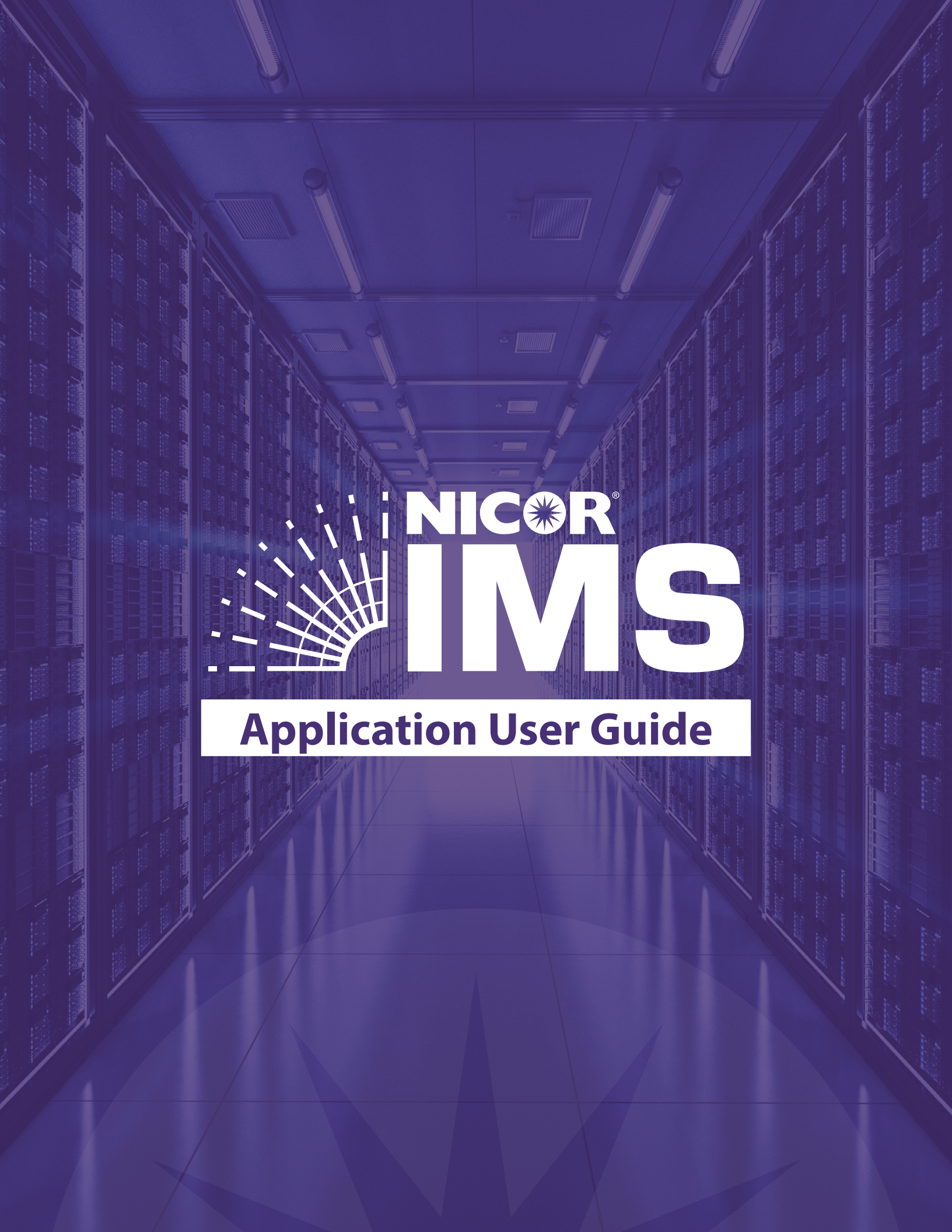


NICOR IMS

Application User Guide

Release Notes

Notes

Version	IMS 3.0
Software Version	3.0.0
Controller Version	IMSD2-1

Features

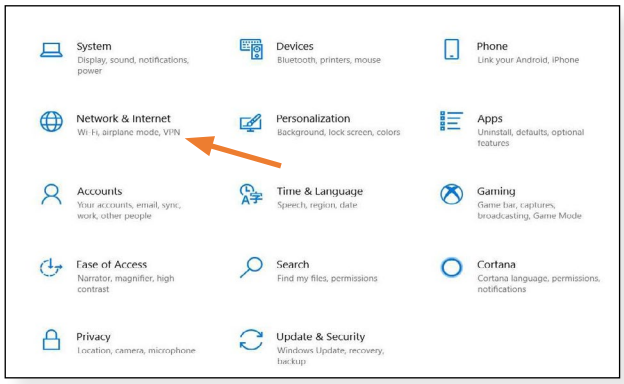
- DALI 2 Control Lighting System
- Zone Management: Full control of zoning and zone behavior
- Light Fixture and Control Device Identification by Flashing On and Off
- Scene Management: Add/Remove fixtures to a Scene, trigger Scene to set lights to preset levels.
- Manually Adjust Group Dimming and Turn Groups On/Off
- Individual and Recurring Events, Change zone states at Specific Times and Days/Dates
- Event Management: Edit or Delete Events
- Emergency Settings for Power Loss

Table of Contents

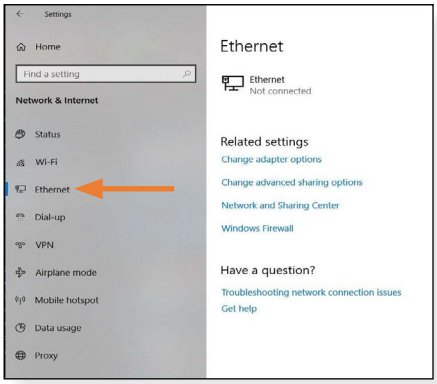
Network Configuration

To access the IMS user interface you must be connected to the controller via an Ethernet cable AND be on the same sub net as the unit.

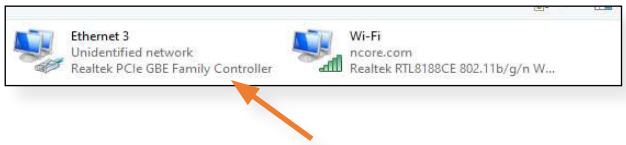
1. Go to the settings menu and select Network & Internet.



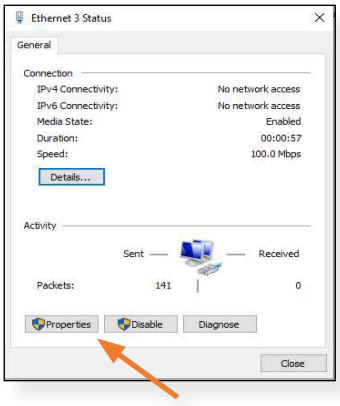
2. Select Ethernet.



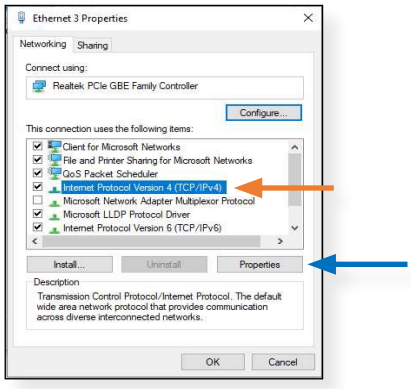
3. With the PLC connected select the Ethernet port that shows Unidentified network.



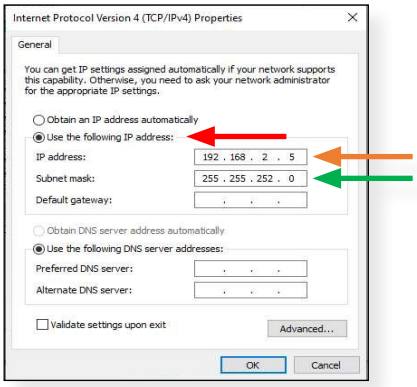
4. Select Properties.



