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App Instruction

Bluetooth Lighting Controls Commissioning

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Design Plan

Please prepare a lighting controls design plan for each lighting project which should include:

- Floor plan and the sequence of operation of each zone
- Luminaire fixture schedule, type, and placement on plans
- Divide the site into zones according to sequence of operation and make sure each zone contains 100 devices or less and that no objects block wireless signal transmission (such as concrete walls or large metal objects). The size of the zone should not exceed the maximum limit of wireless range:
    - For Interior Application: the recommended distance (range) between nodes is less than 50 feet with a zone diameter less than 150 feet.
    - For Exterior Application: the recommended distance (range) between nodes is less than 130 feet with a zone diameter less than 300 feet. Note: objects such as trees and environmental factors such as humidity, rain, and clouds may reduce range;
- Within each Zone, create wireless Groups with names. If using scenes, label scene name and scene sequence of operation.
- Within each Group, determine the need for switches and, if necessary, label the switches, determine placement, and designate each button’s function.

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Sensor Settings for LLLC

Occupancy Sensing

Luminaires with integrated sensors have occupancy sensing, ambient daylight harvesting, auto on/off, and continuous dimming. Settings include:

- Detected: working light level when occupancy is detected
- 1st Time Delay: lights will maintain working light level for this set time delay while occupancy is detected.
- Dim Level (%): light level when occupancy is not detected for 1st Time Delay duration
- 2nd Time Delay: lights will maintain dim level and if occupancy is not detected for this set time duration, lights will turn off.
- Linkage Light Level: if a light in a group does not detect occupancy (both time delay 1 and 2 time out) but other lights in the same group detect movement, if the Linkage Light Level function is enabled, this light will dim to the linkage light level.

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Sensor Settings for LLLC

Daylight Harvesting

- Daylight Harvesting: to enable the daylight function, make sure Photo sensor is switched on under the Sensor Setting. When occupied the light level is automatically adjusted by the photo sensor based on ambient daylight. Daylight Harvesting: to enable the daylight function, make sure Photo sensor is switched on under the Sensor Setting. When occupied the light level is automatically adjusted by the photo sensor based on ambient daylight.
- Auto Calibration: it is recommended to use the Auto Calibrate function to set the daylight harvesting, which has a self-learning process to eliminate ambient daylight interference during calibration.
- Manual Calibration: if you opt to manually calibrate the daylight function, it is essential to exclude ambient light, such as calibrating the sensor at night or shutting the shades/blinds.

Parameter for Luminaire with Sensor

Suggested parameters settings for different zones						
Zone	Timer 1	Timer 2	Min Level	Linkage	Scenes	Switches
Open office area	25	1	50	50%	No scene	You may associate the “ALL OFF” scene to the button on the switch so to quickly turn off all lights when leaving office.
Meeting room	25	1	80	80%	Configure PPT/Lecture scenes.	Associate PPT/Lecture scenes to SCENE button on the panel.
Classroom	30-40	5	80	80%	Configure PPT/Lecture scenes.	Associate PPT/Lecture scenes to SCENE button on the switch.
Storage room	10	1	80	80%	No scene	No switch
Corridor	10	1	50	50%	No scene	No switch

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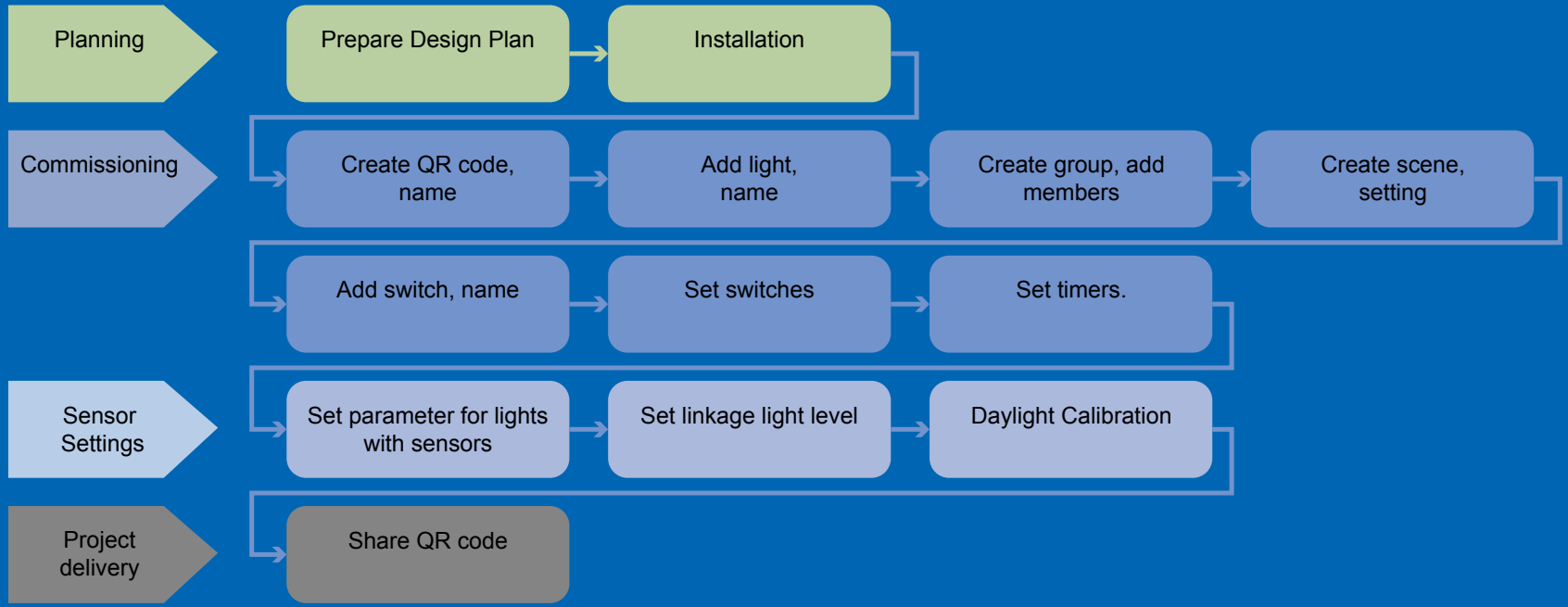
Recommend Commissioning Process



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Download the App

- Please scan the QR code according to your phone type to download the app.

