SAVANT

Lighting and Shades Device Manager

Programming Guide

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This document outlines the software-side programming process for Savant Lighting products available in the RacePoint Blueprint Lighting and Shades Device Manager. The document assists the user when programming the various features and functions available to the Metropolitan and Echo Style keypads. This guides covers release da Vinci 9.0 and higher and supports the following keypads:

Metropolitan Style	
Adaptive Phase	WIB-xxA106, WIB-xxA106V2, WID-xxA102, WID-xxA102, WIK-xxA105, WIK-xxA105V2
MLV Keypads	WID-xxT102, WID-xxT102V2, WIK-xxT105, WIK-xxT105V2, WIB-xxT106, WIB-xxT106V2
Switches	WIS-xxS102, WIS-xx102V2, WIK-xxS105, WIK-xxS105V2, WIB-xxS106, WIB-xxS106V2
Low Voltage	WIB-xxLV02, WIB-xxLV02V2, , WIK-xxLV05, WIK-xxLV05V2, WIB-xxLV06, WIB-xxLV06V2
DMX Control	WIX-xxLV06
Fan Controller	WIF-xxS104
Auxiliary Control	WI3-xx0002

Ascend Style
Low Voltage - WFB-xxLV02, WFB-xxLV04, WFB-xxLV05

Echo Style	
Adaptive Phase	WPD-xxA102, WPD-xxA102V2, WPK-xxA105, WPK-xxA105V2, WPB-xxA106, WPB-xxA106V2
MLV Dimmers	WPD-xxT102, WPD-xxT102V2, WPK-xxT105, WPK-xxT105V2, WPB-xxT106, WPBxxT106V2
Switches	WPS-xxS102, WPS-xxS102V2, WPK-xxS105, WPK-xxS105V2, WPB-xxS106, WPB-xxS106V2
Low Voltage	WPB-xxLV02, WPB-xxLV02V2, WPK-xxLV05, WPK-xxLV05V2, WPB-xxLV06, WPB-xxLV06V2
DMX Control	WPX-xxLV06
Auxiliary Control	WP3-xx0002

Other
Lamp Control - SAV-LMP-0300

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What's Covered in this Guide?

How to information covered in this guide include:

- General information on network discovery and binding for keypads and other Savant Lighting components (refer to the relevant Product documentation for device-specific deployment information, available via the Product page on the Savant Store, or on the Savant Customer Community Knowledge Base).
- Program settings for loads and lighting scenes.
- Program keypad buttons for control of lighting or other services.
- Configure Smart Groups for Bluetooth Low Energy (BLE) Smart Bulbs and LED Strips, and DMX/0-10V lighting.

1. Gain Access to the Lighting and Shades Device Manager

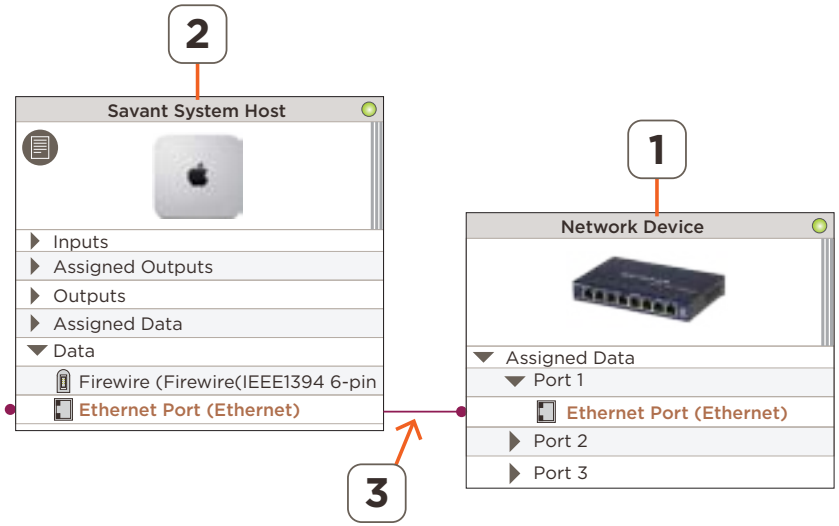
The Lighting and Shades Device Manager must be active to gain access. By default, the Lighting and Shades Device manager is not active (grayed out) when working on a new Blueprint configuration. Changing the lighting manager from inactive to active depends on the version of da Vinci installed. Select the appropriate section below and follow the instructions to activate and gain access.

HELPFUL! In existing configurations, when the Lighting and Shades Device Manager is grayed out (inactive), the configuration was modified; and to generate the services again. Select the **Generate Services** icon from the Blueprint toolbar and follow the prompts to activate and regain access to the lighting manager.

da Vinci 9.1 and higher

When building a new Blueprint configuration, the Lighting and Shades Device Manager is grayed out (inactive). To make the Lighting and Shades Device Manager active and get access to it, do the following:

1. Add a **Generic Network Switch** to the Blueprint layout window.
2. Drag the Savant System Host to the layout window.
3. Connect the Ethernet port from the network switch to the Ethernet Port on the Host.
4. Select the **Generate Services** icon from the Blueprint toolbar and follow the prompts.

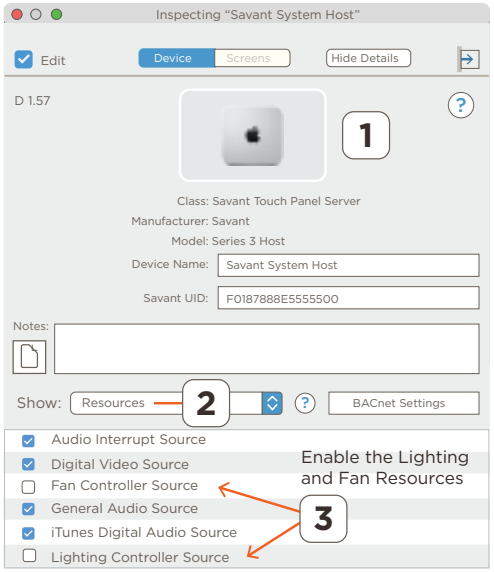


da Vinci 9.0 - 9.0.2

When building a new configuration in da Vinci releases 9.0 and 9.0.2, an extra step is required to activate the Lighting and Keypad Manager. Enable the **Fan Controller Source** and **Lighting Controller Source** in the Savant System Host's inspector window to activate. The steps are described below.

1. Open the Host's inspector window.
2. Select the **Resources** option from the **Show:** menu.
3. Add a check to the Lighting Controller Source, the Fan Controller Source or both to enable these resources.
4. Close the Inspector window.
5. Follow steps 1 - 4 in the previous section (da Vinci 9.1 and higher) to complete the activation and gain access to the Lighting and Shades Device Manager

HELPFUL! The example image shows the resources available on the Pro Host. The resources and their locations are the similar for the Smart Hosts as well.



Additional Information

- As functionality evolved, the naming convention of the Lighting and Keypad Device Manager changed as well. See below.

da Vinci 9.0 - 9.3.6	Tools > Lighting and Keypad Manager
da Vinci 9.4 and higher	Tools > Lighting and Shades Device Manager

- Users can also use the Manage Lighting icon in the Blueprint toolbar to open the Lighting and Shades Device Manager.

- The State LED in the Blueprint toolbar is a good indication of the state of the Lighting and Shades Device Manager. See below:

	The Lighting and Shades Device Manager is inactive. Some reasons for this are: - There are either no valid service paths connected within the configuration to generate a service, or - Services must be generated again due to a change made to the configuration.
	The Lighting and Shades Device Manager is active, given that the resource is enabled on the Savant Host. - The appropriate services were generated and up to date with the current configuration.

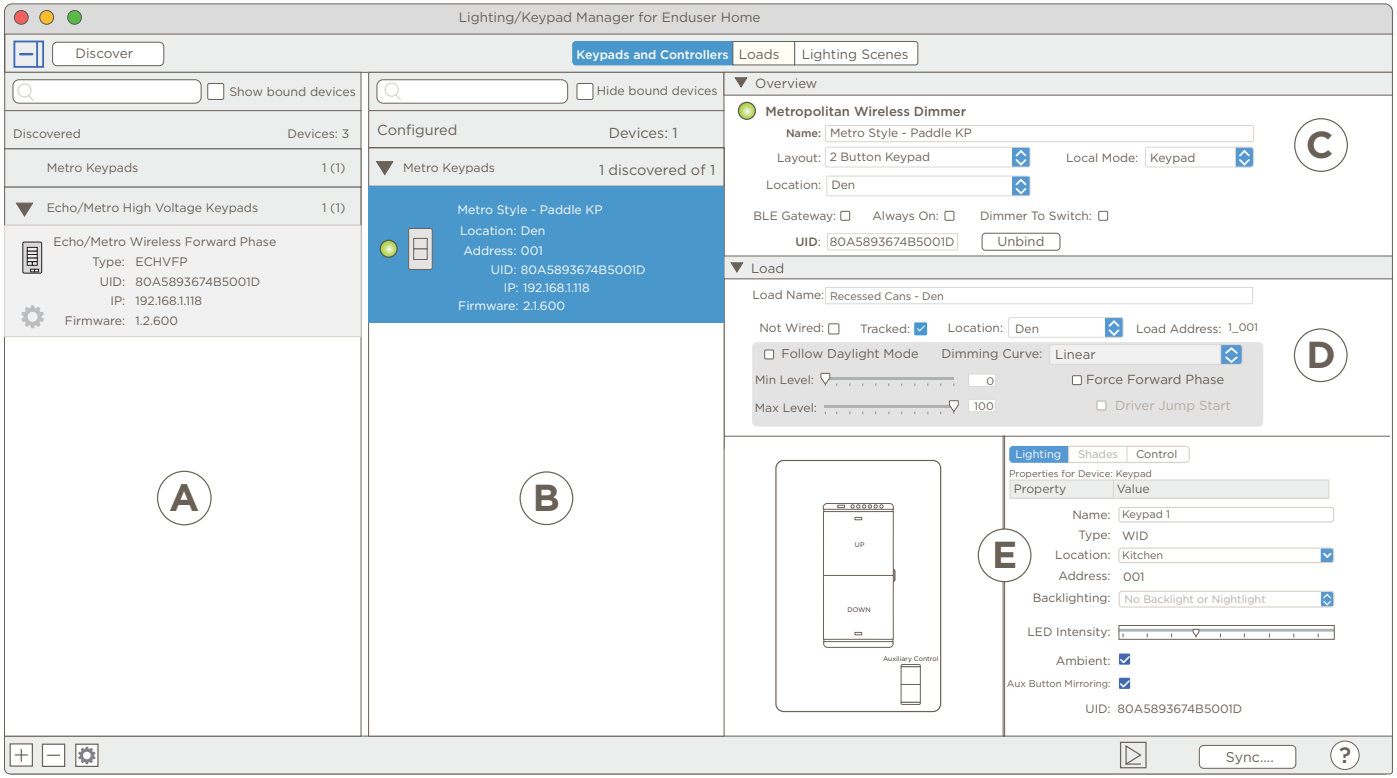
2. Lighting and Shades Device Manager Overview

At the top of the Lighting and Shades Device Manager are three tabs. Within each tab, different lighting functionality can be modified. An overview of each tab is described below. For more information on each tabs function, refer to the proper section below (Keypads and Controllers, Loads, Lighting Scenes)

Keypads and Controllers	Use this tab to: – Add and remove a lighting device to and from a configuration using the discovery process. – Add and remove a lighting device to and from a configuration by manually adding or removing that device. – Program or modify the numerous labels and functions available to the lighting device and its buttons. – Bind a lighting device to a configuration. – Unbind a lighting device from a configuration. – Sync the data in the available fields with the lighting data table. – View data such as the UIDs, firmware revisions, and IP Address of any lighting device on the local network.
Loads tab	Use this tab to: – View all configured dimmable lighting loads (On/Off switched loads are not displayed in this tab) – View information each load such as its location in the home, the type and name of the device controlling it, and the address given to the load. – Set the minimum and maximum amount of power sent to the loads (This same function is also available in the keypads and controllers tab). – Enable disable whether the load will follow the daylight mode schedule created (This same function is also available in the keypads and controllers tab). – Select whether the device controlling the load will be forced to be a forward phase device. – Enable/Disable whether the driver controlling LED lights will be pre-energized (Driver Jump Start).
Lighting Scenes	Use this tab to: – View and modify a load scene. – Create, remove, view, and modify a custom load scene. **HELPFUL!** – A load scene is automatically created when a lighting device is added to a configuration. The load scene is then configured onto a button on the lighting device and it directs the device what to do when the button is pressed. – A custom load scene is a load scene that was created by a user. Once created, the custom load scene is then configured onto a button on a lighting device and it directs the device what to do when the button is pressed.

Keypads and Controllers Tab

The Keypads and Controllers tab is used to add lighting devices to a Blueprint configuration. A simple overview of the various fields available when the tab is selected are described below.



A

Discovered Window - Lists all devices that the Lighting and Shades Device Manager has discovered. For a device to be discovered, it must be provisioned and communicating with the same subnet as the SDE/MacBook running Blueprint.

- Select the frame icon to the left of the Discover button to open the Discovered window.
- With the Discovered window open, select the Discover button to list all the devices that the lighting and shades device Manager can communicate with.
- The devices get listed by category. Select the disclosure triangle to show or hide devices for that category.
- Select the **Stop Discover** button once all devices are located and listed in this window. Each discovered device displays relevant information about the device.
- Add a check to the **Show bound devices** box to display previously added devices to the Blueprint configuration. A link icon will accompany the device in this window to indicate the device is already part of the Blueprint configuration. Refer to Status Icons, LED Info, and Special Character Usage for information on the icons that can appear in the Lighting and Shades Device Manager.
- Devices listed in the Discovered frame, are not part of the Blueprint configuration and uploads to the Host will not include any devices listed in the Discovered window (exception: when the show bound devices box is enabled).

B

Configured Window - This window lists the discovered devices that were added to the Blueprint configuration. To add a device to the configured window, drag and drop the device from the Discovered to the Configured window or manually add the device using the add [+] icon. These two methods are described later in this document.