5. Highlight Internet Protocol Version 4 (TCP/IPv4) (*Orange Arrow*) then select Properties (*Blue Arrow*).

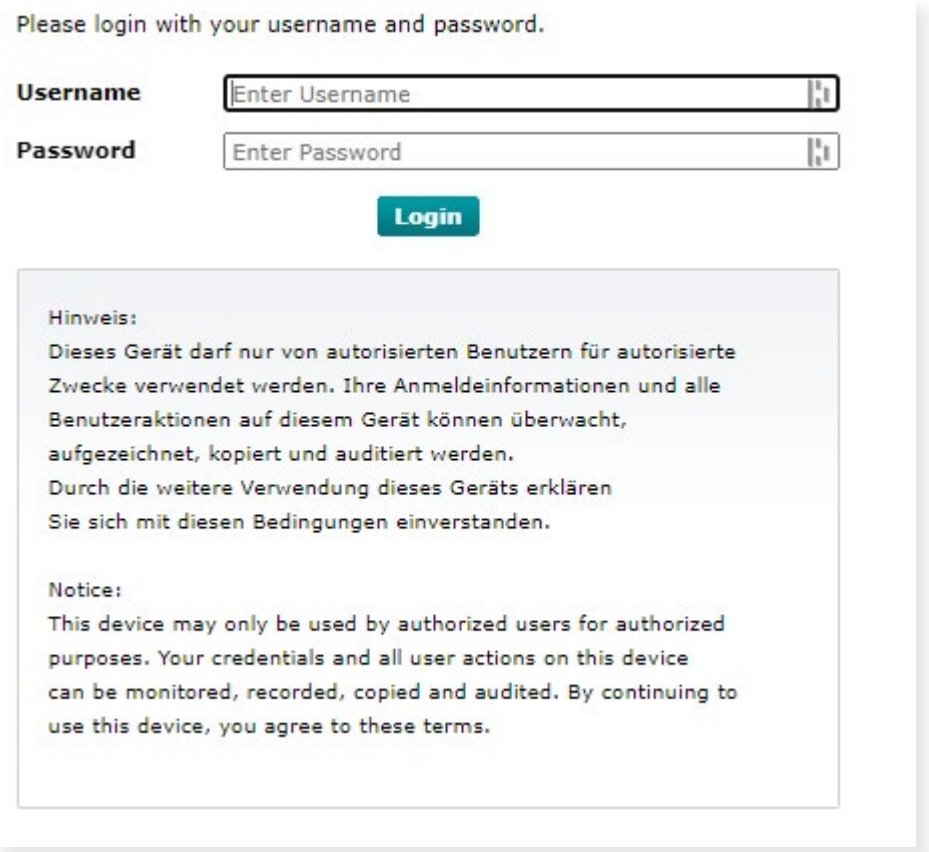


6. Select "Use the following IP address" (Red Arrow) and change the IP address (Orange Arrow) and Subnet mask (Green Arrow) to be on the same subnet as the labeled cabinet. Typically making the subnet the same as the IMS and the last digit of the IP address 1 higher or lower will work.



Network Management

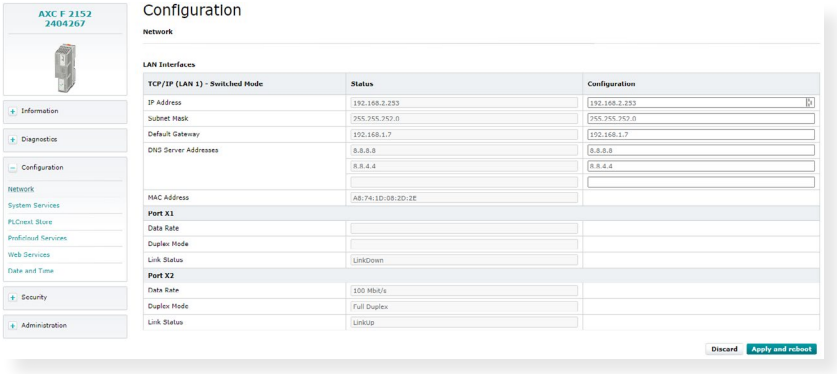
1. To change the network settings of the IMS, open a web browser to "http://<IP Address>/wbm" for example "http://192.168.2.253/wbm."



2. For the user name enter "admin."

3. The password is unique to each IMS and is printed on the front on the controller.

4. In the menu to the left, click Configuration and then network.



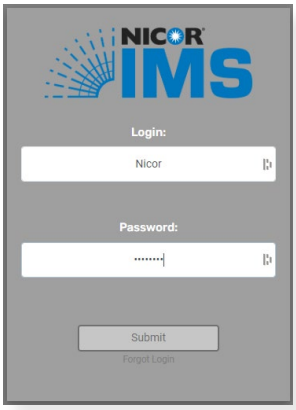
5. On this page the device's IP Address, Subnet Mask, Default Gateway and DNS settings can all be changed.

Initialization

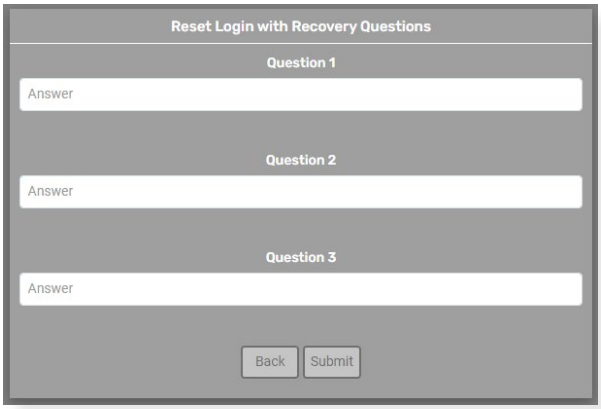
1. Connect a Cat6 Cable (not provided) from your computer to the port mounted to the LOTO shield inside the cabinet.

2. Open the IMS web page in your internet browser by entering the IMS's IP address followed by '/ims'.
The IMS web page is http://<IMS IP Address>/ims example: http://192.168.2.253/ims
Default address: 192.168.2.253

3. If it is the first time using the interface, press 'Submit.' If this is not your first time, enter your user name and password and click "Submit". If you have forgotten your login/password click "Forgot Login" and answer the recovery questions.

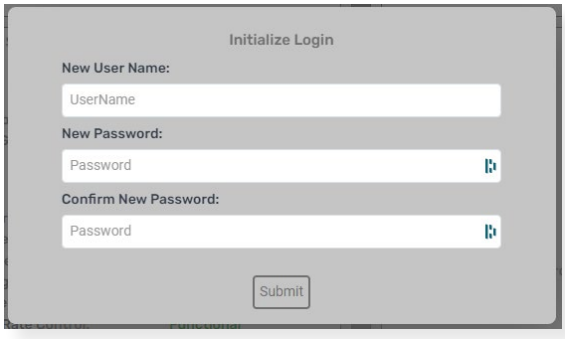


Login Window



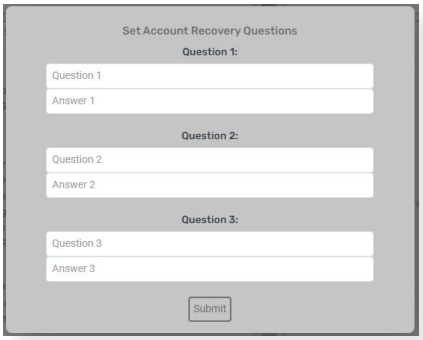
Login Recovery Window

4a. If this is the first time using the system, the system must be initialized. Use the installation wizard to initialize the IMS. Set a new user name and password, then 'Submit.'



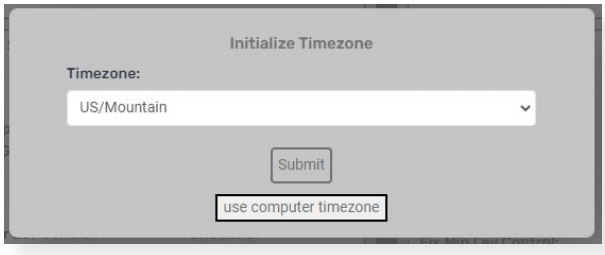
Initialize Login

4b. When setting up a new user account you will be prompted to set your Account Recovery Questions. After filling these out click "Submit."



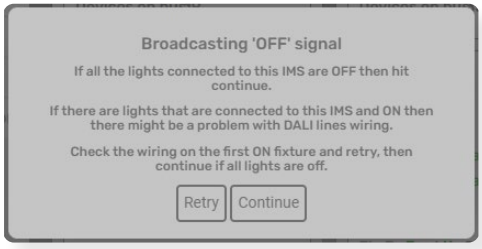
Recovery Question Window

5. Set the time zone manually, or select 'use computer time zone' to automatically generate this information.



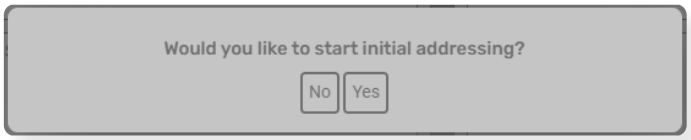
Initialize Date/Time

6 During system initialization if all fixtures are OFF press continue. If a fixture still remains on check the wiring connection of that fixture and then click retry.



