Remote Lighting Kit

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Lighting Kit Overview

The TCP lighting kit includes a wireless smart lighting system that helps make the lighting in your home more energy efficient and easier to manage. The kit includes A19 LED light bulbs and a remote control that work together to help you manage your lighting wirelessly.

Your lighting kit also includes a GreenWave Reality® Gateway, which provides an enhanced network connection to your light bulbs. This Gateway connection allows you to use your Web browser, smartphone, or other smart devices to set up and manage your home lighting system as well as set up user-defined schedules and other controls for automatically turning your lighting on or off. Browser access to the lighting solution is accessible only on local network connection on which the Gateway is plugged into.

Note: This guide uses the term “smart device” to refer to a Smartphone, Tablet (or iTouch), or TV.

System Requirements

To use a Web browser or smart device to manage your lighting, your computer or smart device and home network must meet the following minimum requirements. If your system does not meet these requirements, you can still use your lighting kit with the remote control.

Computer (Local User Interface)

- Computer to be connected to the Local Area Network i.e. to the router on which the Gateway is connected. Any of the following Web browsers
  - Microsoft Internet Explorer® 8.0 and above
  - Mozilla Firefox® 3.6 and above
  - Google® Chrome™ 12.0 and above
  - Apple Safari 5.1.1 and above
- To access the Local UI
  - For PC: Type this keyword on the title bar of the browser: *lighting* or *http://lighting/*
  - For MAC: Type this keyword on the title bar of the browser: *lighting local*

Smart Devices (Smartphone, Tablet, and TV)

- For Android™ devices:
  - Android OS Versions Supported
    - All OS versions 2.2 and above are supported

- Android Supported Screen Sizes
    - All Android device screen sizes are supported (phones, phablets, tablets).
    - Below are the descriptions of the different Android screen sizes available in the market
        - Small Screen: Size is usually less than 3.8” (ex. HTC™ Wildfire – some known issues remain)
        - Normal Screen: Size is usually greater than or equal to 3.8” but is less than 5” (ex. HTC Wildfire S, Google Nexus™, Galaxy Nexus, S3, S4, Google Nexus 4”)
        - Large Screen Size or Phablets: Size is usually greater than 5” but less than 7” (ex. Samsung Galaxy™ Tab v1.0 7”, Samsung Galaxy Note I and II)
        - 7” Tablets: Screen Size is usually about 7” (ex. Samsung Galaxy Tab v2.0 7”, Google Nexus 7”)
        - Other Tablets: Screen size is usually greater than 7” (ex. Samsung Galaxy Tab v2.0 8.9”, Samsung Galaxy Tab 10.1”, Google Nexus 10”)

- For Apple devices:
    - iOS Versions Supported:
        - All iOS Versions 5.0 and above are supported
    - iOS Supported Devices:
        - iPhone 5S
        - iPhone 5C
        - iPhone 5

- iPhone 4S
- iPhone 4
- iPhone 3GS
- iPad Air
- iPad mini (retina)
- iPad mini
- iPad 4th gen
- iPad 3rd gen
- iPad 2nd gen
- iPad
- iPod touch 5th gen
- iPod touch 4th gen

Wireless Router

For the smart device application to manage your lighting locally within your home, your home network must use a wireless router to which your smart device is connected. While you can also connect remotely to your lighting network over the Internet or mobile data connection, it is not practical to do on a day-to-day basis at home. There are no requirements for the type of wireless router, as long as your smart device and Gateway are able to connect to it. It should be noted that almost all routers in the market support the UPNP (Universal Plug and Play) feature that allows the user to discover the Lighting Gateway through the Local Network. However, on some occasions, this discovery might fail to work, which is a known limitation of the UPNP technology. This is a rare occurrence and the problem can be seen with very few dual band routers. To mitigate this limitation, the end user

can try using a different router. Refer to your smart device's documentation for more information on connecting it to your home network.

Note: Your network lighting is designed for a wireless home network and not a corporate network.

Basic Concepts of Wireless Routers and Networks

Many homes today have a home network router to allow multiple devices in the home to connect to the Internet as well as each other. Many people use a wireless router as their network router so they are not tethered by a cable that physically connects them to the router. For example, most modern laptop computers and smart devices have internal wireless hardware that allows you to connect them to a wireless router without a physical cable.

Modem and Router Connection

In a typical home network configuration, the router (wireless or not) connects to a modem, which in turn connects to the Internet. For example, cable companies and DSL providers often provide their customers with a modem that connects directly to the cable company or DSL provider's network and thus to the Internet. You could connect a computer directly to this modem so that you can access the Internet through your computer's Web browser or other applications. However, many people connect a router to the modem instead to allow for multiple computers and devices to all share the same connection to the Internet through one modem. The router also allows the attached computers and devices to connect with one another.

Wireless Network

Before wireless networking became common, routers only allowed for computers and devices to connect physically through cables. This limited where you could place your computer or device based on the location of the router and the length of the cable. With the advent of wireless networking in the home (commonly referred to as “Wi-Fi”), many routers began including wireless technology in addition to the physical cable connections. This type of wireless router allows you to connect a wireless-enabled device from anywhere around the home as long as the wireless radio signal can be maintained. Many of the computers and devices built today come with internal wireless hardware so that they are ready to connect to your wireless network. As a wireless device, a smart device can connect to a wireless network, and applications installed on the smart device (including the lighting application) use that network connection to access the Internet or other devices on the home network.

Since any wireless device within radio range can connect to a wireless router (and thus the corresponding home network), wireless routers allow you to set up a user name and password so that wireless devices must be authenticated in order to connect. Modern smart devices support this type of wireless infrastructure. Typically, when you set up your wireless settings on your smart device, you store the user name and password for your wireless network so that your smart device is always connected when in range of your home network.

Wireless Lighting Network

Wireless lighting utilizes the router’s wireless technology to allow you to control and manage the lights from a smart device. To do this, the Gateway in the lighting kit is built to communicate with the wireless light bulbs. Since the Gateway connects to the wireless router, other devices connected to that same router (such as your smart device) can access the Gateway.

With your wireless light bulbs connected to the Gateway, your smart device can control the light bulbs as long as the smart device is running the appropriate application. The lighting application enables your smart device to connect to the Gateway through the home wireless router connection and in turn control and manage the attached network lighting.

Local vs. Remote Connection

In networking, the following terms are used to describe how a device may be connecting to the network:

- **Local** refers to a network connection when the device is connected directly to that network's router. For example, when you are at home, your smart device or Web browser (through your computer) would be connected to your wireless router and therefore would be connected locally. You would not have to use an Internet or mobile data connection because your smart device is already connected directly through your router. It can access your lighting network locally because your lighting network is also attached to the same router (through the Gateway).
- **Remote** (not to be confused with remote control) refers to a network connection when the device is **not** connected directly to that network's router. In this case, the device uses an Internet or mobile data connection to reach your network router. For example, if you are at work and need to access your network, you would access it remotely. With a remote connection, your device typically uses some form of authentication so that your network router knows that it can trust your device when it requests a connection. With the lighting network, you must have a password-protected online account to which you log in through a smart device. This authenticated login lets your network know that it is safe to accept the connection.

Example of Wireless Network

The following illustration shows an example of a wireless home network with lighting:

Basic Concepts of Network Light Bulbs

Network light bulbs work with your light fixtures the same way as standard light bulbs. They are different, however, in a couple of ways:

- The lighting element in the light bulb uses energy-efficient technology.
- The light bulb includes wireless technology that allows the light bulb to connect to a network and be managed remotely.

Because the light bulbs can be connected to a network, you have greater flexibility in how you use them. For example, you can program your lighting network so that when you press a button upon arriving home, an entryway and a hallway light turn on. Or when you go to bed, your remote control can turn off all lights on the network. You can also use your smartphone to control your lighting network and set up schedules to automatically turn your lights on and off at predefined times.

Maximum Number of Network Light Bulbs

There is a limit to the number of light bulbs at which the performance of the lighting network begins to decrease. For example, the time it takes a light bulb to respond may start to increase if too many light bulbs are installed on the lighting network. Testing has shown that the lighting network should be set to a maximum of 250 light bulbs to maintain reliability in performance.

Planning Your Lighting Network

Whether you have only one wireless light bulb or you are replacing your entire home with wireless light bulbs, you should plan how you want the lighting on your network to behave. For example, if you only have one light bulb you might want to place it in a central location that would be optimum for turning on and off when you are away or arrive home. If you have multiple light bulbs, however, you might want to set them up in rooms and lighting groups to be able to better manage them across your home.

Note: Light fixtures that have dimmer controls are not recommended for your network light bulbs. However, they can be used if the dimmer level is set to 100%.

Rooms

When organizing your network light bulbs, you can set them up into rooms. Then you can use your smart device to turn on and off light fixtures in selected rooms. A room is a set of network light bulbs that exist in a physical room in your home and can be controlled through your smart device or Web browser. For example, a bedroom in your home might have two light fixtures with network light bulbs and one fixture with a standard light bulb. The two network light bulbs in that bedroom are organized under that room. If you were to turn on all lights in that room, both network light bulbs would turn on.

Note: You cannot use your remote control to set up or control rooms.

Multi-fixture Lights

When installing light bulbs or setting up lighting groups, you should consider how you want multi-fixture lights to behave. Since power to the light has to remain on (so that you can access the light bulb from your smart device or remote control) you would use either all network light bulbs in a multi-fixture light or no network light bulbs at all.

When setting up your lighting through your smart device (which you will do in the *Smart Device Application* chapter), you will see that you can set up a “virtual” light fixture. This means that you can set up any grouping of light bulbs to operate (turn on and off together) as one multi-fixture light. Typically you will only use this feature to set up an actual multi-fixture light. However, you could also use it in cases where you have multiple lights that you want to behave as a multi-fixture light (for example, if you have two separate desk lamps that you want to operate together).

Network Range

If you are using a smart device or Web browser, then your network range is virtually unlimited since you can access your lights through the Internet. As long as your Gateway is connected to the Internet through a router, you could access your lighting network through your smart device or Web browser from a remote location.

For most of the time, you will likely access your lighting through your smart device when you are at home, in which case your smart device connects through your home network instead of the Internet. In this case, the range for your smart device is limited by the range of your wireless router.