- Like the Discovered window, devices are listed by category.
- Select the disclosure arrow associated with each category to show or hide the devices under that category.
- Select to highlight a device from this window to open the numerous fields that can be used to configure that specific device.
- Like the Discovered window, pertinent information about the device is listed.
- The state of each device is represented by an accompanying LED. Refer to Status Icons, LED Info, and Special Character Usage for information on the icons that can appear in the Lighting and Shades Device Manager.
- Add a check to the **Hide bound devices** box to remove any devices bound to the configuration running in Blueprint. The **Hide bound devices** box can be used during troubleshooting to locate all the devices listed in the Configured window that aren't bound to the configuration.
- Select the settings icon (gear) at the bottom of this window to change how devices are viewed and grouped. The standard view, **Grouped By Device Type**, is the standard and easiest view to understand.

C

Overview Window - Select to highlight a lighting device in the Configured window to access the Overview section. The fields in this section vary depending on the type of device selected/highlighted.

- General information regarding the lighting device is configured here.
- When the UID field is populated, this indicates the device is bound to the configuration in Blueprint.
- Some devices populate the Location field with the correct device type, others such as the configurable Echo/Metro High Voltage Keypads populate this field with a standard layout and it is up to the user to set the correct device layout.
- Information regarding the various fields in the Overview section are available in the Lighting and Shades Manager Overview section.

D

Load Window - The fields in this section set the parameters that the lighting device follows when controlling the load. The content displayed in this section varies depending on the device.

- Some of the fields from this section are duplicated in the Loads tab. Adjustments made here are copied to the Loads Tab and vice-versa.
- The label entered in the Load Name field is how the loads are identified in the Pro App's lighting service.
- Information regarding the various fields in the Loads section are available in the Lighting and Shades Manager Overview section.

E

Properties for Configure Window - The fields in this section change depending on whether the lighting device is selected or the buttons on the device are selected.

- Select the lighting device to open fields that configure how bright or dim the button's back-lighting LEDs are, how the device reacts to changes in the surrounding environment, and whether pressing a button on an auxiliary keypad connected to this device will mimic the settings made.
- Some of the fields in this section are duplicated in the Overview section. Adjustments made here are copied to the Overview section and vice-versa.
- Select the keypad's buttons to open fields that configure what signaling to send to the load when that button is pressed.
- Select the Control Tab to open fields to control services other than lighting. An examples would be to control the volume of an Audio/Video device directly or power on and off a TV directly from the keypad's button.
- Information regarding the various fields in the **Properties for** section are available in the Lighting and Shades Manager Overview section.

Local Mode

When the up-link between a lighting device such as a keypad and the system Host is lost, the lighting device automatically goes into Local Mode. There are two types of Local Modes available:

- **Keypad** - The lighting keypad can control only the load connected to the output wire on the keypad.
  - Control of remote loads is lost.
  - Scenes programmed onto a button will not work.
  - Low voltage type keypads will not function.
  - The LED array and button will continue to function with diminished capabilities.

- **Network** - Most functionality on the keypad will remain
  - Control of remote loads is NOT lost.
  - Scenes will continue to work.
  - Low voltage devices such as keypads and controllers (PBC, O10V) will continue to function
  - The LED array and button will continue to function with diminished capabilities.

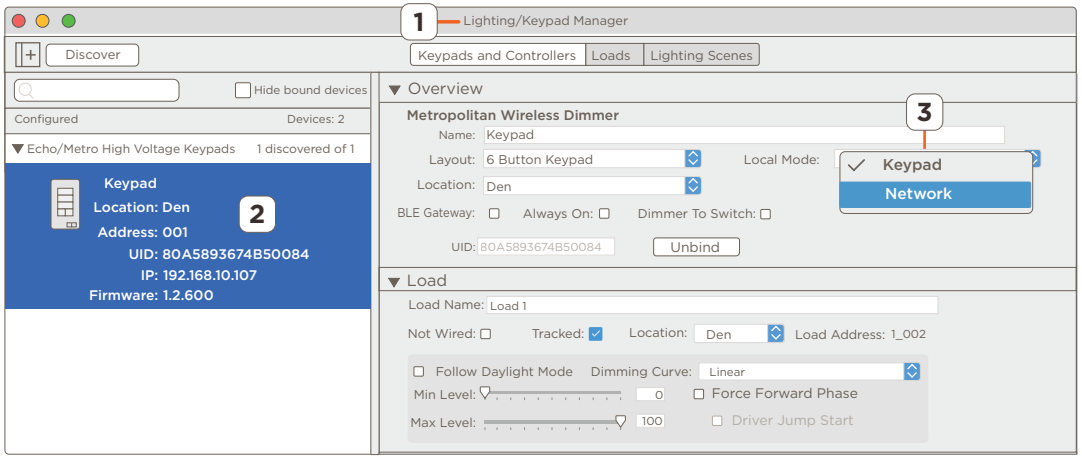
The Local Mode drop-down menu is available on the following products:

High Voltage Echo/Metro Styled Keypads	High Voltage Metropolitan Styled Keypads	Low Voltage Echo/Metro Styled Keypads	Low Voltage Ascend Styled Keypads

Configuring Local Mode

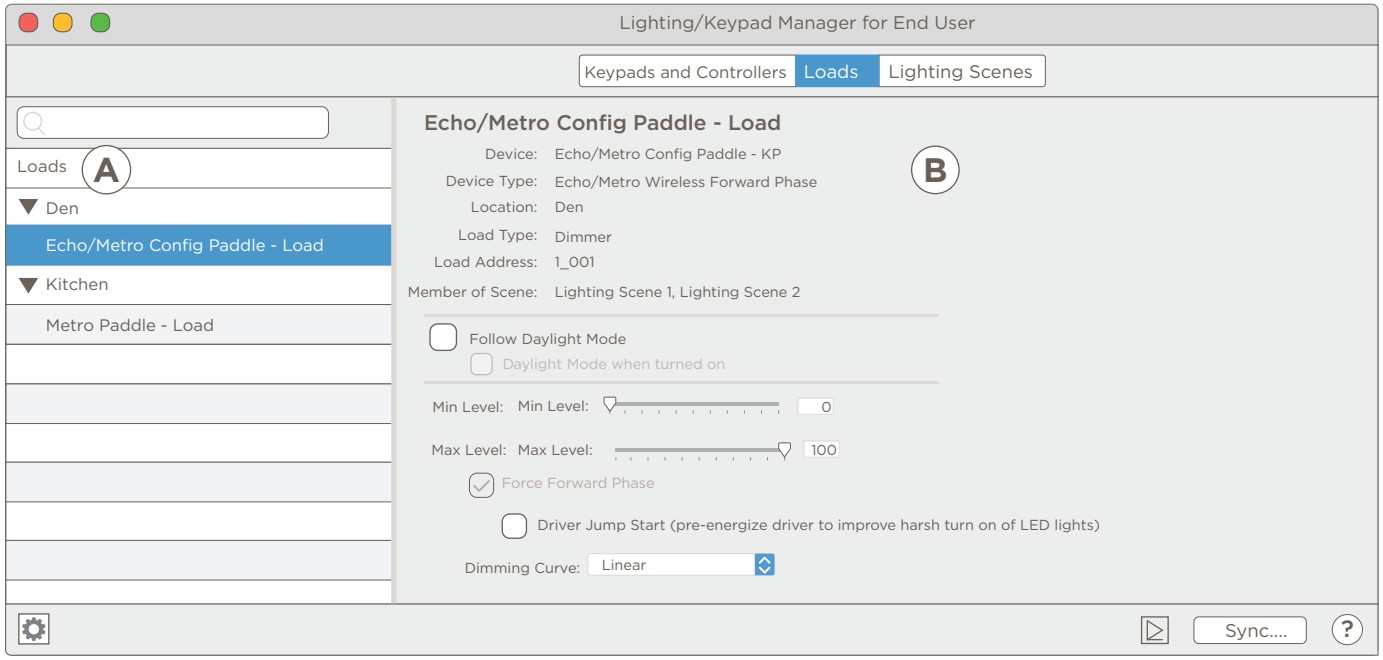
1. Open the Lighting and Shades Device Manager.
2. Select a keypad from the Configured column.
3. Select either Keypad or Network from the Local Mode drop-down menu.
4. Select the Sync button and upload the updated configuration to the Host (not in image).

TIP! Savant recommends that in most cases, the Local Mode should be set to Network.



Loads Tab

This tab provides information regarding the various loads as well as their groupings. Most fields in the Loads tab are also available in other sections in Blueprint. The descriptions on this page are only available from within the Loads tab.

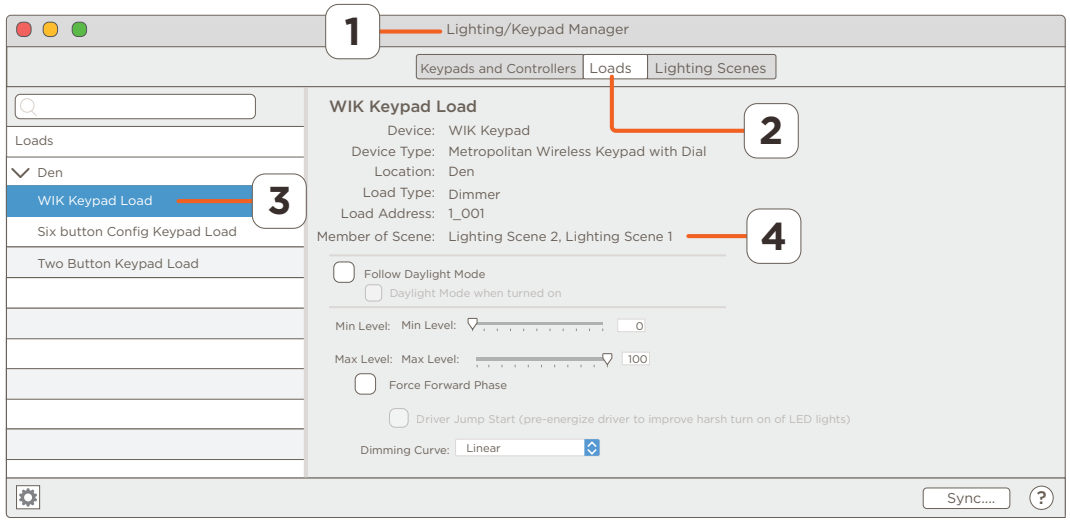


A	**Loads Panel** - This window lists the following: – Lighting loads and the room they're configured in. The Loads window allows users to quickly and easily view which room each load is configured in. – Smart Groups and the loads configured to those groups.
B	**Load Information/Configuration Panel** - Select to highlight a load listed in the Loads window and information about that load is displayed. – The listed fields set the parameters for the lighting device to follow when controlling the load. – Some of the fields are duplicates of the fields in the Loads section of the **Keypads and Controllers** tab. Adjustments made in this window are automatically copied to the Loads section of the Keypads and Controller tab and vice-versa. – When changes are made to an load, select the **Sync** button and follow the prompts to update Blueprint's lighting data table.

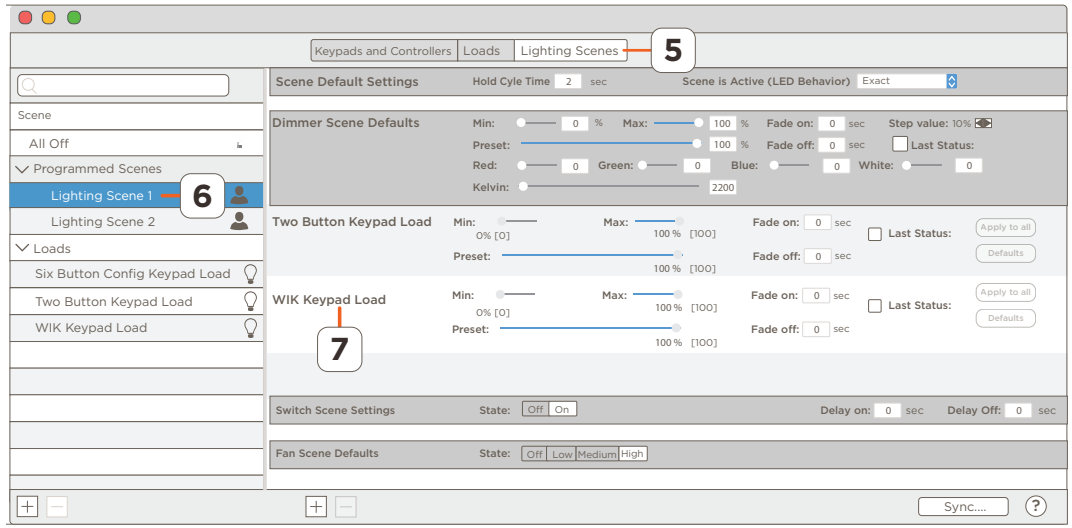
Member Of Scene Field

The Member Of Scene field gives users an easy way to determine what Scene or Scenes that a particular load is a member of.

1. Open the Lighting and Shades Device Manager (**Tools > Savant Lighting and Shades...**).
2. Select the **Loads** tab.
3. In the left side column, select a load.
4. Observe the Member of Scene field lists all the scenes that contain the highlighted load.

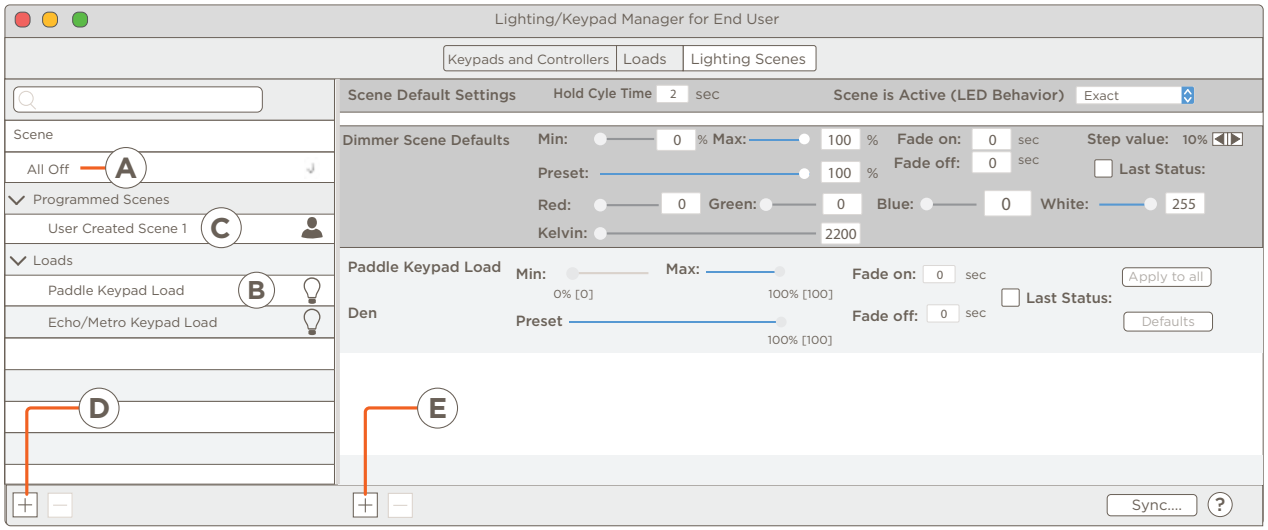


5. To verify, select the Lighting Scenes tab.
6. Select a Programmed Scene from the left column.
7. Verify that the load highlighted from step 3 above is listed in one of the Lighting Scenes displayed in the Member Of Scenes field.