Broadcast Signal Screen

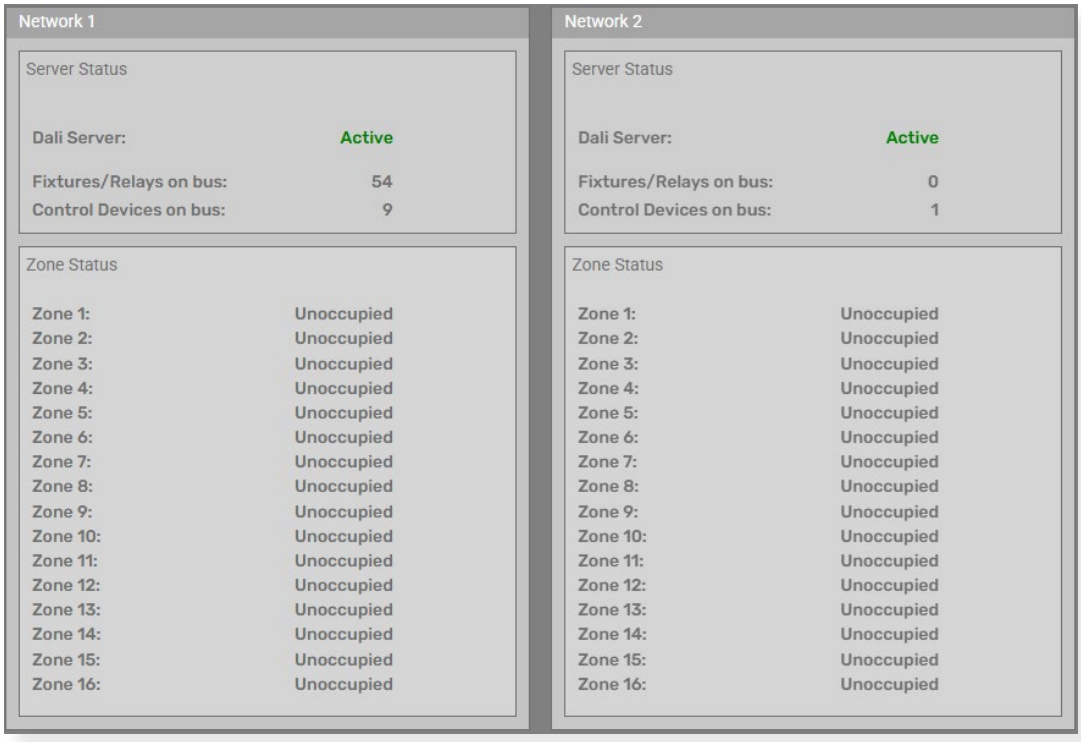
7 Start the initial addressing by selecting 'Yes.'



Initial Addressing

System Status

The system status page shows an overview of the system and zones. Displayed is the server status, number of devices on bus, and the state of each zone on the system.



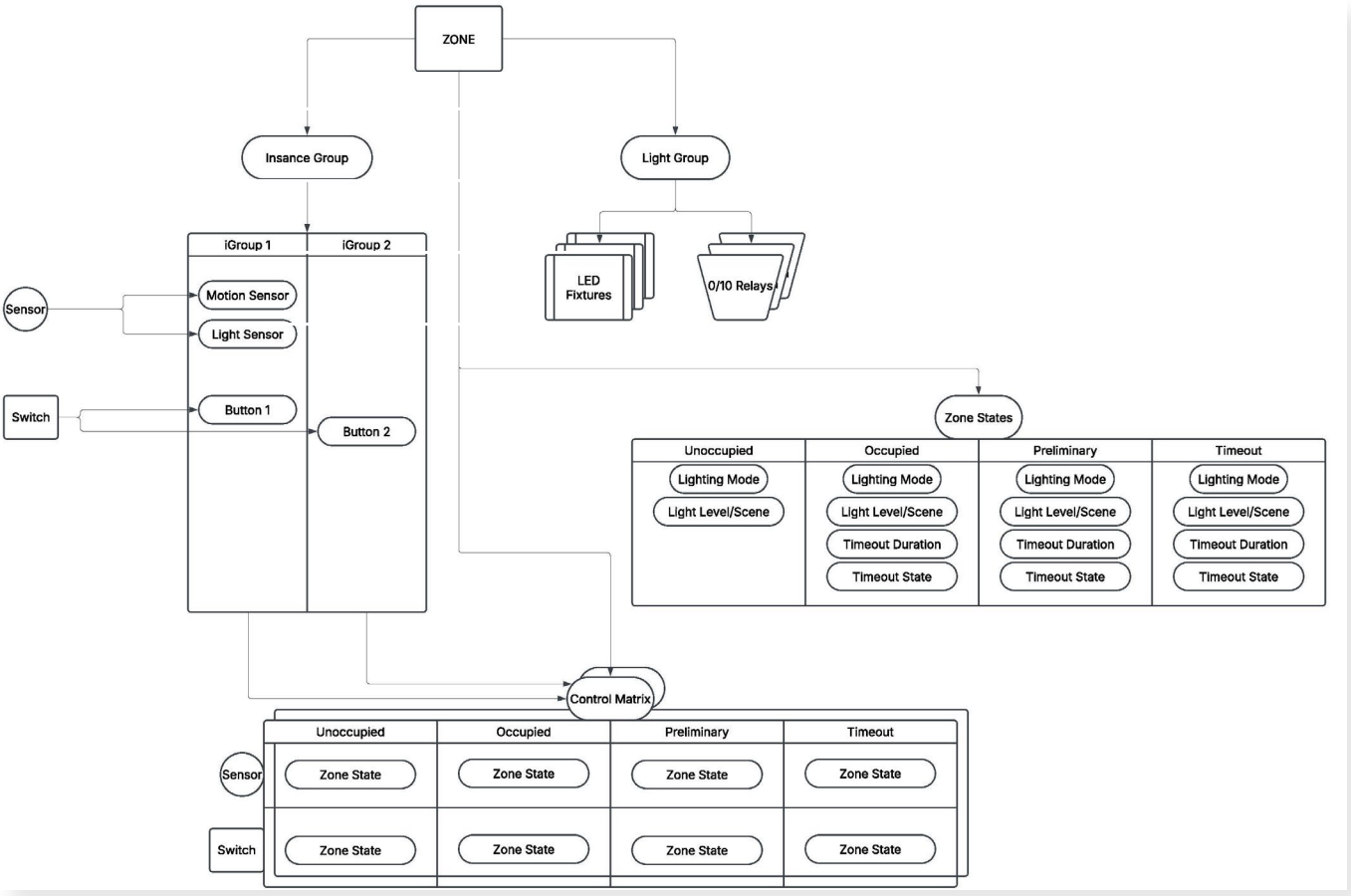
ZONE OVERVIEW

Zones are how the network of lights are divided up and controlled. Zones consist of several parts including groups of lights, zone states, groups of control device instances and control matrices. Using these components, an area and its behavior can be defined.

Zones consist of three main parts: A light group, zone states, and one or more instance groups with an associated control matrix.

- Light groups are automatically associated with the zone of the same number (i.e. lights in group 0 are automatically associated with zone 0).
- Zone behavior is managed through four different zone states which describe the Lighting Mode, Mode Level, Timeout Duration and State to Timeout to.
- A Control Matrix defines how inputs from an instance group should move the zone between states.

Structure:



Zone States:

Zone States define four different states the zone can be in and how the zone should operate in those states. Each zone state has the following attributes that can be adjusted:

- **Lighting Mode** - Fixed light level, Daylight harvest or Scene trigger
- **Mode Level** - 0-100%, Foot candle target, Scene number
- **Time-out Duration** - No time out - 1 hour
- **Time-out To** - Zone state to go to after time out

While the Zone States are flexible, they generally are setup to be following:

- **Unoccupied** - General OFF state
- **Preliminary** - Warm-up state for areas that don't always need to be fully on
- **Occupied** - General ON state
- **Time out** - Warning state that zone in about to be Unoccupied

Control Matrix:

The **Control Matrix** defines how the zone should react to control device inputs.

Individual parts (or instances) of control devices, i.e. a button on a wall panel or the motion detector on a sensor, can be grouped into an **Instance Group**.

An instance Group can be added to a Zone and will have an associated Control Matrix with it.