  The SimplBlue app is supported on most Android smart phones, but some Android phone models may not support the app due to the variations in phone hardware and firmware.

  The App needs to access the (data) network and Bluetooth functions on your phone, among other functions. Please grant these privileges to the App. SimplBlue will not collect the user's private data.

IOS App

Android App

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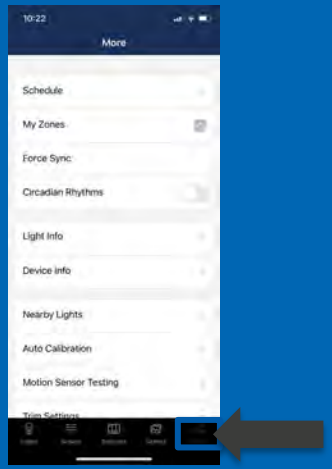
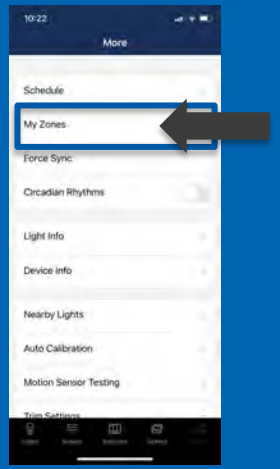
Zones, Groups, & Scenes

- Create Zones
- Create Groups
- Create Scenes

- QR codes represent zones (and all devices in that zone)
- It is recommended to create QR codes for all zones
- To reduce work on site, it is recommended to pre-create all groups, scenes, and names.

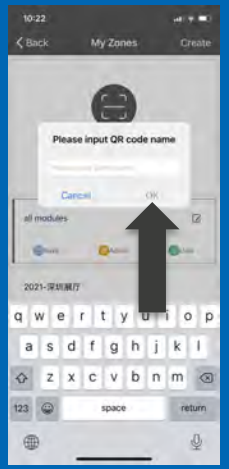


Start SimplBlue APP and click “More”.

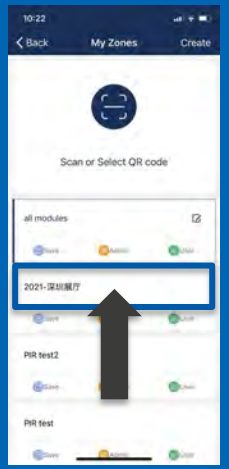


Click “My zones”.

Click “Create" on top-right and then click “Confirm”.



Input the name of the QR code then click “OK”.



You may find all zones in the list and click to switch between them and also change the name by clicking the button.

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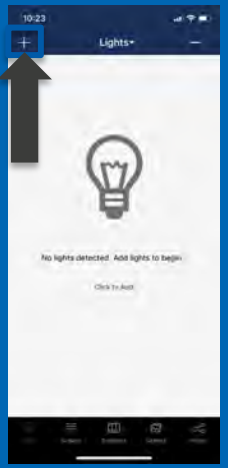
Add Lights



Press the “+” in the top left corner on “Lights” page of the app.

The app will scan and list all nearby lights that can be added to the zone. Click a light to turn on/off to locate it quickly.

Click the checkbox on the bottom right corner of the light to select/un-select this light.

Click the “Add” button to add all selected lights to the zone.

Click the “Add” button to confirm. Lights will blink to indicate that the light were successfully added.

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Add Lights

Recommendations on adding lights:

Please click “Back" button to return to "Lights” page when done.

You will see the newly added lights on “Lights” page. Please repeat previous steps if there are lights that haven't been added successfully.

- Add lights (1) zone at a time
- Do not power on more than 100 lights at the same time
- Shut off power of the lights that are not in the current zone (if possible)

This will help with the ease of adding lights

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Set Name and Rated Power

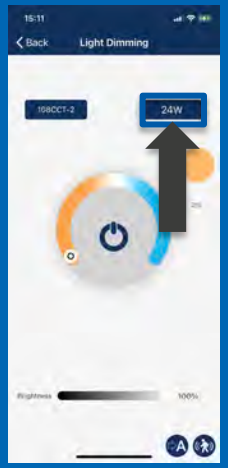
Optional: rename lights and input rated power

Click a light's icon on “Lights” page allows you to quickly turn it on/off to locate it.

Long press on a Light will bring out the dimming and managing page of this light.

Click the light's name in the upper left blue box to set the name. Click the wattage in the upper right blue box to set the wattage.

Input the light's name in the box and click “OK" to save it.



Please note that the wattage is the rated wattage after top-trim settings. E.g., you should input 24 for a 30 watt light with 80% of top-trim setting.

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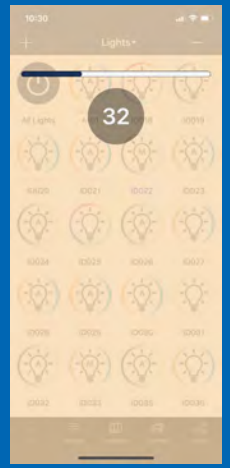
Quick Dimming

For quick access to dimming of any particular light

Click a light's icon on “Lights” page to quickly turn it on/off.

Sliding left and right on a light's icon can quickly dim the light up and down.



Sliding up and down on a tunable white light's icon can quickly change its color temperature.