Lighting Scenes Tab

Lighting Scenes a set the parameters that the lighting device follows when controlling its load. Lighting scenes include the following:



A	**All Off** - The All Off scene, identified by a light switch icon, is generated when the first lighting device is added to the Lighting and Shades Device Manager and updates each time a new device is added. Follow the steps below to add the All Off scene to a keypad's button: 1. Select the Lighting Scenes tab. 2. Highlight a keypad from the Discovered column, and then select one of the keypad's buttons. 3. Select the Scene field and in the pop-up dialog, select the **All Off** scene. 4. **Sync** the changes and upload to the Host. – When the All Off lighting scene is added to a button, the None parameter overrides any other value set in the button's Function field. – Savant recommends not altering the All Off scene. Users can create new Scenes and make the required modifications to those scenes instead. – User created programmed scenes are not added to the All Off scene.
B	**Loads** - Each lighting device added to Blueprint generates a corresponding Load. A Load in Blueprint represents a physical load, such as a light bulb. Each load in Blueprint has a set of parameters it will abide by. For example, a user can set the maximum and minimum brightness that a load can reach. By default, each load generated associates itself with a lighting device. However, a user can change which device controls it. More information is available in the Program the Keypad Buttons section later in this document. A light bulb icon identifies the Load.
C	**Programmed Scenes** - A programmed scene, identified by a profile icon, is created by a user and then added to a keypad's button. The steps below show how to create and add a programmed scene. 1. Select the Add icon ⊞ located at the bottom of the Scene section. 2. Enter a name to identify the scene. 3. Select the scene and make adjustments to the parameters associated with the custom scene.
D	**Add a Scene** - Select the Add icon ⊞ to create a NewScene. All new user created scenes are listed under the Programmed Scenes heading. **Remove a Scene** - Select any user-created programmed scene and select the delete icon. Once removed, the scene will no longer be available. Only user create scenes can be deleted.
E	**Add a Load to a Scene** - Select the add icon ⊞ or remove icon ⊟ to add or delete a load to a User created scene.

3. Add a Lighting Device to a Blueprint Configuration

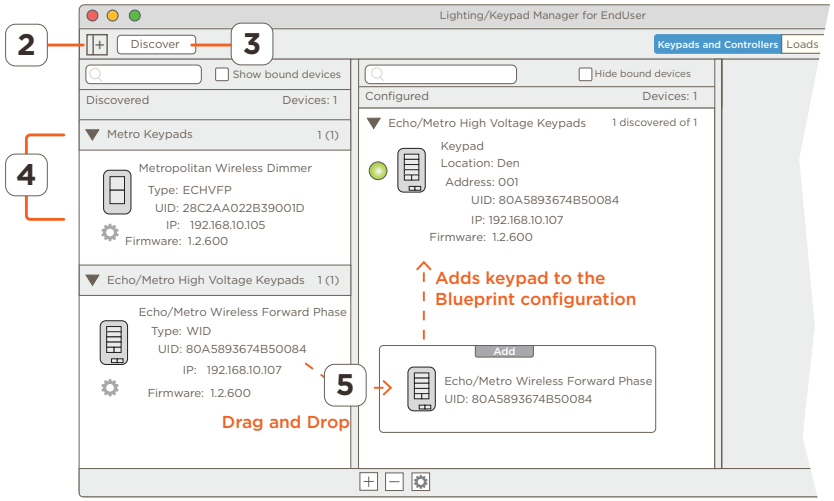
Lighting devices can be added to a Blueprint configuration in one of two ways:

- **Discovery (On-Site Process)** - Scan for and discover all lighting devices and drag and drop the discovered devices into the Configured panel
- **Manually Add Device (Off-Site Process)** - Add the lighting devices using the Add button at bottom of the Configured Panel.

Both processes are described in the next two sections below:

Add Device Using Discovery (On-Site Process)

1. Open the Lighting and Shades Device Manager (Tools > Lighting and Shades Device Manager).
2. Select the expand icon to open the Discovered panel.
3. Select the Discover button to scan the local network and find all the provisioned lighting devices. This can take up to several minutes to complete.
4. Expand each category of the discovered devices.
5. Drag and drop the keypad into the Configured panel. The keypad will automatically add and bind itself to the configuration.
6. Repeat step 5 until all devices are added to the configuration.
7. The next step is to configure the parameters for the keypad and keypad buttons.



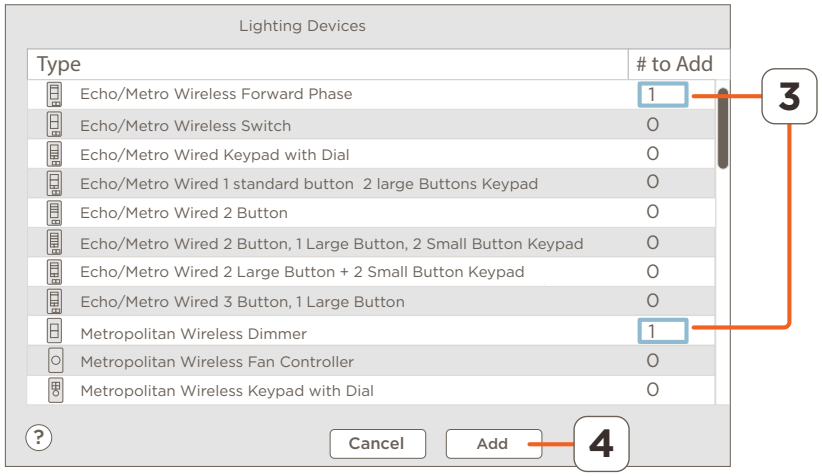
HELPFUL:

- Sometimes, the LEDs may not immediately change color after fixing a problem. Users may need to close and reopen the Lighting and Shades Device Manager or press the Discover button in the manager for the LED to change to the proper state/color.
- Add a check to the **Show bound devices** checkbox o list all bound and unbound keypads in the Discovered panel. By default, the Show bound devices checkbox is unchecked and when unchecked, bound keypads won't appear in the Discovered column.
- Add a check to the **Hide bound devices** checkbox To remove all bound keypads from the Configured column. The Hide bound devices checkbox comes in handy when trying to troubleshoot binding issues that can arise.
- Highlighting a keypad listed in the Discovered column causes button LEDs on that keypad's hardware to begin blinking. This feature makes it easy to identify which hardware belongs to a certain keypad in the Lighting and Shades Device Manager.
- Icons that can appear in the Lighting and Shades Device Manager are described in the Status Icons, LED Info, and Special Character Usage section.

Manually Add Devices to Configuration (Off-Site Process)

To manually add a lighting device to a configuration when not on site and the keypads can't be scanned for and discovered is described below.

1. Open the Lighting and Shades Device Manager (Tools > Lighting and Shades Device Manager).
2. Select the Add icon ⊞ to open the Lighting Devices selection window.
3. Locate the device from the list and add a quantity of each device to be added to the Blueprint configuration.
4. Select the **Add** button and the selected devices get added to the Configured panel.

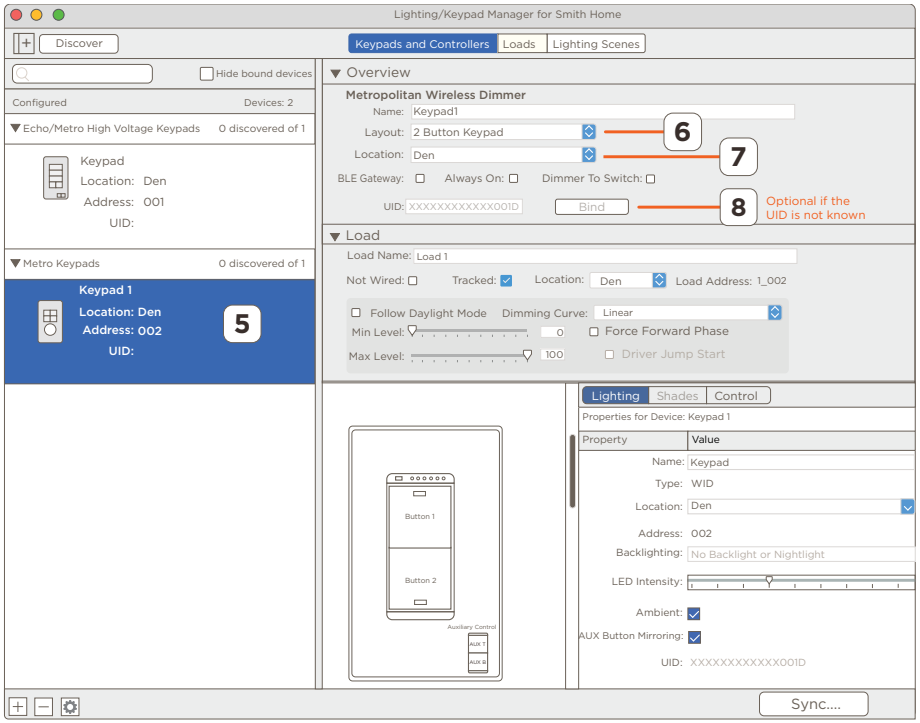


5. Select to highlight one of the lighting devices added in the steps above.
6. Set the **Layout** of the keypad from the list of keypad button formats.
7. Set the Location of the keypad from the available rooms in the Location's field list. This will be the room the keypad will be installed in.
8. Add the UID of the device if known. Entering the UID binds the keypad to the configuration in Blueprint. When the configuration is brought on-site at a later time, the user can press the Discover button and the Lighting and Shades Device manager will scan and locate the keypads by UID.

TIP! If the UID is unknown, binding the keypads can wait until the configuration is brought to the job site. Once on the job site, a user can use the discovery process to locate and bind the device. See the Add a Lighting Device to a Blueprint Configuration section above that contains the discovery process instructions.

9. The configuration is now ready to be brought to the job site, scan, locate, and configure the keypads and then upload the finished configuration to the Host.

HELPFUL! See the Programming Keypads section below for information on each field that is available for configuration.



Status Icons, LED Info, and Special Character Usage

LED Info

LED Color	Description
No LED	The device was added to a Blueprint configuration but not bound.
	The device is bound to a Blueprint configuration. A green LED indicates the binding process worked, and the keypad is ready to be synced to the data table and configuration uploaded to the Host.
	The device is bound to a Blueprint configuration (UID is written to the configuration) but Blueprint can't communicate with the keypad. Press the Discover button in the Lighting and Shades Device manager to rescan and locate the bound keypads.
	The lighting device is bound to the Blueprint configuration (UID is written to the Blueprint configuration) but the Lighting and Shades Device manager can't communicate with the keypad even after pressing the Discover button as directed above. Possible problems can be: – Verify power is applied to the keypad and the service switch is in the on position. – Verify the keypad and the SDE/MacBook where Blueprint is running are connected and communicating with the same network.

Status Icons

Icons	Description
	The press icon indicates a button on the keypad was pressed.
	The device is discovered but not bound to the configuration running in Blueprint's Lighting and Shades Device Manager.
	The device is discovered and bound to the configuration running in Blueprint's Lighting and Shades Device Manager.

Special Character Usage

When entering information into the various label fields (i.e., Name, Load Name, Button Label, etc.), special characters are limited to only the more widely used characters. The table below displays the supported characters. When a character not supported is entered, that character will not print on the screen, and a short audio alert/beep is heard. Limiting special characters was added to the da Vinci 10.2 release. Savant recommends avoiding characters not shown in the table below in earlier releases.

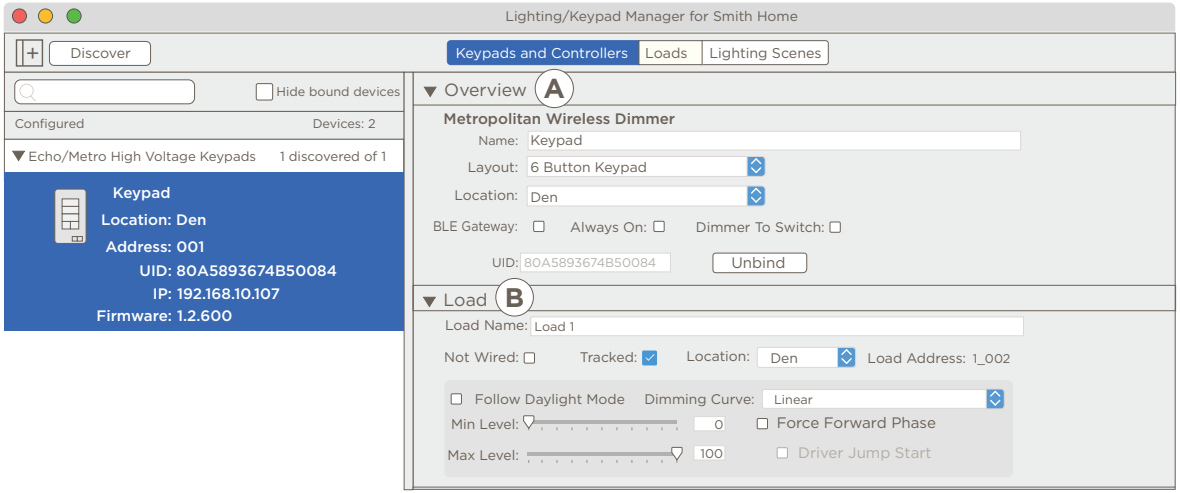
Supported Characters							
A - Z (Uppercase)	a - z (Lowercase)	0 - 9 Numbers	_ Underscore	' Single quote	+ Plus	& And	() Open and Close parenthesis

4. Lighting and Shades Device Manager Overview

The parameters for each lighting device (high voltage keypads, low voltage keypads, lamp controllers, etc) can be set at any time during the configuration process. When configuring a keypad or lighting device, there are four sections or panels that can be modified.

