

SAMSUNG

SMART LIGHTING PLATFORM USER GUIDE

Best Solution for Smart Luminaires



Contents

1. Introduction

2. Configuration

3. Installation

- App Log-in and Device Pairing
- Space and Group Setting
- Sensor Group Linking
- Sensor Setting

4. Operation

- Basic Operation
- Scene
- Schedule
- Widget

5. Dissociation

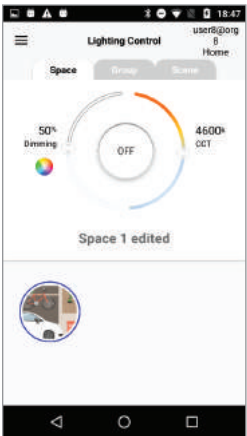
6. Test Scenario

1 Introduction

Smart Lighting Platform (SLP) Sample Kit

- SLP Demo Box has been designed to introduce Samsung's newest offerings in the area of smart lighting:
CCT Tunable LED Module, Programmable Multi-channel Driver and Smart Devices.
- Specifically, the key functions of Smart Lighting Module (SLM) are included in this sample kit and this helps you to understand how to upgrade your lighting for a new application of wireless lighting control and IoT service.
- SLM has 0-10V wired connectivity and Bluetooth Low Energy (BLE) wireless connectivity. And, it also includes the DALI interface for EU markets.
- SLM supports Bluetooth Low Energy 4.2 with its proprietary lighting control protocol for color temperature tunable and light intensity dimmable lights.

* SLM/SSM/SCM will be upgraded to BLE 5.0 in Q4, 2018 via OTA without any hardware changes.



[Mobile App]



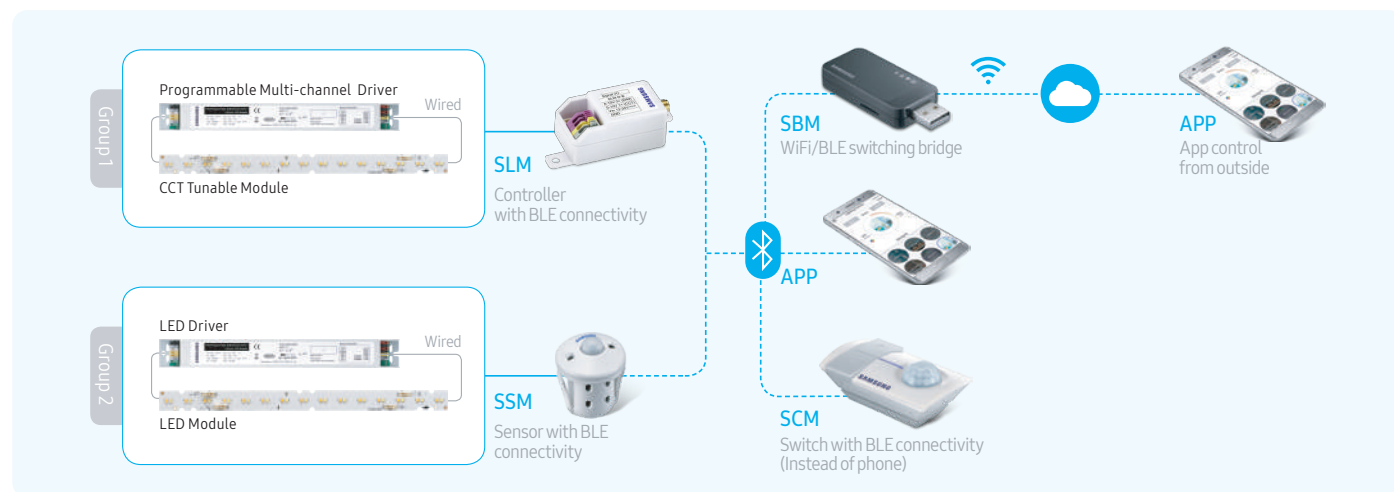
[Smart Lighting Module]