Manually Powering Light Bulbs On and Off

Wireless light bulbs are powered through light fixtures the same way standard light bulbs are. However, you must leave the light fixtures in the on position so that power is available when using your smart device or remote control to turn the wireless light bulbs on and off. If power is removed from a light bulb, whether from power failure or from manually turning off the light fixture, the light bulb will turn off. When power is restored, all network light bulbs affected by the power failure, regardless of whether they were previously on or off, will automatically turn on at full brightness. The affected light bulbs will maintain their previous network settings so that you do not have to reassign names and rooms or reprogram Smart Controls.

Controlling Lights without Your Smart Device or Remote Control

If your smart device or remote control is not available and you want to turn on a network light bulb, you can manually turn off the light fixture, wait for 5 seconds, and then turn it back on. The intentional power failure and restoration will cause the light bulb to power on to full brightness.

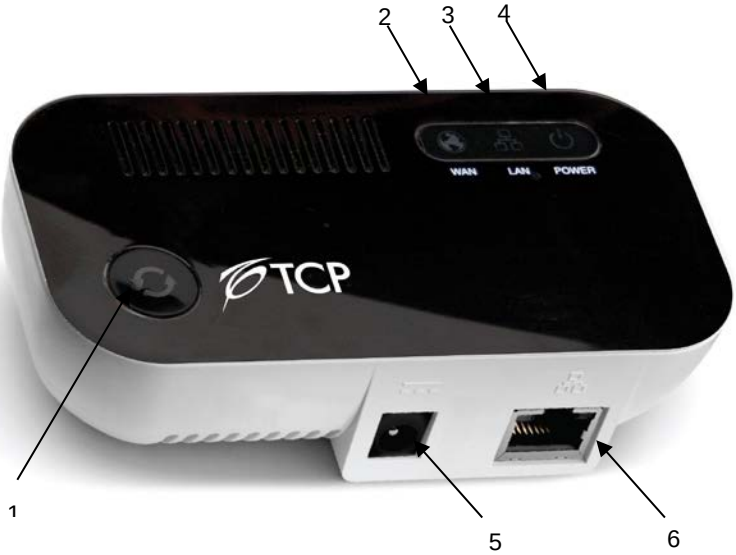
Similarly, if you want to turn off a network light bulb without your smart device or remote control, you can manually turn off the light fixture. Remember, though, that the light bulb cannot be controlled again with your smart device (including Smart Controls) or remote control until you turn power back on to the fixture. Also, when you eventually power the fixture back on, the affected light bulb will automatically turn on as discussed above.

Power Failure with Wireless Light Bulbs

During a power failure, network light bulbs will turn off since there will be no power being supplied to the affected fixtures. Since all affected light bulbs power on when power is restored, you will have to use your smart device or remote control to turn off any light bulbs you do not want to keep on. Remember, your Smart Controls will still work and continue to turn on or off any programmed light bulbs.

Gateway Overview

The following illustration shows the different ports, buttons, and indicators on the Gateway. You can use it as a reference during installation or while following the instructions for performing tasks.



1. Sync button: Button that syncs devices and shows current activity and status of synced devices.
2. WAN (Internet connection) error indicator: Indicator that shows whether or not the Gateway is connected to the Internet.
3. LAN (home network) error indicator: Indicator that shows whether or not the Gateway is connected to your network.
4. Power indicator: Indicator that shows whether or not the Gateway is powered.
5. Network socket (RJ45): Ethernet port to connect the Gateway to your network.
6. Power adapter socket: Socket to plug in the Gateway power adapter.

Gateway Indicators

Your Gateway has indicators that display the following patterns and colors to show you its current status:

Power indicator—off (no color): Gateway is off.

Network indicator—off (no color): Gateway is connected to the network.

Internet indicator—off (no color): Gateway is connected to the Internet.

Sync button—two green bars rotating clockwise: Gateway is in inclusion mode to connect with light bulbs. When inclusion is successful, the rotating bars stop and all bars turn green for several seconds (flashing bars mean inclusion was unsuccessful).

Power indicator—steady white: Gateway is on.

Network indicator—red: Gateway is not connected to the network. Check that the Gateway is connected to your network router.

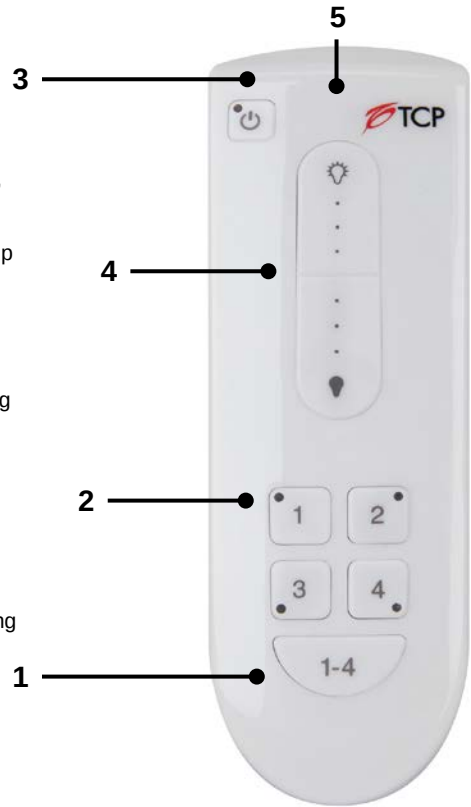
Internet indicator—red: Gateway is not connected to the Internet. Check that your network router has an active Internet connection.

Sync button—two green bars rotating counter-clockwise: Gateway is in exclusion mode to disconnect from light bulbs. When exclusion is successful, the rotating bars stop and all bars turn green for several seconds (flashing bars mean exclusion was unsuccessful).

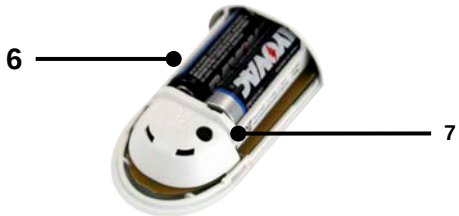
*Note on Internet Indicator – The Lighting Gateway will be able to talk to the cloud only if the Network allows outbound traffic to port 49494. If the Network does not allow this traffic, the WAN indicator will be lit up with a red light.

Remote Control Overview

The following illustration shows the different buttons on the remote control. You can use it as a reference while following the instructions for performing tasks.



1. Press the **1-4** button to select all lighting groups to turn on, turn off, dim, or brighten.
2. Press a **Group Number** button to select that lighting group to turn on, turn off, dim, or brighten. Also use these buttons to program the lights in the corresponding group. An indicator light above each number indicates the group number currently being used.
3. Press the **On/Off** button to turn on or off the lights in the selected lighting group(s). Lights turn on to the previous dimming level.
4. Press and hold the **Dimmer** to dim or brighten the lights in the selected lighting group(s). Lights get dimmer the further you press downwards and get brighter the further you press upwards.
5. The primary status indicator lights or flashes during different activities with the remote control.
6. The battery compartment on the back holds 2 AA batteries.
7. Press the **Program** button (inside battery compartment) to initiate programming of lighting groups and other remote control programming functions.



Remote Control Indicators

The remote control has four group number indicator lights and one primary status indicator light that display the following patterns to show you the remote control's status during different processes:

Process	Indicator and Description
Initial Remote Control Setup	**Primary indicator flashes steadily:** During the process of installing batteries for the first time, the remote control is determining the best signal for your lighting system.
Adding Light Bulbs to Network	**Group number indicator flashes steadily:** The corresponding lighting group is the active group for the new light bulbs to join. **Primary indicator flashes rapidly:** The remote control has found a new light bulb within range. After the light bulb is successfully added to the network, the indicator stops flashing. **Primary indicator turns on solid:** The light bulb has been successfully added to the network.
Removing Light Bulbs from Network	**Group number indicator and primary indicator flash slowly for 30 seconds:** One or more light bulbs have been removed.
Working with One Lighting Group	**Group number indicator turns on, and primary indicator remains off:** The corresponding lighting group has been selected, and its last state was off. **Group number indicator and primary indicator turn on:** The corresponding lighting group has been selected, and its last state was something other than off (for example, lighting group was on or was dimmed to a certain level).
Working with All Lighting Groups	**All group number indicators turn on, and primary indicator remains off:** All lighting groups have been selected, and their last state was off. **All group number indicators and primary indicator turn on:** All lighting groups have been selected, and their last state was something other than off (for example, lighting groups were on or were dimmed to a certain level).
Cloning the Remote Control	**Primary indicator flashes steadily:** The remote control is in cloning mode. **Primary indicator flashes rapidly:** The remote controls are transferring data between each other. **Primary indicator turns on solid:** Both remote controls have finished the cloning process successfully. **Group number indicators flash steadily for 2 seconds:** The cloning process timed out or failed.

*NOTE: Cloning process for the Remote Control only works if there is no Lighting Gateway in the setup. IF you have a Lighting Gateway in the setup, the second Remote Control needs to be paired to the Lighting Gateway so that it gets cloned to the first Remote Control (which is already paired to the Lighting Gateway)

Installation and Setup

Installation of your lighting kit includes the following tasks:

1. Install the Gateway.
2. Install the light bulbs on your network.
3. Download and install the smart device application.
4. Set up the light bulbs in the smart device application
5. If you will be using the remote control with your lighting network, then you must also prepare it for use.

Note: Also see the installation tips at the end of this chapter.

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1. Reset Existing Network Light Bulbs, if Any

If you are not upgrading from a remote control lighting kit, you can skip this step. If you are upgrading from a remote control lighting kit, then you must reset all light bulbs that you previously installed as part of that kit's setup. The easiest way to reset all light bulbs is to do so using the following procedure.

1. Turn the main switch ON for two seconds.
2. Turn the main switch OFF for two seconds.
3. Repeat steps 2 and 3 for two more times.
4. Turn ON the switch after the last try so that the bulb remains ON.
5. Notice that the bulbs start to dim and brighten indicating that they have been reset and have been removed from their association with the Remote Control they were paired to.

When the light bulbs have been removed from the network, they will brighten and dim, at which time you can add them to your new network.

After resetting the light bulbs, the Remote Control also needs to be reset to its factory default conditions. This is the Remote Control that came with the kit you are upgrading.

