Xi-Fi Wireless Control Application

Xi-Fi User Guide

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Introduction

Welcome to the Xi-Fi control application for the Xeleum Xi-Fi lighting system.
This application will allow you to do the following

- Discover and Identify fixtures on the Xi-Fi network
- Create and organize occupancy trigger groups
- Change the following features for a group of fixtures
    - Occupied Brightness Level
    - Unoccupied Brightness Level
    - Transition time between Occupied and Unoccupied levels (Motion Timeout)

Getting Started

In order to start using the Xi-Fi control application you will need the following

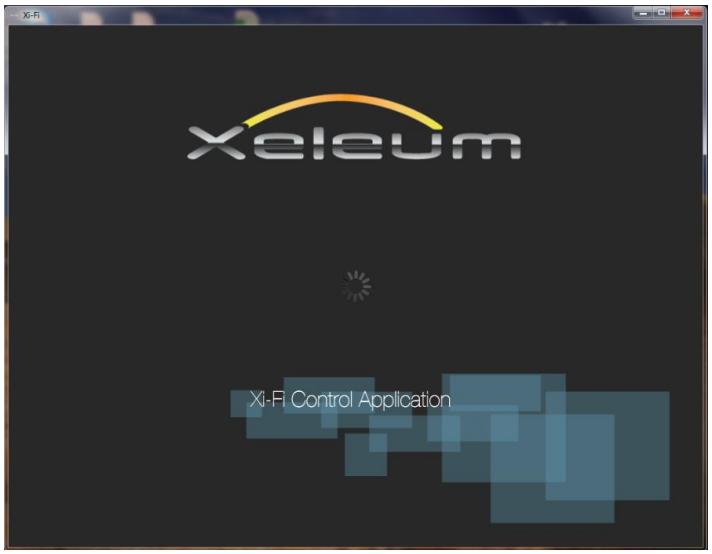
- MacOS or Windows compatible Laptop or Xeleum-approved Tablet*
- Xi-Fi Installation file package
    - Xi-Fi Application
    - Product Documentation

Contact a Xeleum Representative to receive your Xi-Fi download link by sending an e-mail to xifi@xeleum.com. You can also visit www.xeleum.com/xifi for more information.

**Windows Surface Pro, or tablet with true Windows OS. Android currently unavailable. Contact Xeleum if unsure.*

Application Start

Double-click the Xi-Fi App Icon to run the program.



Once the application has loaded you will be presented with the following page. Here is where you can choose to load a previously configured site plan or start a new one

If this is the first time running the Xi-Fi control application, select “New Site Plan” to move to the Fixture discovery process.

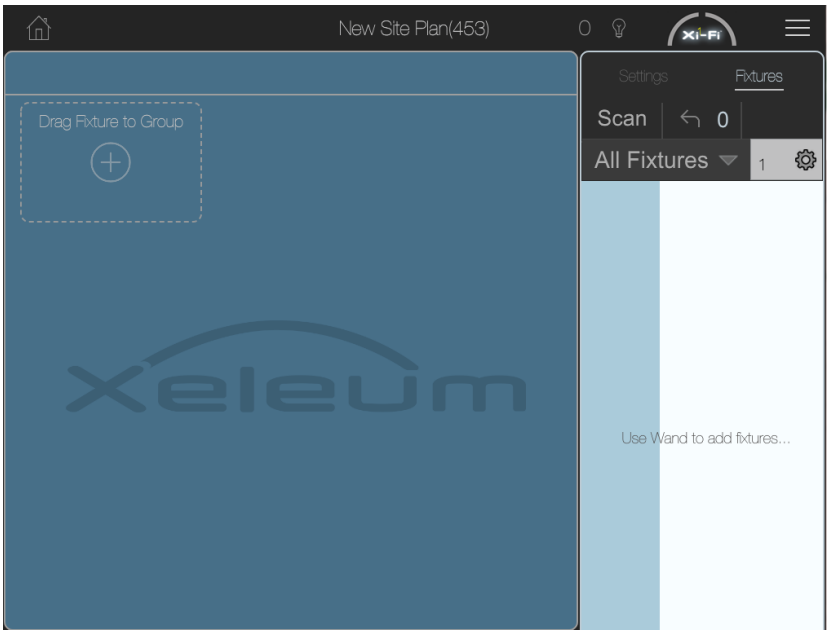
You should name your site by clicking on the default name and entering a new name via the keyboard.

The name you enter will be automatically stored by the App. It will be the name you need to select when you come back to the App later and go through the "Load Site Plan" option.

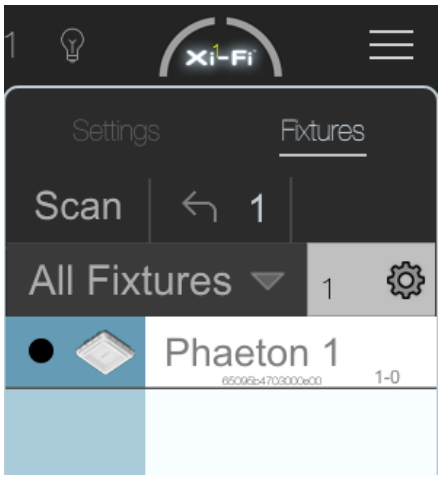
Tip: Use a name that is simple, but descriptive. Names cannot be duplicated. Also, if you have multiple buildings, parking garages, etc. it is recommended that you use at least 1 site plan per building. If you're doing stairwells, 1 site plan per stairwell is recommended.

Fixture Scanning and Discovery

Here is where you will begin to add Xeleum fixtures to the Discovery List…

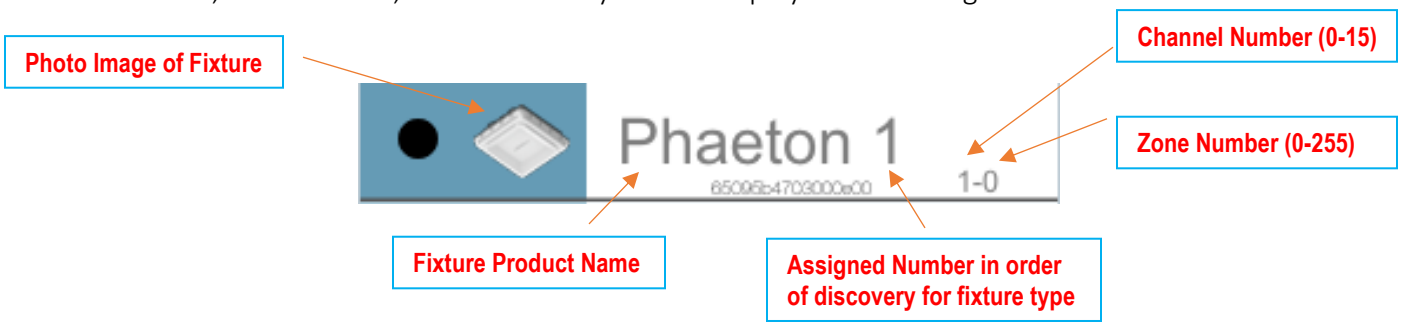


You'll notice the instruction "Use Wand to add fixtures…" in the Discovery List on the right side of the screen.