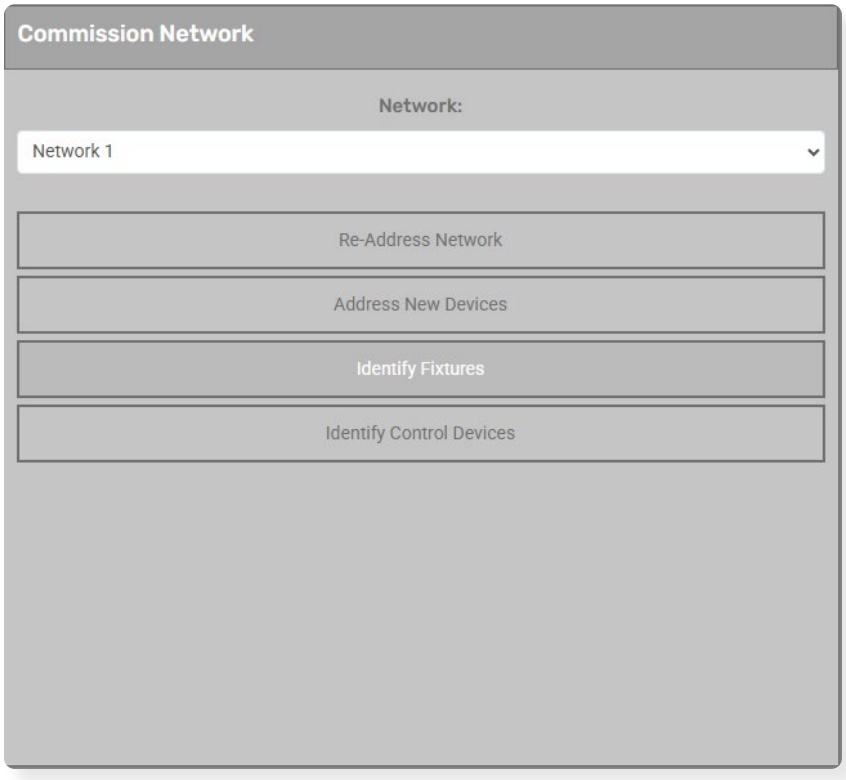
Using the trigging event on the Y-Axis and Zone State on the X-Axis you can define how the Zone should logically operate, i.e. IF the Zone is in State X AND event Y happens in this Instance Group, move the Zone to State Z.

	Unoccupied	Occupied	Preliminary	Time out
Button Push	Occupied	Unoccupied	No Action	No Action
Motion	Occupied	Occupied	No Action	No Action
Dim Direction	Brighter	Dimmer	No Action	No Action

In the above example, any button in this instance group will function as a toggle switch for the zone it is added to while the motion sensor will keep the zone in the Occupied state when triggered.

Commission

The commission section allows the addressing of new/all Fixtures and Control Devices and the ability to identify fixtures/devices on the selected network.



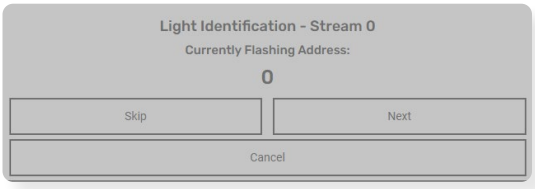
1. Select the Network that will be affected from the drop down.

2. Re-Address Network will give a new random address to every fixture and control device on the selected network.

***Note**: If an MCU is connected to the system, readdressing WILL cause the MCU to not function properly until it is recommissioned. A warning message will pop up before readdressing if an MCU has been connected in the past 5 days.*

3. Address new devices will give an address to any fixture or control device connected to the selected network that does not have an address.

4. Identify fixtures will flash each fixture in succession. **"Skip"** adds the current address to the end of the list and proceeds to the next address.

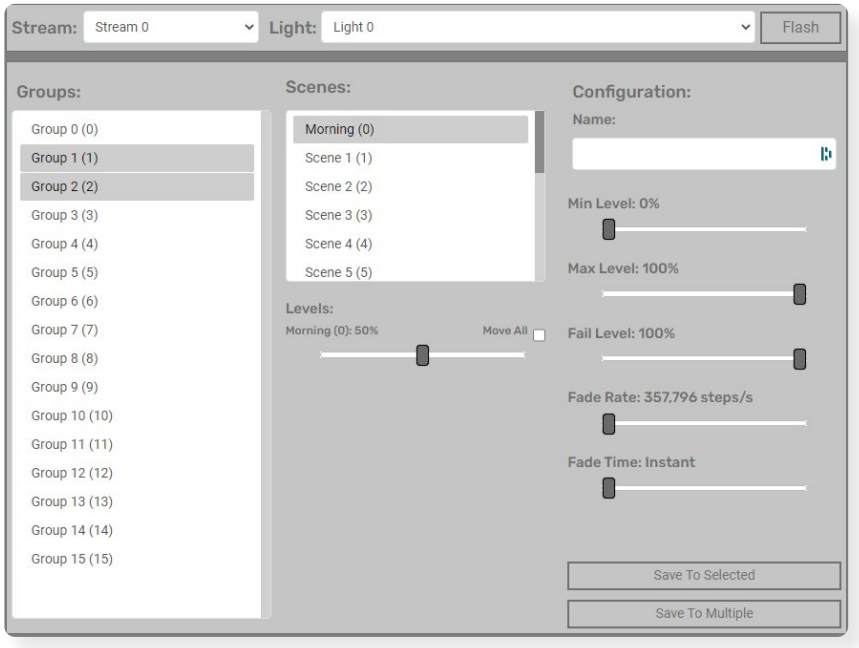


"Next" discards the current address from the list and proceeds to the next address.

"Cancel" ends the identification process.

Light Configuration

1. Light Configuration allows you to change all settings of a fixture.



2. Start by selecting the stream and light to change the setting, clicking the flash button to verify the correct fixture is selected.

3. The selected light's grouping and scene settings can be changed in the left and middle columns.

4. The right column can be used to change the light's name, minimum light level, maximum light level, system failure(Emergency) light level, Fade rate and fade time.

5. "Save to Selected" will save the changes to the fixture selected at the top.

Controls Configuration

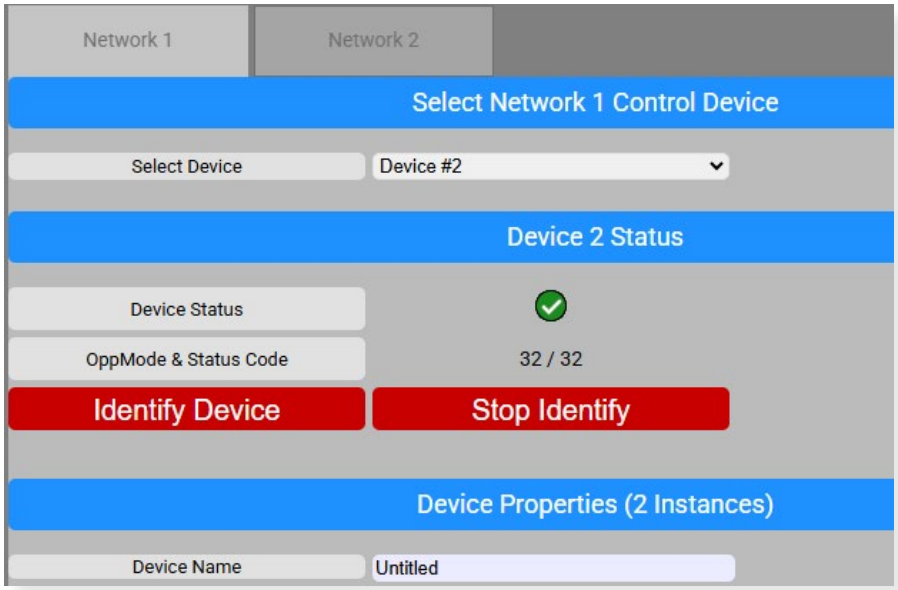
The Controls Configuration section allows editing of all settings on a control device connected to the system.
(Note: All control device settings are set automatically during addressing or are changed in the Instance Grouping section. Changing device settings here can cause the system to not function as expected.)