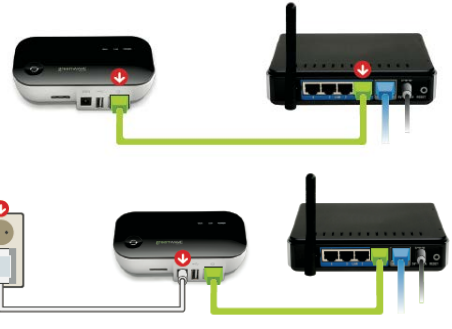
1. Remove the battery cover from the back of the original remote control so you have access to the **Program** button.
2. On the remote control:
    a. Press and hold the **Program** button.

b. While pressing the **Program** button, press and release the **On/Off** button (keep the **Program** button pressed).
c. While still pressing the **Program** button, press and release the **1-4** button.
d. While still pressing the **Program** button, press and release the **On/Off** button again.
e. Release the **Program** button. All group number indicator lights and the primary indicator light flash slowly for 30 seconds.

2. Install the Gateway

Since the Gateway connects to your home network router, make sure you have space near your router to place the Gateway. We recommend that you to place the Gateway at least a meter from the network router to avoid any interference with the Wi-Fi signal. In the event of frequent disconnections of the light bulbs with the Gateway, the first option would be to procure a lengthier Ethernet cable and place the gateway as far as possible from the wireless router. Of course, the Gateway needs to be placed in a centralized location depending on the number of light bulbs you have installed in order to achieve a good performance in wireless connectivity with the light bulbs. You can also mount the Gateway to your wall (discussed in the next section). Use the following steps to install the gateway:

1. Make sure your router is already connected to your home network.
2. Connect the Gateway to any available port in your router using the included Ethernet cable.

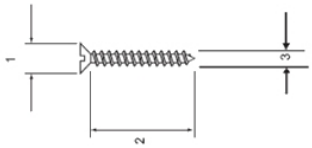


3. Power the Gateway by plugging it into an electrical outlet using the included power adapter. The Gateway illuminates while it is attempting to connect to the Internet.
4. Verify that the Gateway is connected. The Gateway is connected when both the network indicator and the Internet indicator turn off, the sync button is green, and the power indicator is white

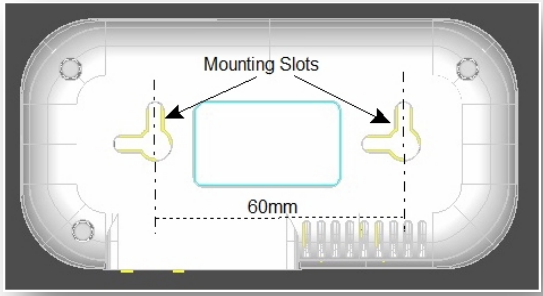
Mounting the Gateway on a Wall

You can mount the Gateway to a wall with screws, using the mounting slots located on the back of the Gateway. As shown in the illustration, you should use two self-tapping screws for mounting with the following dimensions (also refer to the corresponding illustration callouts):

1. 5.3 mm
2. 15 mm
3. M3



Screw the self-tapping screws into the wall, level with a distance of 60 mm between the center point of the two screw heads. Hang the Gateway by sliding the holes



on the back of the unit over the screws and then gently pressing the Gateway downward until it is secure.

3. Download and Install the Smart Device Application

The smart device application installs like other applications you may already have on your smart device. At the application download site for your device, search for **TCP Lighting**. When you find the application, simply download and install it. Refer to the *Smart Device Application* chapter for more information about the application's basic user interface.

Startup and Login

Make sure your smart device is connected to and in range of your wireless router, and then start the application on your smart device. When the application starts, it automatically searches for your Gateway through your wireless router. If the application finds a Gateway on your local network, it automatically connects to the associated lighting network.

Note: For future connections, if your smart device does not find a local Gateway, it will try to access your Gateway remotely via the Internet or mobile data connection. For more information on UPNP, refer to "Wireless Router" section under chapter System Requirements. For your smart device to connect remotely to your Gateway you must already have created an online account (explained next) and your Gateway must be connected to the Internet (for example, through your router).

Account Setup

Most of the time, you will probably access your lighting network when you are at home and connected to your home network. However, if you want to have access to your lighting kit remotely through the Internet or a mobile data connection, you must first set up an online account. This account will provide authentication for you when you access your lighting kit remotely. You must remain connected locally to your lighting network when you create your account.

To set up your account:

1. Tap the **Settings** menu at the bottom of the page.
2. When the **Settings** page opens, tap **Setup Remote Access**.
3. When the **Account Setup** page opens, type your email address and password (you must enter your password twice to confirm it).
4. Tap **Save**.
5. A message opens when your account is created successfully. Tap **Ok** to close the message. If an error should occur, a message opens to guide you through correcting the issue.
6. When your account is created, we automatically send you an email to confirm your new account and email address. **You must follow the instructions in the confirmation email for your account to be activated.**

4. Install Light Bulbs on Network (through Manual Gateway Operation)

The light bulbs in your lighting kit come pre-connected to the Gateway; however, you must still install the light bulbs so that the Gateway can find them on the network.

Note: If you are installing a new light bulb that did not come with your kit (for example, if you reset network light bulbs from a remote control kit), then you must manually connect the light wirelessly to your Gateway. In this case, you should be ready to access your Gateway during the steps below, as you will have to press its sync button to engage the network connection. You can also power up the new light bulb (which will dim and brighten) and use the "Add New Lights" option on the Local Mobile Application to add the bulb/s to the Lighting Gateway.

Before installing the light bulbs, determine the appropriate locations in your home for installing them. The *Lighting Kit Overview* chapter provides information on planning your lighting network. When you are ready to install the light bulbs, perform the following steps:

1. Turn power **OFF** to the light fixtures where you will be installing the network light bulbs.
2. Remove any existing standard light bulbs from the light fixtures.
3. Install each network light bulb into the light fixtures as you would any standard light bulb.
4. Turn power on to the light fixtures.
5. If you are installing only light bulbs that came with your kit, you can skip this step. However, if you are also installing light bulbs that did not come with your kit (for example, if you reset network light bulbs from a remote control kit), then you must connect them to your Gateway:
    a. When you turn power on, the light bulbs will brighten and dim while attempting to connect wirelessly to your Gateway.

b. Press the sync button on the Gateway once to enable the connection. The activity indicator begins to display a clockwise rotating pattern.

c. When the light bulbs are connected to your Gateway, they turn on to full brightness. Press the sync button on the Gateway again to stop the network search process (otherwise the Gateway will stop the search process automatically in two and half minutes after finding the most recent light bulb).

6. If a light fixture has a dimmer control (not recommended), set the dimmer level to full brightness.
7. Leave the light fixture switches **ON** so that power is available to the light bulbs.

5. Set up Light Bulbs in Application

With your light bulbs, Gateway, and application installed, you can use your smart device to set up the lights on your network:

1. Open the application on your smart device. The application automatically finds the light bulbs connected to the Gateway and prompts you to set them up:

2. Tap **Yes**. Your smart device then walks you through setting up each new light bulb.
3. Look for the light bulb that is dimming and fading. This is the light bulb you are currently configuring on your smart device.
4. The setup wizard guides you through specifying a name light, assigning a room for the light, and selecting an icon (or taking a picture of the light) to help identify the light.
5. Repeat these steps for each flashing light bulb.

Note: If you skip setting up light bulbs during installation, the light bulbs automatically get grouped under the black room color. You can update the light bulb settings any time using the information in the *Smart Device Application* chapter.

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6. Prepare the Remote Control (Optional)

If you will be using the remote control with your lighting network, then you must also prepare it for use. Refer to the steps in the *Remote Control* chapter. Also, if you are upgrading from a remote control lighting kit, then you

must manually connect the old remote control to your Gateway. These steps are also provided in the *Remote Control* chapter.

Installation Tips

Review the safety information. Be sure to review the information contained in the “Safety Information” chapter for important safety information you should follow.

Keep radio signals clear. The hardware in your lighting kit has antennas built-in for radio communication. Just as you might experience reception problems on your mobile phone inside a building, the hardware in your lighting kit can have trouble communicating if the radio signals are blocked by obstacles such as large metal panels or walls containing wire mesh. When placing these devices in your home, imagine invisible lines connecting between them. Try to keep these lines clear from obstruction as much as possible. Place your Gateway at least 5 feet (1.5 meters) above floor level to promote reception.

Smart Device Application

The smart device application makes working with your network lighting easy by allowing you to use your Smartphone, Tablet (or iTouch), or TV to set up, manage, and control your lights. Using your smart device, you can configure lights into rooms and lighting groups, turn lights on and off, set up Smart Controls to automatically control lights, and much more.

Network Connection

When you start the smart device application, it automatically searches for your Gateway through your wireless router. If the application finds a Gateway on your local network, it automatically connects to the associated lighting network. If your smart device does not find a local Gateway, it will try to access your Gateway remotely via the Internet or mobile data connection. For your smart device to connect remotely to your Gateway you must already have created an online account (discusses in the *Installation and Setup* chapter) and your Gateway must be connected to the Internet (for example, through your router).

Note: This connection process applies to any local network and Gateway in range of your smart device. For example, if you are at a friend's home and they have a similar lighting kit set up, your smart device application will connect to their lighting Gateway if you are connected to their local network through their wireless router (which means your friend would have given you access to log in to their home network). To access your own network remotely, you would have to log out of the application and then log in again using your online account information. Note that at any point only ONE lighting gateway can be connected to a single router in the network. When there are multiple lighting gateways connected to the same network, it would result in the improper usage of the "Gateway Discovery" option on the mobile application.

My Lights

You can control your lighting network from your smart device by accessing the **My Lights** page. This page shows all of your light bulbs and fixtures available on your lighting network, sorted by rooms and room colors.

Besides controlling your lighting at the **My Lights** page, you can also save a custom scene to Smart Control. This custom scene is the current status of all network lights or the lights in a particular room.

To save a custom scene:

1. Tap the **Save a Custom Scene** menu on the right which is next to **Dim Room** menu.
2. Type your Scene Name and change an Icon to what you like.
3. You can choose Scene Settings to **This Room** or **All Rooms**.
4. Tap **Save** when you finish and this custom scene will be saved to your Smart Control.

Room and room color

Swipe screen left or right to navigate rooms

Light bulb dimmer

Drag down to dim or drag up to brighten light bulb

Light bulb/fixture control

Tap to turn light bulb/fixture on or off. Light turns on to the most recent dimmer setting. Swipe screen up and down to access all light bulbs/fixtures if the room contains more than can fit on one page.

Room On/Off

Tap corresponding button to turn on or off all lights in the room.

Room dimmer

Tap to open dimmer control to dim or brighten all lights in room.

My Lights menu

Tap to access this page.

