and the corresponding rules are deleted. To delete multiple sensors, filter the list of sensors to list all sensor rules to deleted.

5. Select **Remove**.



Scheduling

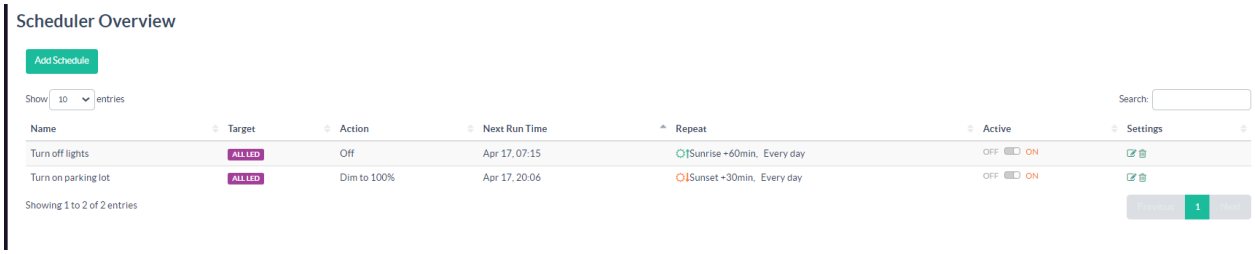
Refer to the following sections for information on how to schedule different actions such as power on or off, and offset time for LEDs and sensors.

This section provides the following information:

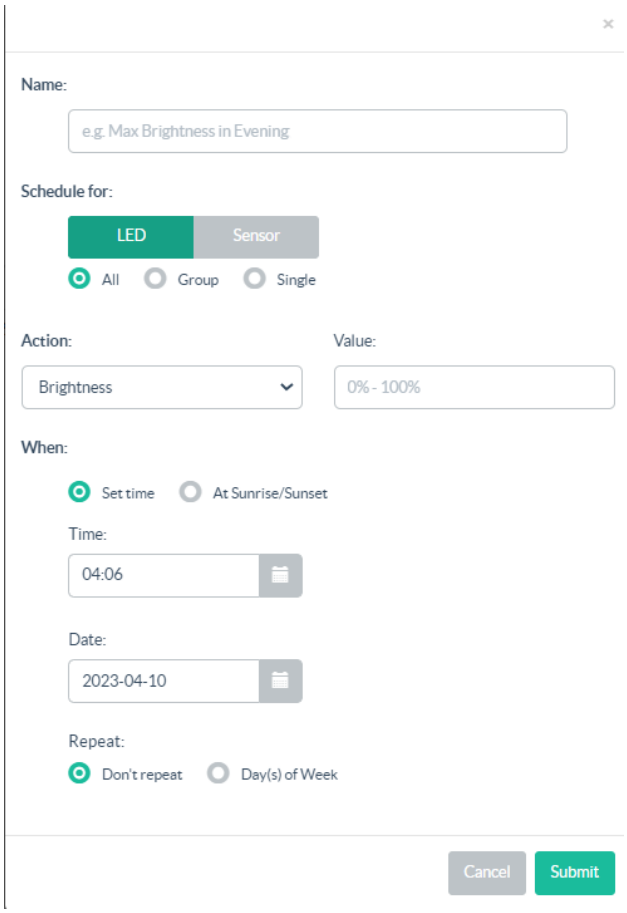
Add a Schedule

To add a schedule:

1. Select **Scheduler** from the main menu displayed on the right side of the **Zum Outdoor LiteView** web page.
2. Select **Add Schedule**.