Add more fixtures by repeating the process of pointing and clicking the Xi-Fi Remote (Wand) at them.

Each item, or fixture tile, in the discovery list will display the following information…



Tip: We recommend only discovering the fixtures in the immediate zone of fixtures you are occupying – follow the next section on 'Zone Creation' to learn how to do this – When all fixtures in the zone you are occupying have been discovered and synchronized, move to the next zone and discover those fixtures.

Click Tile to ID Fixture

Every time a fixture tile in the discovery list is clicked, the Xi-Fi app will send a message causing that specific fixture to flash*, making it possible to visually identify the exact fixture you wish to address. Do this to confirm each fixture before adding it to the group you wish to assign, this will ensure group creation accuracy. You will have to visually locate these flashing fixtures at your site so it is best to perform this procedure from a good vantage point.

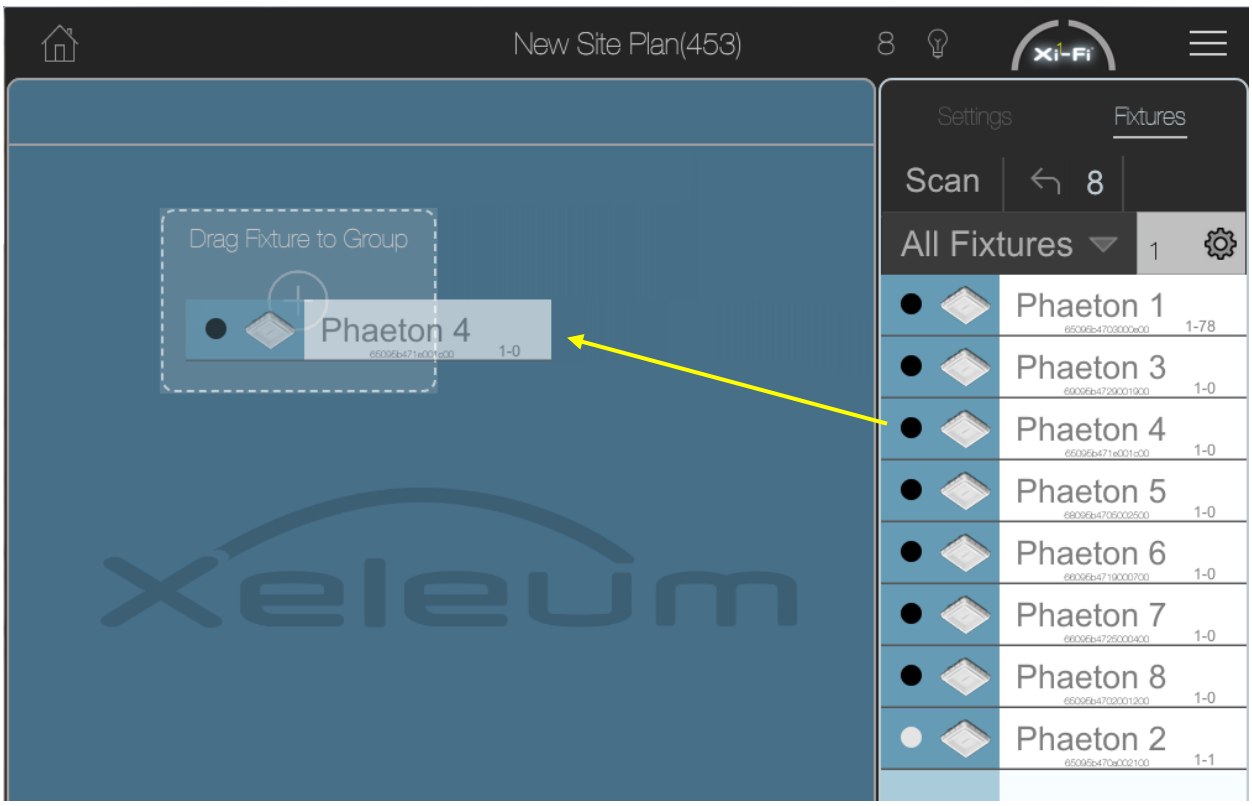
**Some fixtures will only flash their bright blue indicator light in response*

Zone Creation and Management

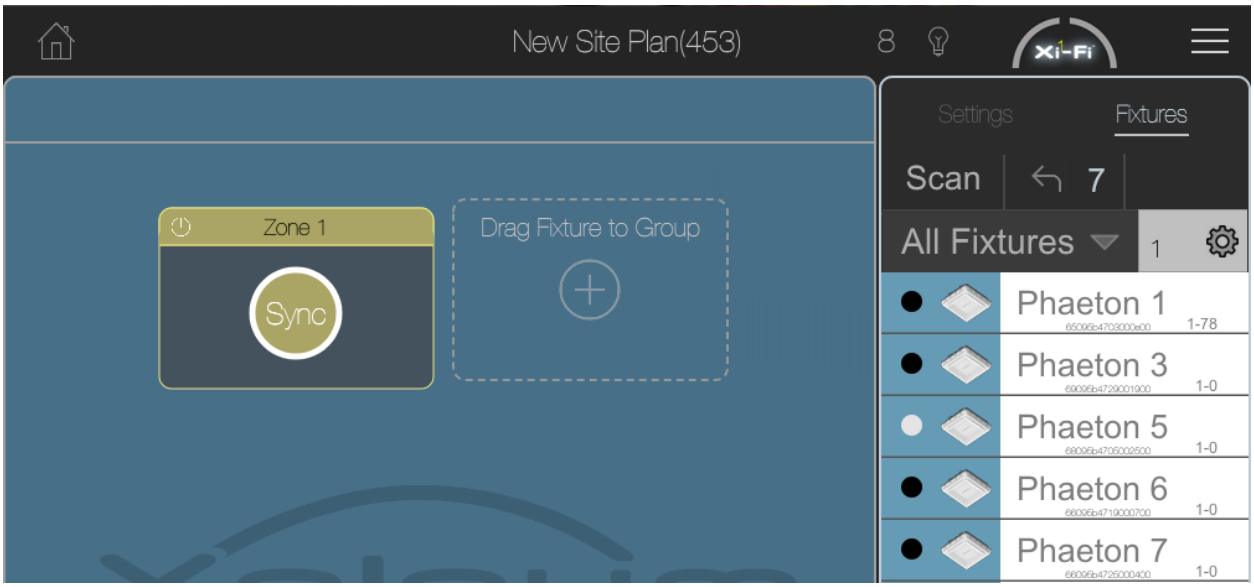
Creating a zone (*a.k.a. group*) will allow all fixtures within it to react immediately to a motion event detected by any single fixture assigned to that zone. All fixtures assigned can also have their brightness levels, timing, and other parameters adjusted then set for the whole zone. Zones are useful for synchronizing the functionality of a large set of fixtures at once.