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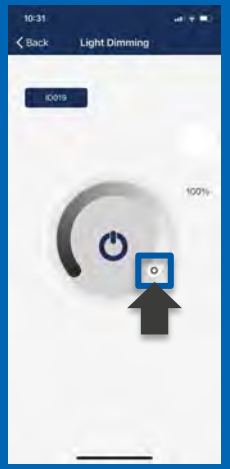
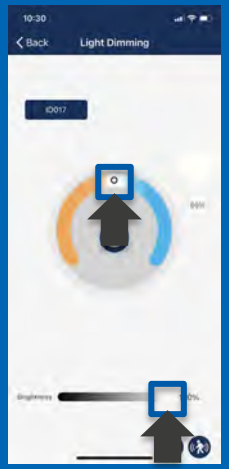
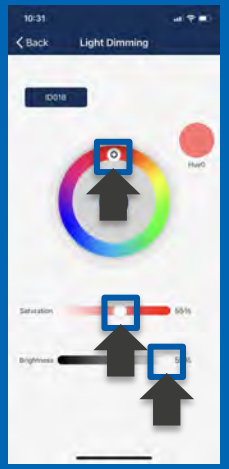
Dimming and Tuning

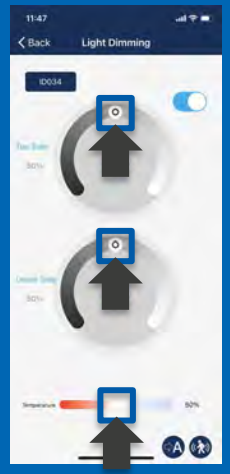
Access to manual control of dimming and CCT tuning via app of any particular light or group

Long press on a Light will bring out the dimming and managing page of this light.









The dimming page varies according to the type of the lights, from left to right are dimming pages for mono-dimmable, tunable white, RGB dimmable and direct/in-direct dimmable light. Please click and slide the controls to dim the lights.

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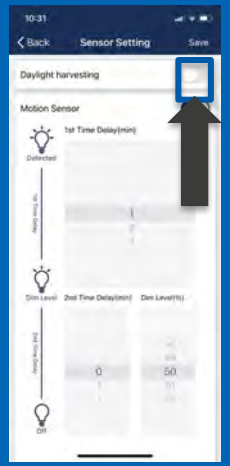
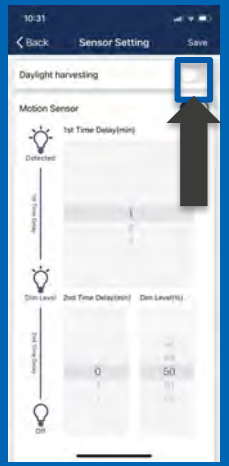
Sensor Setting

There is a sensor setting icon on the bottom right corner of the dimming page, click this icon to set the sensor's parameters.





You may enable/disable sensors and set the parameters for the PIR sensor. Please click the “Save” button on the top right corner to save the settings. (Enable, disable sensors will become effect immediately without saving.)

There are two working modes of motion sensors, their behaviors in auto mode are defined as follows, please refer to the product spec for more details:

- Occupancy sensor, automatically turns on when motion is detected, and automatically turns off when 1st/2nd timer is timed out.
- Vacancy sensor, manually turns on when people enter the area and automatically turns off when 1st/2nd timer timed out.

1st and 2nd time delay may be set to “infinite” to prevent lights from turning off to meet special requirement for certain applications.

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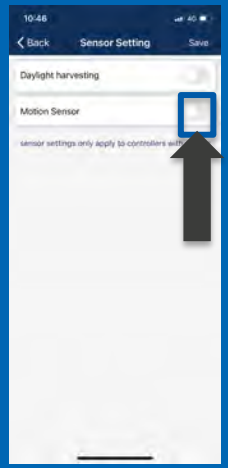
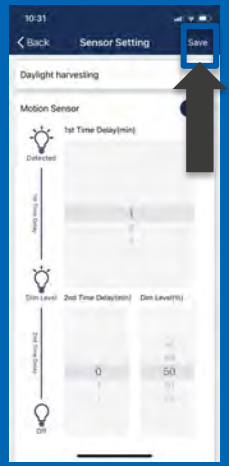
Sensor Ready Setting





Sensor ready controllers have connectors that can connect to SimplBlue Eco-Sensors and firmware ready to work with sensors. However, sensors are disabled under factory settings so that it can work properly without sensors by default.

Customers may upgrade sensor ready controllers by either:

- Connecting them with Eco-Sensors to convert them to sensor controllers

  or

- Adding them to a group with sensor controllers and enable linking, so that they can be link activated by sensor controllers

The sensors will be disabled again if you reset them to factory settings.

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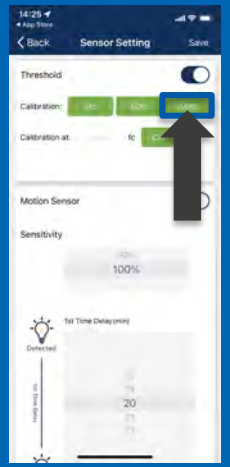
Photocell Setting



For photocell sensors, the default ON/OFF threshold is 10/60 fc. User may change the thresholds. Clicking the button of 5fc/ 50fc/100fc will set 5/50/100 fc as ON threshold respectively and the lights will turn on/off several times to auto-calculate the OFF threshold. User may input a specified fc value as ON threshold and click the “Cal” button to calculate the OFF threshold based on it.

It will prompt a notice message during the calibration process. Please wait until the calibration ends. The light will quick flash several times if it failed to calculate the OFF threshold successfully. Please try to calibrate it another time. One possible reason for calibration failure is because there is too much ambient light so do not calibrate it during broad day light.

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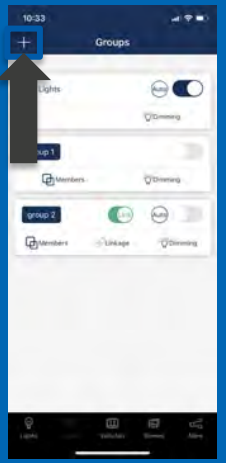
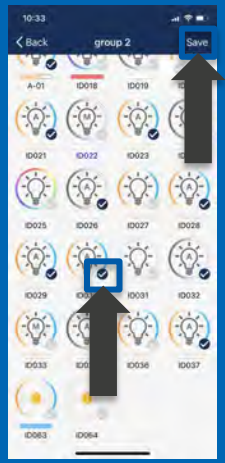
Create Group



Click the “+” in the upper left corner of the “Group” page to create a new group.

Input the group's name in the dialog and click “OK”.



Click the checkbox on the bottom right corner of a light's icon to select/de-select the light. Click the “Save” button in the top right corner after selecting all appropriate members to save the group.