2 Configuration

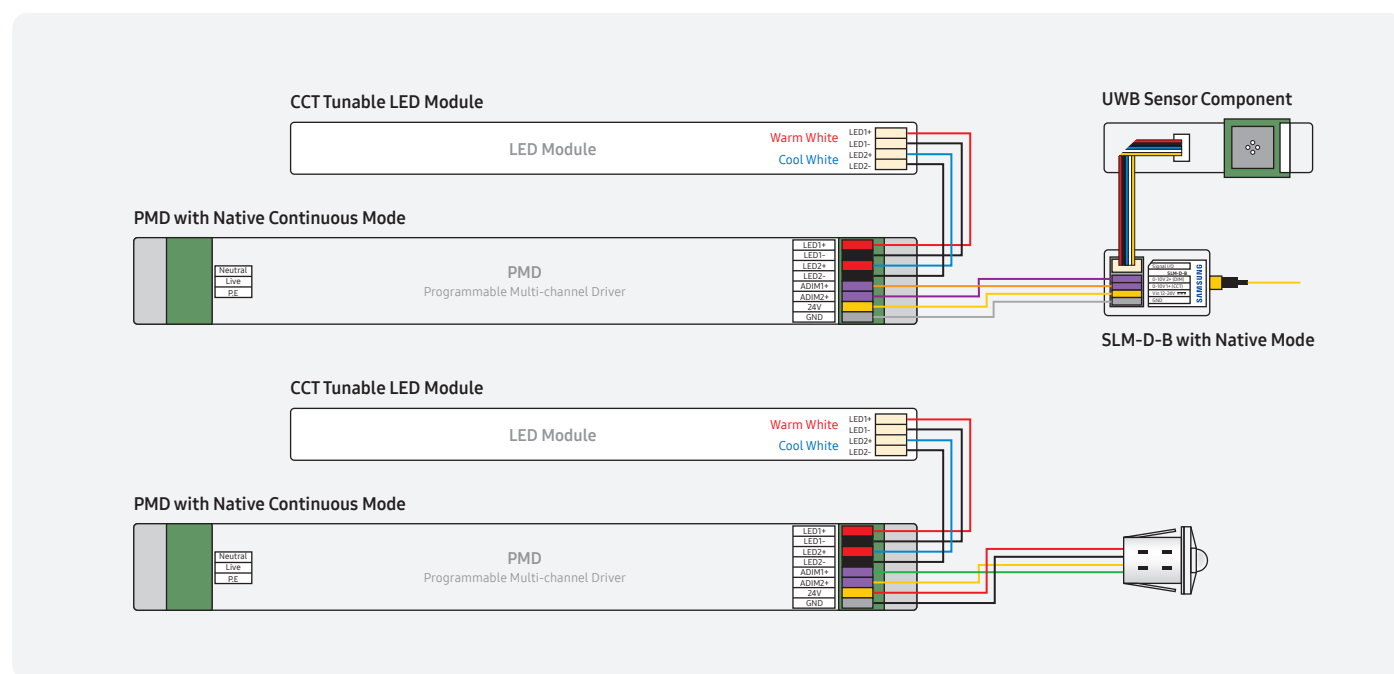
Components and Configuration

Fundamental Building Blocks for Smart Lighting

- BLE based devices for IoT-enabled luminaires
- Interoperable with other IoT platforms via Cloud connections



Components and Configuration

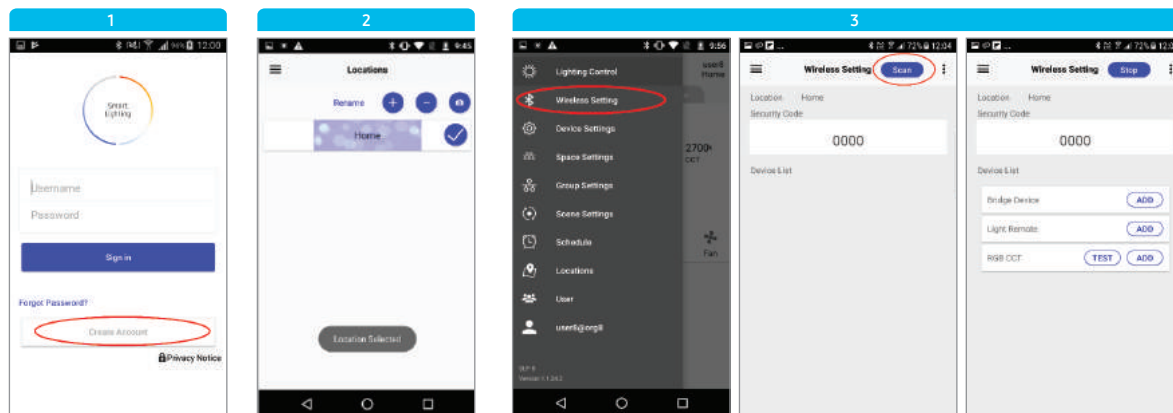


3 Installation

App Log-in and Device Pairing

- To install the mobile app, search the “SAMSUNG SLP” in Google Play Store or Apple App Store.
- To start SLM operation, user needs to create an account and log into the app once.
- ID/PW and Pairing settings are saved in SAMSUNG Cloud. Users with the same account on different phones can control the same smart devices.
If you are already logged in and paired, you don't need to log in again until you update the app.
- To control the light, Smart Devices should be paired through the wireless setting of the app.

1. Select “Wireless Setting” from the side menu.
2. Put the device in pairing mode by power cycling the device . Click “Scan” button on the top right end of “Wireless Setting” page.
3. Once the device gets advertised, click “Test” to test the device and then click “Add” button to get it paired.
4. Enter old security code and click “Ok” button.
5. Pairing process proceeds.
6. Rename the device if needed.
7. Click “Ok.”
8. Select a group from the groups list, which with the device has to be associated. Click “Ok” (if needed).



[Create Account & Log-in]

[Location Selection]

[Device Pairing]

Default Security Code: 0000

*** CAUTION:** Do NOT forget the security code.

Pairing Time Limit

- Limited time (1 min) is allowed for pairing after power cycling as a security precaution.

SLM Mode Selection: Default “Native”

- Native mode for SAMSUNG PMD or Classic mode for conventional drivers

Device Pairing for SCM and SBM

- SCM and SBM have a little bit different pairing process.