- **Overview Panel -** Sets a portion of the hardware properties on the keypad.
- **Properties for Device: Panel** - Sets additional hardware properties on the keypad. Some of the same fields are duplicated between the Overview and Properties for Device: panel.
- **Load Panel** - Sets how the load or loads being controlled by the keypad will function.
- **Properties for Button: Panel** - Sets the properties of the keypad buttons.

Select to highlight any lighting device in the Configured column to open the Overview panel. Field descriptions are below.



Overview Panel

Field	Description
Name	Highlight the assigned name and edit. Savant recommends a naming scheme that identifies the physical location of the keypad.
Layout	Select from the drop-down menu the layout of the buttons on the keypad. The format chosen determines the fields and functions available for editing. Some devices, such as a Metropolitan style keypad and the lamp controller, are automatically populated and don't allow modifications.
Location	Select the location/room of the keypad's load. After uploading the configuration to the Host, a slider or button icon representing the load gets added to the Pro App in the chosen room.
BLE Gateway	Check this option to configure the keypad or lighting device to function as a Bluetooth gateway. When checked, the Lighting and Shades Device Manager or Savant Host can communicate with other Smart Bulbs in the Bluetooth Mesh through this gateway. – During the configuration process, the gateway is a communications bridge between the Lighting and Shades Device Manager and other smart bulbs/LED strips in the Bluetooth mesh network. – During normal operation, the gateway is a communications bridge between a smart bulb/LED strip and the Savant Host. Leave this box unchecked if the device will not used as a gateway. Unchecked is the default state. See the **Savant BLE Lighting Deployment Guide** on the Customer Community or the BLE lighting section later in this document.

Overview Panel (cont)

Field	Description
Always On	Check this option to force any supported keypad or lighting device to supply a constant 120V AC to the output/load wire. The 120V AC supplied to the load wire can be used to power any smart bulb in the Bluetooth mesh network. When the box is unchecked, the output/load wire of the keypad will function as a typical dimmer or switch. In this state, the voltage at the output/load wire can be varied by pressing the appropriate keypad buttons. Unchecked is the default state. ⚠ **IMPORTANT!** Always On should be set at the deployment of the device and not modified if possible. Altering this setting too often can damage the hardware.
Dimmer to Switch	Check this option to force a dimmer-type keypad to function as a simple on/off switch. When enabled (box checked), all buttons, including when the round knob on the WIK keypad is rotated, will switch between full-on and off. The Dimmer to Switch function is supported on Echo/Metro Configurable keypads and older Metropolitan style keypads. Uncheck this option and the keypad will function as configured in Blueprint. Unchecked is the default state.

Load Panel

Field	Description
Load Name	Modify the Load Name to a name that identifies the location of the load. After uploading the configuration to the Host, the Load Name entered is displayed in the Pro App's lighting service under the slider or button icon that controls that specific load.
Not Wired	Check this option to remove the ability of the keypad to send control data to the output wire/load on the keypad. With the Not Wired option enabled, the keypad can control any other load connected to any other keypad, or can be used to send commands to the various services listed under the keypad's Control tab. An example would be to have the keypad's buttons raise and lower a shade or raise and lower the volume of an A/V device. After adding a check to the Not Wired box, the following happens: – The Load Name field, the name given to the load connected to the output/load wire, becomes inactive and grayed out. – A User can't configure the output wire/load option (Load Name field) for this keypad onto the buttons of any keypad in the configuration. – Daylight Mode is grayed out and can't be configured for this load. Uncheck this option when the keypad will control the load connected to the output wire. Unchecked is the default state.
Tracked	Typically, the load and the keypad/lighting device controlling it are in the same room. When the load and keypad are in separate rooms, the tracked function lets users move the load to the appropriate room. Once moved and the configuration uploaded to the Host, the Pro App will list the load in the room selected. The example below moves the load to a different room than the keypad. Before beginning, ensure the fields in the Overview and Load sections were completed. 1. Fill in the appropriate fields in the Overview and Load section of the Lighting and Shades Device Manager (Name, Load Name, Keypad Location, Layout, etc.). 2. Uncheck the **Tracked** box. This activates the Location drop-down menu to the right. 3. Select a new location for the load from the Location field. 4. **Sync** the changes and upload the modified configuration to the Host. 5. Open the lighting service in the Pro App and verify the load is listed in the correct room. The Tracked box, by default, is checked and the load and keypad/lighting device are placed in the same room in the Pro App.

Load Panel (cont)

Field	Description
Follow Daylight Mode	Add a check to this box to enable the Daylight Mode feature on the keypad or lighting device. Daylight mode adjusts the brightness and temperature of the lighting inside the home so it matches closely with the outside light from the sun. For information on setting up and adjusting the Daylight Mode feature, refer to the Daylight Mode Reference Guide available on the Savant Customer Community. This guide contains information on how to enable the feature in Blueprint, add Daylight Mode to a keypad button, use the Pro App to add daylight mode to a scene, and use the Pro App to customize the daylight mode curve to an individual's liking.
Dimming Curve	There are two types of Dimming Curves available: – **Linear** - The change in load brightness corresponds directly with the position of the dimmer's slider. If the dimmer slider is set halfway up the slider, the brightness from the load will be at 50%. The position of the slider versus the brightness follows a linear curve. – **Logarithmic** - The change in load brightness is less pronounced as the dimmer slides along the lower end of its travel. At the upper end, the change in brightness occurs more rapidly. The position of the slider versus the brightness follows a logarithmic curve. Other factors such as the type of dimmer (O-10V, DMX, keypad dimmer) and the type of LED drivers used could play a role in which curve to select.
Min/Max Level	The point a load turns on and the point where it is at full brightness varies with the type of load installed (i.e LED, Incandescent, CFL). Some loads require more power to break the turn-on threshold and others require only minimal power to bring the load to full brightness. Set the position of the mix/max sliders so the keypad slider uses the full range to go from just switching on to full brightness. – **Min %** - With the keypad's slider in the full off position, slide the Min% adjuster so the load just switches on. – **Max %** - With the keypad's slider in the full on position, slide the Max% adjuster so the load just reaches full brightness. Use these adjustments to also limit the minimum or maximum brightness desired by the user.
Force Forward Phase	Add a check to the **Force Forward Phase** box when the load connected to the keypad requires forward phase dimming to function correctly. Checking the Force Forward Phase box forces the keypad to perform as a forward phase dimmer (chop the leading edge of the sine wave). In most scenarios, the adaptive phase nature of the keypad will adapt itself to the load, but in some instances, the keypad may need to be forced to the forward phase. Not all keypads support this functionality or are already Forward Phase type keypads. In these cases, the Force Forward Phase function in Blueprint is grayed out (inactive).
Driver Jump Start	Check this option in cases where the minimum dimmer level does not provide sufficient power to engage the driver for the lighting load. This setting ensures that the minimum voltage needed to power the driver (as defined by driver firmware) is sent for any dimmer setting above Off. In Blueprint, the Force Forward Phase function must be enabled for the Driver Jump Start function to become active.

5. Programming Keypads

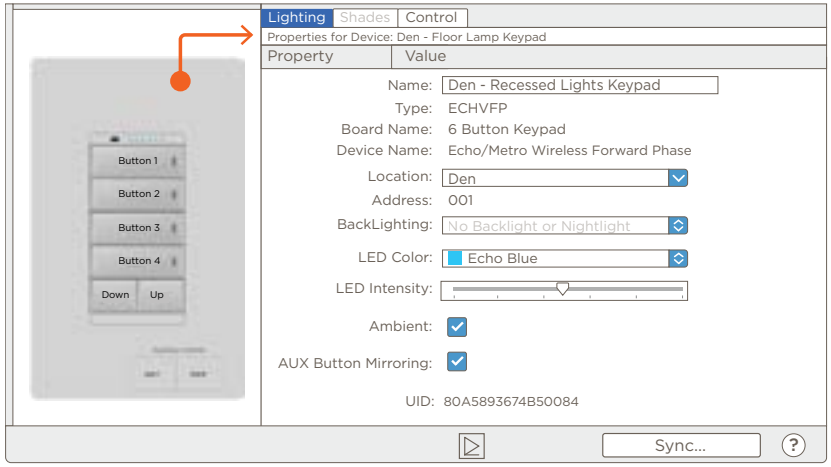
Program the keypad's hardware using the fields located under the **Lighting** tab. There are two components to the hardware:

- **Keypad hardware** - Select the keypad hardware to program the backlighting and LED characteristics. If an Auxiliary keypad is installed, the choice to mirror the settings to the Auxiliary keypad is available.
- **Keypad buttons** - Select a keypad button to program the functions of each keypad button.

HELPFUL! The **<command> + c** for copy and **<command> v** for paste are useful command tools for filling out the various fields.

Program the Keypad Hardware - Lighting Tab

Click anywhere on the keypad hardware to open the fields described below:



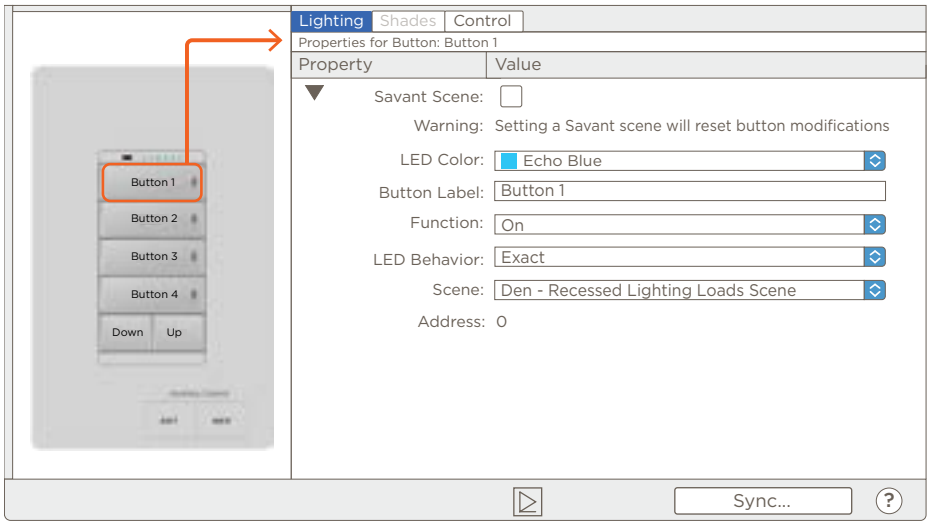
Field	Description
Name	Modify the keypad's name as needed. Savant recommends adding a label that describes the keypad load's location. **HELPFUL!** This field mirrors the Name field described in the Overview Panel section above. The changes made in this field automatically echo themselves to the other.
Location	Select the location/room of the keypad's load. A slider or button icon representing that load is added to the Savant App in the chosen room once the Blueprint configuration is uploaded and running on the Host. **HELPFUL!** The Location field described here and the Location field described in the Overview Panel section are the same parameter. Changes made here are updated in both fields.
BackLighting	The Backlighting field controls what happens with the Backlighting LEDs behind an engraved button. Program this field to one of the selections described below. In addition, how the button LEDs and LED array on the keypad will react for each of the Backlighting fields selections are defined to aid the integrator on how they want the various LEDs to function. Select from the drop-down menu to program one of the following functions: - **No Backlight or Nightlight** - The LED Intensity slider adjusts the brightness of the LED array, and only the LEDs in the LED array light up. - **Backlight Full** - The Backlighting LEDs for engraved buttons switch to Full brightness. The LED Intensity slider changes the brightness of both the LED array and button LEDs. Both the button LEDs and the LED array display the state of the load. - **Backlight (%)** - (Newer Echo/Metro keypads only) - The Backlighting LEDs for engraved buttons switch to the percentage of brightness selected. The LED Intensity slider changes the brightness of both the LED array and button LEDs. Both the button LEDs and the LED array display the state of the load. - **Nightlight Low/Med/High** - (Not Supported on older Metro Keypad with Dial) - The button LEDs function as a nightlight and will light to the brightness set (Low, Med, High). The LED array indicates the state of the load. The brightness of the LED array is determined using the LED Intensity slider. **HELPFUL!** - Not all options shown above are available on all keypads. - When the Ambient box is enabled, the Backlighting field is inactive. See the **Ambient** field description on the next page for info pertaining to the Ambient function. - When the Nightlight feature is programmed, the button LEDs remain constant at the brightness level set. The state of the load is displayed using the LED array.

LED Color	The color selected from the drop-down menu is displayed on the keypad's backlighting LEDs and LED array. During regular keypad operation, the color programmed gets displayed on these LEDs. However, if the keypad's state changes (i.e., lose network connection), the LEDs will blink a color indicating the state of the keypad. See each keypad's Quick Reference Guide (QRG) for more information. **NOTE:** The LED Color field is not available on older style Metropolitan keypads since the LEDs on these keypads are white.
LED Intensity	Use this field to program the brightness of the LED array and the button LEDs. When the Ambient feature is enabled, the function of the LED Intensity field changes. See the descriptions below to better understand this field and how it affects the brightness of the LEDs.
	With Ambient Feature Disabled (Ambient Box Unchecked) – Use the LED Intensity field to manually set the brightness level of the LEDs on the buttons and the LED array. – Sliding the adjuster to the right increases the LED's brightness, and sliding to the left decreases the brightness. – The LED Intensity slider does not affect the brightness of the Backlighting LEDs.
	Ambient Feature Enabled (Ambient Box Checked) – Use the LED Intensity field to program the minimum brightness that the LEDs on the button and LED array will reduce once the room darkens.
Ambient	The light sensor on the keypad's front faceplate monitors a room's ambient light and adjusts the Backlighting LED's brightness accordingly. With the Ambient feature enabled, the following applies: – When the room is entirely dark, the setting on the LED Intensity slider will be the brightness the Backlighting LEDs will decrease to. – As the ambient light in the room increases, the brightness of the Backlighting LEDs also increase. – As the ambient light continues to increase, the room gets sufficiently lit, and the Backlighting LEDs switch off.
AUX Button Mirroring	When an Auxiliary keypad is added to a system, and the keypad being programmed supports adding an Auxiliary keypad to support multi location control of the load, the parameters set on the master keypad can be automatically programmed into the Auxiliary keypad. **AUX Button Mirroring (Checked)** - The parameters configured on the master keypad are mirrored onto the buttons on the Auxiliary keypad. **AUX Button Mirroring (Not Checked)** - The parameters configured on the master keypad are not mirrored onto the buttons of the Auxiliary keypad. Follow the steps below to program the parameters onto an Auxiliary keypad. 1. Uncheck the **AUX Button Mirroring** checkbox. 2. Select the AUX T button so it highlights red and program the fields from the Properties for Button: AUX T panel that opens. The fields are the same as the fields on a normal keypad button. See the field description in the Keypad Button properties section below. 3. Select the AUX B button so it highlights red and program the fields from the Properties for Button: AUX B panel that opens.
UID	The Unique ID of the keypad is displayed for reference.