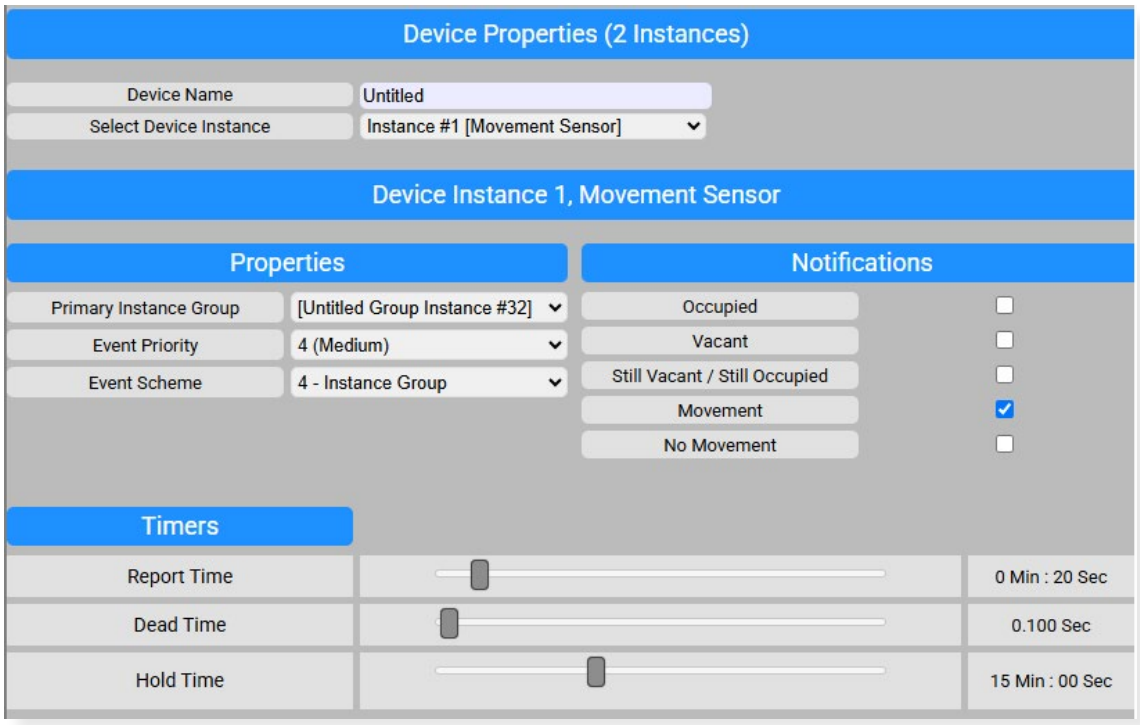
- Select a device from the dropdown to view its status, operation and status code, identify the device and set the device's name.

- The Identify Device button will cause the selected device to flash or play a tone so it can be located physically.

- All instances on the device will be shown in the Device Instance drop down.

- Selecting an instance will show all editable settings for that instance type.





Properties Of All Instance Types:

- **Primary Instance Group:** Group designation for individual instance
- **Event Priority:** Priority for event messages set by this instance
- **Event Scheme:** How event messages are reported
- **Notifications:** Messages that will be sent by the instance

(Note: Button and motion sensor instances must have an instance group and have their event scheme set to "Instance Group". Photosensors must have an instance group and have their event scheme set to "Device")

(Note: Event scheme can only be set to "Instance Group" if the primary instance group is already assigned.)

Movement Sensors Properties:

- **Report Time:** Time after event that "repeat" event becomes enabled
- **Dead time:** Time between notification events
- **Hold Time:** Hold time of an occupancy sensor after presence detection

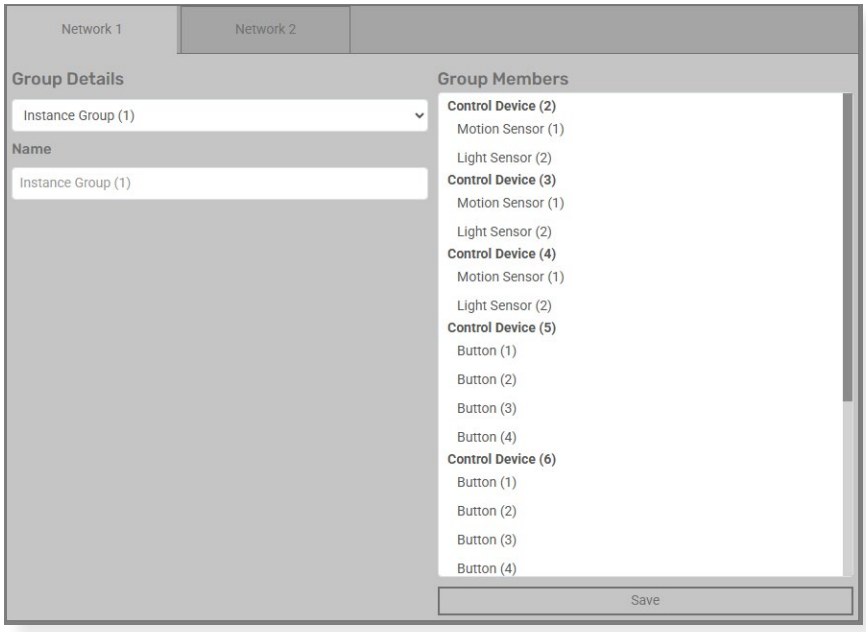
Photosensors Properties:

- **Report Time:** Time in between light level reports if level is unchanged
- **Dead time:** Time between notification events
- **Hysteresis:** Indicates a percentage value of the margin around a measured light level
- **Hysteresis Min:** Prevents large fluctuations in the illumination at low illuminance

Instance Grouping

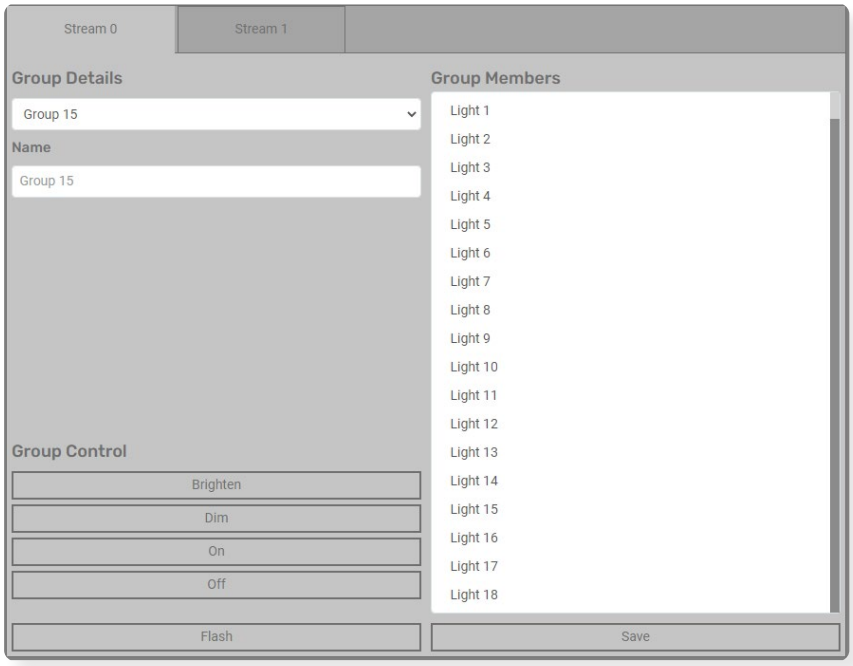
The Instance grouping section allows control device instances (i.e. a single button, motion sensor or photosensor) to be grouped together.

- Instance groups can be added to zones in the "Zones" section
- Device names and addresses are listed as headings in bold while individual instances are listed below
- Multiple consecutive instances can be selected by clicking first instance and holding SHIFT while clicking the last instance
- Multiple non-consecutive instances can be selected by holding CTRL and clicking on individual instances
- The list of selected instances and instance group name can be saved by hitting the save button at the bottom of the page



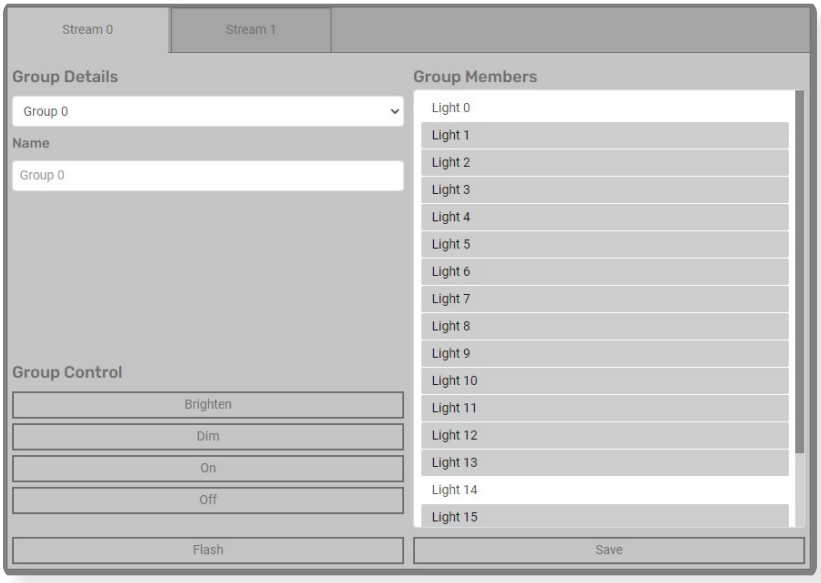
Grouping

1. Groups of lights can be made in the Create/Modify Groups section. Select the network, “Network 1” or Network 2”, that you would like to configure into groups. There are 16 groups available per network to modify. To select a group, use the GROUP: “dropdown”. Groups of lights are automatically synced with the zone that has the same address. (i.e. Lights in group 15 are automatically a part of zone 15)