3. Enter the schedule name, scheduling for, action, and time in the displayed screen.

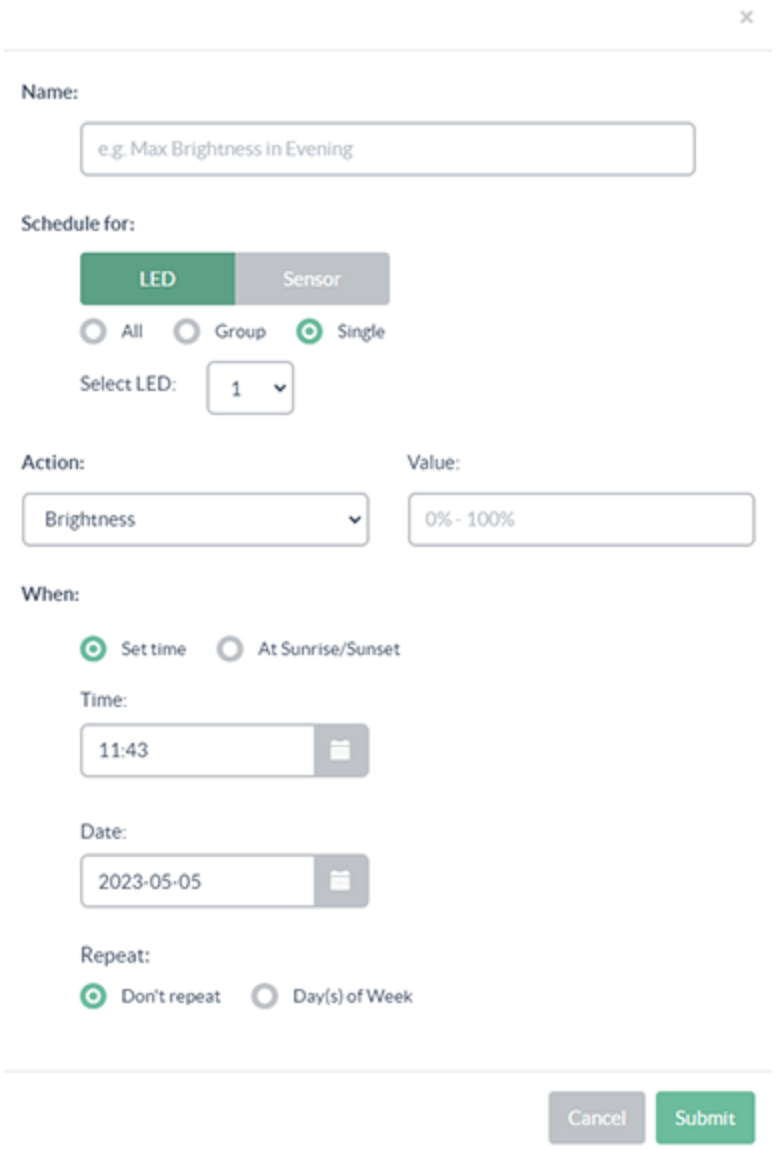


4. Select **Submit**.

Schedule for a Single LED

To add a schedule for a single LED:

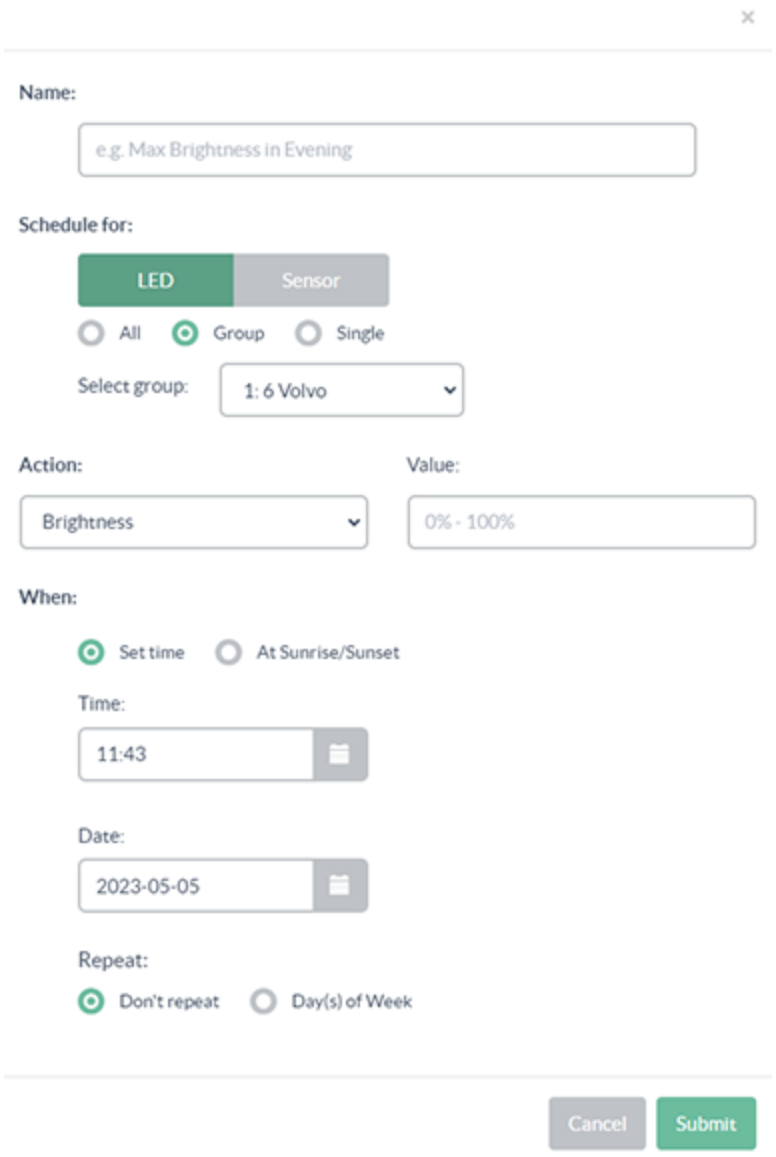
1. Select **Scheduler** from the main menu displayed on the right side of the **Zum Outdoor LiteView** web page.
2. In the **Select LED** drop-down menu, select the target LED.
3. Select **LED** and **Single** under **Schedule for**.
4. Enter the schedule name, scheduling target, action, and time in the displayed screen.
5. Click **Submit** to add the schedule.