Program the Keypad Buttons - Lighting Tab

Click on any button on the keypad hardware to open the fields described below:

Field	Description
Savant Scene	**Unchecked** - Disables the Savant Scene feature. Program the button by programming the fields that open.
	Checked (Savant Scene Enabled) - Programs the button to accept a Savant Scene created in the Savant App. To add a scene to a button: 1. Add check to the Savant Scene check box. 2. Edit the **LED Color** and **Button Label** fields as desired. 3. **Sync...** the changes and upload the updated configuration to the Host. **Note:** Keypad must be bound to the configuration running on the Host. 4. From Pro App, navigate to **Settings > Device Settings > Button Settings**, select the keypad from the list of available keypads, and program a scene to the button. See the **Adding a Scene to a Button Application Note** on the Savant Customer Community for more information on this.



LED Color	Select a color from the drop-down menu to change the color displayed from the button LED. This option is available only on the newer configurable Echo/Metro keypads. The button LEDs on older Metropolitan keypads are white and can't be changed.	
Button Label	Enter a button label and that label is transferred to the keypad image to the left. The label entered aids the user during the configuration process and is not transferred to the Pro App.	
Function	Select an option from the Function fields drop-down menu to define how the load reacts when a button is pressed and held or pressed and released. Each function is described below. For additional info, hover over any menu options to open a short description of that option. ⚠ **IMPORTANT!** Set the Function field to None when programming a keypad button to control a service. Programming a keypad's button to power a TV On and Off would be an example of controlling an audio service.	
	Dimmer	**Press and hold** - Operates like a normal lighting dimmer. Press and hold to increase the load's brightness. Press and Hold again to decrease the load's brightness. **Press and Release** - Press and Release to switch the load On to the brightness set in the Preset slider icon under the Lighting Scenes tab. Press and Release again to switch the load Off. The keypad monitors the state of the button LED (On/Off) and determines whether to switch the load On or Off. **Example: LED Behavior field = All Off (default)** The keypad monitors the state of the LED and forces all loads programmed on the button LEDs state. When the button LED is On, pressing the button forces all the loads On. The same is valid for when the button LED is Off; pressing the button forces all the loads to switch Off.
	On	**Press and Release** - Press and release to switch On the loads to the brightness set in the Preset slider icon under the lighting scenes tab. Pressing the button again does nothing. The loads will remain On until another programmed button is pressed.
	Off	**Press and Release** - Press and release to switch Off the loads. Pressing the button again does nothing. The loads will remain Off until another programmed button is pressed.

Toggle	**Press and Release** - Press and release to switch the loads On to the brightness set in the Preset slider icon under the Lighting Scenes tab. Press and release again to switch the load Off. The keypad monitors the state of the button LED (On/Off) and determines when to switch the loads On or Off. **Example: LED Behavior field = Not All On (default)** The keypad monitors the state of the button LED and forces all the loads in the scene either on or off depending on the button LEDs state. This example uses the LED Behavior **Not All On,** which is typically the default option when Toggle is programmed int the button. Other LED Behaviors will react differently. See the Program the Keypad LEDs section below for more info. – When all loads in the scene programmed on the keypad's button are Off, the button LED will be On. Press the keypad's button to switch all the loads in the scene to the state of the button LED, which is On. – When all loads in the scene programmed on the keypad's button are On, the button LED will be Off. Press the keypad's button to switch all the loads in the scene to the state of the button LED, which is Off. – When any load in the scene programmed to the keypad's button is Off, the button LED will be On. Press the keypad's button to switch all loads in the scene to the opposite state of the button LED which is Off.
Last Level	Toggles the loads between Off and the last level the load was left at. Example: LED Behavior field = Any On (Not All Off)(default) 1. Press and hold the keypad button to raise or lower the load to a desired brightness. The button LED remains On as long as one or more loads being controlled by this button are on. 2. Press and release the button and the loads shut off. Button LED switches Off 3. Press and release the button again to switch the loads On to the brightness set in step one. At this point, each time the button is pressed and released the loads will toggle between the level set in step 1 and Off. **Note:** If the keypad button is pressed and held again then a new last level will be set. Switching the loads On and Off using a method other then through the keypad button could dis-activate the Last Level function and require the user to reset the brightness level.
Timed	Toggles the loads On for the length of time set in the Duration field. When the timer expires, the loads are then switched off. Example: 1. Select **Timed** from the Function field. 2. In the Duration field that opens, enter the number of seconds the loads should stay on for (Range = 1 - 140 seconds). Upload configuration. 3. Press and Release the keypad button. The load will switch On and stay on for the time set in the Duration field and then switch Off. **Additional Info:** – The Duration field only appears when the Timed function is selected. – The loads switch on to the brightness level set in the Min/Max Level slider icons in the Load panel located under the Keypads and Controllers tab. – Another programmed button can interrupt the Timed setting. For example, if a separate keypad button was programmed to switch the loads Off, pressing that button interrupts the timed function and powers Off the load(s).
Momentary	Press and hold the keypad button to switch On the load programmed on the keypad button to the brightness set on the preset slider under the Lighting Scenes tab. The load remains On while the button is pressed. Release the button to shut the load Off.
Raise	**Press and Release** - Increases the level of brightness using the increments programmed in the lighting scenes **Step value** field located under the Lighting Scenes tab. Continue to press and release until the brightness level set in the Max / Min slider icon in the load panel under the Keypads and Controllers tab. **Press and hold** - Increases the level of brightness of the load up to the level set in the preset slider icon under the Lighting Scenes tab. This function only increases brightness. Another function such as Lower should be programmed on a separate keypad button to be able to decrease brightness.

Lower	**Press and Release** - Decreases the level of brightness using the increments programmed in the lighting scenes **Step value** field located under the Lighting Scenes tab. Continue to press and release until the load shuts Off. **Press and hold** - Decreases the level of brightness of the load down until the load shuts Off. This function only decreases brightness. Another function such as Raise should be programmed on a separate keypad button to be able to increase the brightness.
On Raise	**Press and hold** - Press and hold the keypad button to increase the brightness of the load up to the brightness level set in the Min / Max Level slider icon under the Keypads and Controllers tab. **Press and Release** - Press and release the keypad button to switch the load On to the brightness level set in the Preset slider under the Lighting Scenes tab.
Off Lower	**Press and hold** - Press and hold the keypad button to decrease the brightness of the load down until the load switches Off. **Press and Release** - Press and release the keypad button to switch the load Off.
Cycle	Press and release the keypad button to cycle through each of the scenes programmed on the button. Press and hold to activate the All Off scene and shut all loads Off. The steps below describe how to configure the Cycle function. 1. Select **Cycle** from the Function field. 2. Program the All Off scene to the first Scene field. The All Off scene must be the first scene added. 3. Right-click the scene field and select **Insert Scene After**. This opens a second Scene field. 4. Add a scene from the drop-down menu of available scenes. 5. Right-click the second scene field and select **Insert Scene After**. This opens a third Scene field. 6. Add a scene from the drop-down menu of available scenes. 7. Continue to add Scene fields and populate them with available scenes as required. 8. Sync the changes and upload the configuration to the Host. 9. Once configured, press the keypad button once. This triggers the All Off scene. 10. Press the button a second time and the Scene programmed to the second scene field is triggered. 11. Continue pressing the keypad button to cycle through all programmed scenes. 12. At any time the All Off scene can be triggered by pressing and holding the keypad button. **Additional Info:** – The first scene programmed must be the All Off scene. – Both custom scenes and load scenes are available in the Scene's drop-down menu. – When a button press activates a scene with multiple loads, and the second button press changes one of the activated loads in some manner, the remaining loads activated in the first button press will continue in the state set in the first scene activated. – To remove a scene, right click on the scene field and select Delete Scene.
Combination	A keypad button can be placed into Combination Mode and require a combination of keypad presses to activate the scene programmed into that button. Follow instructions below to configure. 1. Select **Combination** from the Function: field and a Combination field opens. 2. Program one of the available scenes in the drop-down menu into the Scene: field. 3. Double-click the Combination field and instructions on setting the combination will appear in the keypad image to the left. 4. Select the sequence of button presses needed to push to activate the scene. 5. Select the faceplate on the keypad image to save the combination. Upload configuration and allow to load. 6. Initiate the combination of presses to the keypad set up in step 4 above. When complete, press the programmed keypad button within 2 seconds to activate the scene programmed into the button. **Additional Info:** – The keypad button must be pressed within 2 seconds after entering the combination. – The combination must be entered each time before invoking the scene.

Program the Keypad Buttons - Control Tab

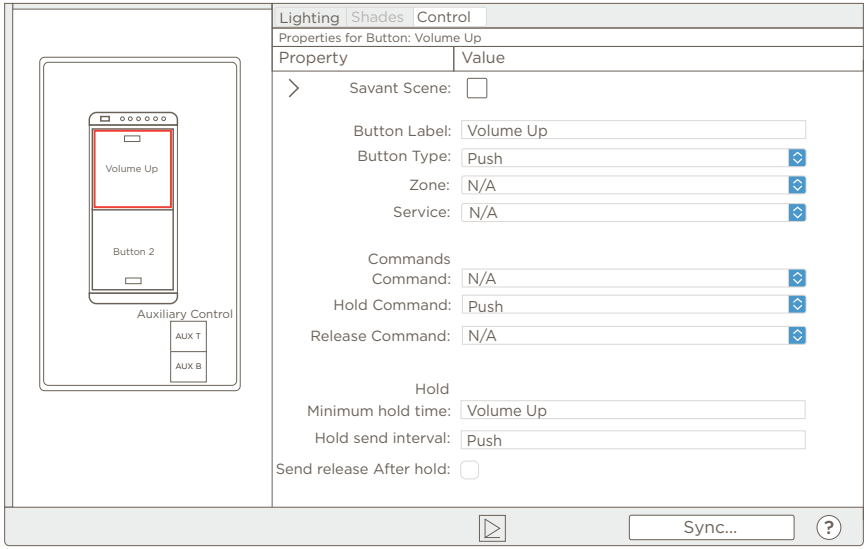
Each lighting keypad button has two tabs associated with it.

- Lighting Tab
- Control Tab

Similar to the Lighting tab, the Control tab fields differ depending on whether the keypad hardware is selected or the keypad button is selected. The fields for both the keypad hardware and keypad buttons are described below.

When the buttons are used to control a service other than lighting, the Control tab is used. An example of why the Control tab is configured would be to configure a keypad to control the volume of an audio or video device, channel up or down a TV, or power on or off a service such as a TV or audio device. Below are descriptions for the fields when the Control tab is chosen.

Field	Description
Savant Scene	**Unchecked** - Disables the Savant Scene feature. Program the button by programming the fields that open.
	Checked - Enables the Savant Scene Feature and a scene created in the Savant App can be programmed onto this button. To add a scene to a button: 1. Add check to the Savant Scene check box. 2. Enter a label that identifies the button being programmed. An example would be to enter “Volume Up” 3. **Sync...** the changes and upload the updated configuration to the Host. **Note:** Keypad must be bound to the configuration running on the Host. 4. From Pro App, navigate to **Settings > Device Settings > Button Settings**, select the keypad from the list of available keypads, and program a scene to the button. See the **Adding a Scene to a Button Application Note** on the Savant Customer Community for more information on this.



Button Type: PUSH		
More than one command can be sent each time a button is pressed. For instance, a command can be sent when the button is first pressed, a second command can be sent when the button is held for a short duration, and a third command can be sent when the button is released. One or all commands can be programmed into the button at the same time. Any fields not programmed will not send a command. For example, if only the Press field is programmed, no commands are send if the button is held or released. Program the actions of the PUSH type button using the descriptions below.		
PUSH	**Command**	Press and immediately release the button to send the command programmed in the **Command** field.
	Hold	Press and hold to send the command programmed in the **Hold Command** field. Continue holding down the button to repeatedly send the command. The Minimum hold time and Hold send interval fields must be programmed for the Hold command to function correctly.
	Release	Releasing the button after a press action sends the command programmed in the **Release Command** field. If the button is held longer than the time set in the Minimum hold time field before releasing, the command in the Hold field will be sent instead.

Button Type TOGGLE		
Select Toggle fro the drop-down menu to open the Toggle, Toggle Hold, and Toggle Release. These three fields are specific to a Toggle type button. Program the actions of the TOGGLE type button using the descriptions below.		
TOGGLE:	**Toggle**	Press and immediately release the button to send the command programmed in the Toggle field.
	Toggle Hold	Press and hold the button to send the command programmed in the Toggle Hold field. The time the button must be held down for the Toggle Hold command to be sent is programmed in the Minimum hold time field. The Minimum hold time and Hold send interval fields must be programmed.
	Toggle Release	Press, hold, and then release the button to send the command programmed in the Toggle Release field. The time the button must be held before releasing must be equal to or greater than the duration programmed into the Minimum hold time field. The Minimum hold time and Hold send interval fields must be programmed.

Minimum hold time:
– Sets the minimum duration the button must be held before being detected as a Toggle or Toggle Hold and sending the command in these fields.
– Sets the minimum duration the button must be held before releasing before being detected as a Release or Toggle Release and sending the command in these fields.

Hold Send Interval:
When a button is pressed and held for a long time, the command programmed in the Hold or Toggle Hold field gets sent repeatedly. This field sets the time that elapses between sending each command (i.e. repeat rate).