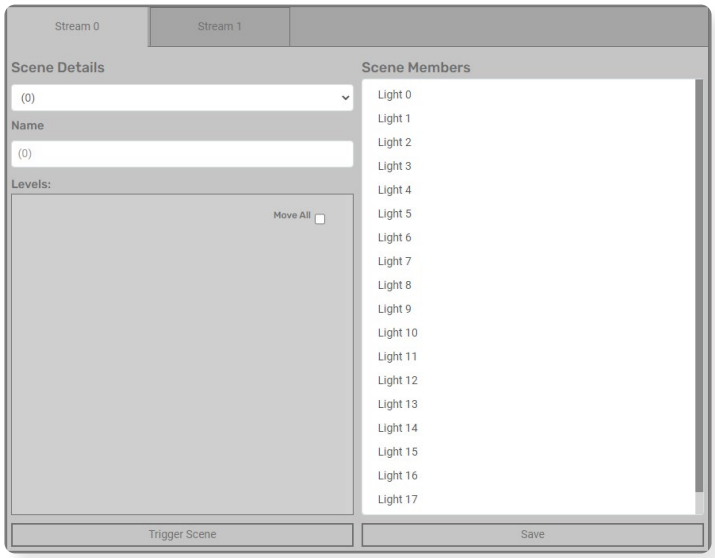
Select the Group to be Modified

2. Add specific lights to the group by using a single-click on the lights name, ex “Light 3,” this light will then be highlighted in the list. To select multiple consecutive lights, hold SHIFT and select the first and last light of the group you would like to select. To select multiple individual lights, hold CTRL when selecting the lights. To remove a light from the group, hold CTRL and click on the lights name. Once the appropriate lights have been added to the group, click save to set the group.



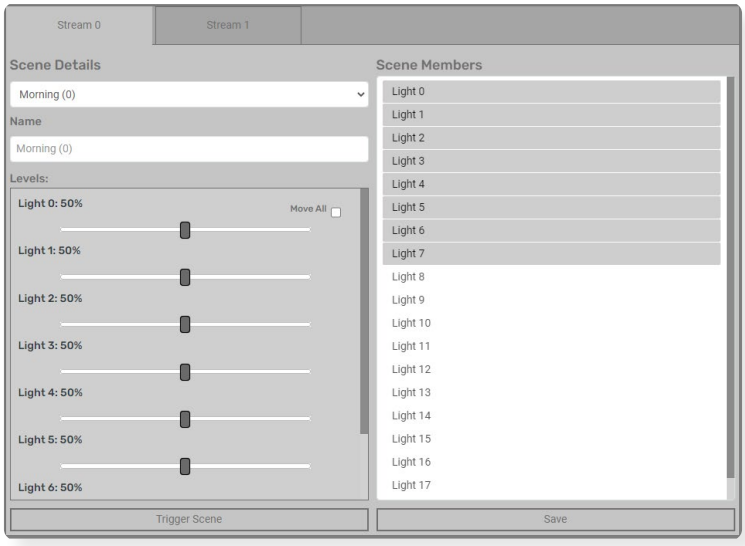
Scenes

1. Scenes allow you to set multiple lights to specific, individual levels all at once. There are 16 scenes that can be modified.



Scene Selection Before Modification

2. The Scene Title, Member Fixtures, and Lighting Level can all be adjusted when editing a scene. To select multiple lights in a scene, hold CTRL and click on the desired lights. To adjust the dimming (lighting level) use the slider for a given fixture in the 'Levels' drop down. Check the "Move All" box to move all of the sliders at the same time. Click 'Save Changes' when you are done adjusting the scene.

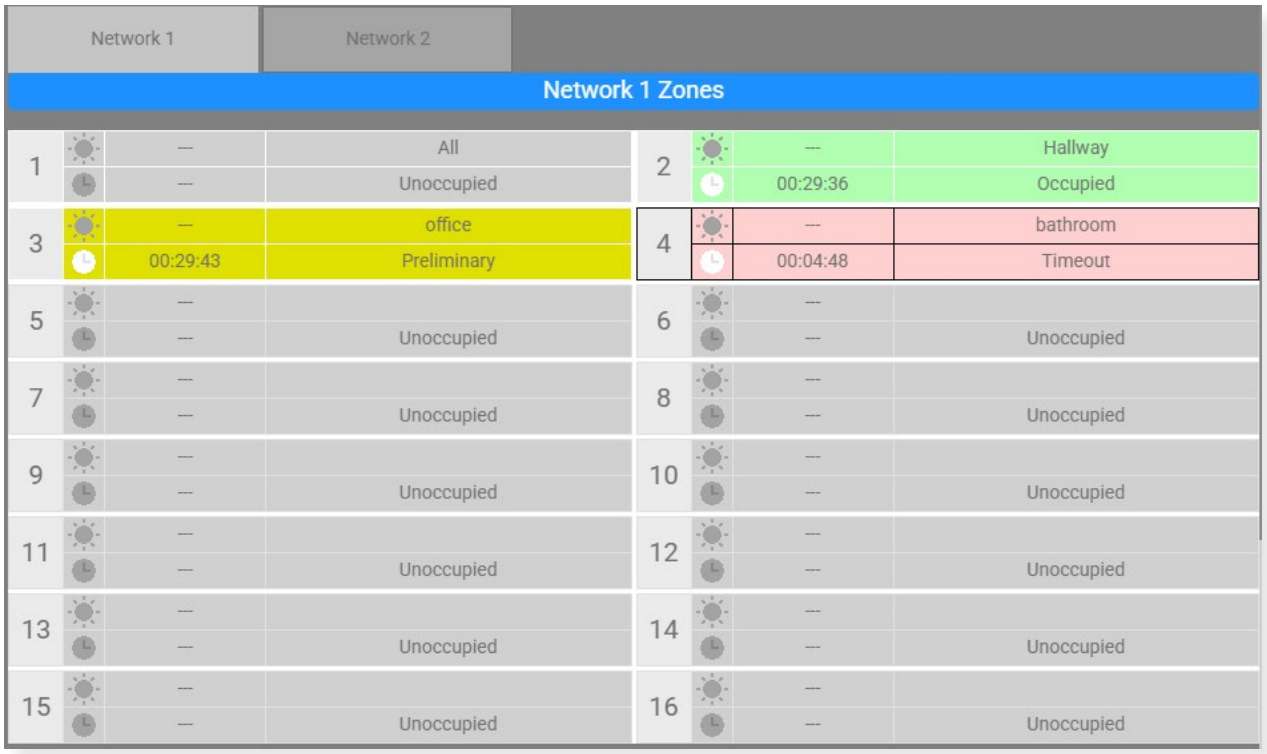


Example Scene 0: Lights 0 through 7 are selected and set to a light value of 50%

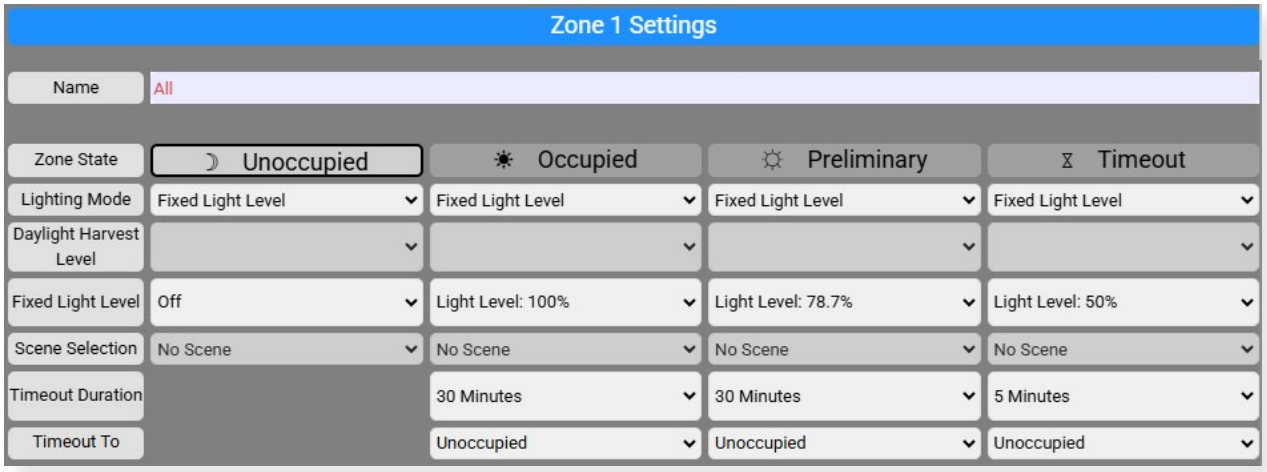
Zones

- The Zones section allows editing of zone settings and behavior
  (Note: Zones are automatically linked to Light Groups of the same address)

- Each zone is displayed in a compact form showing their address, light level, name, timer, and current zone state.