Schedule for a Group of LEDs

To add a schedule for a group of LEDs:

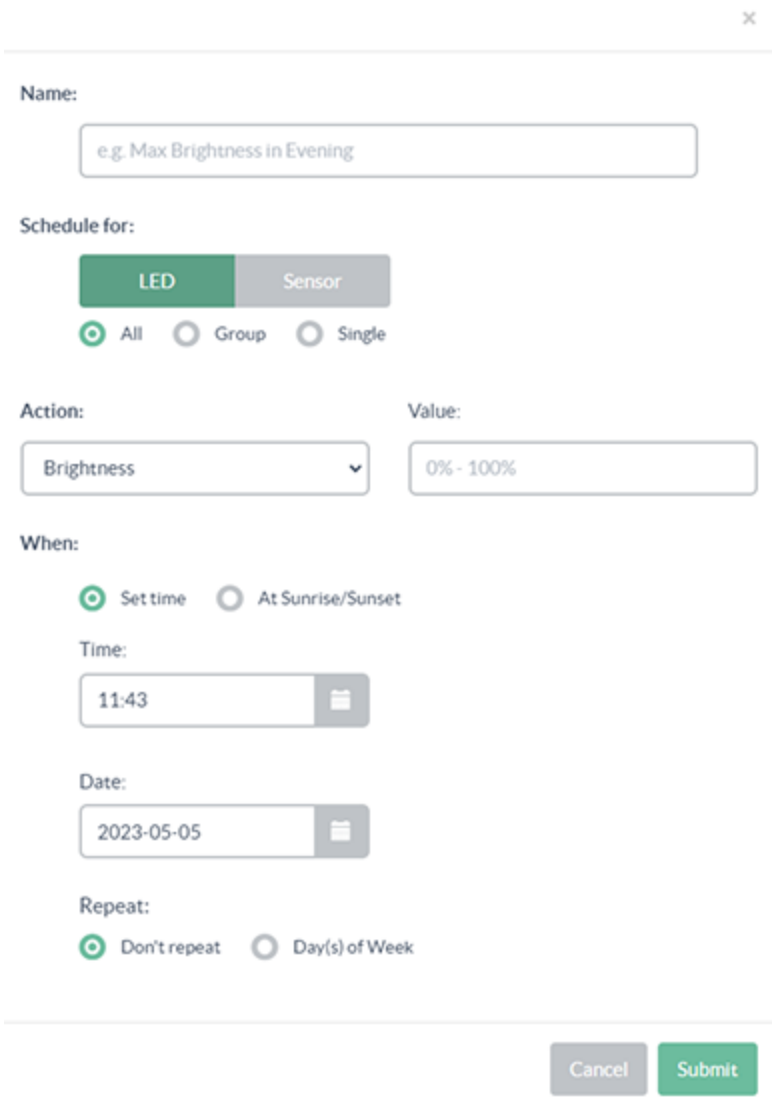
1. Select **Scheduler** from the main menu displayed on the right side of the **Zum Outdoor LiteView** web page.
2. In the **Select LED** drop-down menu, select the target LED.
3. Select **LED** and **Group** under **Schedule for**.
4. Enter the schedule name, scheduling target, action, and time in the displayed screen.
5. Click **Submit**.