Creating Zones

Drag and drop the desired fixture from the discovery list to a new box, or an already existing box in the main workspace.



When a fixture is dropped into a new box, that fixture is temporarily assigned a new zone number and default settings that will be confirmed when the user clicks “Sync”.



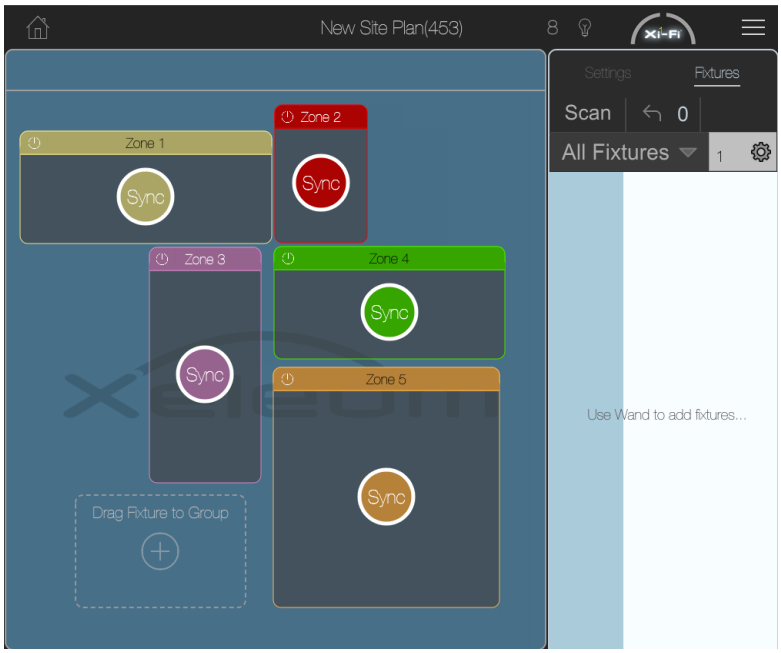
Continue to drop fixture tiles into boxes that represent your plan for zoning the site…

Use the Undo button if you drop a fixture into a group and you didn't mean to. The fixture tile will jump back out to the discovery list and you can add it to the group you meant to.

Arranging Zone Boxes in the Workspace

Your workspace should be arranged to mimic the floorplan of your site.

Each box, representing a zone, is movable and resize-able. Simply click and hold the interior of the box item, then drag to another position. Or click and hold one of the edges of the box and drag outward or inward to resize and make a shape more fitting to the site it represents.



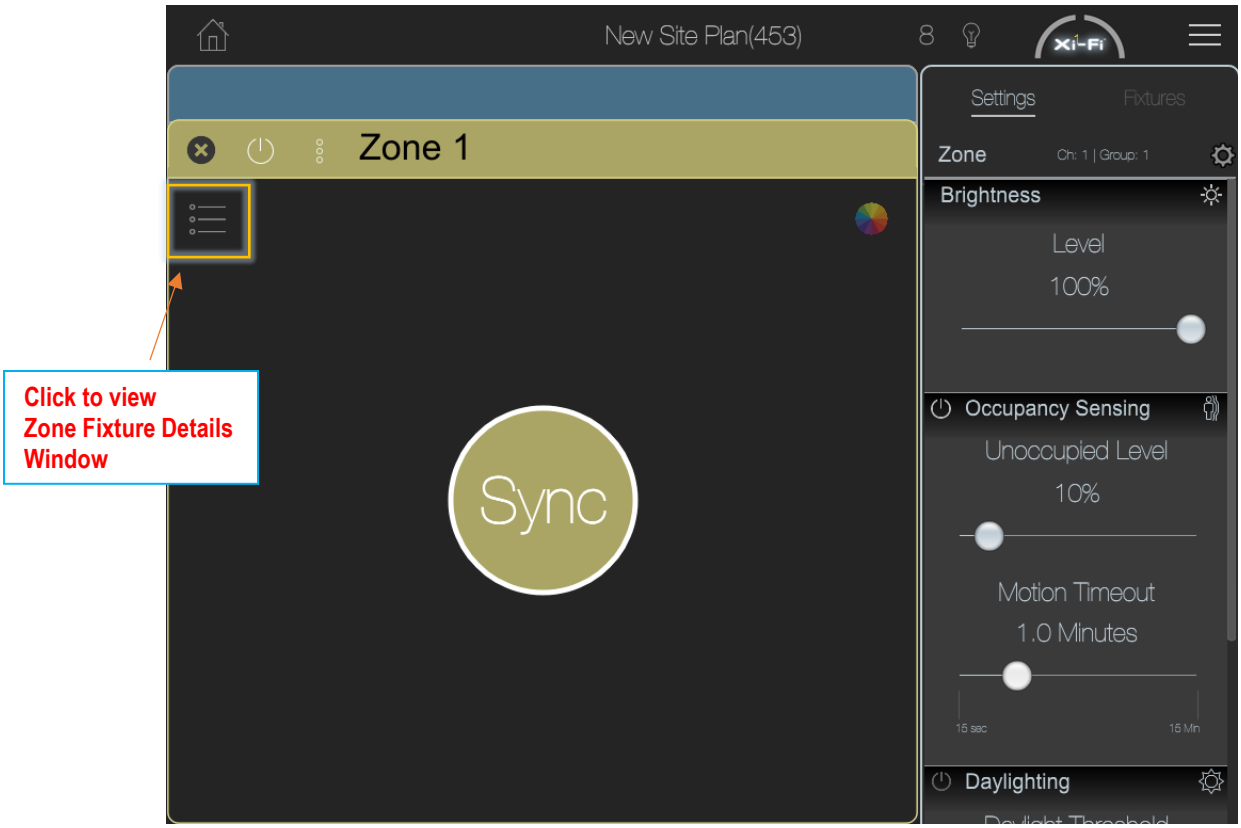
Zone Settings View

Click anywhere on one of the workspace boxes to enter that zone's panel of adjustable settings, known as the "Zone Settings View".