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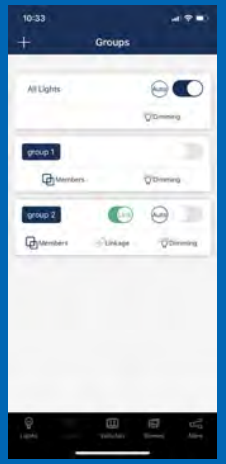
Manage a Group



You will see all of the groups on the “Group” page.

Click the “Member” button of a group to manage the member lights of this group.

Left slide on a group will show the “Delete” button on the right, click this button to delete this group.

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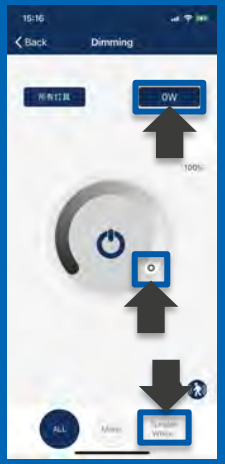
Group Control

Click the toggle button on the upper right corner of a group to quickly turn on/ off the lights in this group on the “Group” page.

Click the “Dimming” button on the bottom right corner of a group to dim the lights in this group.



The available dimming control in the dimming page is shown according to the light type in this group. The light types in the group are shown on the bottom of the dimming page. You may choose to dim certain types of lights in this group. You may also set the wattage for all lights in this group in a batch. This is not the total wattage of the group, it is the wattage for each light in this group.

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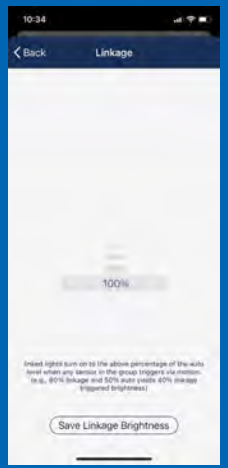
Group Linkage, Sensors, & Auto Point

Linkage Light Level: if a light in a group does not detect occupancy (both time delay 1 and 2 time out) but other lights in the same group detect movement, if the Linkage Light Level function is enabled, this light will dim to the linkage light level.

Click the “Link” toggle button for a group to turn the linkage function on/off.

Click the “Linkage” button of a group to set the linkage brightness level of this group.



Set the linkage brightness level on the dimming control. Click “Save Linkage brightness” button to save the setting.

Click the “Auto” button in the middle of the group to set all the lights in this group to Auto mode and controlled by sensors.

Click the “Dimming” button on the bottom right corner of a group to dim the lights in this group.

If there are lights with sensors in this group, then you may set the sensors parameter by clicking the sensor icon on the bottom right corner.

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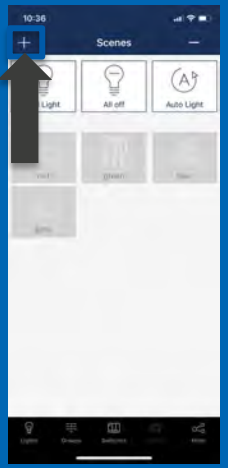
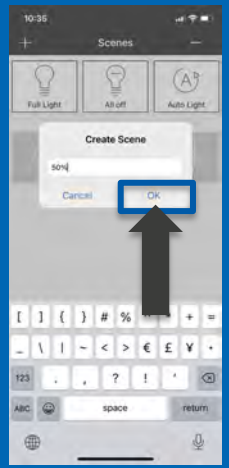
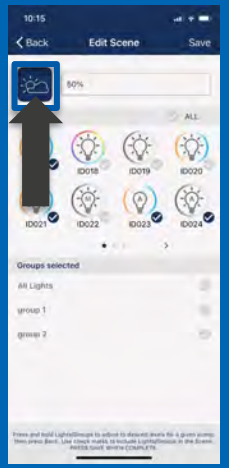
Create a Scene



Click the “+” button in the upper left corner of the “Scene" page to create a new scene.

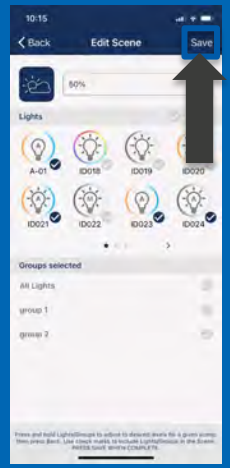


Input the scene's name in the dialog and click “OK”.



Click the icon on the upper left corner to select an appropriate icon for this scene in the popup icon selection dialog.

You may select a light or group for this scene in the lights/group's selection area on the bottom. Long press a light or a group to dim.



Click the “Save” button on the top right corner after all settings are done to save the scene.

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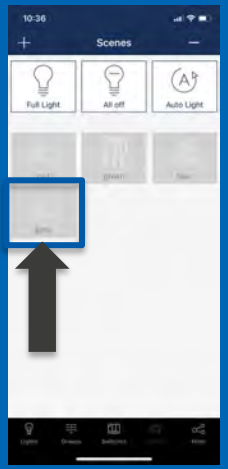
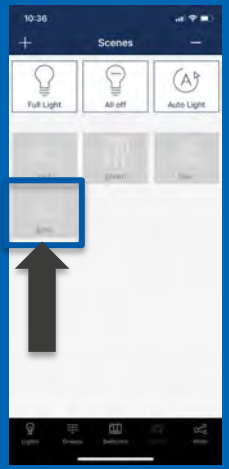
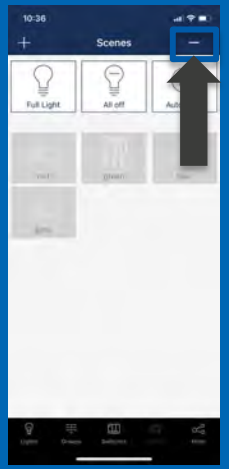
Edit and Delete a Scene



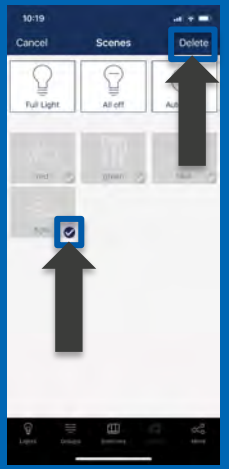
You may recall the scene by clicking the icon of this scene on the “Scene” page. The lights included in this scene will return to the light level in this scene.