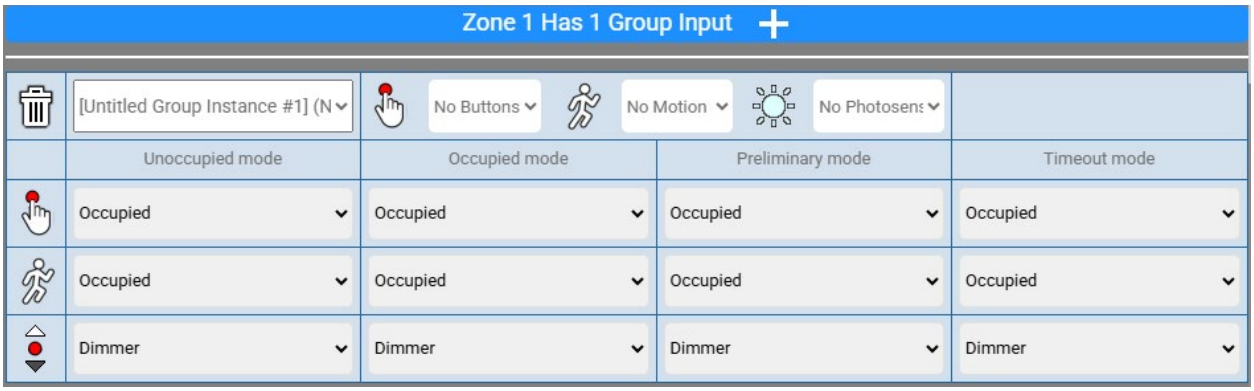
- Clicking a zone will show the editable settings for each zone state



- Clicking a zone will show the editable settings for each zone state

  - **Lighting Mode:** How the zone responds when entering the state. (i.e. Fixed light level, Daylight Harvest, Scene Trigger)
  - **Daylight Harvest Level:** Foot candle level that the zone will try to stay at if applicable
  - **Fixed Light Level:** Light level zone triggered if applicable
  - **Scene Selection:** Scene to be triggered if applicable
  - **Timeout Duration:** How long the zone will remain in that state without input
  - **Timeout To:** State the zone will transition to after Timeout Duration

- Transitioning between states is handled by adding Group Inputs to the zone and setting up the control matrix
- Group Input can be added by clicking the '+' icon at the top of the Group Inputs heading
- Multiple group inputs can be added to a zone



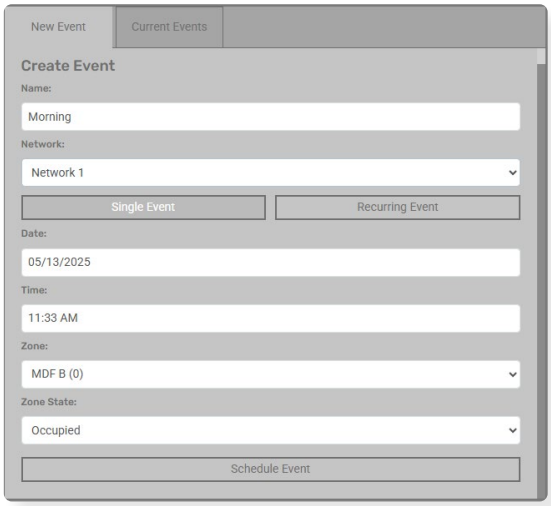
- The top left drop-down specifies which Instance Group the control matrix references
- The dropdowns along the top show how many instances of each type are in the selected Instance Group and the device they belong to
- The control matrix describes how the zone responds to different control device events.
- The vertical axis represents the four different Zone States while the horizontal axis represents different input events (i.e. Button push, Movement, and button hold)
- The dropdown selectors in the matrix represent which state the zone should MOVE TO when IN the vertical axis state, AND the input event happens.
  (Note: Setting a zone state to the same as the vertical axis will refresh the Timeout timer specified in the zone properties)
- Zone properties and Group Inputs can be saved by hitting the Apply Changes button at the bottom of the page.

Schedule

1. Events can either be created to be a single event or a recurring event. Select which zone and zone state you would like to trigger at the given time. Note that each event only controls one operation.

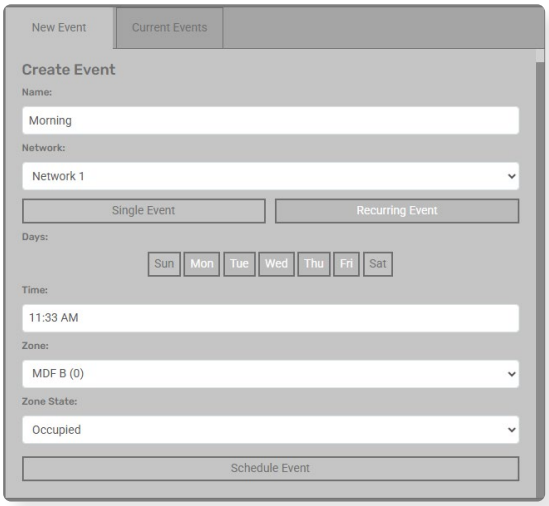
Note: For stand alone IMS systems, the scheduler will account for daylight savings time until the end of 2030. After, please contact NICOR for an update or make scheduling changes as necessary. Additionally, if the IMS is power-cycled the time zone data will have to be re-submitted in the System Configuration menu.

Schedule Single Event



Single Event Example

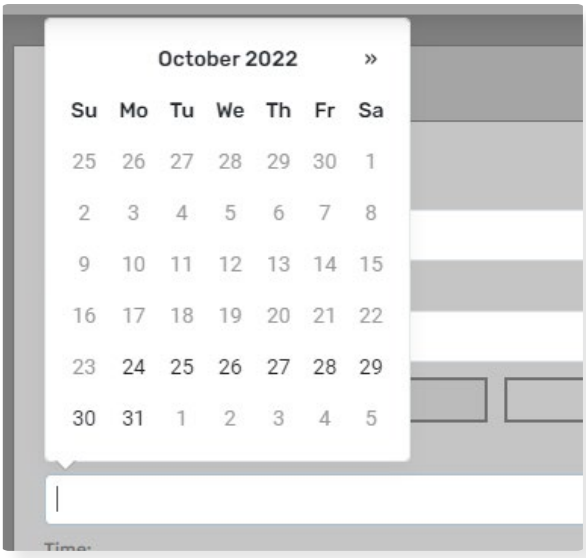
Schedule Recurring Event



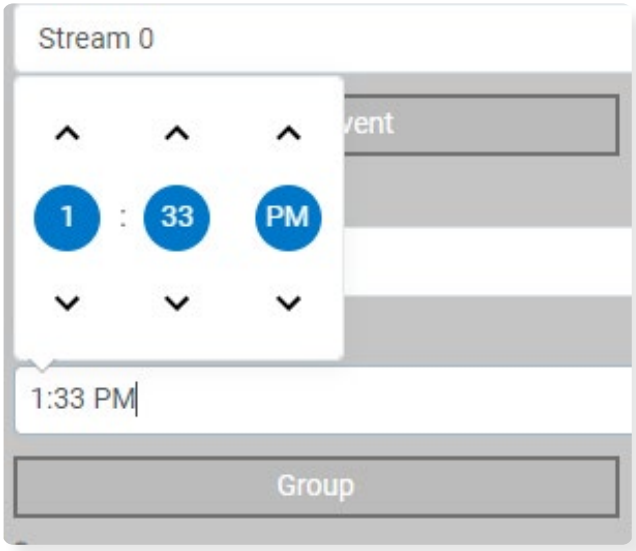
Recurring Event Example

Single Events

2. For the single events, click on the date to have the calendar pop-up to select the desired date. The time can be adjusted by clicking the time, this can be adjusted using the arrows or entering it in manually.