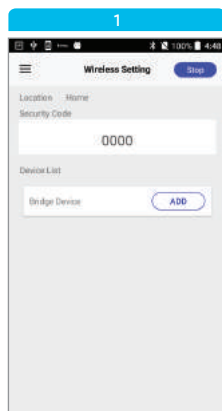
[SCM]

After power cycling the SCM, click "Scan" button on the "Wireless Setting" page.
Default security code is "0000" and pairing time is limited to 1 min.

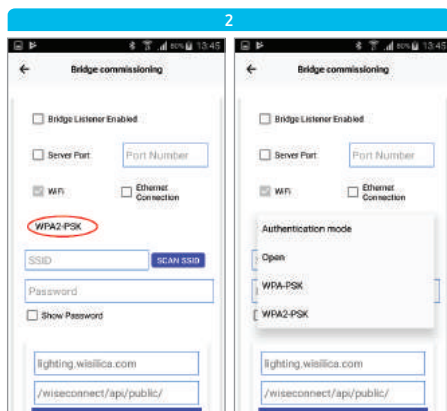


[SBM]

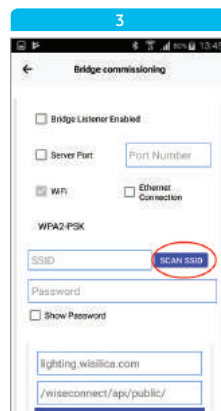
1. BLE signal lamp will be quickly blinking in 45 secs after the device's power has been cycled.
2. Press "Scan" button in 20 secs during the fast blinking of BLE lamp.
* **Note:** If user misses the click timing, user has to power cycle SBM again.
3. Follow the process below to configure your Wi-Fi connection.
4. If the connection is successful, Wi-Fi indicator will blink in 2 secs.
* **Note:** When the pairing process is successfully completed, SBM will automatically try to connect to the configured Wi-Fi network after the power cycle.



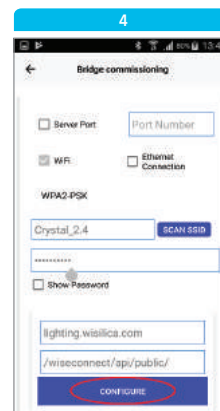
[Wireless Setting]



[Select Authentication Mode]



[Scan & Select WiFi]



[Enter Password]

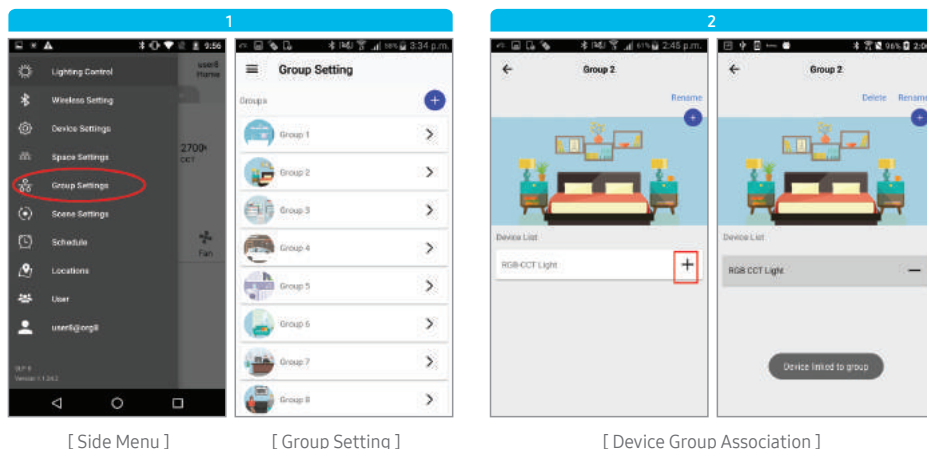
Security Type of Wi-Fi

- Open / WPA-PSK / WPA2-PSK
- Most gateways at home use WPA2-PSK with password.

* **Note:** SBM doesn't support Wi-Fi network with ID/PW log-in type.

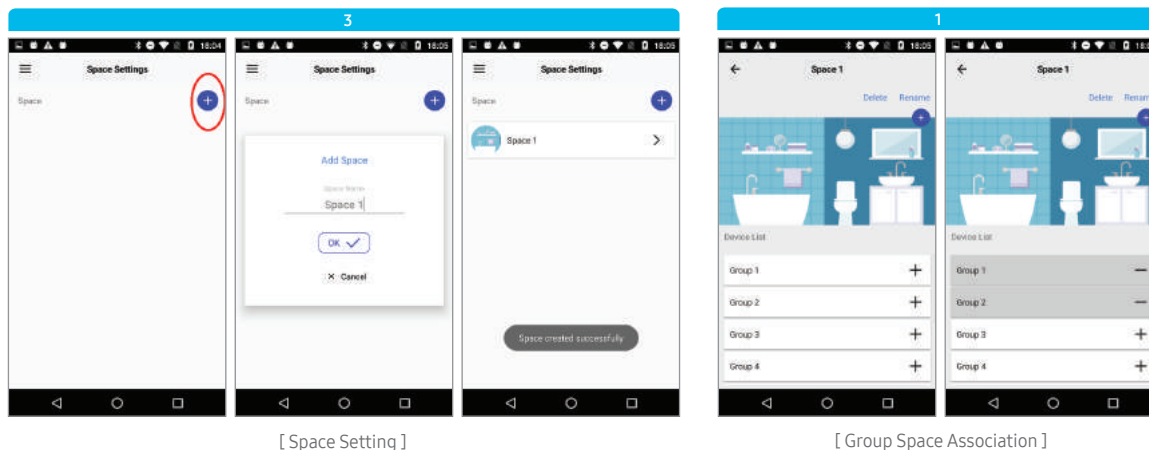
Space and Group

- User can control Smart Devices based on Space and Group.
- Space can operate multiple groups and Group can operate multiple devices at the same time.