Long press a scene on the “Scene” page to edit this scene.



Click the “-” button in the upper right corner of the “Scene” page to select and delete scenes.



Click the checkbox on the bottom right corner of a scene's icon to select/de-select this scene, then click the “Delete” button on the upper right corner to delete all of the selected scenes.

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Hold Time for a Scene

A scene will hold for a certain time according to whether motion sensors are enabled and T1/T2 settings are:

- Not motion sensors, or motion sensors are disabled, then the scene will hold until next operation, either manually or by schedules.
- Motion sensors and linkage is enabled, then the scene will hold for T1+T2 period, and the timer will be restarted if motion is detected.

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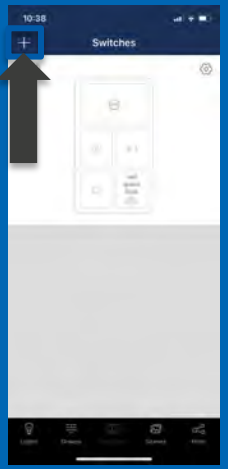
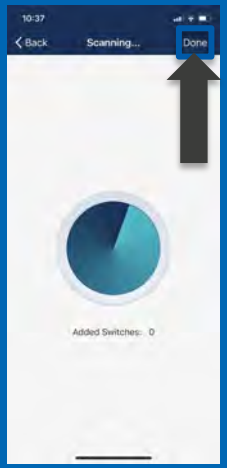
Add a Switch

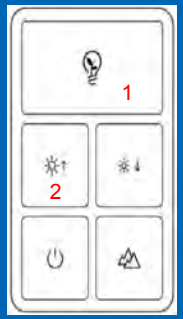


Click the “+” in the upper left corner of the “Switch” page to search and add switches.

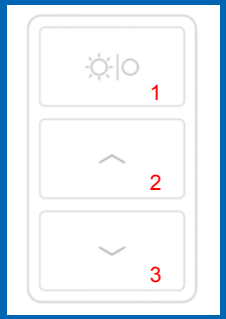


It shows the newly added switches number on the “Scanning” page. Click “Done” button to return to “Switch” page after successfully adding the switches.

How to Enter the Pairing Mode:
Please follow the instructions to set the switches to “Commissioning" mode after the app starts to search and add switches so that you can add them into the zone. The switches will automatically exit the “commissioning” mode after 30 seconds or by pressing a button.

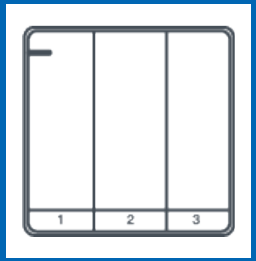


Press the button 1 and 2 together and hold for 2 seconds and then release.



Press the button 1 and 3 together and hold for 2 seconds and then release.

Press the button 1 and 3 together and hold for 2 seconds and then release.



Press button 3 on a sequence of “3-short and 2-long press”, short press means press the button and release immediately while long press means press and hold the button for 2 seconds then release. * for some early models the sequence is “133231” short press.

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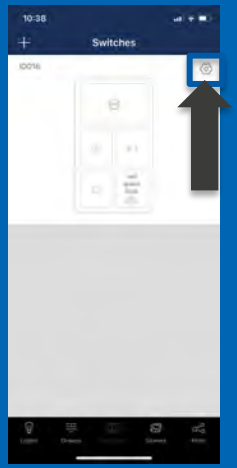
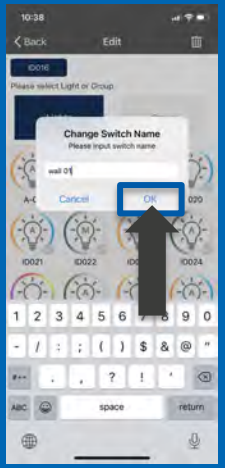
Change Switch Name, Delete Switch

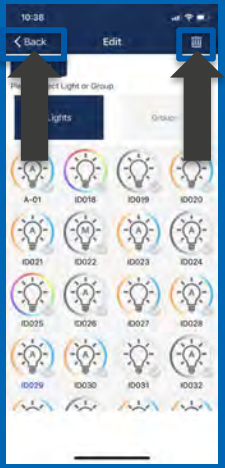


You can see all switches in the “Switch” page. Click the setting button in the upper right corner of a switch to set it.

Click the switch's name in the upper left corner of the setting page to change the switch's name.



Input the new name of the switch then click “OK” to save.



Click the delete button in the upper left corner of the setting page to delete this switch from the project. Click the “Back” button in the upper left corner to return to “Switch” page.

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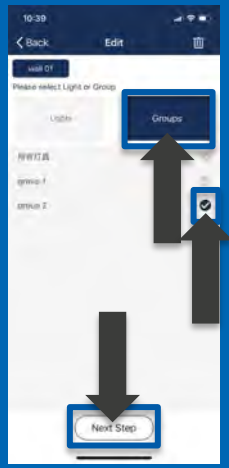
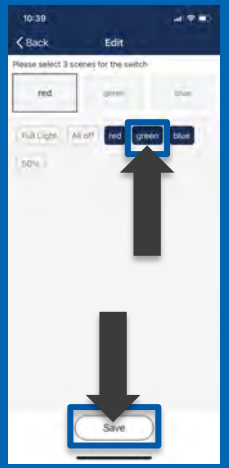
Set a Switch

Click the “lights” to select a light to be associated to the switch.



Click the “Groups” to select a group to be associated to the switch.



Click the scenes to select/ de-select scenes to be associated to the button.

Button functions vary for different types of switches. Some buttons have pre-defined functions and can not be associated to scenes. Please set the functions of the switches according to their types:

Associate scenes: Associate scenes to a button and then it will change between these scenes when user press this button. Usually, a button can be associated up to 3 scenes.

Associate light: Associate a button with a light then you may turn on/off the light by pressing this button.

Associate group: Associate a button to a group then you may turn on/off the group by pressing this button.