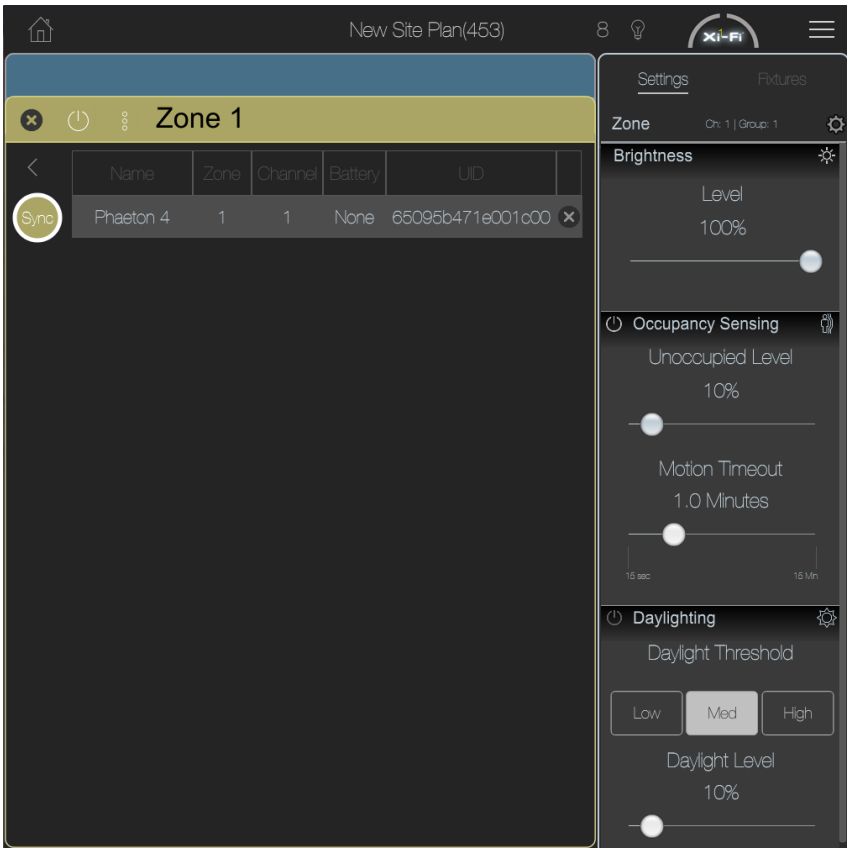
Once in Zone Settings View

- The Xi-Fi application focuses on the selected zone of fixtures
- The sidebar window will change to display the group's fixture setting control
- Click the Details icon in the upper left corner to view the list of fixtures in the group

Zone Settings View



Zone Fixture Details Window



Synchronizing the Zone

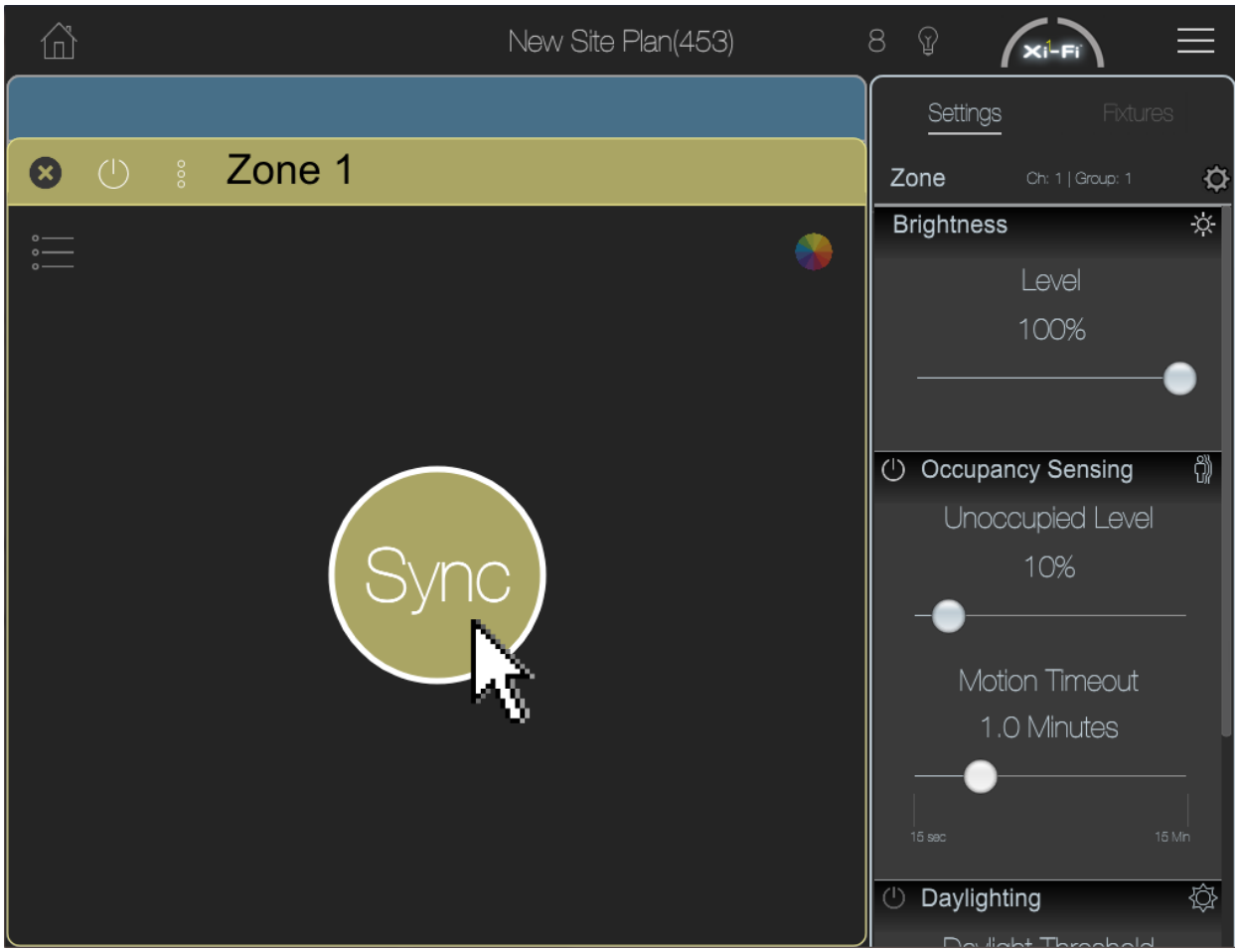
After dropping any fixture tile in a box, the center circle of the box will change color and show the word “Sync”. Clicking the Sync circle on the main workspace will only bring up the Zone Settings View as described in the previous section. You will have to click the Sync circle again in order for any settings to be transmitted to the fixtures of that zone.