Add Schedule for all the LEDs

To schedule for all LEDs:

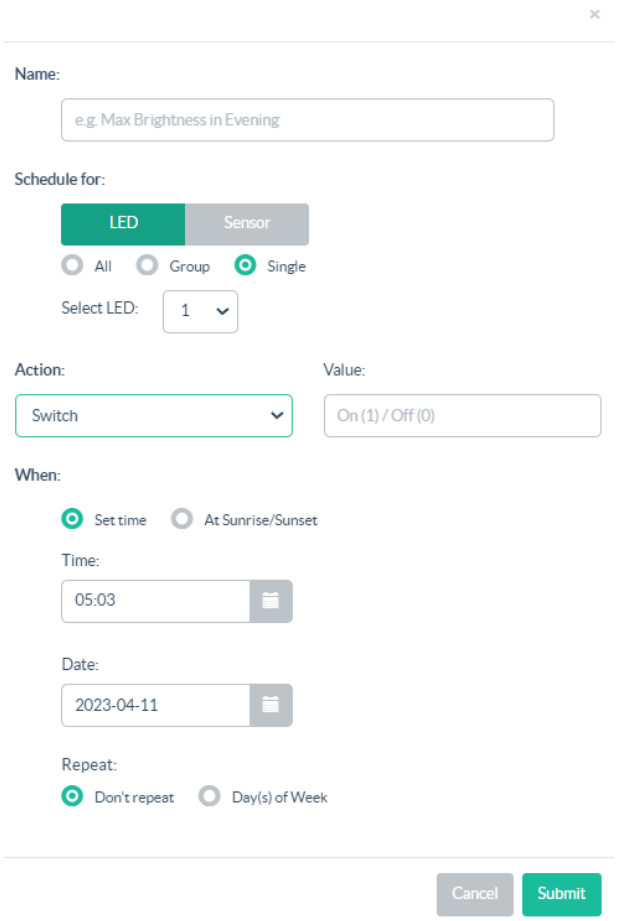
1. Select **Scheduler** from the main menu displayed on the right side of the **Zum Outdoor LiteView** web page.
2. Select **All** under **Schedule for** for all the LEDs.
3. Enter the schedule name, scheduling target, action, and time in the displayed screen.
4. Click **Submit**.



Schedule the On or Off Time Set Control for an LED

To schedule the on or off time set control for an LED:

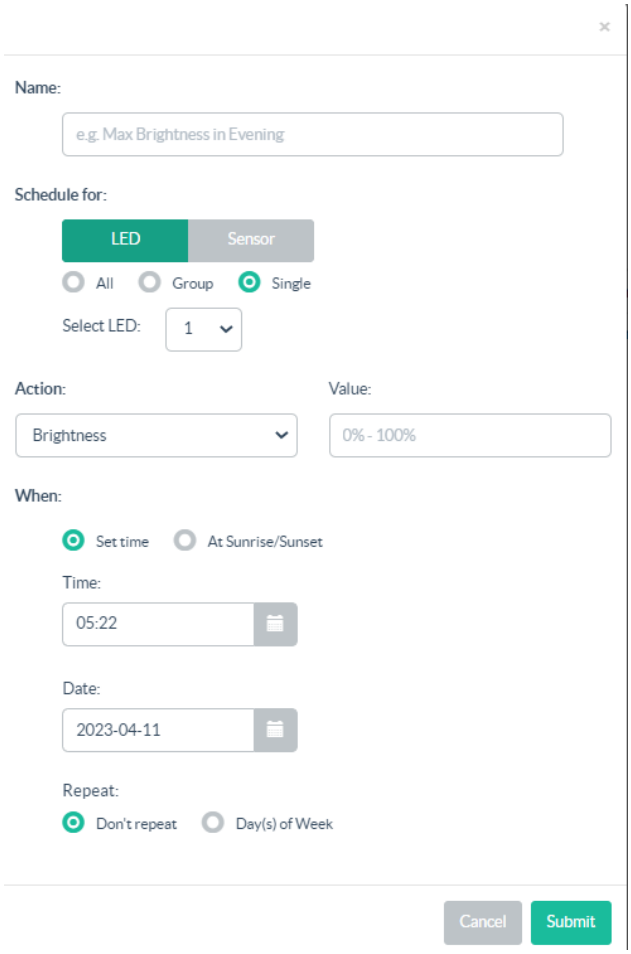
1. Select **Scheduler** from the main menu displayed on the right side of the **Zum Outdoor LiteView** web page.
2. Click **Add Schedule**.
3. Select **Switch** from the **Action** drop-down menu.
4. Enter a 0 or 1 in the **Value** text box to schedule Off or On time set for an LED. The values are 0 to turn Off and 1 to turn On the LED.



Schedule the Brightness Control

To schedule the brightness control:

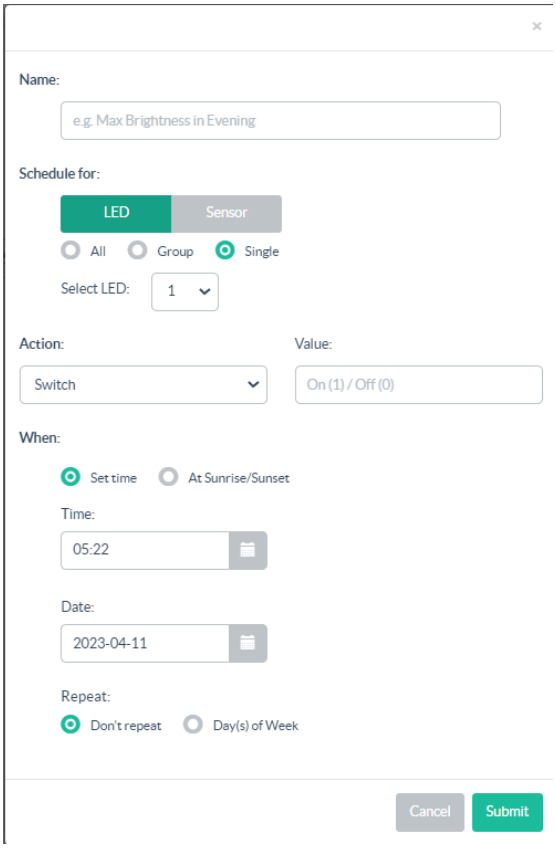
1. Select **Scheduler** from the main menu displayed on the right side of the **Zum Outdoor LiteView** web page.
2. Click **Add Schedule**.
3. Select **Brightness** in the **Action** drop-down menu.
4. Enter a number between 0-100 in the **Value** text box where 0% is the dimmest and 100% is the highest value for brightness.
5. From the **Time** check box and **Date** check box, select a time and date to schedule the brightness control.
6. Click **Submit**.



Set a Schedule for an LED to Turn On at a Specific Time and Date

To set a schedule for an LED to turn on at a specific time and date:

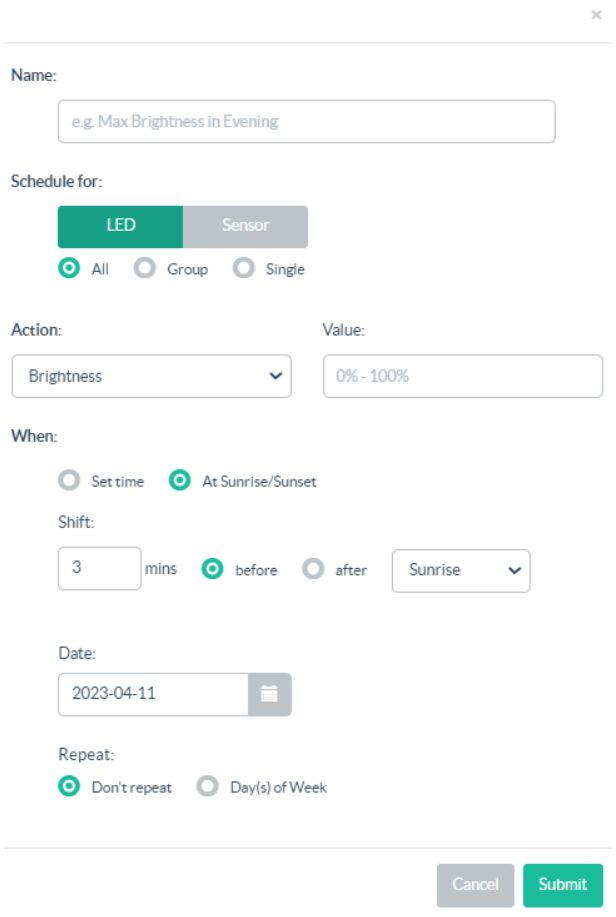
1. Select **Scheduler** from the main menu displayed on the right side of the **Zum Outdoor LiteView** web page.
2. Click **Add Schedule**.
3. Select **Brightness** or **Switch** in the **Action** drop-down menu.
4. If **Switch** is selected, enter **1** to power On or **0** Power off the LED. If **Brightness** is selected, enter a value between 0% and 100% for the brightness.
5. Select the **Set time** check box.
6. Set a time in the **Time** text box and select a date in the **Date** text box. The **Don't Repeat** can be selected if the schedule is set for only one instance. **Day(s) of Week** can be selected depending on whether the schedule needs to be run for a week or on specific days.
7. Click **Submit**.



Set a Schedule for an LED to Turn On at Sunrise or Sunset

To set a for an LED that runs at sunrise or sunset:

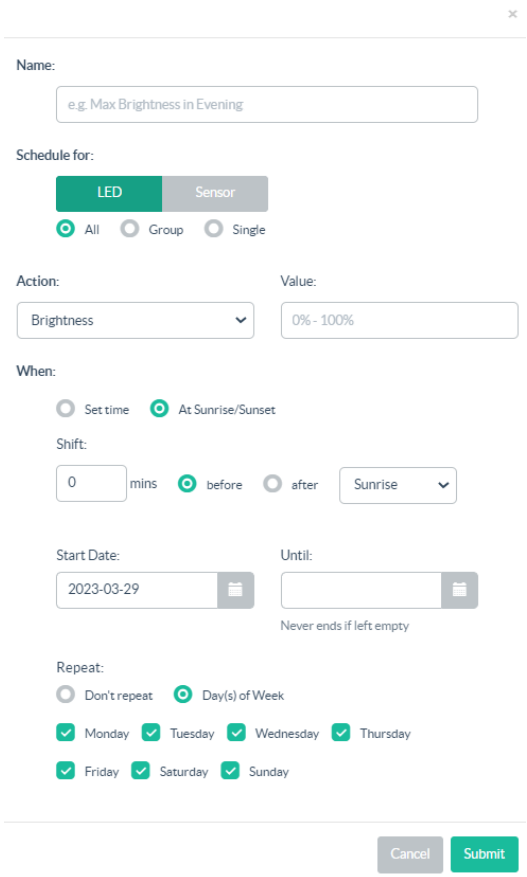
1. Select **Scheduler** from the main menu displayed on the right side of the **Zum Outdoor LiteView** web page.
2. Click **Add Schedule**.
3. Select **Brightness** or **Switch** from the **Action** drop-down menu.
4. If **Switch** is selected, enter **1** to power On or **0** Power off the LED. If **Brightness** is selected, enter a value between 0% and 100% for the brightness.
5. Select **At Sunrise or Sunset** under **When**.
6. Fill in the offset time (in minutes) in the **Shift** text box, and choose **before** or **after** for sunrise or sunset. The offset time will trigger the schedule before other routine schedules are triggered.
7. Click **Submit**.