Association and Dissociation

- Click the plus button (+) for association.
- Click the minus button (-) for dissociation.



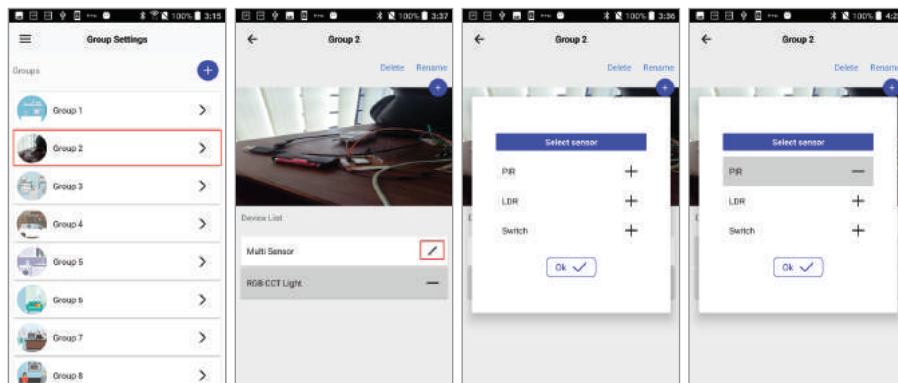
Max Number of Space and Group Designations

- Max 16 spaces and 16 groups can be set because of limited MCU memory in devices.

Sensor Group Linking

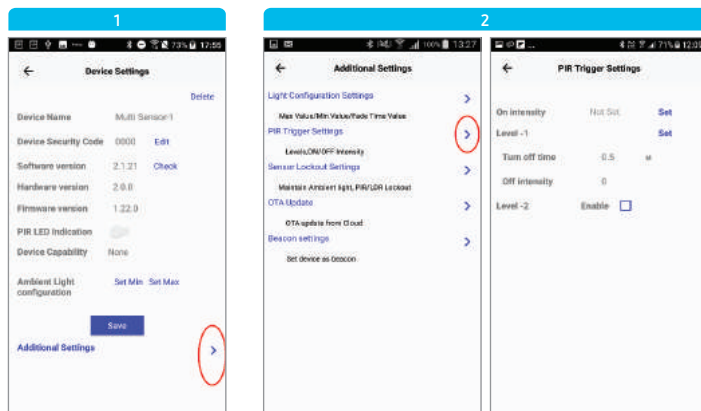
- The Smart Devices can be linked to various Smart Sensors.
- The association of a Smart Device to a Smart Sensor can then be configured to decide the actions that the Smart Devices perform.
- In order to link sensor functionalities, user needs to make sure that there is at least one paired device associated with that group.

1. Pair a sensor (Refer heading "Wireless Setting").
2. Select "Group Setting" from side menu options.
3. Select a group.
4. Click edit button corresponding to the sensor device.
5. User can select the mode of the sensor device as per the requirement.



Sensor Setting

- Linked sensor only transmits sensor signals to devices in the same group, so each device needs to be configured for PIR operating policy through the additional setting page on each device.



[Additional Setting on SLM]

[PIR Trigger Setting]

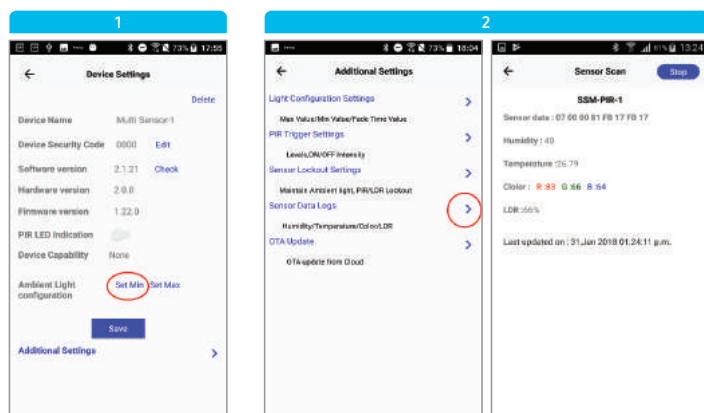
PIR Trigger Settings (Default: Turn off time 60 mins, off intensity 0%)

- On Intensity: Intensity at which the device should be lit with PIR trigger (Disable: latest lighting condition)
- User can configure multiple levels of turn-off.
(50% intensity @ Level 1 → 50% × 0% intensity @ Level 2)

Maintain Ambient Light

- This feature allows user to maintain the required ambient light in an environment.
- On disabling the ambient status, the normal 'light to ambient light' sensor values are regained.