Smart Controls

Smart Controls allow you to set up user-defined schedules and other controls for automatically turning your lighting on or off. For example, you can set up a Smart Control schedule that automatically turns on selected lights at sunset and then turns the light bulbs back off at midnight. Smart Controls can control one or more light bulbs, light fixtures, or entire rooms.

Keep in mind that activating a Smart Control is a different action than turning on lights. A Smart Control could be set up to turn lights on, turn lights off, or a combination of both. Activating a Smart Control simply takes whatever action the Smart Control is set to perform.

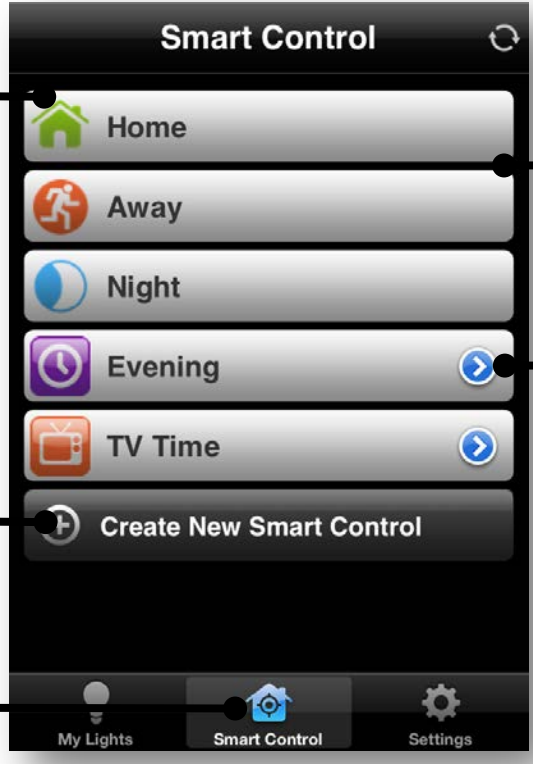
You can activate, create, and edit Smart Controls on the **Smart Control** page. This page includes default Smart Controls as well as your own custom Smart Controls.

For Smart Control, you need to be careful with what "devices" you select. They could be ***room(s)*** *or* ***light bulb(s)****. If you select* ***rooms(s),*** *when you remove one light bulb from that selected room, and assign it to a new room, the Custom Smart Control will not take action to that light bulb anymore. However, if you select* ***light***

bulb(s)*, no matter how you edit or mange the rooms, the Custom Smart Control will still take action to the light bulbs that are selected.*

Smart Control list

Tap to activate *Manual Smart Control* or a *Custom Scene*



Default Smart Controls

Home, **Away**, and **Night** are default Smart Controls that come preconfigured.

Custom Smart Controls

Swipe the arrow to edit the settings of a custom Smart Control or to access the delete feature to remove the custom Smart Control.

Create Smart Control

Tap to start wizard to create your own custom Smart Control.

Smart Control menu

Tap to access this page.

Default Smart Controls

Current features:

The **Smart Control** page includes a set of default Smart Controls that come preconfigured within the application:

- The **Home** Smart Control is typically used when people return home after being away. This Smart Control turns on all of your network light bulbs to full brightness.
- The **Away** Smart Control is typically used when everyone leaves the house (for example, when going to school or work for the day). This Smart Control turns off all lights.
- The **Night** Smart Control is typically used when everyone goes to bed for the night. This Smart Control turns off all lights on your network. Custom Smart Controls

In addition to the default Smart Controls, you can create your own custom Smart Controls.

There are three types of custom Smart Controls:

- A **schedule** Smart Control allows you to automatically turn on and off lights based on specific days and times. For example, you could use this Smart Control to have selected lights automatically turn on at sunset and turn off at midnight.
- A **Manual Control** Smart Control allows you to turn the lights on or off using your Smart Phone, or the web.
- A **Custom Scene** Smart Control allows you to set devices both on and off or set specific dimming levels. Also you may schedule when this Smart Control is activated. Keep in mind that activating a Smart Control is a different action than turning on lights. **A Custom Scene** Smart Control could be set up to turn lights on, turn lights off, or a combination of both. Activating a Smart Control simply takes whatever action the Smart Control is set up to perform.

➢ To create a **Schedule** Smart Control:

1. Tap the ***Smart Control*** menu at the bottom of the page.
2. When the ***Smart Control*** page opens, tap ***Create New Smart Control***. A setup wizard guides you through setting up your Smart Control.
3. On the first page of the wizard, tap ***Choose Name*** to type a name for your new Smart Control, and tap ***Choose Icon*** to select an icon to associate with it. When you are ready to continue, tap ***Next***.
4. Tap ***schedule***.

5. Tap to select the rooms, lights, and/or fixtures you want to turn on or off with this Smart Control, and then tap *Next*.
6. Edit Schedule
    i. Tap ***ON/OFF***
    ii. Create new ***ON*** and ***OFF*** times, then tap ***Next*.**
7. Confirm your selections. Tap an item if you want to change it. Tap ***Confirm*** to save the Smart Control

- To create a **Manual Control** Smart Control:

1. Tap the ***Smart Control*** menu at the bottom of the page.

2. When the ***Smart Control*** page opens, tap ***Create New Smart Control***. A setup wizard guides you through setting up your Smart Control.
3. On the first page of the wizard, tap ***Choose Name*** to type a name for your new Smart Control, and tap ***Choose Icon*** to select an icon to associate with it. When you are ready to continue, tap ***Next***.
1. Tap ***Manual Control***.
2. Tap to select the rooms, lights, and/or fixtures you want to turn on or off with this Smart Control, and then tap ***Next***.
3. Tap ***Confirm***.

4. In ***Smart Control***, tap the Manual Control name you just created. You can turn on or off the lights selected in that smart control as you tap ***Power On*** or ***Power off.***

- To create a **Custom Scene** smart Control:
  1. Tap the ***Smart Control*** menu at the bottom of the page.
  2. When the ***Smart Control*** page opens, tap ***Create New Smart Control***. A setup wizard guides you through setting up your Smart Control.
  3. On the first page of the wizard, tap ***Choose Name*** to type a name for your new Smart Control, and tap ***Choose Icon*** to select an icon to associate with it. When you are ready to continue, tap ***Next***.
  4. Tap ***Custom Scene.***
  5. Tap to select the rooms, lights, and/or fixtures you want to turn on or off with this Smart Control, and then tap ***Next***.
  6. For the selected rooms, or selected lights and fixtures, tap the option to turn lights on or off, or drag the slider control to set dimmer level when light turns on. Tap ***Next*** when you are ready to continue.
  7. Tap ***No*** if you don't want this **Custom Scene** Smart Control to be activated automatically based on your schedule.

     Tap ***Yes*** if you would like to create a **schedule** to activate this **Custom Scene** Smart Control:
     a. Tap ***Active*** and tap ***Create New Activate Time*** to set the time of day for activating this Smart Control. Remember, activating this Smart Control is not the same as turning

lights on. Activating the Smart Control means that the Smart Control will take the action you set in step 6 at the time you schedule. You have two options for setting this time:

- **Sunrise/Sunset** activates the Smart Control at sunrise or sunset (whichever you select). By using this option the actual activation time will automatically change as the time of sunrise and sunset changes throughout the year.
- **Set Time** activates the Smart Control at the exact time of day you specify.

b. Tap ***Next*** when you finish setting the activate time. You can create multiple active time for this smart control you are creating.

c. Tap ***Days of Week*** to select the days you want the Smart Control to run (at the activation times specified above).

d. After the days and times are set, tap ***Next***.

8. Confirm your selections. Tap an item if you want to change it. Tap ***Confirm*** to save the Smart Control.

Settings

The **Settings** page allows you to perform such tasks as edit lights, create fixtures, manage rooms, and add new light bulbs. You can also access this page if you want to set up your online account for remote access to your lighting network (discussed in the *Installation and Setup* chapter) or to log out of the application. Note that these detailed settings options are available only on the Local Mobile Application.

Your lights and fixtures

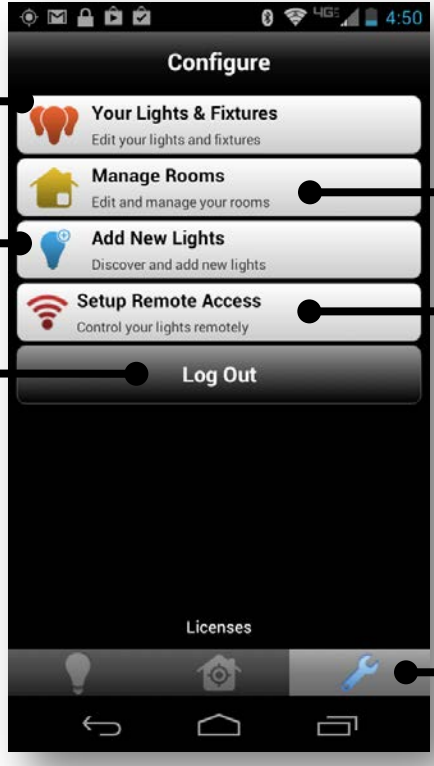
Tap to view the list of all lights and fixtures on your network, create a new fixture, or edit settings for a light or fixture.

Add new lights

Tap if you have added a new light bulb to your network and need to have the application connect it to the gateway.

Log out

Tap to log out of the application.



Manage rooms

Tap to perform such tasks as create a new room, rename a room, change a room color, and organize lights into a room.

Set up remote access

Tap to set up your online account to access your lighting network remotely (discussed in the *Installation and Setup* chapter).

Settings menu

Tap to access this page.

Managing Rooms

Creating a New Room

You can create rooms to represent the physical rooms in your home and group their corresponding lights. To create a room:

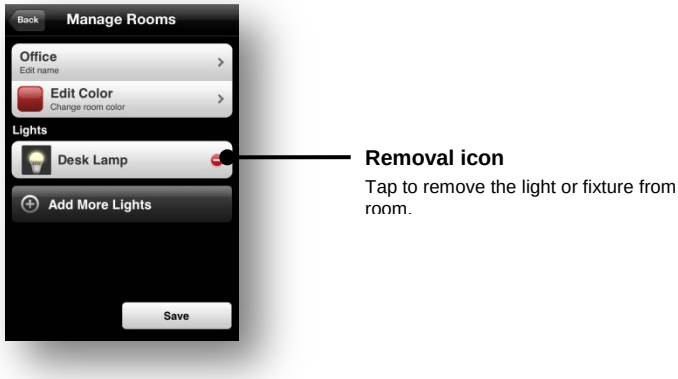
1. Tap the **Settings** menu at the bottom of the page.
2. When the **Settings** page opens, tap **Manage Rooms**.
3. When the **Manage Rooms** page opens, tap **Create New Room**.
4. On the **Create New Room** page:
    a. Tap **Enter Room Name** to type a name for your new room.
    b. Tap **Edit Color** to select a color to represent the room.
    c. (PS: there will not be any lights under the New room you're creating) Tap **Add More Lights** if you added new light bulbs that have not yet been assigned to a room.
    d. When you finish setting the room properties, tap **Save**.