Set a Repeating Schedule for an LED or Sensor

To set a repeating schedule for an LED or Sensor:

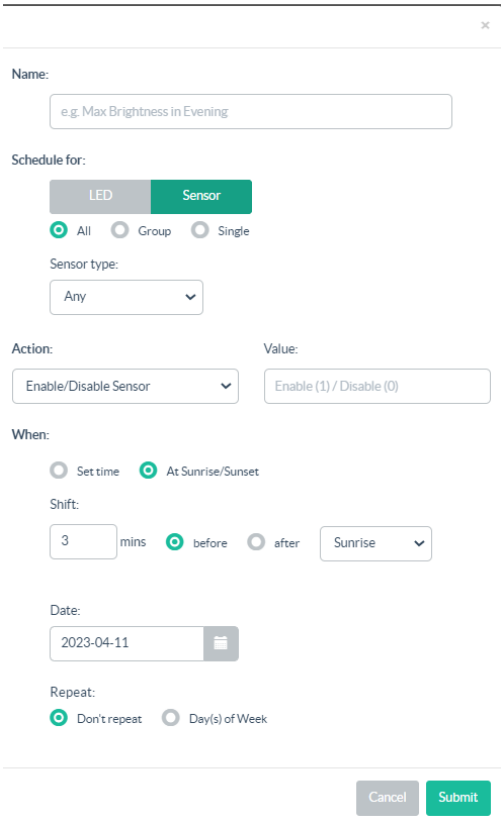
1. Select **Scheduler** from the main menu displayed on the right side of the **Zum Outdoor LiteView** web page.
2. Click **Add Schedule**.
3. Select **Brightness** or **Switch** from the **Action** drop-down menu.
4. If **Switch** is selected, enter **1** to power On or **0** Power off the LED. If **Brightness** is selected, enter a value between 0% and 100% for the brightness.
5. Choose the day(s) of the week on which you want the schedule to repeat. The schedule will repeat unless the date is set in the **Until** field.
6. Select **Day(s) of Week** under **Repeat**. The days in a week are displayed.
7. Click **Submit**.



Set a Schedule for the Sensors

To set a schedule for the sensors:

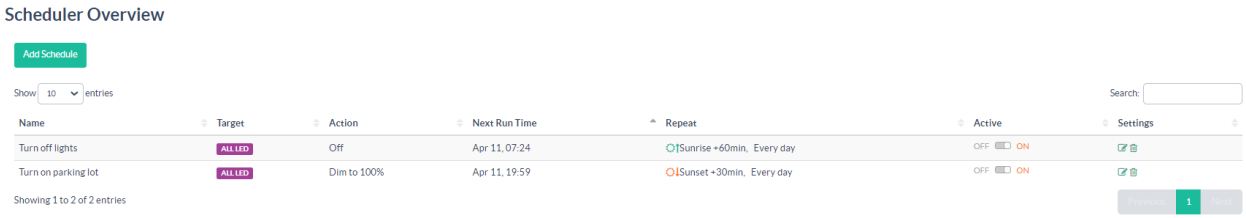
1. Select **Scheduler** from the main menu displayed on the right side of the **Zum Outdoor LiteView** web page.
2. Click **Add Schedule**.
3. Select **Sensor** under **Schedule for**.
4. In the **Sensor Type** drop-down menu, select the corresponding sensor type.
5. In the **Action** drop-down menu, select **Enable/Disable Sensor**.
6. Enter 0 or 1 in the **Value** text box where 1 is to enable and 0 is to disable a sensor.
7. Click **Submit**.



Delete a Schedule

To delete a schedule:

1. Select **Scheduler** from the main menu displayed on the right side of the **Zum Outdoor LiteView** web page.
2. Select **Delete** in the row to delete a schedule that is not needed.