- Sensor device has setting menus for Ambient Light Configuration and Sensor Data Logs.



[Device Setting on SSM]

[Sensor Data Log]

PIR LED Indication (Default: Off)

- When PIR detects motion, green LED will be on.

Ambient Light Configuration

- When light of desired Min/Max intensity falls on sensor, click "SET Min/Max" button.
- After setting Min/Max, lighting will be operating between Min/Max ambient light intensity.

Sensor Data Logs @ Additional Settings

- Click "Scan" button on "Sensor Scan" page.
- User can see sensor data every 30 secs.

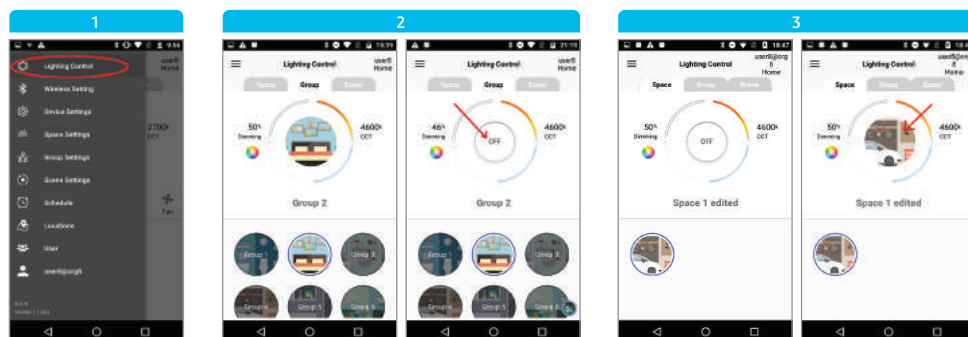
4 Operation

Basic Operation

- User can control lights at the Space or Group tap of "Lighting Control" page.

[e.g. Group Operation]

1. Select "Lighting Control" from side menu options.
2. From the list of groups, select the group to which the device is associated.
3. The button inside the seek bars indicate the state of the devices in the group. OFF button indicates that the devices inside are in OFF state.
4. Tap OFF button for turning ON the devices in the group. The selected group's icon will be displayed inside the intensity and warmth seek bars which indicates that the devices are in ON state.
5. User can use the sliders for varying the intensity/warmness of the associated devices.

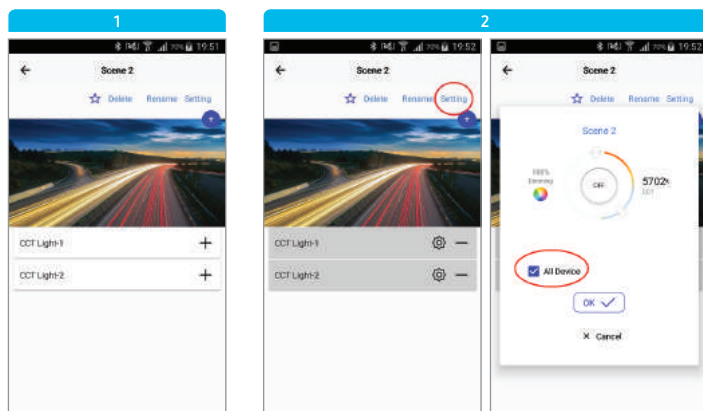


[Space Operation]

[Group Operation]

Scene

- A scene is a group of predefined operations that can be applied to a device or a group of devices at once.



[Device Scene Association]

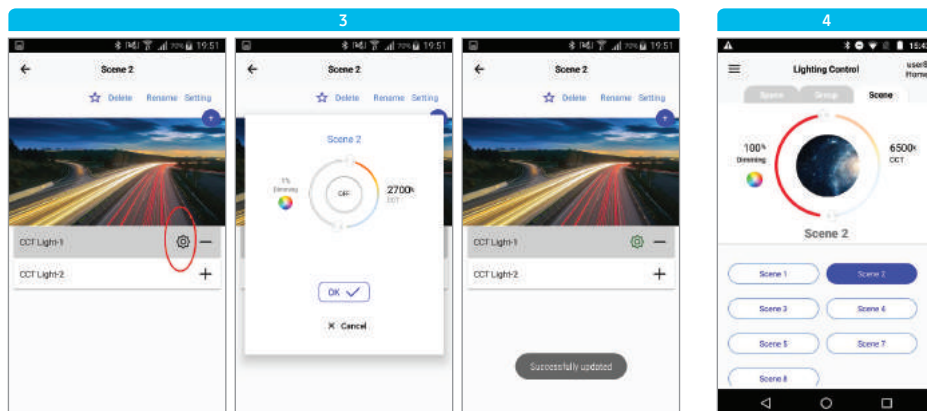
[Common Scene Configuration]

Device Scene Association

1. Select "Scene Setting" from side menu options.
2. Select a scene and all paired devices will be listed in all available scenes by default.
3. Click the plus button (+) on the right end of the device in order to link the device to the scene.