Editing a Room

To edit a room, including the lights and fixtures assigned to the room:

1. Tap the **Settings** menu at the bottom of the page.
2. When the **Settings** page opens, tap **Manage Rooms**.
3. When the **Manage Rooms** page opens, tap the room you want to edit.

4. When the room page opens, tap any of the items you want to edit (such as the room name or color), and make your edits.
5. To remove a light or fixture from the room, click that light's or fixture's removal icon:



6. To add a light or fixture to the room, tap **Add More Lights**.
7. When you are finished with your edits, tap **Save**.

About the Black Room Color

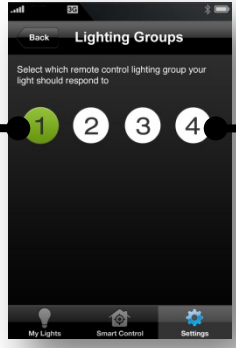
When new light bulbs are added to your network, they initially are assigned by default to the black room color as an "unknown" room. Typically, during the setup wizard for a new light bulb, you assign a specific room and room

color for the new bulb. However, if you skip the setup wizard process, the light bulb remains grouped under the black room color. You can move a light bulb to a different room and room color at any time (refer to the *Settings* section later in this chapter).

Managing Lighting Groups

You can organize your light bulbs into lighting groups so that you can control groups of them together through your remote control (refer to the *Remote Control* chapter). To add or remove a light bulb from a lighting group:

1. Tap the **Settings** menu at the bottom of the page.
2. When the **Settings** page opens, tap **Your Lights & Fixtures**.
3. When the **Lights & Fixtures** page opens, tap the light bulb you want to add or remove from a lighting group. The **Light** page opens and the selected light begins to dim and brighten to help you physically identify it.
4. Tap Choose **Control Groups**
5. When the **Lighting Groups** page opens, tap the lighting group numbers to add or remove the light bulb from those lighting groups. The light bulb belongs to a lighting group when the number is shaded. You can add the light bulb to as many as all four lighting groups.



Selected Lighting Group

The light bulb belongs to a lighting group if the number is shaded.

Unselected Lighting Group

The light bulb does not belong to a lighting group if the number is not shaded.

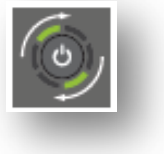
Managing Lights and Fixtures

Adding Light Bulbs to Your Network

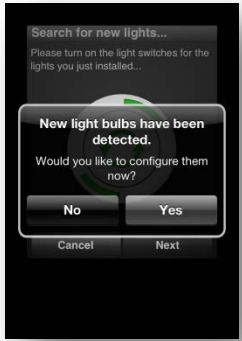
When you first set up your lighting network, the application walks you through setting up all of the light bulbs in your kit. If you add a new light bulb to your network, you must connect to and set up that light bulb. When you perform this procedure to add new light bulbs, be sure you can access your Gateway since it is part of the installation process. The following procedure allows you to add one or more light bulbs:

1. Turn power **OFF** to the light fixtures where you will be installing the new network light bulbs.
2. Remove any existing standard light bulbs from the light fixtures.

3. Install the new network light bulb into the light fixtures as you would any standard light bulb.
4. Turn power on to the light fixtures. The light bulbs will brighten and dim while attempting to connect wirelessly to your Gateway.
5. Press the sync button on the Gateway once to enable the connection. The activity indicator begins to display a clockwise rotating pattern.



6. When the light bulbs are connected to your Gateway, they turn on to full brightness. Press the sync button on the Gateway again to stop the network search process (otherwise the Gateway will stop the search process automatically in two and a half minutes after finding the most recent light bulb).
7. If a light fixture has a dimmer control (not recommended), set the dimmer level to full brightness.
8. Leave the light fixture switches **ON** so that power is available to the light bulbs.
9. In your application, tap the **Settings** menu at the bottom of the page.
10. When the **Settings** page opens, tap **Add New Lights**.
11. Your smart device begins searching for light bulbs that are not already set up on your network. When a light bulb is identified, it begins to dim and fade. It may take several moments until your smart device finishes searching for new light bulbs. When it has finished, it confirms that it has detected new light bulbs:



12. Tap **Yes**. Your smart device then walks you through setting up each new light bulb.
13. Look for the light bulb that is dimming and fading. This is the light bulb you are currently configuring on your smart device.
14. The setup wizard guides you through specifying a name light, assigning a room for the light, and selecting an icon (or taking a picture of the light) to help identify the light.

Creating a Fixture

You can set up any grouping of light bulbs to operate as one multi-fixture light. You would typically use this feature to set up an actual multi-fixture light. However, you can also use it when you have multiple lights that you want to behave as a multi-fixture light. For example, you might have two separate desk lamps that you want to

control together. You could create a fixture that includes both of them so that you can control them together as if they were part of one light fixture. Then you could perform tasks on that fixture, such as turning it on or off, dimming or brightening the lights, or creating a Smart Control to control it.

To create a fixture:

1. Tap the **Settings** menu at the bottom of the page
2. When the **Settings** page opens, tap **Your Lights & Fixtures**.
3. When the **Lights & Fixtures** page opens, tap **Create New Fixture**.
4. On the **Fixture** page:
    a. Tap **Choose Name** to type a name for your new fixture.
    b. Tap **Choose Room** to select or create the room where your fixture will be located.
    c. Tap **Choose Icon** to select an icon to associate with the fixture. You can select from any of the following types of icons:
        - **Default Icons** include standard light bulb icons that come with the application.
        - **Saved Images** allows you to select a picture that exists on your smart device.
        - **Create New** allows you to use your smart device's camera to take a picture (usually of the light or fixture) to use as the icon.
    d. Tap **Select Additional Bulb** to add each of the light bulbs you want to include in the fixture. Tap **Back** when you finish adding all bulbs to this fixture.
    e. When you finish setting the fixture properties, tap **Save**.

Editing a Light or Fixture

Before starting this procedure, make sure the light or fixture you are editing is powered on.To edit a light or fixture on your network:

1. Tap the **Settings** menu at the bottom of the page.
2. When the **Settings** page opens, tap **Your Lights & Fixtures**.
3. When the **Lights & Fixtures** page opens, tap the light or fixture you want to edit. The **Light/Fixture** page opens and the selected light or fixture begins to dim and brighten to help you physically identify it.
4. Tap any of the items you want to edit (such as the name or room), and make your edits.
5. When you are finished with your edits, tap **Save**.

Removing a Light or Fixture from Your Network

Before starting this procedure, make sure the light or fixture you are removing is powered on.To remove a light or fixture from your network:

1. Tap the **Settings** menu at the bottom of the page.
2. When the **Settings** page opens, tap **Your Lights & Fixtures**.
3. When the **Lights & Fixtures** page opens, tap the light or fixture you want to remove. The **Light/Fixture** page opens and the selected light or fixture begins to dim and brighten to help you physically identify it.
4. Tap **Delete**.
5. When prompted, confirm that you want to delete the light or fixture.

Removing a Light Bulb Manually

If the Smart device, Web browser, or handheld remote control is not available you can remove a light bulb from the network by turning power to the light fixture off and on three times consecutively to reset the light bulb. During this process, leave the power off for at least two seconds and then on for one second (after the third cycle, leave the power on). When the light bulb has been removed from the network, it will brighten and dim continually.

Remote Access

After you have created an online account (discussed in the *Installation and Setup* chapter), you can access your lighting network remotely. When you start the application, it automatically tries to find a Gateway on any network to which you may be connected. If the application does not find a Gateway, it opens a login page for you to enter your user name (email address) and password to access your lighting network remotely. Once you have successfully logged in, you can manage your lighting network the same way as if you were connected locally.

If your application does find a Gateway, it connects to the lighting network attached to that Gateway. For example, if you are at a friend's home and they have a similar lighting kit set up, your application will connect to their lighting Gateway if you are connected to their local network through their wireless router (which means your friend would have given you access to log in to their home network). To access your own network remotely, you would have to log off of the application and then log in again using your online account information. To do so:

1. When you start the application, tap the **Settings** menu at the bottom of the page.

2. When the **Settings** page opens, tap **Log Out**. The application logs you off of the current network and opens the login page for you to log in to your own account.
3. On the login page enter your user name (email address) and password, and then tap **Login**.
4. Once you have successfully logged in, you can manage your lighting network the same way as if you were connected locally.

Forgotten Password

If you forget your password, you can reset it:

1. Access the login page (discussed above) as if you were going to log in to your account.
2. Tap **Login** without entering your user information. When your login attempt fails, the **Reset Password** page opens.
3. Type the email address associated with your account (this is the same as your user name), and then tap **Ok**. A confirmation email is sent to your email address.
4. When you receive the confirmation email, click the link to approve the password reset and specify a new password.

Web Application

While you will typically use the lighting application on your smart device to manage your lighting network, you can also use your computer's Web browser to access our Web-based application to manage your lighting network. The Web application has the same options as your smart device application for managing and controlling your lights.

Web Application and Your Network

To use the Web application with your lighting network, your computer must be connected to your **local network** (connected to your network router). The Web application runs directly from your Gateway and no Internet connection is necessary. You cannot connect to the Web application remotely (only the smart device application can connect remotely).