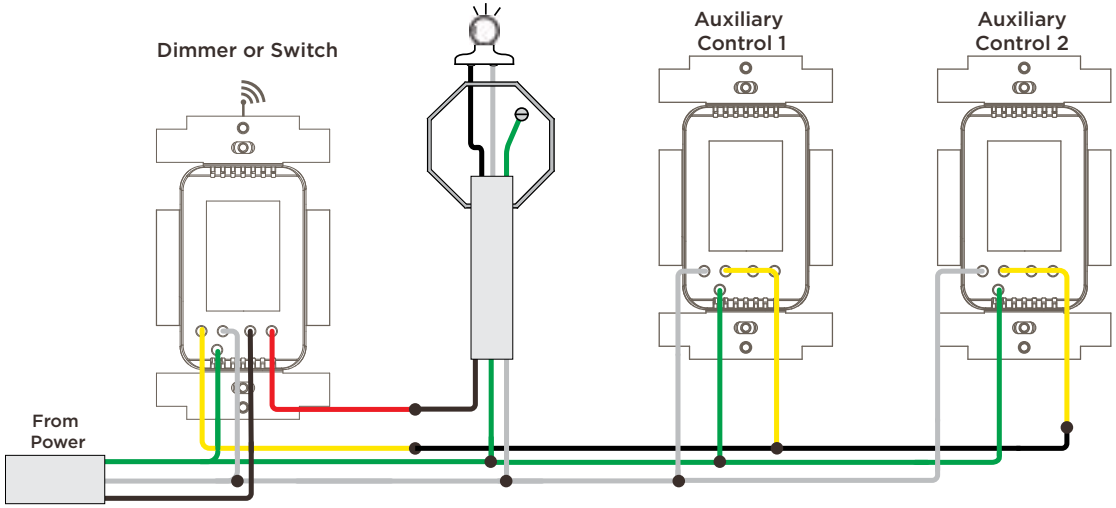
Send Release After Hold:	
Box Checked	After a Hold or Toggle Hold command is sent, the command in the Release or Toggle Release field is sent when button is released.
Box Unchecked	After a Hold or Toggle Hold command is sent, the command in the Release or Toggle Release field is NOT sent when the button is released.

Program the Keypad LEDs

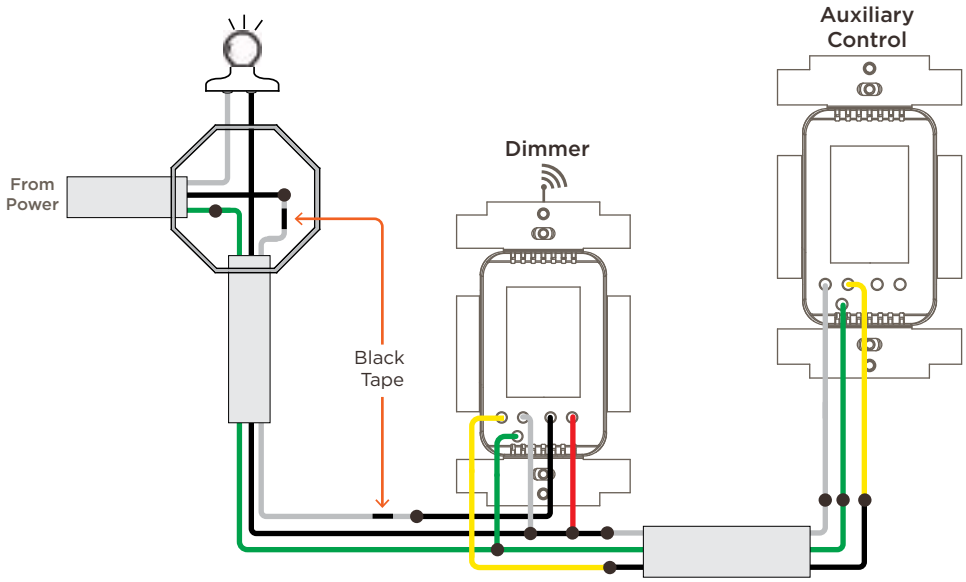
LED Behavior	Use the descriptions below to program when a keypad's button LED will switch On or Off.	
	None	The button LED lights only when the button is pressed and switches off when released. None is typically programmed when the button LED will be used to track a system state. System states are programmed to a keypad from under the Control Tab.
	Exact	– The button LED is On when the brightness level matches the level set in the Preset slider's icon of the scene programmed to the button. – When a scene contains more than one load, all loads must match the level set on the Preset slider for the button LED to light. – If at least one load in the scene does not match the level set in the Preset slider, the button LED will switch Off. **HELPFUL:** Each scene within the Lighting Scenes tab contains a Preset slider icon.
	Inverted	The Inverted behavior functions much like the Exact behavior but opposite. – The button LED is Off when the brightness level matches the level set on the Preset slider's icon of the scene programmed to the button. – When a scene contains more than one load, when the brightness level of one or more of those loads are not at the level set on the Preset slider, the button LED switches On.
	All On	– The button LED is On when the load in the scene programmed to that button is On. – When a scene contains more than one load, the button LED is On when all loads in the scene programmed to that button are On. If at least one load in the scene switches Off, the button LED also switches Off. – The brightness level set on the Preset slider has no affect on the button LED.
	All Off	– The button LED is On when the load in the scene programmed to that button is Off – When a scene contains more than one load, the button LED is On when all loads in the scene are Off. If at least one load in the scene switches On, the button LED also switches On. – The brightness level set on the Preset slider has no affect on the button LED.
	Not All On	– With one load in the scene, the button LED is Off when the load is On and is On when the load is Off. – When there is more than one load in a scene: • If any load in the scene is Off, the button LED is On. • If all loads in the scene are On, the button LED is Off. – The brightness level set on the Preset slider has no affect on the button LED.
	Any On (Not All Off)	– With one load in the scene, the button LED is On when the load is On and Off when the load is Off. – When there is more than one load in a scene: • If at least one load in the scene is On, the button LED will be On. • The button LED is Off when all loads in the scene are Off. – The brightness level set on the Preset slider has no affect on the button LED.
Scene	Select one of the listed scenes from the drop-down menu. The scene selected will be controlled by the button being programmed. Both User created custom scenes and load created load scenes are listed. All the scenes listed in the drop-down menu are also available from the Lighting Scenes tab. – **All Off** - Scene generated by Blueprint that when added to a button will switch Off all lighting products with one button press. – **Load Scene** - Blueprint also generates a Load Scene for every load entered into the Load Name field under the Keypads and Controllers tab. – **Custom Load Scene** - A scene created by a user. Custom scenes are created under the Lighting Scenes tab. **HELPFUL!** Select **N/A** from the Scene field when a button is to be programmed to control a device listed under an audio or video device listed under the Control Tab,	

Programming Auxiliary Control Keypads

Use the diagrams below when making the connections between a Savant dimmer or switch and the Auxiliary Control keypad. Once wired, the buttons for each Auxiliary keypad can be configured using Blueprint. The Auxiliary Control keypads do not support Wi-Fi and all signaling is sent over the traveler wire (yellow) back to the keypad for processing (see the diagrams below). There is no limit to the number of Auxiliary Control keypads that can be wired to a single keypad. Both basic and no neutral examples are given below.



Basic Multi-Location Wiring



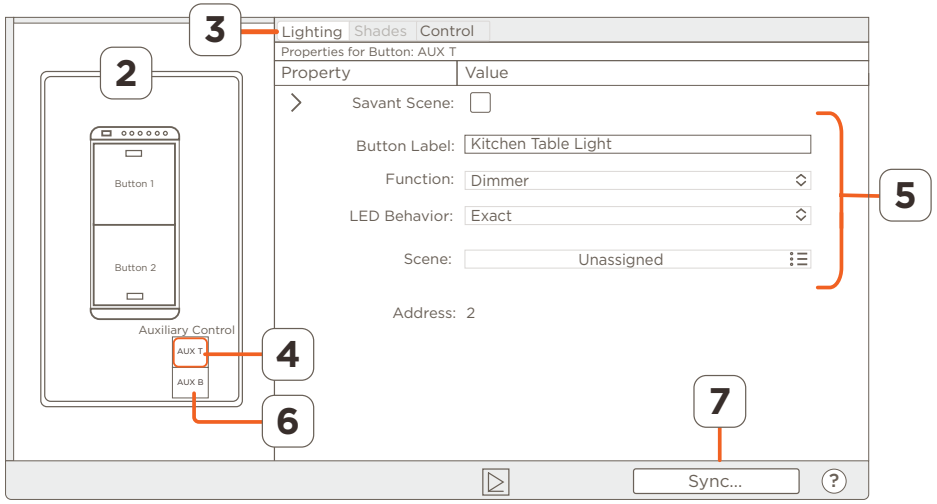
Multi-Location/No Neutral Wiring

Overview

If control of a load from multiple locations is needed, the Auxiliary Control keypad was designed to do just that. The buttons on each Auxiliary Control keypad map to two buttons on a master keypad. Pressing a button on the Auxiliary Control keypad sends data across the traveler wire to a master keypad and then out to a load. The load where the data is sent is mapped to a button on the master keypad. Those mappings are shown in the Auxiliary Control Keypad Button Mappings section below. Below are instructions on how to configure an Auxiliary Control keypad.

The instructions assume that a keypad in the Savant system was been discovered, added to the Configured column window in Blueprint, and the buttons were configured.

1. Open the Lighting and Shades Device Manager (**Tools > Savant Lighting and Shades...**) (not shown in image to the right)
2. Select a keypad from the Configured column. This keypad and its buttons should already be configured.
3. Select either the Lighting or Control tab. The tab selected is dependent on what type of load is being controlled. The tab labeled **Lighting** was selected in this procedure.
4. Select the **AUX T** button located under the Auxiliary Control heading. AUX T indicates the top button of the Auxiliary Control Keypad.
5. Configure the fields that open.
   - **Button Label** - The Label should identify the load being controlled. The Button Label entered is transferred to the keypad button.
   - Select a Function from the drop-down list. The Function configures how the keypad will react when the button is pressed. A description of each function is listed in the Properties for Button: fields in the Programming Keypads section above.
   - Select an LED Behavior from the drop-down list. The LED Behavior configures how the button's LED on the master keypad reacts to certain keypad states. Refer to the Program the Keypad LEDs section above for a description of each behavior.
   - **Scene:** If the button will be used to trigger a scene, select the Scene from the list of available scenes.



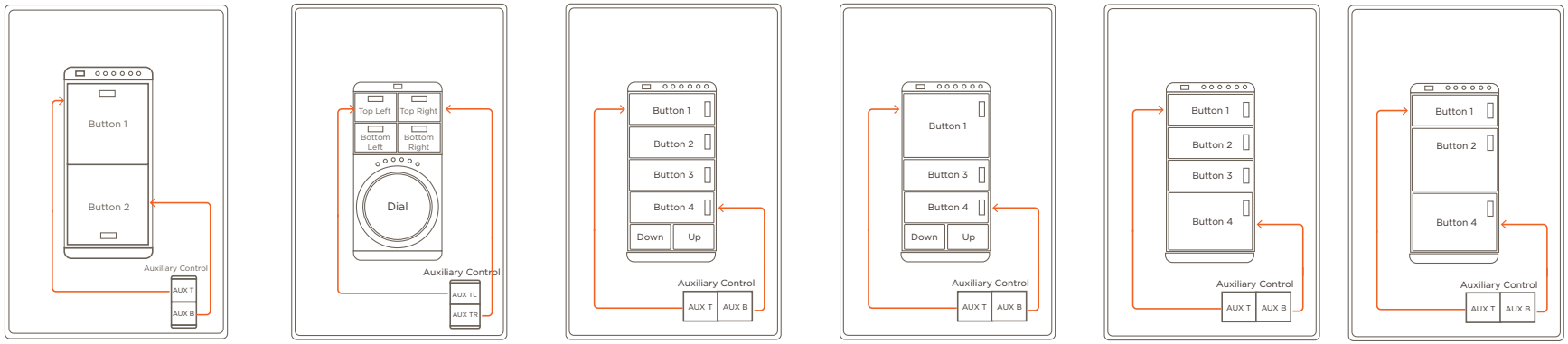
6. Select the AUX B button and configure each of the fields for the bottom button. AUX B = bottom button of the Auxiliary Control keypad.
7. Select the **Sync** button to sync the updates to the Lighting Data Table and then upload the configuration to the Host.
8. To test, press the top button on the Auxiliary Control keypad and verify the appropriate load reacts as configured. Do the same for the bottom button.

Additional Information

- There is no limit to the number of Auxiliary Control keypads that can be wired to a Savant dimmer or switch.
- When there are multiple Auxiliary Control keypads wired to a single dimmer or switch, the configuration set on the AUX T and AUX B buttons is used by all the Auxiliary keypads. Each additional Auxiliary Control keypad added to a Savant Dimmer or Switch will use the same button configuration.

Auxiliary Control Keypad Button Mappings

Each keypad in the Lighting and Shades Device Manager includes two squares at the bottom of the window. Each square denotes a keypad button on an Auxiliary Control keypad. The location of the button and the load controlled by that button vary depending on the style of keypad. The diagram below shows which button/load is controlled by the Auxiliary Control keypad.



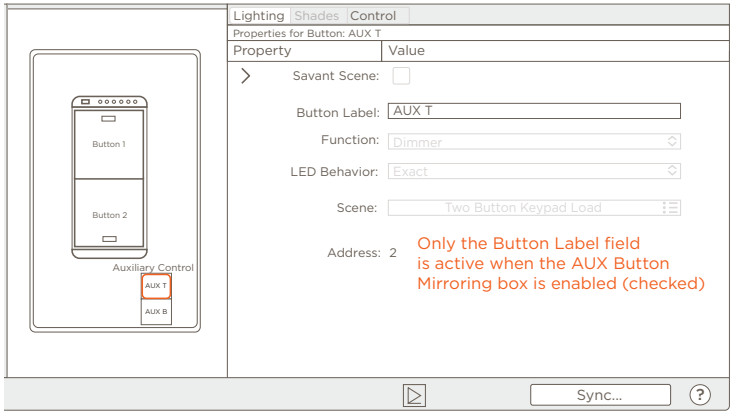
AUX Button Mirroring

An **AUX Button Mirroring** check box is one of the fields available when configuring the hardware properties of the keypad.