Common Scene Configuration

4. Click plus button corresponding to devices in order to associate each of them to scene.
5. Click "Setting" button.
6. Configure the scene and then click "Ok" button.



[Individual Scene Configuration]

[Invoking Scenes]

Individual Scene Configuration

7. Tap "Settings" icon besides the associated device name.
8. Configure the scene.
9. Click "Ok" button.

Invoking Scenes

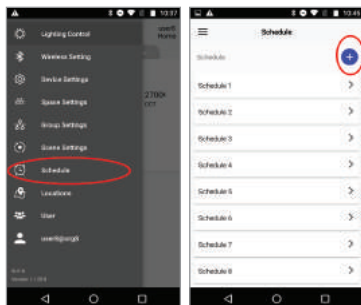
10. Select "Scene" tab at lighting control page.
11. Select the configured scene.

Schedule

- The process of scheduling an operation [example: on/off/intensity/warmness] with a particular time period and date, i.e. startup time, end time. Schedule status is mandatory.

Create schedule

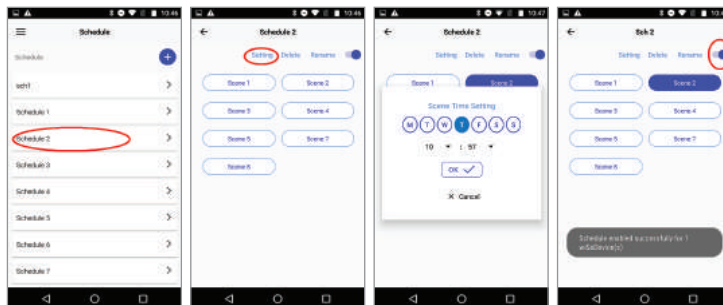
- Select "Schedule" from side menu options.
- By default, there will be 8 schedules.
To create a new schedule, click the plus button (+).
- Enter schedule name in the input box and click "Ok."



[Create Schedule]

Schedule Configuration

- Select a schedule from the list.
- Select the configured scene that is to be scheduled.
- Click "Settings" button.
- Configure the schedule. Click "Ok" button.
- If needed, toggle the enable/disable button (By default, schedule will be enabled).



[Configure Schedule]

Widget

- Maximum of 4 groups and 4 scenes can be marked as "Favorite." These groups and scenes can be operated from the widget.

[e.g. Adding groups from "Group Setting" page]

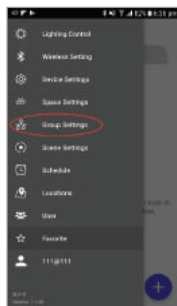
- Select "Group Setting" from side menu options.
- Select the group that has to be added to "Favorite."
- Tap the star button above the group picture.
- The group is now added to "Favorite."
- Select "Favorite" from side menu options.
- Select "Group" tab to view the group added to "Favorite."



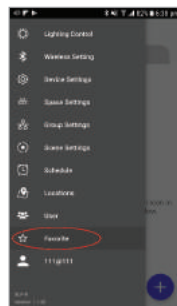
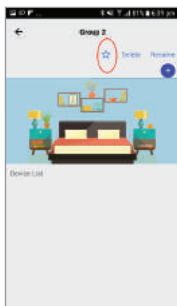
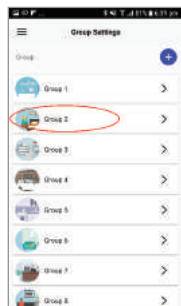
[Group Operation from Widget]

[e.g. Adding groups from "Favorite" page]

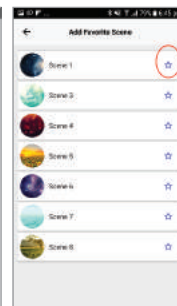
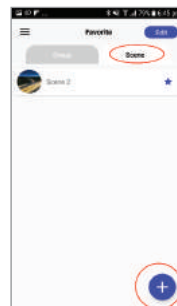
- Select "Favorite" from side menu options.
- Tap plus button at the bottom right corner.
- Tap the star button of a group to add to "Favorite."
- Click the back button to get to "Favorite" page.



[Adding Groups from "Group Setting" page]



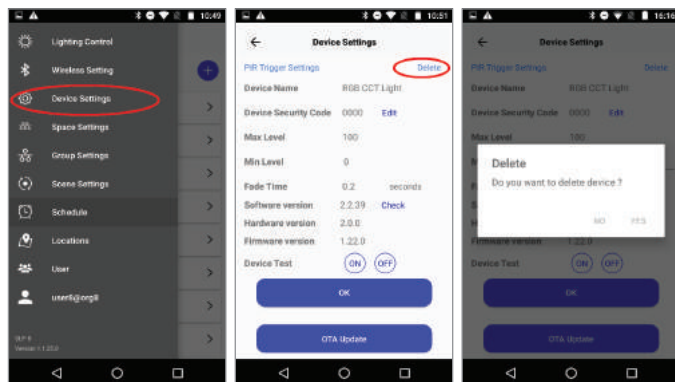
[Adding Groups from "Favorite" Page]