You can click the “Sync” circle immediately to transmit default settings or adjust custom settings first and then click to transmit

After making any changes to the settings the fixture counter will change into a “Send” button.

By clicking Sync the following will happen:

- Changed Settings in the queue will start broadcasting over the network
- Send button now displays the fixture counter
- Fixture counter decrements as fixture acknowledge receiving all group settings
- Settings sidebar is disabled temporarily



You will see a comet animation spinning after the Sync circle is clicked. This indicates that the Application is communicating with the actual fixtures, changing settings, and receiving confirmations. The comet will disappear when complete. Time to completion is dependent on the number of operations in the queue to perform and the network size.

Note: Changes to settings do not affect fixtures in real time. The settings will need to be synchronized to the Xi-Fi network before changes can be seen in the fixtures.

Adjust Zone Settings

Located on the right side of the screen, the settings panel contains setting controls that will allow you to change the following parameters for all fixture that belong to the group…

Brightness

(a.*k.a. High-End Trim, or Occupied Brightness*) - A slider adjusts the brightness 'Level' that the fixture will output when group occupancy is detected or when 'Occupancy Sensing' is disabled. This adjustable 'Level' is expressed as a percentage of the fixture's maximum brightness output.

TIP: It is recommended that this brightness level be set to a higher level than the unoccupied brightness level.

Occupancy Sensing

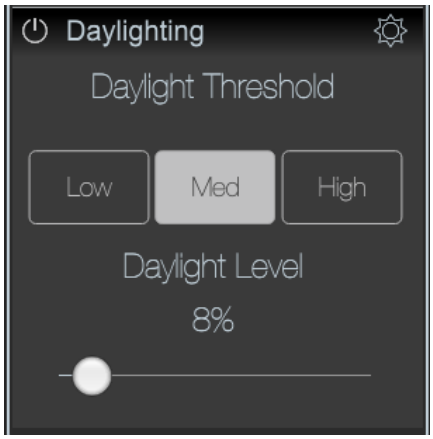
(*a.k.a. Motion Sensing*) – This feature is controlled by the occupancy, or motion, sensor that is integrated into the Xi-Fi enabled device. Occupancy sensing can be enabled or disabled by clicking the power symbol (⏻) next to the title of its subsection. Adjustable occupancy parameters include:

- **Unoccupied Level** – sets the brightness level of the grouped fixtures as a percentage of the fixture's maximum brightness output when no occupancy is detected
- **Motion Timeout** – sets the amount of time starting from the moment no occupancy is detected for the grouped fixtures to dim down to the Unoccupied Level.

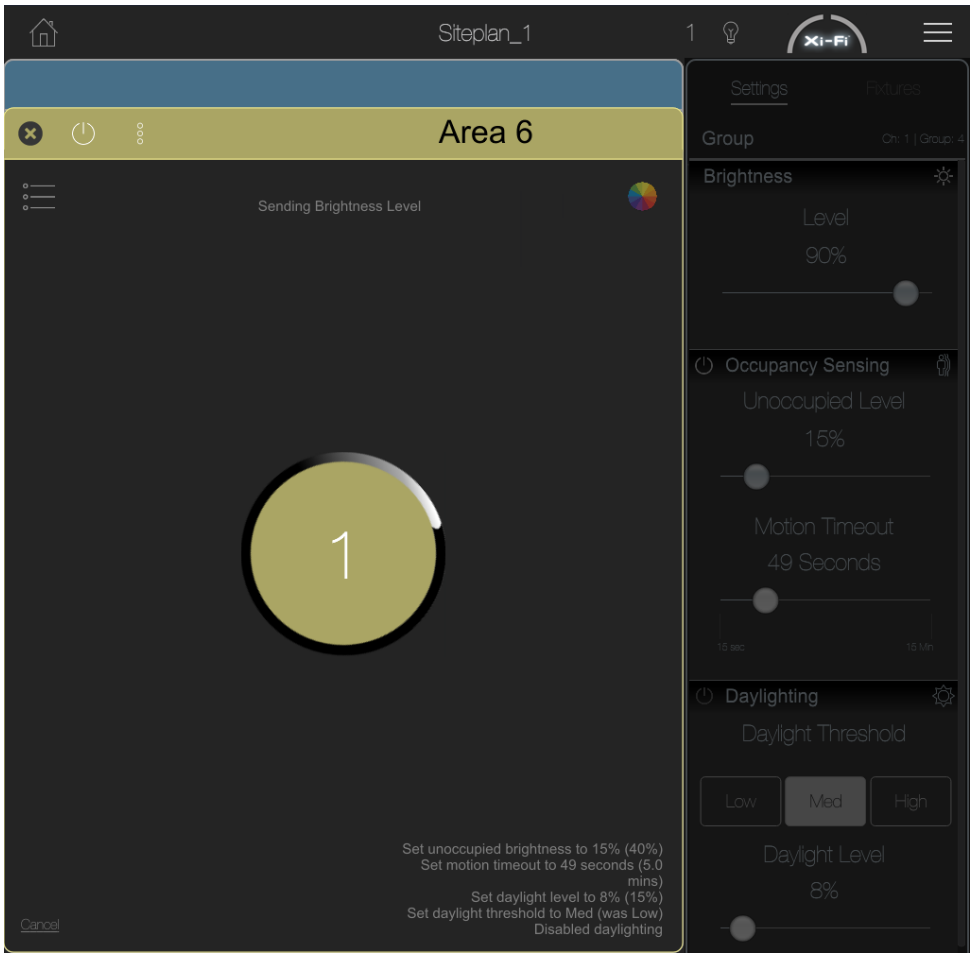
Daylighting

(a.*k.a. Ambient Daylight Sensing*) – This feature is controlled by the ambient light sensor that is integrated into select Xi-Fi enabled devices [see Xeleum product brochure…]. Daylight sensing can be enabled or disabled by clicking the power symbol (⏻) next to the title of its subsection. Response to ambient light levels is based on the individual fixture's reading, not the whole group, which is unlike the 'Occupancy Sensing' operation. However, the group of fixtures will share the same parameters set by the Xi-Fi App. Adjustable occupancy parameters include:

- **Daylight Threshold** – sets the ambient light threshold above which the fixture will transition to the 'Daylight Level'. Ambient light readings vary based on fixture mounting position and environment, so the Threshold is best set and fine-tuned in the field.
- **Daylight Level** – sets the brightness level of the fixture's light output after the ambient light level has surpassed the set threshold. Occupancy brightness levels will not apply when ambient light is over the 'Daylight Threshold'.