Accessing the Web Application

You can access the Web application on your computer using any of the Web browsers listed in the *System Requirements* chapter. Use either of the following Web addresses, depending on your type of system:

- On a PC: **lighting**
- On a Mac: **lighting.local**

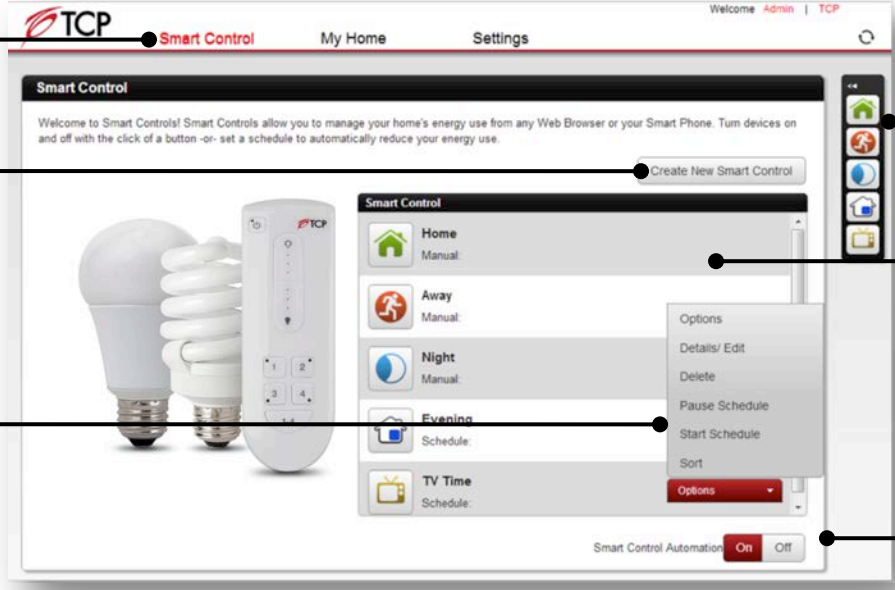
Smart Controls

As with the smart device application, you can access the **Smart Control** page to create, edit, and activate default Smart Controls and your own custom Smart Controls:

Smart Control menu
Click to access this page.

New Smart Control
Click to start wizard to create a custom Smart Control.

Options
Button appears when you place mouse over the Smart Control. Click button to open popup menu:
Details/Edit: Change properties of the Smart Control.
Delete: Delete a custom Smart Control.
Pause Schedule: Prevent the schedule from activating the Smart Control.
Start Schedule: Restart a paused Smart Control schedule.
Sort: Cursor changes to allow you to drag Smart Controls to change the order they appear in the list.



Smart Control toolbar
Click an icon to quickly activate that Smart Control.

Default Smart Controls
Home, **Away**, and **Night** are default Smart Controls that come preconfigured.

Override Smart Controls
Click to turn on or off. When turned off, scheduled Smart Controls will not activate.

Light Selection in Smart Controls

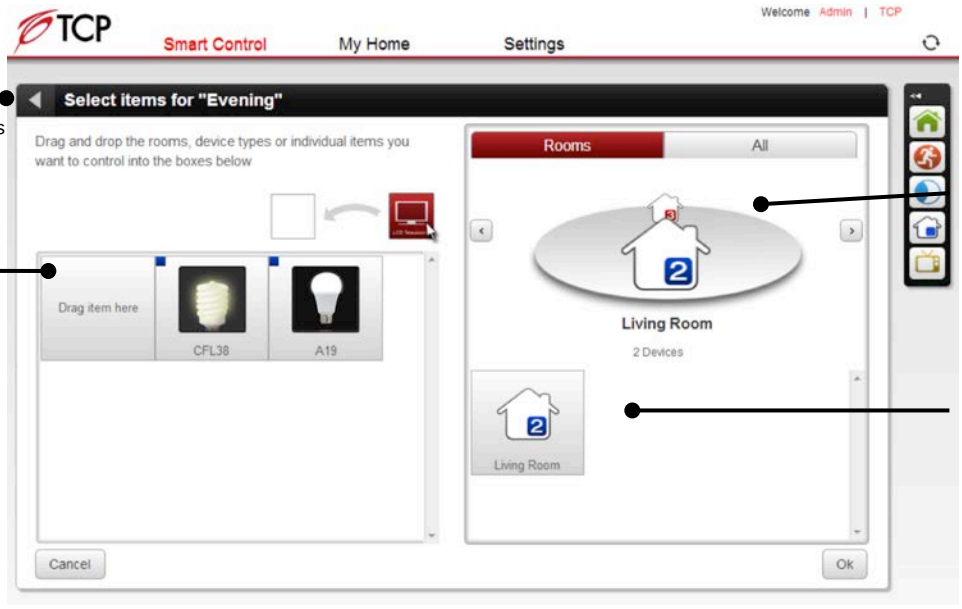
When creating or editing a Smart Control, the selection page allows you to select the lights and rooms you want to control:

Back

Click to return to the previous page.

Included items

Drag any of the available rooms or lights from the right side to include them in the Smart Control. For a **schedule** Smart Control, all of the selected items turn on and off together. For a **lighting scene**, you can also specify on, off, and dimmer settings for each item individually, allowing you to turn on and off lights differently, depending on your needs.



View items to select

Click the **All** tab to access all rooms and lights together on one page. Click the **Rooms** tab to access available lights room-by-room. Under the **Rooms** tab, use the carousel to select a specific room.

Available items

Drag any of the available rooms or lights to the left side to include them in the Smart Control. Drag them back from the left side to remove them from the Smart Control.

Schedule Setting in Smart Controls

When creating or editing a schedule or lighting scene Smart Control, the schedule page allows you to specify the days and times to activate and deactivate the Smart Control:

Back

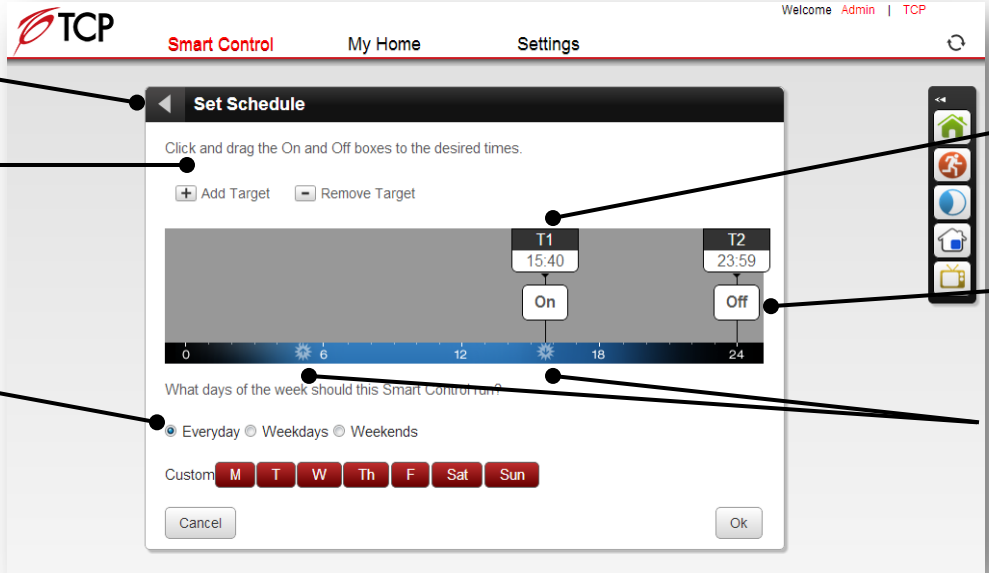
Click to return to the previous page.

Target options

Click the **+** button to add a new target (a time at which lights are turned on or off) to the schedule. You can have multiple targets. Click the **-** button to remove a selected target from the schedule.

Day selection

Select the days of the week you want the Smart Control to run. You can select every day of the week, only weekdays, or only weekends. Or you can create a custom schedule by selecting specific days of the week.



Target schedule slider

Drag the target slider to the time you want the Smart Control to activate or deactivate.

Activation

Click the box to specify whether you want the Smart Control to activate (**On**) or deactivate (**Off**) at the scheduled time.

Sunrise and Sunset

Use these icons to set the scheduled time to sunrise or sunset. The time adjusts automatically throughout the year as sunrise and sunset changes. Drag the target schedule slider close to the icon, and then click the icon to snap the slider into place.

My Home

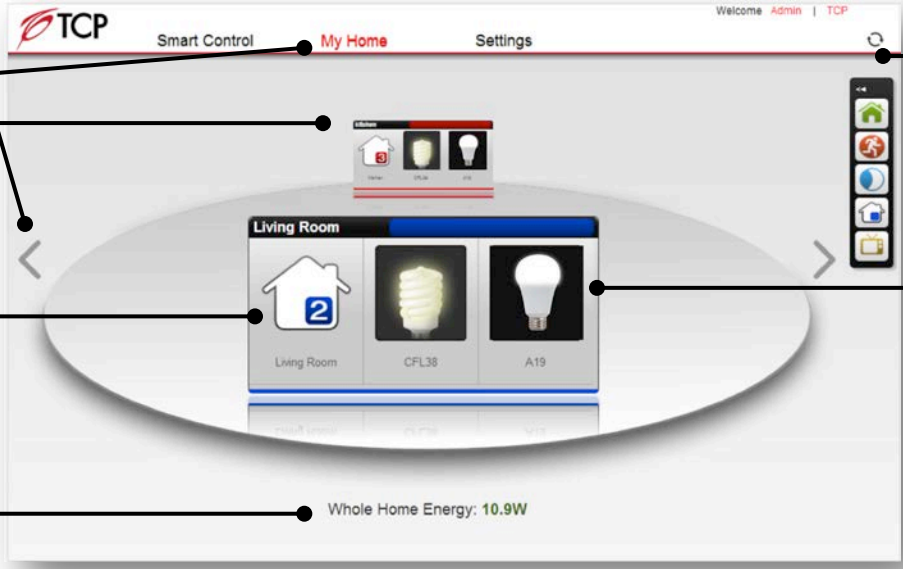
The **My Home** page allows you to control your lighting network. This page is similar to the **My Lights** page in the smart device application and provides access to all of your light bulbs and fixtures on your lighting network:

My Home menu
Click to access this page.

Room card selection
Click a room card to bring it to the front, or click the left or right arrows to bring each room card to the front, one at a time.

Room access
Click to edit room properties or manage all lights in the entire room.

Energy use
View the current and average energy use for the lights in the selected room.



Smart Control toolbar
Click an icon to quickly activate that Smart Control.

Light or fixture access
Click to edit or manage a specific light or fixture.