5 Dissociation

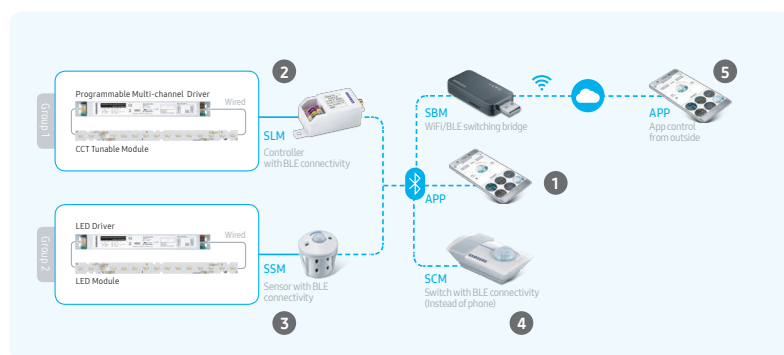
Deleting a Device from an App

- If the device is dissociated, it will have default setting condition.
- Follow the steps given below if user needs to delete a device from App:
 1. Select "Device Setting" from the side menu options.
 2. Paired device can be seen under "Devices" of "Device Setting" page.
 3. Click the right arrow at the right end of the paired devices.
 4. Click "Delete" at the top right end of "Device Settings" page. Click "Yes" button for confirmation message.



6 Test Scenario

Deleting a Device from App



1 Scenario 1 for Mobile App

- Log-in / Pairing / Unpairing
- Device Setting
- Scene / Schedule Setting
- Beacon Test

2 Scenario 2 for SLM-D-B

- Basic, Scene and Widget Operation
- Light on/off with Motion Sensor of SSM
- Dim up/down with Daylight Sensor of SSM

3 Scenario 3 for SSM-M-B

- Basic, Scene and Widget Operation
- Light on/off with Motion Sensor of SSM
- Dim up/down with Daylight Sensor of SSM
- Check current Temp/Humi status on "Sensor Data Logs" page

4 Scenario 4 for SCM-S-B

- Light on/ off and Dim up/down without the App
- Light on/off with Motion Sensor of SCM
- Dim up/down with Daylight Sensor of SCM

5 Scenario 5 for SBM-U-BW

- Light on/off via Cloud

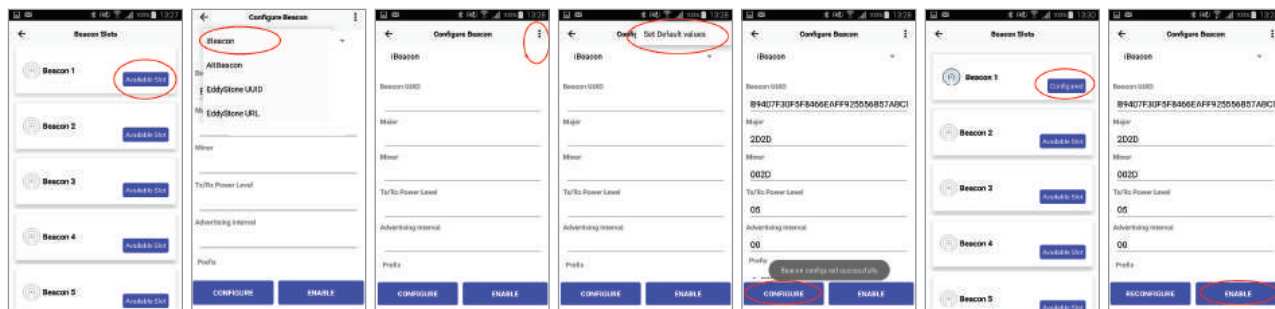
Scenario 1

- Test the various setting functionalities: Log-in / Pairing / Unpairing / Device Setting / Scene Setting / Schedule Setting.
- To test the beacon functionality, follow the steps below.

[e.g. iBeacon setting]

1. Select any of the available slots.
2. Select the iBeacon from the drop down list.
3. Use "Set default values" or Fill the fields.
4. Click "Configured" button. Now the values have been configured in the lighting device. On successful configuration, the slot will be marked as "Configured."
5. Click "Enabled" button. Now the lighting device starts to emit beacon with the configured values. On successful configuration, the slot will be marked as "Enabled."

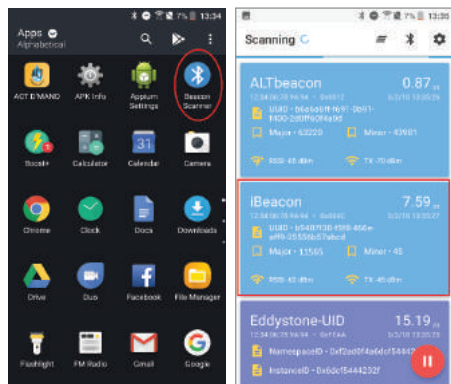
*** CAUTION:** Too short an interval of beacon signals may disturb lighting signals. (Default: 2 secs)



[iBeacon Setting in Additional Settings of Device]

[Beacon Test]

1. Install any 3rd party application (e.g. Beacon Scanner, Locate Beacon, etc) to scan the enabled beacons.
2. Launch "Beacon Scanner" app and then check the iBeacon signal.