- **AUX Button Mirroring Disabled** - The Auxiliary Control keypad buttons are configured separate from how they were set on the dimmer or switch.
- **AUX Button Mirroring Enabled** - The buttons on the Auxiliary Control keypad follow the button property settings configured on the dimmer or switch. Most fields associated with the AUX T/AUX B, AUX TR, and AUX TL are grayed out (inactive). Only the Button Label field can be modified. See the examples below.

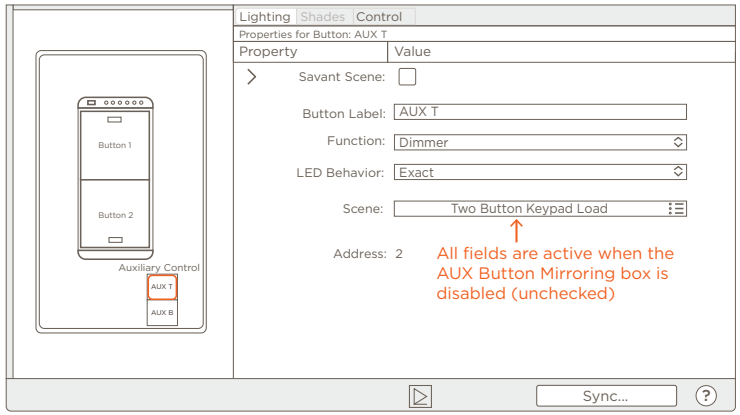
AUX Button Mirroring Enabled

Only the Button Label field can be modified when the Aux Button Mirroring checkbox on the keypad is enabled (checked). See the example below.



AUX Button Mirroring Disabled

All fields are active when the Aux Button Mirroring checkbox on the keypad is disabled (unchecked). See the example below.



AUX Button Mirroring Keypad Support

Not all keypads support the AUX Button Mirroring function. In addition, not all button layouts support Aux Button Mirroring. Use the table below to determine if the a certain keypad -vs- button layout supports the AUX Button Mirroring function. Any keypads/button layout combination not listed doesn't support the AUX Button Mirroring function. In addition, no low voltage type keypads support this function.

		KEYPADS								
		Echo/Metro Adaptive	Echo/Metro Forward	Echo/Metro Switch	Gen 2 Echo/Metro Adaptive	Gen 2 Echo/Metro Dial Adaptive	Gen 2 Echo/Metro Dial Forward	Gen 2 Echo/Metro Dial Switch	Gen 2 Echo/Metro Forward	Gen 2 Echo/Metro Switch
Button Layout	Paddle	Yes	Yes	Yes	Yes	N/A	N/A	N/A	Yes	Yes

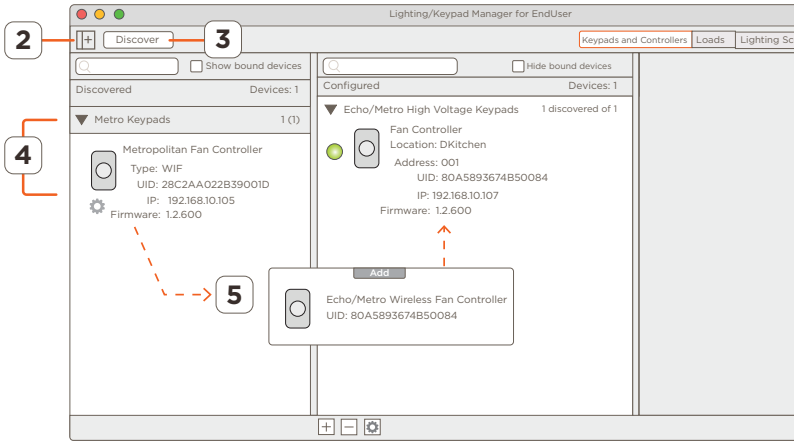
		KEYPADS					
		Metropolitan Dimmer WID	Metropolitan Keypad w/Dial	Metropolitan Switch	Circa Switch	Circa Dimmer	Circa Controller Keypad
Button Layout	2 Button Keypad	Yes	N/A	Yes	No	No	No

Configure a Fan Controller

When adding a Fan Controller to a Savant system, it is added through the Lighting and Shades Device Manager. Both the Fan properties as well as the Fan's dial need to be set. Configuring a Fan Controller is described below

Add Fan Controller to the Blueprint Configuration

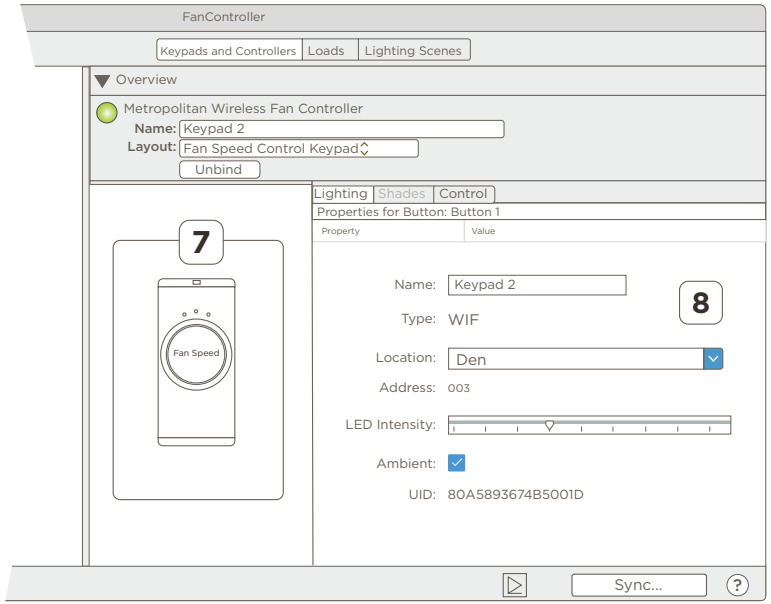
1. Open the Lighting and Shades Device Manager (**Tools > Savant Lighting and Shades...**) (not shown in image to the right).
2. Select the expand icon to open the Discovered panel.
3. Select the Discover button to scan the local network and find all the provisioned lighting devices. This can take up to several minutes to complete.
4. Expand each category of the discovered devices.
5. Drag and drop the keypad into the Configured panel. The controller will automatically add and bind itself to the Blueprint configuration.
6. The next step is to configure the parameters for the keypad and keypad buttons.



Set the Fan Controller Properties

7. In Blueprint, select the controller.
8. Enter the following:

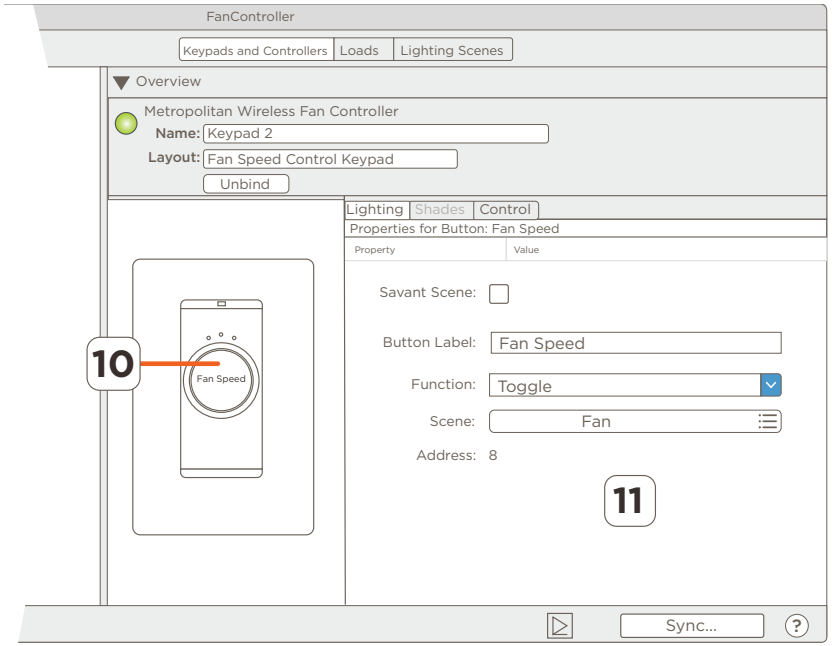
Name	Enter a name that identifies the fan controller.
Location	Select from the drop-down menu the location of the fan or fan controller.
LED Intensity	The intensity of the front panel LEDs is determined through a combination of the state of the LED Intensity slider and the state of the Ambient checkbox. These two fields define whether the ambient light in the room becomes a factor when determining the LED's brightness. **Ambient Box Checked** Enables the ambient light sensor. Set the LED Intensity slider to the brightness level the front panel LEDs can dim to once the room goes dark (no ambient light). Once set, as the room brightens, LEDs will increase in brightness and eventually switch off once the room is bright enough where the LEDs are no longer helpful. **Ambient Box Unchecked** Disables the ambient light sensor. The front panel LEDs remain constant at the set brightness. The ambient light in the room is a non-factor.



9. After setting the properties of the fan controller, set the properties of the fan controller's dial. The following section describes this.

Set the Fan Controller's Dial Properties

10. In Blueprint, select the controller's dial.
11. Enter the relevant fields for your application.



Savant Scene	**Unchecked** - Disables the Savant Scene feature. Program the controller's dial by programming the fields that open. **Checked** - Programs the controller's dial to accept a Savant Scene that was created in the Savant App. To add a scene to the dial: 1. Add a check to the Savant Scene field. 2. Enter a **Button Label**. The label entered should identify the scene being programmed on the dial. 3. Select **Sync...** to update the lighting data table. 4. Upload the configuration to the Host. 5. From the Pro App, navigate to **Settings > Device Settings > Button Settings**. Select the controller from the list of available controllers and keypads and program the scene onto the dial. See the Working with Scenes section in this document for more information. **Note:** The Fan Controller must be bound (UID populated) to the configuration running on the Host.
Button Label	Enter a Button Label. The label entered should identify the scene being programmed on the dial. (Examples: Fan Speed, Den Fan Speed, etc.)
Function	When controlling a fan, the two supported functions are Toggle and Last Level: **Toggle** - Press and release the dial to switch power to the fan on or off. Turn the dial clockwise to increase the fan's speed or counterclockwise to decrease the fan's speed. **Last Level** - Press and release the dial to power off the fan. Press and release again to apply power to the fan and have the fan switch on to the speed it was spinning before switching off power. The position of the dial when power is applied doesn't matter. ⚠ **IMPORTANT NOTE:** In addition to the Toggle and Last Level functions, the fan controller supports additional functions when it is not controlling a fan. When the load being controlled is part of a scene, these additional functions can be programmed into the controller. These additional functions are described on the next page.
Scene	Select the Scene field and program a scene to be controlled by the dial. The following scenes can be triggered by the dial. – A scene created for a load by Blueprint. Commonly referred to as load scenes. – A custom scene created from the Lighting Scenes tab. See the Lighting Scenes Tab section for information on creating a custom scene. – The All Off scene generated by Blueprint.

12. With the fan controller configured, select the **Sync...** button to update the lighting data table with the fan controller.
13. Upload the configuration to the Host. Verify the fan controller works as configured and all relevant features function properly.

Set the Fan Controller's Dial Properties (cont)

Alternately, the fan controller can control other Savant devices a light. The Function field drop-down menu offers additional functions. Each is described below.		
Dimmer	Press and Hold and Press and Release are functions supported with the Dimmer option. Both are described below:	
	Press and Release	The keypad looks at the button LED's state, the setting of the LED Behavior field, and the level set on the Preset slider for the load and then determines whether to switch the load on, off, or to the preset level. The Preset slider is located under the Lighting Scenes tab. Below is a simplified example of how the keypads look at each property and decide what to do with the load. LED Behavior = Exact, Preset Slider (Lighting Scenes Tab) = 50% – Firstly, the keypad switches the load off when the button LED is off. – Press and release the keypad button. The button LED switches on, and the load switches to the level set in the Preset slider. – Press and hold the button to decrease or increase the brightness between 0 and 100%. Leave the brightness level at 100%. – Press and re-release the button. The button LED switches on and tells the load to switch to the level set on the preset slider. Many different LED Behavior settings will switch the load on or off at other times. Experiment with the various LED Behaviors and the Preset slider positions to learn more about how each combination functions.
	Turn Dial	Spin the dial clockwise to increase brightness. Turn counterclockwise to decrease brightness.
	Press and Hold	Increases power to the load in the scene up to the level set in the Max% field of the load of scene selected. Press and hold again decrease the power to the load down to the level set in the Min% field.
On and Off	Press and release to power the load to the level set on the load's Preset slider. Press and release again to switch the load off.	
Timed	Press and release to switch the load to the level set in the load's Preset slider for the time specified in the duration field. The load switches off when the timer expires.	
Momentary	Press and hold to switch the load to the level set in the load's Preset slider. Release the button to switch off the load.	
Raise and Lower	**Raise** - Press and release to increase the power to the load by 10%. Continue to press and release until the brightness set in the Max% field is met. **Lower** - Press and release to decrease the power to the load by 10%. Continue to press and release until the brightness set in the Min% field is met.	

6. Program BLE Smartbulbs to Keypads

The instructions below configure a Savant BLE smart bulb or smart light strip to work with an Echo or Metropolitan styled keypad. Before beginning, the keypads must be wired, provisioned, powered, and a constant 120V AC source to power the bulbs must be available. The following docs are available on the Savant Customer Community, and contain keypad wiring and provisioning instructions.

- **Wireless Keypad Provisioning Guide** - Instructions on adding the keypads to the local Wi-Fi network.
- **Wireless Lighting Deployment Guide** - Instructions on adding the keypads to a Blueprint configuration.

The next few sections below describe how to:

Configure a BLE Gateway	The user determines which keypad/lighting device in your system will become a BLE Gateway and then follow the instructions to configure it. The BLE Gateway communicates with both the Savant Host and the Smart Lighting Groups in the Lighting and Shades Device Manager.
Scan and Locate the Smart Bulbs	Using the BLE Gateway device, scan for all BLE smart bulbs or strips in the system.
Create Smart Groups and Populate	Add BLE Smart Groups to the BLE Gateway keypad and drag and drop smart bulbs into the relevant BLE Smart Group.
Commission the Smart Bulbs and upload the configuration	Locate the smart bulb with the highest RSSI value and connect to it, making it the proxy bulb. Once a proxy is established, commission the other smart bulbs to the smart groups created—Commission all non-proxy smart bulbs first and then the proxy bulb last. Next, test the smart group functionality from the Lighting and Shades Device Manager and if all is functional, upload the updates to the Host.