Room Selection from My Home Page

When you select a room on the **My Home** page, you can manage all of the lights and fixtures in that room:

Back

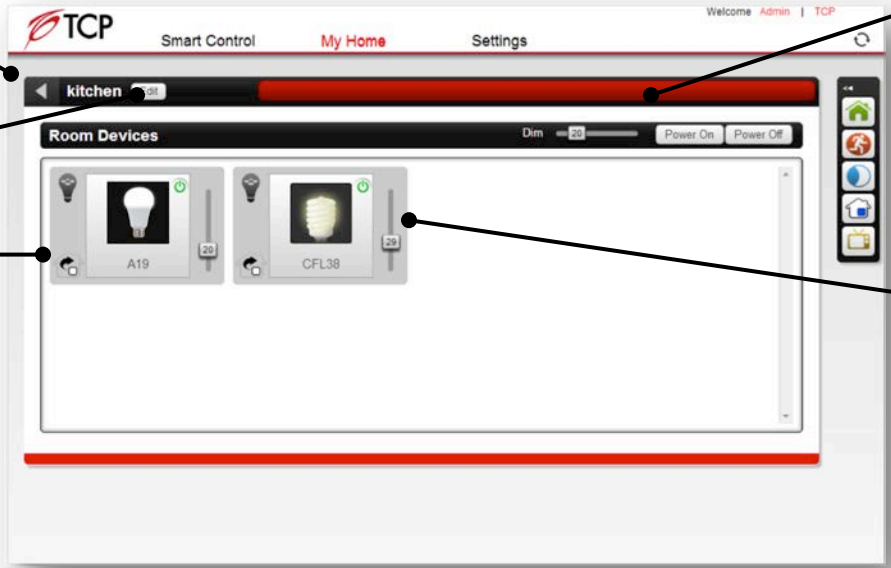
Click to return to the **My Home** main page.

Edit room

Click to open the wizard to identify and rename the selected room.

Change room

Click to change the room and color associated with the selected light bulb or fixture. This feature is usually used when you physically move the light to another room in your home.



Room controls

Control the lighting for all lights and fixtures in the entire room. Click a button to power on or off all lighting, and drag the slider to set the dimmer setting for all lights when they are on.

Light control

Click the icon to open a page to edit or manage only that light. Drag the slider to set the dimmer setting for only the selected light.

Light or Fixture Selection from My Home Page

When you select a specific light bulb or fixture on the **My Home** page or on the **Room** page, you can manage different properties for that light:

Back

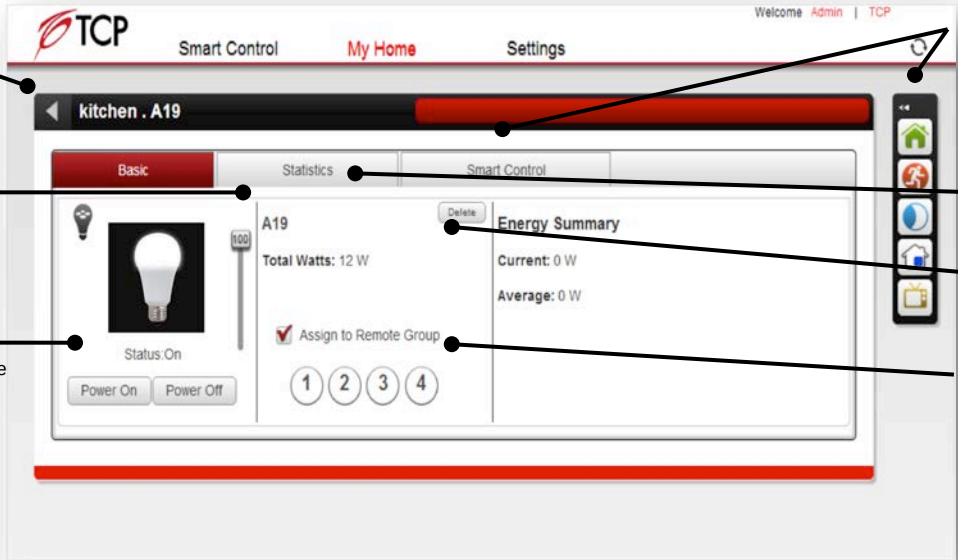
Click to return to the **My Home** main page.

Dimmer

Drag the slider to set the dimmer setting when the light is powered on.

Power buttons

Click to power on or off the light.



Smart Controls

Click an icon in the toolbar to quickly activate that Smart Control, or click the **Smart Control** tab to access the Smart Controls that control the selected light.

Statistics

View information about the selected light.

Delete

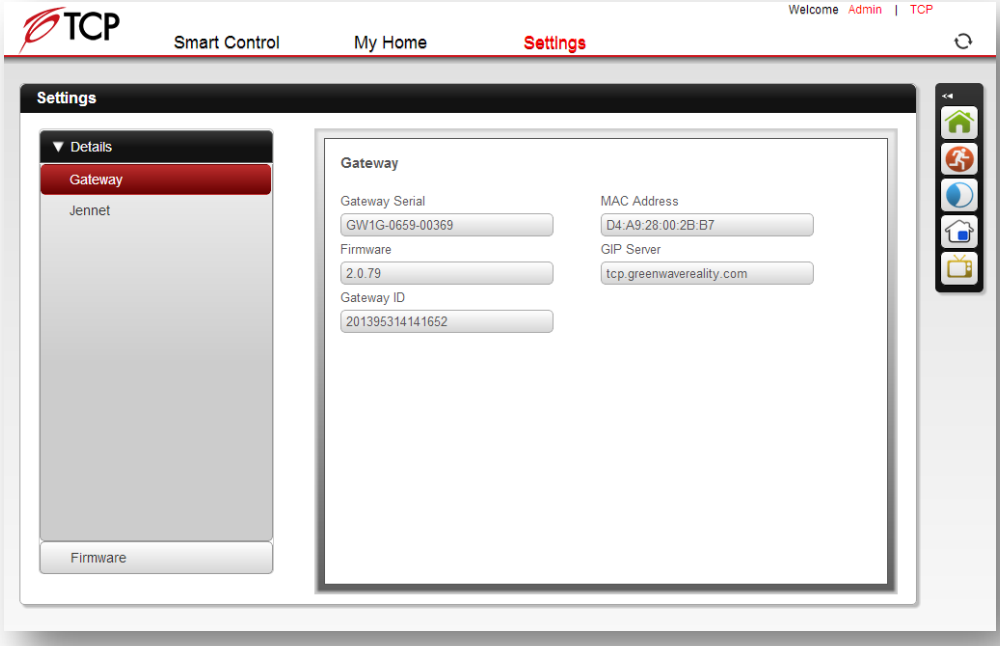
Click to remove the light bulb from your network.

Lighting group

Click a number to assign the light to the selected lighting group for use with your remote control.

Settings

The **Settings** page in the Web application is different from the **Settings** page in the smart device application. In the Web application, the **Settings** page contains only information that is applicable for advanced users or technicians.



Remote Control

You can use the remote control when it is not convenient to use your smart device to control your lighting. This chapter provides general concepts about the remote control, steps for setting up the remote control for use, and steps for general remote control operation.

Note: Some tasks in this chapter require pressing the **Program** button, which is located inside the battery compartment on the back of the remote control. Be sure to press this button only as directed in the instructions. Pressing it an additional time during remote control programming mode immediately cancels the current operation.

General Remote Control Concepts

While you will probably use your smart device to control your lighting most of the time, there may be times when it is more convenient to use the remote control. Here a few concepts that is specific to the remote control.

Lighting Groups

When organizing your network light bulbs, you can set them up into lighting groups. Then you can use your remote control to turn on and off light bulbs in selected lighting groups. A lighting group is a set of network light bulbs that you can control together through your remote control. For example, you might have a lighting group that includes light bulbs on the same floor. Or you might have a group that includes hallway and entryway lights, making it easy to turn on or off with your remote control as you arrive or leave home. All light bulbs in the same group turn on and off together and brighten or dim to the same level. Your remote control has controls for four lighting groups.

Note: You can set up a lighting group using your smart device or Web browser; however, you can only control lighting groups (for example, turn light bulbs on or off) through your remote control.

The following limitations apply when working with network light bulbs and lighting groups:

- If you use your remote control to set up your lighting groups, then a light bulb can belong to only 1 lighting group. If you use your smart device or Web browser to set up your light bulbs, then a light bulb can belong to 4 lighting groups.
- Your remote control can control up to 4 different lighting groups. If you add additional remote controls to your network, each of them can control 4 additional lighting groups.
- Each Remote can control 250 light bulbs, which can be divided up among the 4 lighting groups.

Remote Control Range

When using your remote control, you must be within range of your lighting network for the remote control to be able to control your lighting. However, this does not mean that it has to be within range of all network light bulbs. Since the light bulbs are interconnected across the network, they can pass commands to each other as long as they are within network range of each other. This means that a nearby light bulb can receive your remote control command and pass that command across the network of connected light bulbs, ultimately to a light bulb you want to control in a distant room. Because of this effect, larger homes would make better use of having more network light bulbs spread across the home, maintaining a distance that allows each light bulb to communicate with one another.

Note: Operating the remote control too close to a network light bulb could interfere with the remote control's signal. When operating the remote control, you should hold it at least 1 foot (.3 meters) away from any of your network light bulbs.

Remote Control Setup

Preparing Your Remote for Use

Before you can use the remote control with your network lighting, you must first prepare it. Remove the battery compartment cover from the back of the remote control, and insert two AA alkaline batteries (included). The first time you insert batteries, the primary indicator light flashes while the remote control determines the best signal for your lighting system. When this process is complete, the indicator light will remain on for approximately five seconds. When the indicator light turns off, your remote control is ready.

Once this process is complete, you can use the remote control as discussed in the rest of this chapter.

Connecting a New or Pre-existing Remote Control to the Gateway

The remote control in your lighting kit is already connected to your Gateway by default, so it is ready to use after you prepare it as discussed above. However, there are a few situations in which you would have to manually connect a remote control to your Gateway:

- If you are adding a new remote control to your network
- If you are upgrading your lighting network from a remote control kit and would like to use the old remote control with your new network
- If you performed a factory reset on your remote control and need to re-connect it to the Gateway
- If you changed your Gateway and need to connect your pre-existing remote control to the new Gateway

If you are upgrading your lighting network from a remote control kit (meaning you didn't have a Gateway before), you don't need to factory reset your remote control and you can start from step 1 below.

However, if your remote control has been commissioned to another Gateway previously, you need to factory reset your remote control before connecting it to your new Gateway (Please refer to **Resetting the Remote Control** section).

To physically connect a new or factory reset remote control to the Gateway:

1. Make sure your remote control is in range of the Gateway. Remove the battery cover from the back of the remote control so that you have access to the **Program** button.
2. On the **Gateway**, press the sync button once. The activity indicator begins to display a clockwise rotating pattern.
3. On the **remote control**, press and hold the **Program** button.
4. While pressing the **Program** button, press the **1-4** button **three times** consecutively.
5. Release the **Program** button. The primary indicator light on the remote control flashes while the remote control connects with the Gateway. When this process is complete, the indicator light will remain on for approximately five seconds. When the indicator light turns off, your remote control is connected to the Gateway.
6. Press the sync button on the Gateway again to stop the network search process (otherwise the Gateway will stop the search process automatically in two and a half minutes).