Once any setting has been changed, those values will be added to a queue of messages to be sent to the group, *notice the text in the bottom right of the following image*.



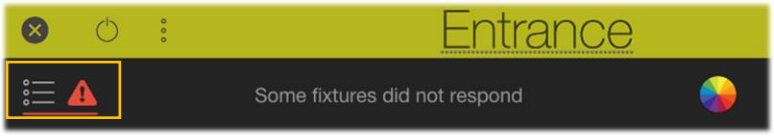
Once the fixture counter reaches 0, this indicates that the Xi-Fi application has finished sending messages to the group and will return to normal Group Edit Mode.

If there were no errors, then all fixtures in the group should have matching settings

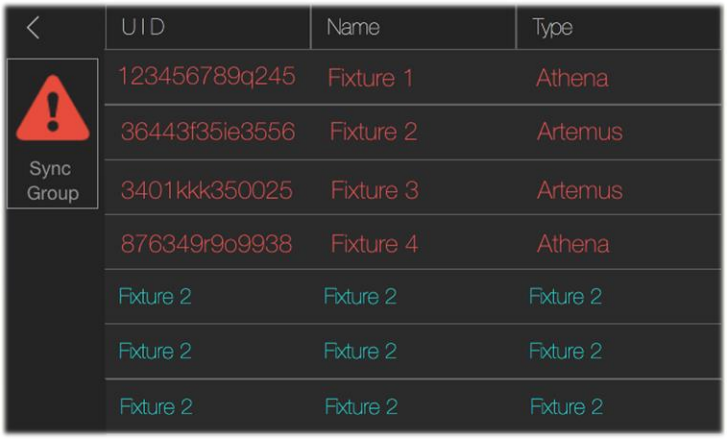
Error Handling

Sometimes not all fixtures in a zone will acknowledge they have received the new settings. The Xi-Fi app will attempt to resend the zone's setting, but after an amount of time if they still do not confirm, they will be placed in an error handling list.

If this happens, an alert icon will appear next to the list view icon in the group box. Alerting the user there are fixtures in the group that did not respond



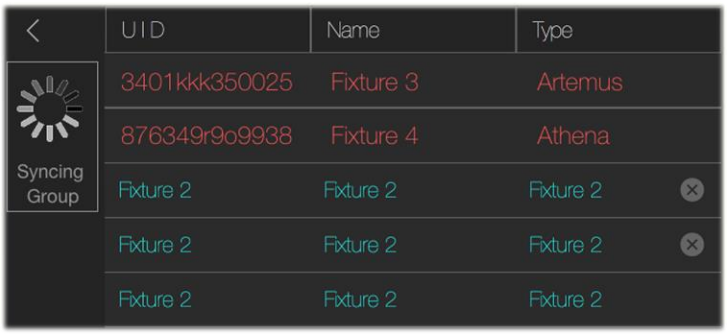
Click this icon to enter Fixture List View



Fixtures colored in red did not respond they had received setting messages on the network.

Click on the "Sync Group" icon to resend the zone's settings messaged to all non-responsive fixtures on the list.

As fixtures respond their color will change to normal on the list indicating the zone's settings have been received for that fixture.

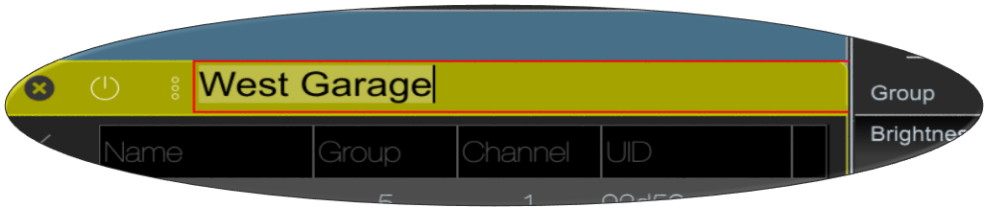


You can repeat this process until all fixtures are in sync with the zone.

Tip: In the case that a fixture continues to fail to respond, click the "X" button to remove it from the zone [See Section: "Remove Fixture From Zone"]. Then go back to the main list and try to re-add it to the same group. If this continues to fail then carry on and finish assigning all other fixtures, note the name of your siteplan, close the Xi-Fi App, re-open, and load the siteplan again. Re-discover fixtures in your area and drag/drop again. This should refresh communication.

Zone Management

Change Zone Name



Click anywhere on the zone's title bar to edit or replace the current zone name. Press enter or click outside of the name box to exit edit mode.

Tip: Use descriptive names so zones are obvious when you return to the site later.

Change Zone Box Color

New groups are assigned a random color when they are created. If you wish to customize a group's color, click on the color wheel icon to show the group color palate view. Select a color from those provided and the scheme will take immediate effect.

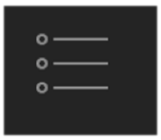
Toggle OFF/ON for all Fixtures in Zone

Click the Power Symbol (⏻) in the top left of the zone settings view. If illuminated, click to turn all fixtures in the zone OFF. If not illuminated, click to turn all fixtures in the zone ON.

Tip: You can use this function to check what fixtures are in a zone. Just be prepared for the darkness that will follow.