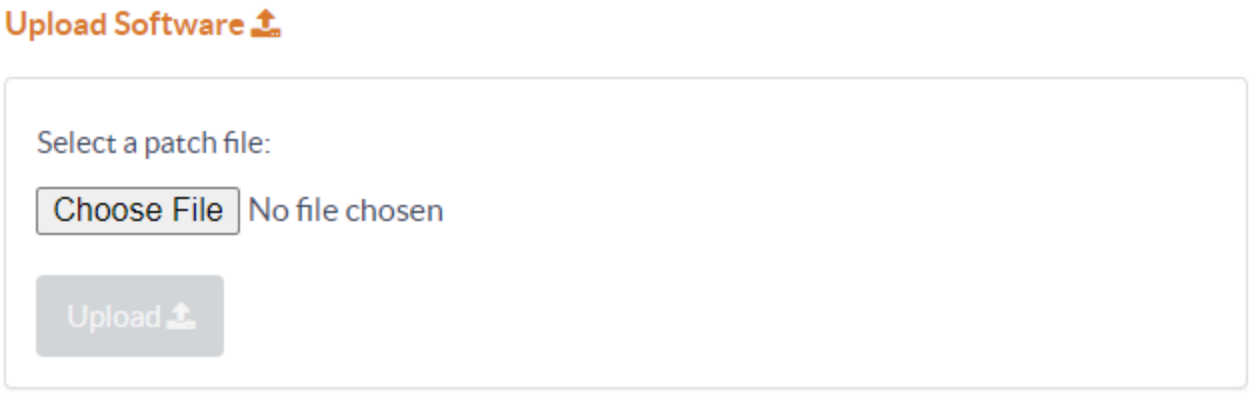


3. In the confirmation window, select **Remove Schedule**.

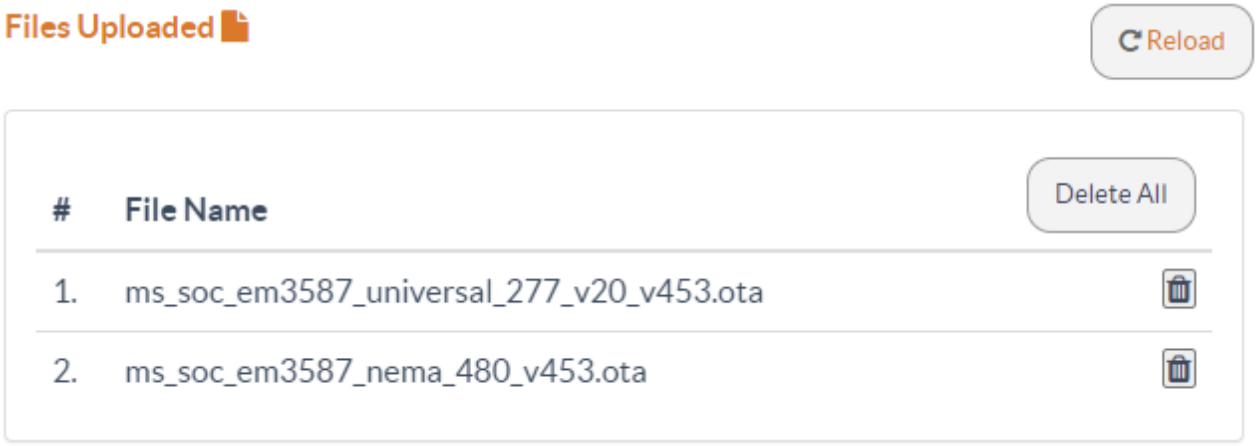
Update Software

To update software:

1. Download the latest firmware from www.crestron.com/firmware to a computer.
2. Go to **Settings > Gateway Settings**.
3. In **Update Software**, select **Choose File** and then select the firmware file.
4. Select **Upload**.



5. The **Files Uploaded** screen is displayed.



Resources

The following resources are provided for the ZUMNET-OD-GW-RF, ZUMMESH-OD-KOM, ZUMMESH-OD-7P.

> **NOTE:** You may need to provide your Crestron.com web account credentials when prompted to access some of the following resources.

Crestron Support and Training

- Crestron True Blue Support
- Crestron Resource Library
- Crestron Online Help (OLH)
- Crestron Training Institute (CTI) Portal

Programmer and Developer Resources

- help.crestron.com: Provides help files for Crestron programming tools such as SIMPL, SIMPL#, and Crestron Toolbox™ software
- developer.crestron.com: Provides developer documentation for Crestron APIs, SDKs, and other development tools

Product Certificates

To search for product certificates, refer to support.crestron.com/app/certificates.

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Product Manual — Doc. 9376A
05/05/23
Specifications subject to
change without notice.