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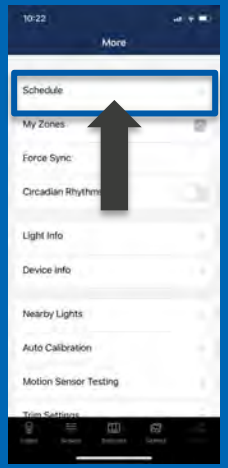
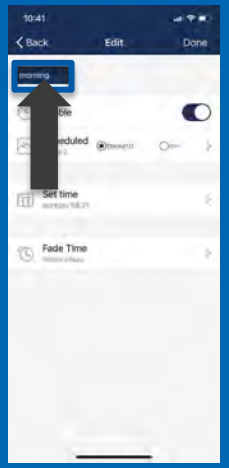
Create a Schedule

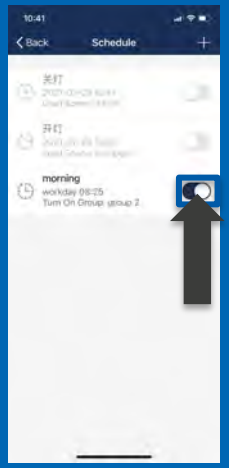


Click " Schedule" on the "More" page.

Click the "+" in the upper right corner of the schedule list page to add a new schedule.



Click the name in the upper left corner to change the schedule name.



Click the toggle button to enable/disable the schedule.

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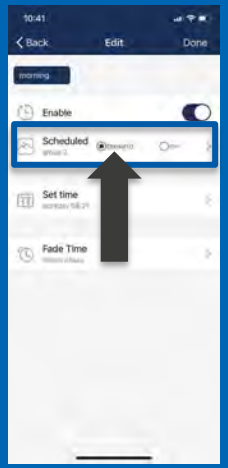
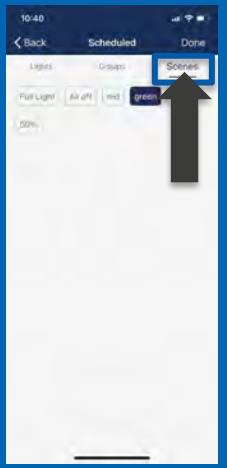
Set a Schedule



Click “Scheduled” to set the schedule action.



You may choose to associate the schedule with a light, a group, or a scene.

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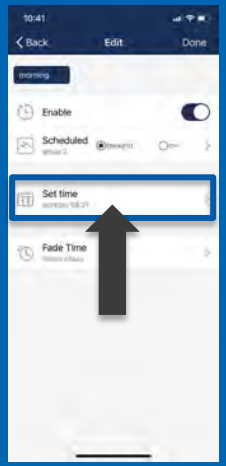
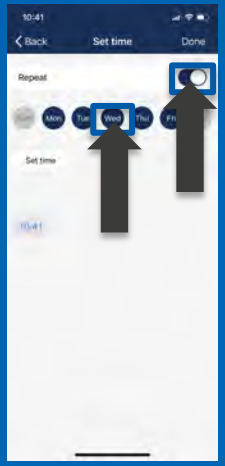
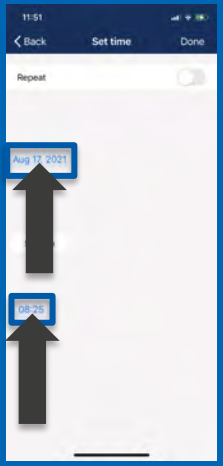
Set a Schedule



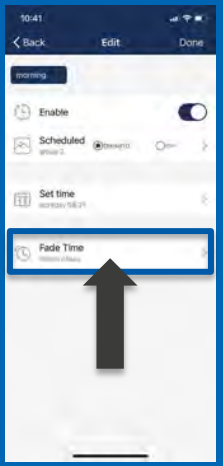
Click “Set time” to set the time of the schedule.

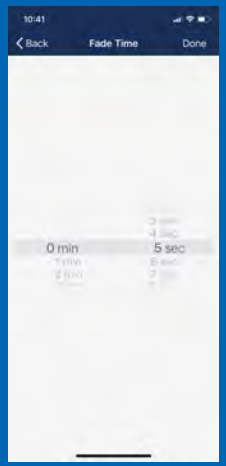


You may choose to repeat the schedule, date, and time.



You may choose to run the schedule just once at a specified time and date.





Click “Fade time” to set the action fading time for the scheduled action.

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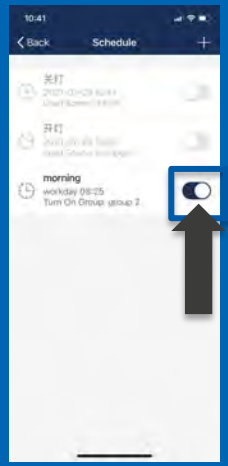
Delete, Enable, Disable Schedule

Left swipe a schedule on the schedule list page and then click “delete” to delete the schedule.



You may click the enable/disable button to the right of the schedule to “enable” or “disable” the schedule in schedule list page.

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Auto Point of the Luminaire

The lights with sensors (motion sensor, photo sensor) can detect human movements and auto turn on/off light and detect natural light by photo sensor to automatically dim up/down light while keeping sufficient and comfortable lighting. Providing healthy, comfortable and energy saving lighting.

There will be an "A" in the center of the light's icon if the light is in auto control mode. Meaning the on/off, light level are automatically controlled by sensors.

Lights with a light sensor will remember the data recorded by the sensor, not the light level of this light. So the light can fully harvest natural light to dim itself while keeping comfortable and healthy lighting while saving energy at the same time.

To maximize the energy saving, it is essential to get rid the ambient light interference when setting the auto light level, otherwise the light may not save much energy as expected. There are two ways to quickly, conveniently set the auto light level.

- Use "Auto calibrate", to specify parameters and the lights will automatically remove the ambient light interference by self-learning process to determine the appropriate auto light level. It is suggested to test with one light in real or simulated environment to find the appropriate parameters and then quickly batch set the lights with "Auto calibrate".
- Use "Manually setting", to customize the auto light level. In this way the light will remember the light reading from the sensor directly without deducting the ambient light. It is user's responsibility to make sure the light level is correct. Set it during the evening or with the blinds closed.