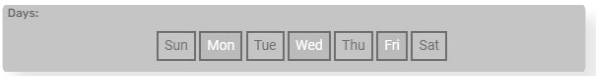
Single Event Date Selection



Single Event Time Selection

Schedule Recurring Event

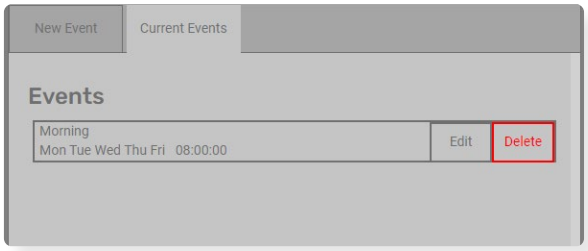
3 The recurring events can be set by selecting the days of the week that you would like the event to occur on. In the figure below Monday, Wednesday, and Friday are selected. The time can be adjusted using the arrows or entering it in manually.



Recurring Event Day Selection Example: Dark filled with white text are Selected Days

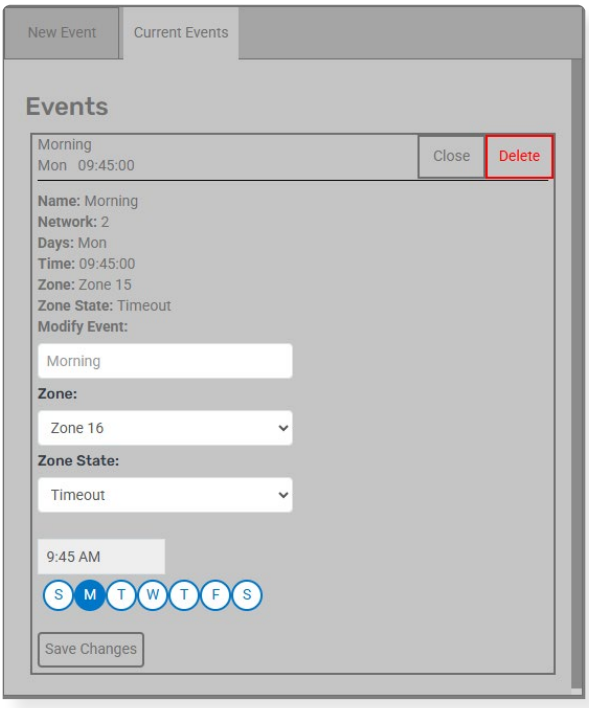
Events

1 The events that have been created can be viewed under the Current Events tab. Events can either be edited or deleted.



Events Section

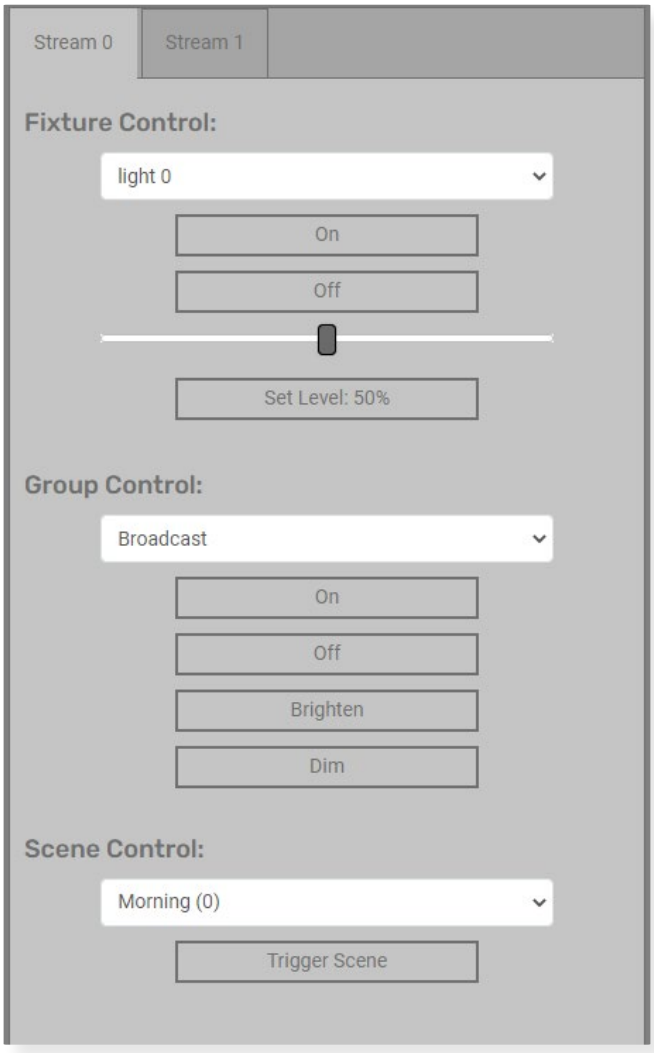
2 The event name, zone, zone state, date, time can be configured when editing the events.



Edit View of Events Example

Instant Control

Groups, scenes and fixtures can be manually controlled using the Instant Control. The Broadcast group consists of all the lights in the stream. The lights can be turned on/off and the dimming can be adjusted. Dimming can be adjusted using the 'Up' and 'Down' buttons. Scenes can be triggered by selecting a scene and clicking 'Trigger Scene.'

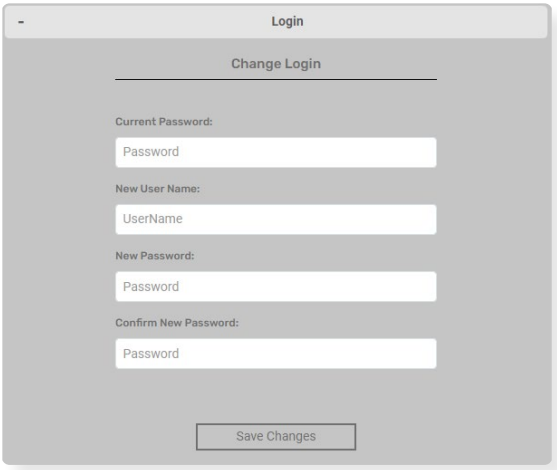


Group/Scene Control Section

System Configuration

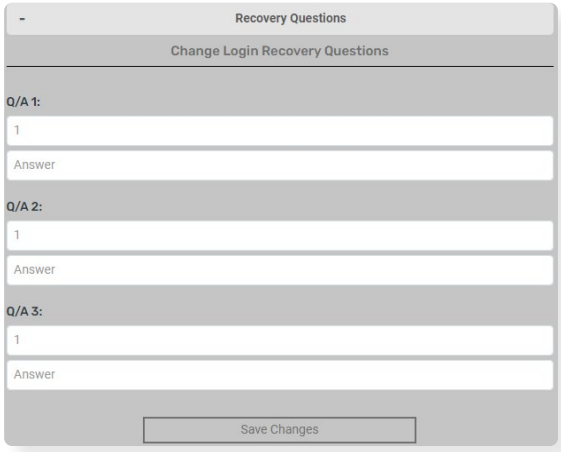
Changing Login Username and Password

To change the login user name and password click “Login” in the System Configuration section. You must know the current password to change the login information. You may enter the same user name if you only wish to change the password. After updating the login information press save, do not refresh the page.



Recovery Questions

The recovery questions section can be used to set the recovery questions in the event the password is forgotten.

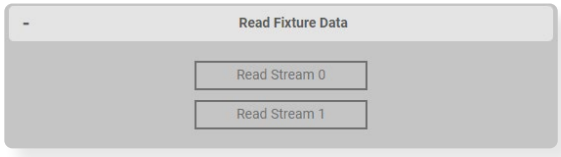


Reset System

Soft Reset: Clears all data on the DALI bus. Use if the system/controls are not responding.
Hard reset: Resets the IMS back to factory default. Will require re-initialization.

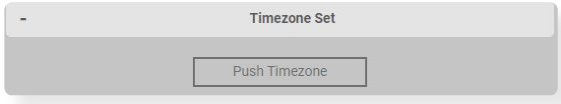
Read Fixture Data

Read fixture data will trigger the server to re-read all settings for currently connected fixtures. Click the button for whichever stream you would like to re-read and after a short period the page will automatically refresh and begin reading all fixture data.



Time zone Set

In the event that the IMS is power cycled after commissioning the time zone data may need to be reset in order for the scheduling feature to work as expected.



IMS Commissioning Check List

- ☑ Check for any loose connections.
- ☑ Check communication lines for dead shorts.
- ☑ Check communication lines for resistive shorts this reading should be > 1MΩ.
- ☑ Power on cabinet.
- ☑ Check all fixtures to ensure that all have powered on (Fix connection if fixture has not turned on).
- ☑ Connect PC or tablet to the RJ45 jack mounted to the LOTO shield inside the cabinet.
- ☑ Follow commissioning guide to setup system.

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