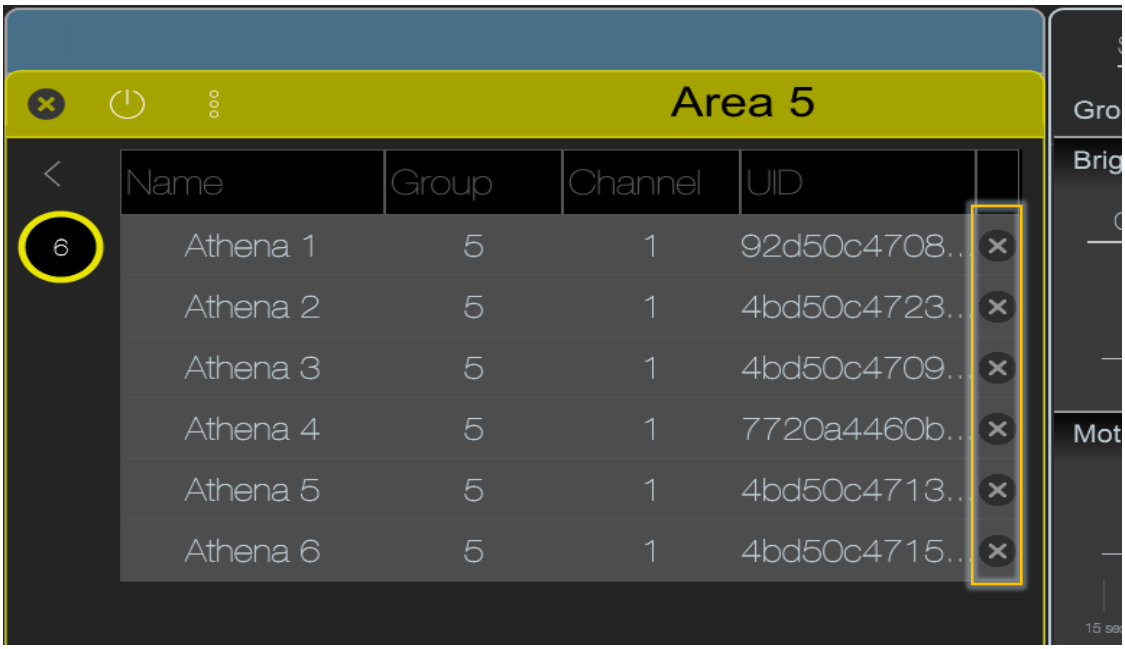
Remove Fixture from Zone

To remove a fixture that is currently in a group, click the Group Details View icon on the top left of the group box.



Once in the Zone Details List View you can

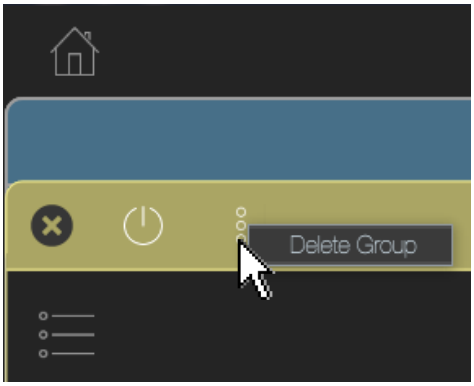
- Identify the fixture by clicking on its name to make the fixture flash
- Once the fixture is identified click the "x" icon to remove that fixture from the group



Delete Zone from Site Plan

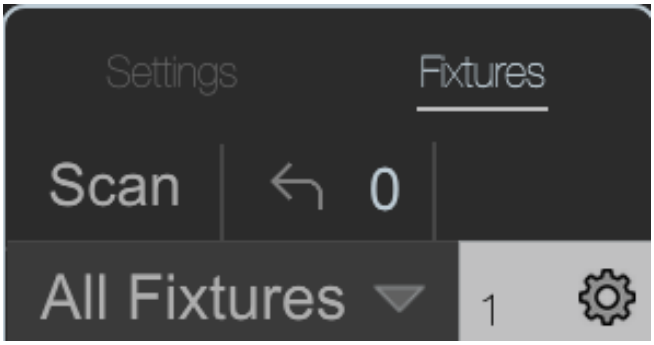
To remove a zone from the site plan entirely, click the Options icon (⁝) on the top left of the group box. A box should appear that reads “Delete Zone”. Click this box. Any fixtures that were included in this Zone will now be evicted to the fixture discovery list.

Alternative: You can right-click any zone box on the main workspace and delete the box entirely. Any fixture added to this zone will be evicted to the fixture discovery list.

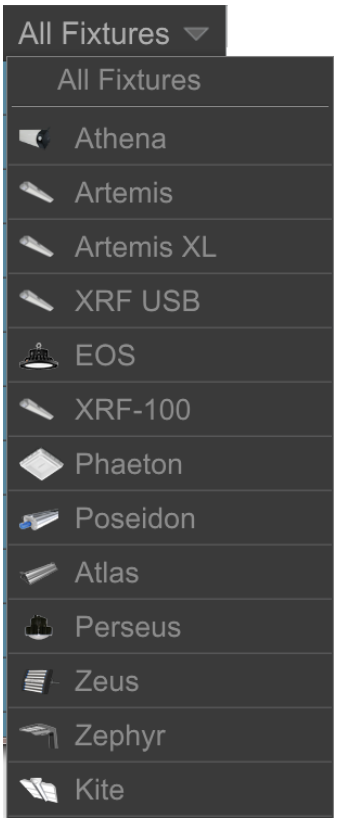


Scan Discovery

The typical workflow demands that you use your Remote (Wand) in order to discover fixtures, but there is another way to discover fixtures that we recommend you use only as a secondary, or backup way to find any non-commissioned fixtures in the area. This function is simply called "Scan" and can be found in your main toolbar panel.



By clicking the "Scan" button, the App will send a broadcast requesting the Unique ID numbers of all Xi-Fi enabled fixtures in range. Those fixtures in range will send a response back to the App and each confirmed fixture should show up in the discovery list as a fixture tile. The longer the Scan is allowed to run, the more fixtures you are likely to discover, this is because the App will send repeated ID request broadcasts for as long as the Scan is engaged, giving more fixtures the opportunity to respond.

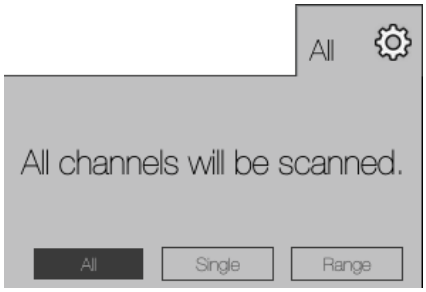


Advanced Scan Filters

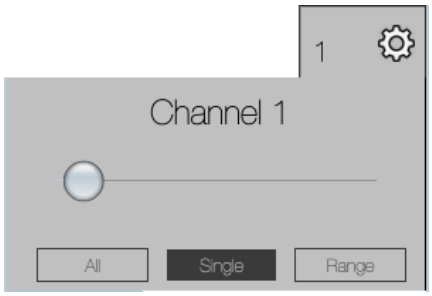
Below the Scan button you will see two dropdown boxes.

The box on the left filters the discovery list by showing either "All Fixtures" or just the fixture type of your choosing. This can assist when trying to commission one area in your site that has a predominant fixture type, opposed to another.