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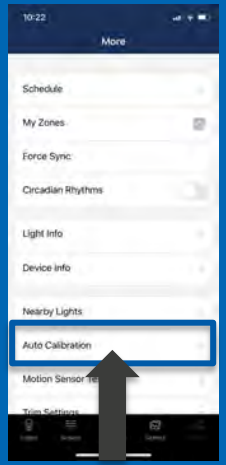
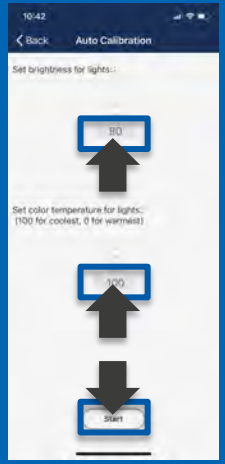
Auto Calibrate an Auto Point



Click "Auto calibration" on the "More" page.

Select the group in the pop up page. Clicking the toggle button to the right of the group will turn it on/off to help you confirm.



Choose the appropriate target light level and color temperature (if the lights are tunable white) and then click "Start" button.

You will see a prompt that lights will automatically turn on/off for several times to do the self-learning process.

A prompt message will show after the auto calibration. Lights will change to auto mode. Please manually turn the lights on/off to confirm it.

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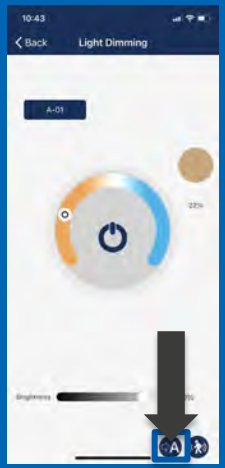
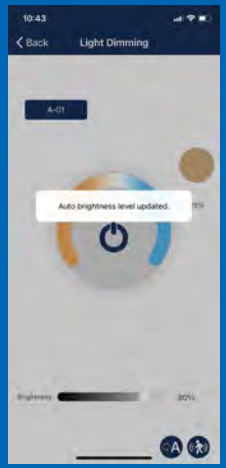
Manual Set Auto Point

Please make sure the lights are in auto mode before you set it manually. The light is in auto mode when there is an “A” in the light bulb icon. You may set the light to auto mode by turning on the light or clicking the “Auto" button on a group.



Use the app to dim the light or group when it is in auto mode to confirm the light level and color temperature are appropriate for auto lighting. Then click the “Set auto light level” button at the bottom.



The lights will read the current light level from sensors and also record the current color temperature and save them as the auto light level.

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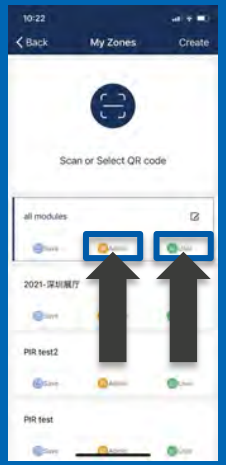
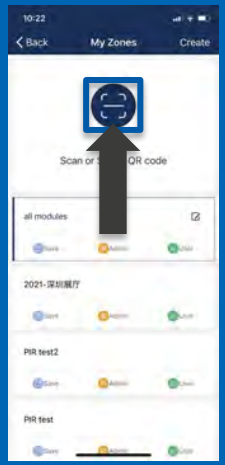
Control Sole Share via QR Code

Admin privilege: Provides privilege for all operations, only the users with high privilege can share high privilege QR code.
User privilege: User can dim and call scene, but can not add, delete, change lights, group or scene.

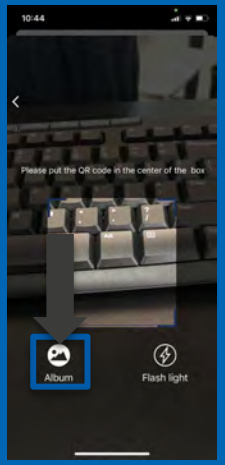


Click “My zone” on the "More” page to see all the zones in the app. The first zone is for the current zone in use. Click “Admin”, “User” to share the zone to others with different privileges.

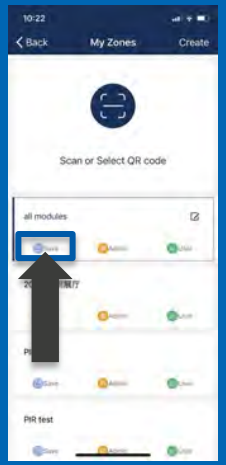
Share zone with others.



By click Scan button in “My zones" page to scan QR code and get control of the zone.



Point the camera of the phone to the QR code to scan. Click the “Album” on the bottom to scan the QR code pictures in the phone's album.



Click “Save” on the “My zones” page to save the QR code as a picture in the album so that you can send it to others.

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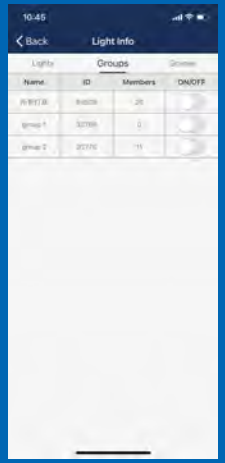
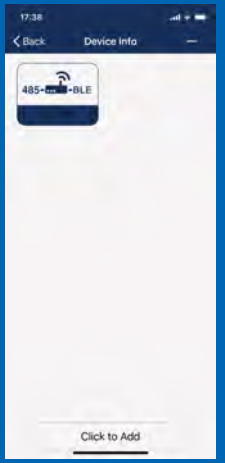
Light, Group, Scene, & Device Info



Click “Light information” on the “More” page to check all light, group, scene information in the project.



Click “Device information” on the “More” page to check all gateway, transformer, and sensor information in the project.

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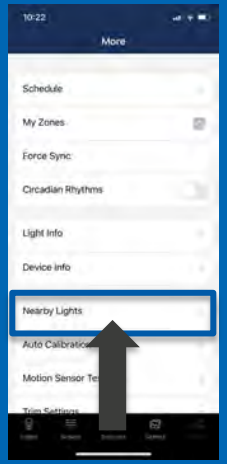
Check Nearby Lights



Click "Nearby lights" on the "More" page.

Lights and devices nearby will be shown here. Including the zone name that the lights belong to, the name of the lights, MAC address, type, ID, and RSSI.