[Beacon Scanner App for Testing]

Scenario 2

• Basic, Scene and Widget Operation

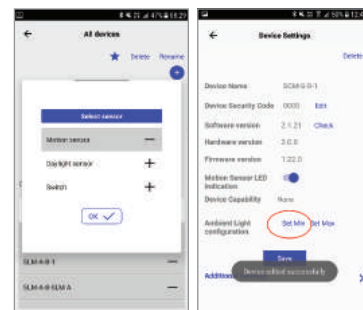
Follow the steps described in previous pages.

• Light on/off with Motion sensor of SSM

1. Select "Group 1."
2. Associate SLM-D-B.
3. Set the turn off time at "PIR Trigger Settings" of SLM-D-B with 5 - 10 secs.
4. Click (+) button corresponding to sensor.
5. Select "Motion Sensor" mode of SSM-M-B.
6. Turn off the Group 1 on lighting control page.
7. Detect motion and wait for it to turn off.

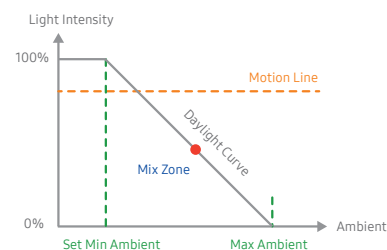
• Dim up/down with Daylight Sensor of SSM

1. Select "Group 1."
2. Associate SLM-D-B.
3. Click (+) button corresponding to sensor.
4. Select "Daylight Sensor" mode of SSM-M-B if "Motion Sensor" is selected, click (-) button of motion sensor.
5. Go to the device settings page of SSM-M-B.
6. Set minimum ambient light condition and then click "Set Min" button (e.g. cover the SSM by hand and then set min, SSM will operate under default ambient setting).
7. Set maximum ambient light condition and then click "Set Min" button (e.g. click set max with current ambient light intensity).
8. Turn on the Group 1 at lighting control page.
9. Cover the SSM or open the SSM by hand.



[Sensor Group Linking]

[Set Ambient Light Condition]



[Motion+Daylight Mix Zone]

Scenario 3

• Basic, Scene and Widget Operation

Follow the steps described in previous pages.

• Basic, Scene and Widget Operation

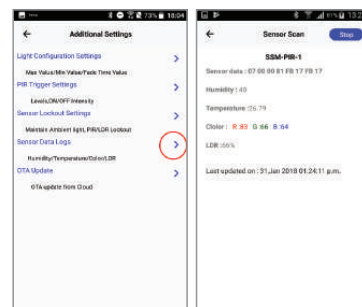
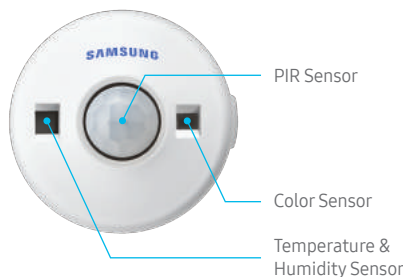
1. Select "Group 2."
2. Associate SSM-M-B and activate "Motion Sensor" of SSM-M-B.
3. Set the turn off time at "PIR Trigger Settings" of SSM-M-B with 5 - 10 secs.
4. Turn off the Group 1 on lighting control page.
5. Detect motion and wait for turning off.

• Dim up/down with Daylight Sensor of SSM

1. Select "Group 2."
2. Associate SSM-M-B and activate "Daylight Sensor" of SSM-M-B. If "Motion Sensor" is activated, click (-) button of motion sensors.
3. Go to the device settings page of SSM-M-B.
4. Set min/max ambient light condition. If user doesn't set min/max, SSM will operate with default ambient setting.
5. Turn on the Group 1 at lighting control page.
6. Cover the SSM or open the SSM by hand.

• Check current Temp/Humi status on "Sensor Data Logs" page

1. Tap on the name of SSM-M-B from "Device Settings" page.
2. Click "Sensor Data" button.
3. Click "Scan" button at the top right corner of the screen.
4. Sensor data will be updated every 30 secs.



[Sensor Data Log]

Scenario 4

- Light on/off and Dim up/down without the App

1. Select "Group 1."
2. Associate SCM-S-B and activate "Switch" of SCM-S-B.
3. Click the switch button to light on/off.
4. Press for a while to dim up/down.

- Light on/off with Motion Sensor of SCM

* Same process as Scenario 2 or 3

- Dim up/down with Daylight Sensor of SCM

* Same process as Scenario 2 or 3



Scenario 5

- Light on/off via Cloud

1. Make sure that the SBM-U-BW is within Wi-Fi network.
 - * If Wi-Fi connection is OK, Wi-Fi indicator will blink '2 secs.'
 - * SBM Wi-Fi setting must be done during the pairing process.
2. Select "Group 1."
3. Associate SLM-D-B.
4. Turn off Bluetooth on Mobile.
5. Turn on Wi-Fi on Mobile.
6. Turn on the Group 1 on lighting control page.



SMART LIGHTING PLATFORM

USER GUIDE

www.samsungled.com

Copyright © 2018 Samsung Electronics Co., Ltd. All rights reserved.
Samsung Electronics reserves the right to modify, at its sole discretion, the design, packaging, specification, and features shown here without notice at any time.

June 2018 Ver.2