Note: The remote control loses the ability to add bulbs to the lighting network, delete light bulbs from the lighting network, and clone a remote control once it joins the lighting Gateway.

Turning Lights On and Off

To turn lights on and off, you must turn on and off an entire lighting group:

1. Press the **Group Number** button for the lighting group you want to turn on or off. If you want to turn on or off **ALL** lighting groups, press the **1-4** button.
2. Press the **On/Off** button. If the lights were previously off, they will turn on. If the lights were previously on, they will turn off.

Note: The previously selected group (or all groups, if selected) remains the active group on the remote control. To take action on that same group again, you do not have to press the group button again.

Brightening and Dimming Lights

You can brighten and dim your lights even if they are not connected to a fixture with a dimmer switch. CFL light bulbs, which typically do not brighten or dim, can also brighten and dim on your network. To set the brightness level of lights, you must set the level for an entire lighting group:

1. Press the **Group Number** button for the lighting group you want to dim or brighten. If you want to dim or brighten **ALL** lighting groups, press the **1-4** button.
2. To dim the lights in the selected group(s), press the down side of the dimmer button (it has an off bulb label on it) Release the button when the lights reach the level you want.
3. To brighten the lights in the selected group(s), press the up side of the dimmer button (it has an on bulb label on it). Release the button when the lights reach the level you want. They automatically stop when they reach full brightness.

   The lights in the group will remember the latest brightness level when you turn them off and on.

Note: The previously selected group (or all groups, if selected) remains the active group on the remote control. To take action on that same group again, you do not have to press the group button again.

Replacing Batteries

Your remote control uses two AA 1.5V alkaline batteries (included). To replace the batteries, remove the battery cover from the back of the remote control and remove the old batteries. Insert the new batteries as indicated in the battery compartment.

CAUTION: RISK OF EXPLOSION IF BATTERY IS REPLACED WITH AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

Resetting the Remote Control

You can reset the remote control back to the original default settings from the factory. This may be useful if you want to put a cloned remote control back to its standalone settings. Typically, though, factory reset is not a common procedure and you should be certain you want to do so since you will lose any network settings you previously programmed onto the remote control.

If you are sure you want to reset the remote control, use the following steps:

1. Remove the battery cover from the back of the remote control.
2. Remove the batteries from the remote control.

3. Press and hold the **Program** button.
4. While still pressing the **Program** button, reinsert the batteries into the remote control.
5. Release the **Program** button.

The remote control is returned to its default factory settings. To use it again, you must follow the original installation instructions. After the factory reset, you must reset all light bulbs in the network based on your group plan by following the procedure in the *Light Bulb Tasks* chapter to remove light bulbs from the network, followed by the procedure to add a new light bulb to the network.

Troubleshooting

If you are having problems with your lighting system, refer to the following sections for possible troubleshooting solutions.

Light Bulb Not Responding During Installation

When you add a new light bulb to the network (or if you add a previously existing light bulb that you removed from the network), the light bulb should brighten and dim during the installation process to indicate that it is searching for a network. If for any reason the light bulb does not brighten and dim (if it remains full bright), then turn power to the light fixture off and on four times consecutively to reset the light bulb. The light bulb should then start to brighten and dim once it is reset, which is usually within 10 seconds after the fourth off/on cycle.

Light Bulb Accidentally Removed from Network

It is possible for a network light bulb to be accidentally removed from the network. For example, if someone turns power off and on four times consecutively to the light fixture, the attached light bulb will reset and remove itself

from the network (this light bulb will brighten and dim). If this happens, follow the procedure in the *Light Bulb Tasks* chapter to add a new light bulb to the network.

Resetting Your Light Bulbs

If you are unable to fix issues that arise with your lighting system, you can reset your light bulbs as a last resort. To do so, follow the procedure in the *Light Bulb Tasks* chapter to remove light bulbs from the network, followed by the procedure to add a new light bulb to the network.

Problems with Remote Control

Depending on the problem you are having with the remote control, there are several possible solutions:

- **Replace batteries.** If the remote control is not functioning and the indicator lights do not light when you press the buttons, then the batteries may need to be replaced. Refer to the *Remote Control Operation* chapter for instructions on inserting new batteries into the remote control.
- **Turn power to light fixture on.** If you manually turn the power switch off for a light fixture, then power will not be available to the light bulb when you use the remote control to turn the light on and off. Be sure the appropriate light fixtures are left in the on position. If necessary, refer to the section on power failure in the *Lighting Kit Overview* chapter.
- **Place remote control at an adequate distance from light bulb.** Not only must you ensure the remote control is within range of the nearest network light bulb, you must also ensure it is not too close. Operating the remote control too close to a network light bulb could interfere with the remote

control's signal. You should hold the remote control at least 1 foot (.3 meters) away from any of your network light bulbs.

- **Reset the remote control.** If the remote control is not functioning correctly but the batteries are new, then you may have to reset the remote control to its default factory settings. The factory reset process is as discussed in the *Remote Control Operation* chapter.
- **Replace a lost or broken remote control.** If you have an additional remote control that was previously programmed to be identical to the your original remote control (cloning your original remote control, as discussed in the *Remote Control Operation* chapter), then you can use that clone the same way as your original without losing any of your network or light settings. However, if you do not have an additional identical remote control, then there is no way to retrieve your settings from the lost or broken remote control. The only option in this case is to reset your entire lighting system, as discussed earlier in this chapter.

Problems with the Gateway

Depending on the problem you are having with the Gateway, there are several possible solutions:

- **Check cables and power connection.** If the Gateway is not functioning and/or the indicator lights do not light correctly, then double-check all of your cables and power connection. Make sure the Gateway is plugged in to an outlet in your home that is receiving electrical power. Refer to the *Installation* chapter for instructions on connecting cables and power.
- **Ensure that the Router is connected to the Gateway and has Universal Plug and Play (UPNP) option enabled.** This is to be done only when the Gateway is not discoverable on the local network. Certain router types like the dual-band router could make the Gateway discovery not to

function, which is a limitation with the UPNP technology. In the event of this problem, it is recommended that you use a different router altogether to discover the Gateway on the local network.

Safety Information

Batteries

Use only AA 1.5V alkaline batteries.

WARNING: Batteries can explode, or leak and can cause injury or fire. To reduce this risk:

- Carefully follow all instructions and warnings on the battery label and package.
- Always insert batteries correctly with regard to polarity (+ and -) marked on the battery and the equipment.
- Do not short battery terminals.
- Do not mix old and new batteries. Replace all of them at the same time with new batteries of the same brand and type.
- Remove dead batteries immediately and follow local regulations for safe disposal.
- Do not dispose of batteries in fire.
- Keep batteries out of reach of children.

- Transporting batteries can possibly cause fires if the battery terminals inadvertently come in contact with conductive materials such as keys, coins, hand tools, etc. The US Department of Transportation Hazardous Material Regulations (HMR) prohibits transporting batteries in commerce or on airplanes (i.e. packed in suitcases and carryon luggage) UNLESS they are properly protected from short circuits. So when transporting individual batteries, make sure the battery terminals are protected and well insulated from materials that could contact them and cause a short circuit.

Indoor Use Only

The hardware in your lighting kit should be used only in dry, indoor locations. Do not use the hardware in high-humidity locations such as greenhouses, saunas, washrooms, or patios. Do not use the hardware in locations where it can get wet such as near aquariums or running water.

Do Not Disassemble

The hardware in your lighting kit has no user-serviceable parts inside. In case of persistent malfunction, please contact Customer Service to arrange for repair at a certified service location. Do not attempt to disassemble the hardware for any reason.

Disposing of Your Used Product

This product complies with the WEEE Directive (2002/96/EC) marking requirements. The affixed label indicates that you must not discard this electrical / electronic product in domestic household waste.

WEEE Product Category - With reference to the equipment types in the WEEE Directive Annex 1, this product is classed as category 3 “IT and Telecommunications Equipment.”

DO NOT DISPOSE IN DOMESTIC HOUSEHOLD WASTE - To return unwanted products, contact your local GreenWave Reality office for more information (see contact information in the back of manual).

Product Specifications

Light Bulbs

	CFL
Radio Frequency	2.4GHz
Features	On, Off, Dim
Light Intensity	1100lm
Color Temperature	Warm White (2700K)
Color Range Index	82
Wattage	23W
Equivalent Wattage (Incandescent Replacement)	100W
Voltage	120V/60Hz

Remote Control

Radio Frequency	2.4GHz
Operating Temperature	0°C ~ +40°C
Storage Temperature	-20°C ~ +60°C
Operating Humidity	20% ~ 85% RH
Storage Humidity	5% ~ 95% RH
Battery	2 x AA
Battery Lifetime (For Included Batteries)	Estimated 12 Months

Gateway

Model	**GL30000, GL30002-A**	**GL32200, GL32202-A**
2.4GHz Radio Frequency	●	●
Z-Wave Radio Frequency	N/A	908.42MHz
RJ45 Port for LAN/WAN network connection	●	●
Operating Temperature	0°C ~ +40°C	0°C ~ +40°C
Storage Temperature	-20°C ~ +60°C	-20°C ~ +60°C
Operating Humidity	20% ~ 85% RH	20% ~ 85% RH
Storage Humidity	5% ~ 95% RH	5% ~ 95% RH
Size	120 x 60 x 33 mm	120 x 60 x 33 mm
Weight	101 g	101 g
Power Adapter		
Plug	Type A	Type A
Input	100-240V ~50/60Hz, 0.18A	100-240V ~50/60Hz, 0.18A
Output	+5V DC, 1A	+5V DC, 1A

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this 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.

IMPORTANT NOTE:

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and your body.

Declaration(s) of Conformity

These CE Marked GreenWave Reality products incorporating Radio and Telecoms Terminal Equipment functionality are in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

A copy of the original CE Declaration of Conformity is on file and available upon request for all CE Marked GreenWave Reality products. Please visit www.greenwavereality.com to obtain a copy of the Declaration.

The use of such device might not be harmonized throughout EU and EFTA Member States. The Final Integrator of the product shall check that the use of such devices for power node are allowed for placing on the market in any particular Member State.