You may check the powered-on lights and devices nearby. It may help to solve problems during the commissioning process.

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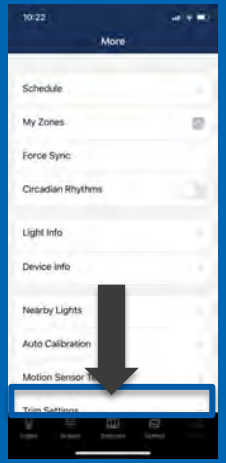
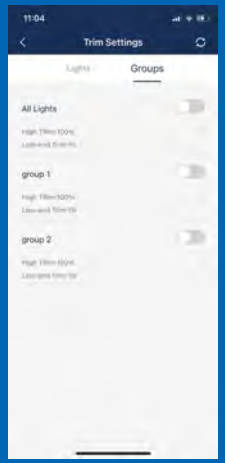
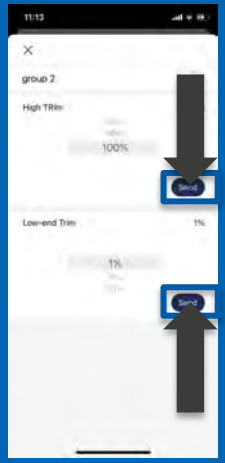
High Trim, Low-End Trim



Click "Trim settings" on the “More” page.



Select the light or group to set.



Please click the “Send” button after setting the parameter to send it to the lights.

You may limit the max power output by setting the high trim. Low-end trim will limit the lowest level that the daylight harvesting sensor can dim to.

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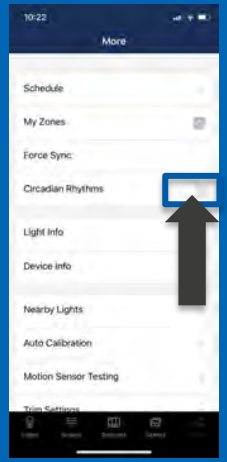
Circadian Rhythms



Click “Circadian Rhythms” on the “More” page to enable circadian rhythms lighting.

The circadian rhythms will automatically change the color temperature of the light according to the time of the day. To simulate the natural light. It only applies to tunable white lights.

Timer 1: 08:00

Color will be set to the warmest possible value before Timer 1, then it will eventually change to the coolest possible value until Timer 2 and change back to the warmest until Timer 3.

For stepless-color-tunable controllers, the color change will be smooth. For color-selectable controllers, it will calculate and switch to the nearest color at any given time.

Timer 2: 12:00

Circadian rhythm only works when lights are in auto mode and light level will be automatically controlled by photosensors if they are enabled, otherwise they will be kept stable.

Circadian will be terminated when user manually changes the color, or calls a scene by app, switch, or schedule.

Timer 3: 18:00

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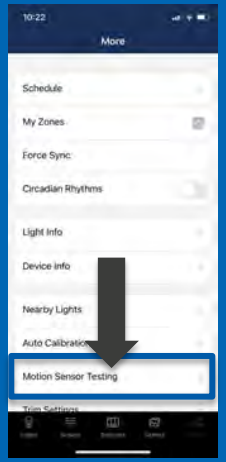
Motion Sensor Testing



Click "Motion sensor testing" on the "More" page.

Click "Motion sensor test" and all lights with motion sensors will be turned off but motion sensors are working. Movement inside the motion sensor detection area will trigger and turn on the lights.

It can be used to test whether the motion sensors are working properly. You must set the lights to "auto" mode before testing motion sensors. Then click "Motion sensor test" and it will turn off lights, but will keep the sensors working. Walking around the motion sensor detecting area will trigger the lights. So you can test or demonstrate the motion sensor function.

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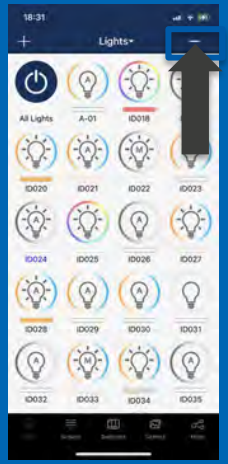
Restore Factory Setting in App



Click the “Select” button in the upper right corner in “Light” page.

Check all the lights you want to delete and reset.

Click the “Delete” button on the upper right corner to delete and reset all selected lights.

You may only delete lights in this zone.

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Factory Reset by Power Sequence

You may reset a light to factory settings by turning the power on/off multiple times. Follow these steps:

1. Prepare: power on the light, wait for 8 seconds then power off, wait for 10 seconds.
2. First power on, power off immediately after the light turns on, then wait for 10 seconds.
3. Second power on, power off immediately after the light turns on, then wait for 10 seconds.
4. Third power on, power off immediately after the light turns on, then wait for 10 seconds.
5. Forth power on and wait for 8 seconds when light turns on, and then turn off and wait for 10 seconds.
6. Fifth power on and wait for 8 seconds when light turns on, and then turn off and wait for 10 seconds.
7. Sixth power on and light blink to indicate it has been reset successfully. Light that have been successfully deleted will be restore to factory settings and all data will be deleted.

Note: wait for 10 seconds to ensure the module is powered off completely. The duration is dependent on the driver and the power supply. You may shorten it in the manual if the driver can cut power in a shorter time. For example, if the driver can cut power to module within 3 seconds, then you may change the “wait for 10 seconds” to “wait for 3 seconds” to facilitate the reset time on site.

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System Capacity

Luminaires	Up to 100 lights in a zone. Please divide to a different zone if you have more than 100 lights.
Luminaire/ group	A light can be a member of up to 20 groups. It will leave the first group if you add it to the 21st group.
Scene	Up to 32 scenes can be set to a light. The first scene will be lost if you add it to 33rd scene. Up to 127 scenes can be set to a zone.
Schedule	Up to 32 schedules can be set to a zone.
Switch	Up to 10 switches can be set to a zone. Note: switch and light are calculated separately. Adding switches to zone does not reduce the lights number.
Zones	Unlimited zones per app on a mobile phone.
Data persistence	All settings, including sensor/group/scene/parameters/switch settings are saved on individual luminaire controllers so the system can run when it recovers from a power outage, or without network connection.

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