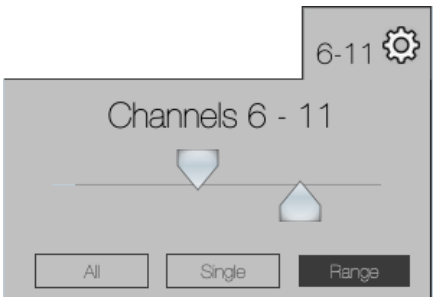
The box on the right selects on which frequency channel the App will scan, the default is set to only scan channel 1. **NOTE:** Xi-Fi Remote (Wand) functionality is only possible when the channel dropdown is set to 1. The frequency channel filter provides 3 scanning options: All Channels, Single Channel, or Range of Channels. All fixtures come from the factory set to Channel 1, but if they were manually adjusted at any point to another channel then you will have to change these search parameters. Typically, you will not have to be concerned with this. Call Xeleum for assistance.



All Channels Scan



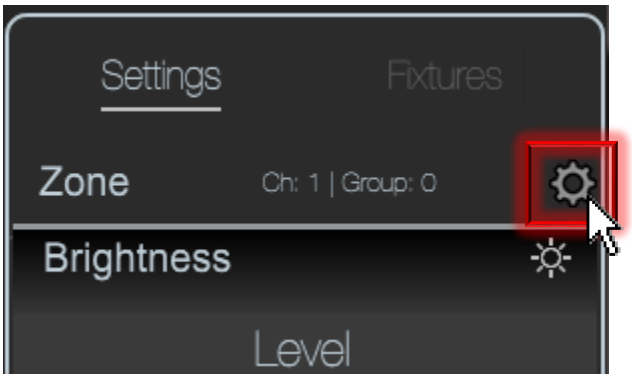
Single Channel Scan



Range Channel Scan

Advanced Zone Settings and Features Panel

On the Zone Settings panel, at the top right you will see a cog symbol that is a button leading to the advanced settings panel. This is an uncommon settings menu, only utilize if you have been instructed to by Xeleum Xi-Fi experts.



Click the cog button and a new panel should come up in place of the regular Settings View panel. These settings include: Battery Diagnostics, Frequency Channel, and Zone Number.

Battery Diagnostics

Clicking the red circle that reads “Test” will engage a 30 second diagnostic of any fixture I in the zone that has Xi-Fi compatible emergency battery backup.

Frequency Channel

Adjusting the Frequency Channel will ‘shift’ all fixtures in this zone to a different frequency band on which they will communicate to each other. There are 16 frequency channels Xi-Fi fixtures can utilize however it is highly recommended to only ever use Channel 1. Channel 1 is the only channel that can make use of the Xi-Fi Remote (Wand) discover capability. Only shift frequency channel if you are certain there is interference

from other wireless devices in the vicinity that also use the 433MHz band. Click “Send” to confirm channel change.

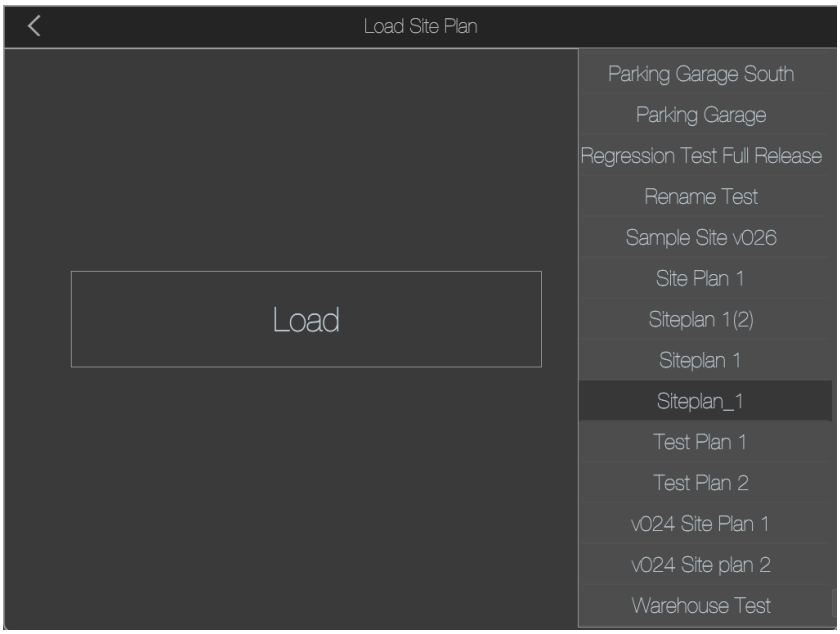
Zone Number

You can manually change a zone’s number by dragging the Zone number to one of 255 zones, then click the “Send” button to submit. All fixtures in the zone will be moved to another zone number. Typically, you will not need to make use of this feature since new groups created will increment to a new zone number on their own, however an uncommon situation where this might be useful is if the same site had been re-commissioned in another site plan file and overwritten a portion of the fixtures in this zone, then moving all of them in your old site plan file to the old zone number to rollback the new groups could be useful. Situations like these are very uncommon and Xeleum Engineering should be consulted before making use of these advanced features.

Load Site Plan

To return to a previously developed Site Plan in Xi-Fi, you can either select 'Load Site Plan' from startup or click the Home button (⌂) at any time and then select 'Load Site Plan'.

Select the Site Plan from the list. Scroll down to find it if necessary. Then click the 'Load' button.



Your Site Plan should come up on screen. Be aware that only fixtures successfully added to zones to will be saved. If they were not added to a zone and only displayed in the Discovery List previously, they will not appear.

Xeleum

Specification Sheet

PROJECT NAME	
CATALOG #	
NOTES	

Xi-Fi® Control Module (XCM-001)

The Xi-Fi Control Module (XCM) adds intelligence to compatible LED lighting fixtures and makes them operable with the Xeleum Xi-Fi Wireless Lighting Control System. The Xi-Fi Wireless Control System enables users to remotely create groups of fixtures, adjust light levels, control illumination and manage time-out settings, all without having to make physical adjustments at the fixtures.

Product Features

- Adds Xi-Fi™ network capability to compatible luminaires
- UHF ISM band antenna included
- Plug and play connection
- Easy clip-on mounting direct to luminaire
- IP65 Waterproof housing and connectors
- Integrated Microwave Motion Sensor
- Integrated Ambient Daylight Sensor
- Continuous dimming (0-10V, PWM)
- 5-Year Limited Warranty

Applicatons

- Warehouse
- Manufacturing
- Parking Garage
- Stairwell

Compatibility

- Eos
- Perseus
- Atlas

Fixture Specifications

INPUT	12VDC, 0.1A
HOUSING COLOR	Blue
IP RATING	IP65
MATERIAL	Polycarbonate Plastic
CERTIFICATION	FCC / RoHS
WORKING TEMP	-40°F to 130°F
STORAGE TEMP	-40°F to 185°F
OPERATING LIFETIME	>65,000 hrs

XCM attached to an EOS fixture

Xeleum Xi-Fi App

FCC Caution:

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

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