Configure a BLE Gateway

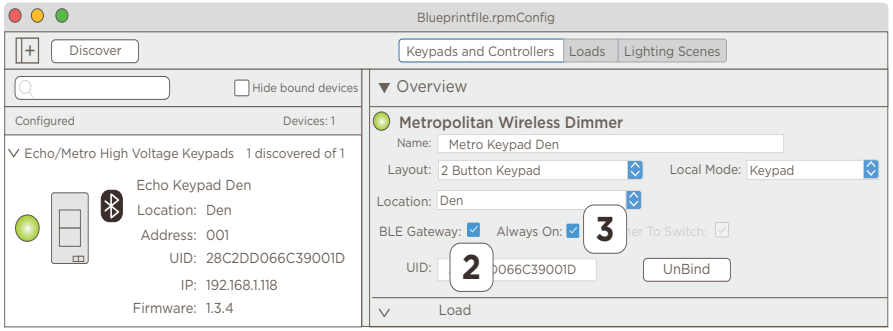
1. Select **Tools > Lighting and Shades Device Manager** from the Blueprint menu-bar and verify the keypads are listed in the **Configured** column.

HELPFUL! When the keypad's status LED in Blueprint is yellow, select the **Discover** button and verify it changes to green. A green status LED indicates the keypad is discovered and bound to the configuration running in the Lighting Manager. If the status LED doesn't switch to green, there is a problem, and it must be troubleshot.

2. Add a check to the **BLE Gateway:** box to configure a keypad to become a BLE Gateway. A keypad configured as a BLE Gateway establishes communications between the Savant Host and the smart bulbs in the system.

HELPFUL! A Bluetooth icon appears next to the BLE Gateway (keypad), and a **Savant SmartLoads** window opens at the bottom of the manager.

3. Ensure all smart bulbs are powered with 120V AC using one of the following methods:
   - Add a check to the **Always On:** check-box of any keypad to force the keypad's output wire to a constant 120V AC.
   - Hardwire 120V AC to each smart bulb not connected to a keypad.

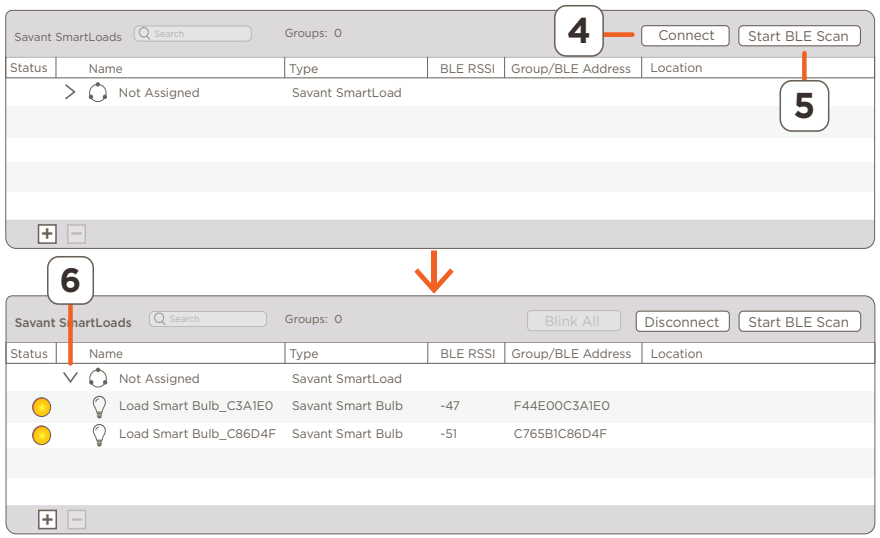


Scan and Locate the Smart Bulbs

4. On the BLE Gateway keypad, select the **Connect** button in the Savant SmartLoads window to establish communications between the Lighting Manager and the BLE Gateway.

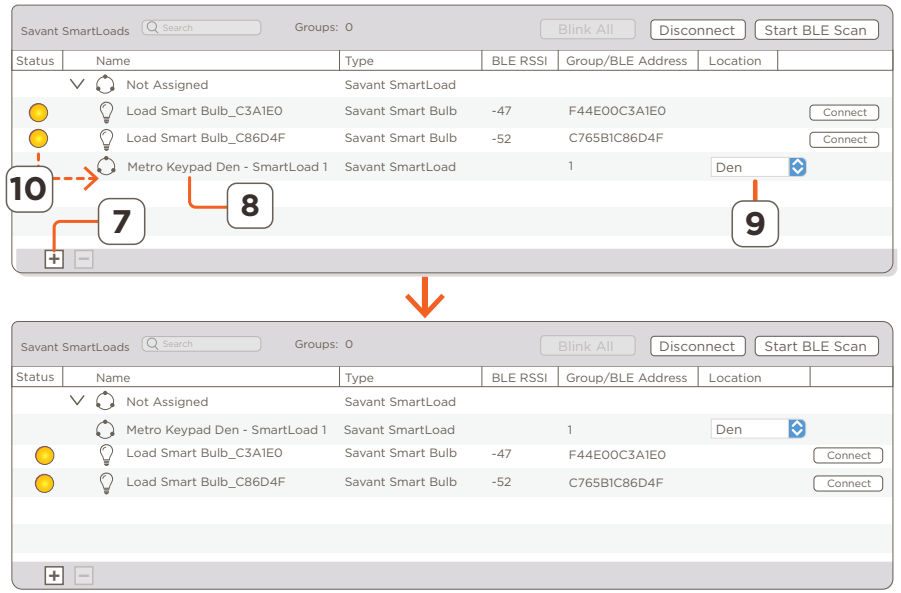
5. Select the **Start BLE Scan** button to initiate a scan for BLE smart bulbs. Select the **Stop BLE Scan** button once all smart bulbs are discovered and listed under the Not Assigned smart group.

6. Expand the **Not Assigned** smart group.



Create Smart Group and Populate

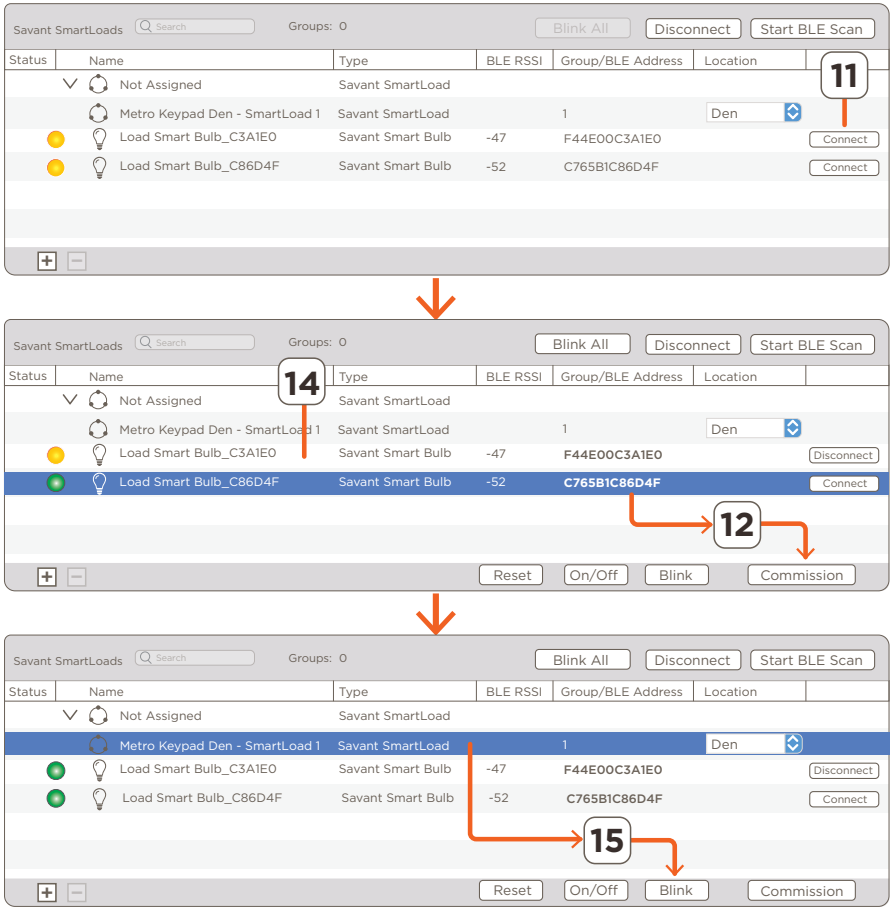
7. Select the Add (+) icon to add a smart group to the Savant SmartLoads window.
8. **OPTIONAL:** Double-click the name field of the smart group and enter a new name.
9. Set a Location for the smart group using the drop-down menu. Typically the room with the smart bulbs installed is chosen.
10. Drag and drop the discovered smart bulb or bulbs from step 5 above into the newly created smart group.



Commission the Smart Bulbs and Upload Configuration

11. Locate the bulb with the highest RSSI value and select its associated **Connect** button. The bulb with the highest RSSI becomes the proxy bulb and allows other smart bulbs in the system to communicate with the BLE Gateway (keypad). For easy identification of the proxy bulb, the smart bulb changes to orange once connected.

HELPFUL! The BLE RSSI values range from -25 to 100dBM. The higher the BLE RSSI value, the stronger the signal. For example, a BLE RSSI value of -65dBM is higher than a BLE RSSI value of -85dBM



12. Select to highlight a non-proxy bulb and select the **Commission** button. Once commissioned, the status LED associated with that bulb turns green.
13. Continue and commission all non-proxy bulbs.
14. Lastly, highlight the proxy bulb and **Commission** it. The proxy bulb must be the last bulb commissioned.
15. Highlight the smart group and select the **Blink** button. Verify all smart bulbs added to the smart group blink red.
16. Select the **Disconnect** button to disconnect from the proxy bulb.
17. Select **Disconnect** again to disconnect from the BLE Gateway.
18. Select the **Sync** button at the bottom of the Lighting and Shades Device Manager, Generate the new service created, and upload the configuration to the Host. Once uploaded and programmed into the Host, a slider icon for the smart group configured above will be added to the Savant App's lighting service. Verify the slider controls all the BLE smart bulbs in the group.

Possible problems that could arise when configuring are shown below:

- Verify the keypads do not have an existing configuration that would not allow the always on check box to function properly.
- Verify the BLE bulbs do not already have a configuration on them. Toggle power to the BLE bulbs 4 times to clear any configuration and reboot the bulbs. The smart bulbs will blink White -> Blue -> Orange -> Magenta and back to white during the reboot process.
- Information regarding the various functions and states of the buttons and LEDs in the Lighting and Shades Device Manager is available in the Savant Smart Lighting Deployment Guide, which is available on the Savant Customer Community.

7. What are Bindings

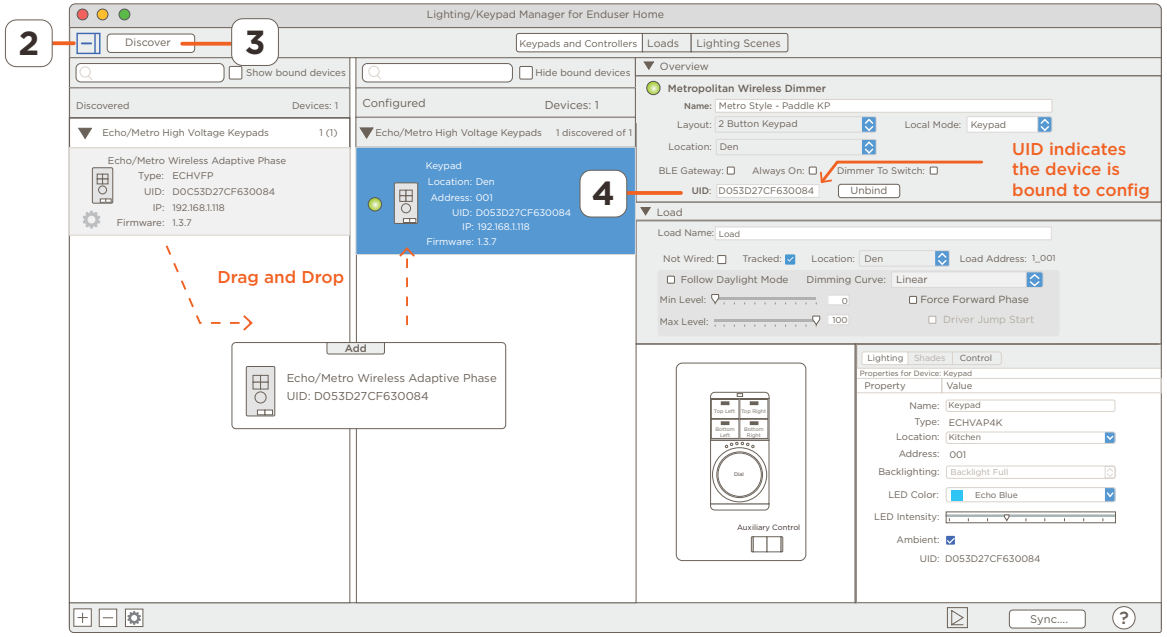
The Host locates the devices in a Savant network using a sixteen-character number called the UID. Every Savant lighting device contains a UID. When a Blueprint configuration runs on a Host, that Host associates the UID with a particular device. Adding a UID to a Blueprint configuration binds the device to the config. Binding and unbinding are adding or removing the UID of a lighting device to or from the Blueprint configuration file. All Savant's lighting devices must be bound to a Blueprint configuration for the Host to locate it.

The UIDs are automatically added to a Blueprint configuration through the discovery process, or can be added entered manually. Both methods are described below.

Bind a Keypad using the Discovery Process

How to bind using the discovery process is shown below.

1. From the Blueprint menu-bar, open the Lighting and Shades Device Manager (**Tools > Savant Lighting and Shades...**).
2. Select the expand icon ( ) to show both the Discovered and Configured columns.
3. Select the **Discover** button to locate and list all keypads in the Savant system. Expand each field in the Discovered column to show a list of the located devices. Select **Stop Discover** button to stop the discovery process.
4. Drag and drop one of the found lighting devices from the **Discovered** column to the **Configured** column. Notice that the UID field gets automatically populated with the UID of the device and the button icon next to the UID field shows Unbind. Unbind indicates the device is currently bound.



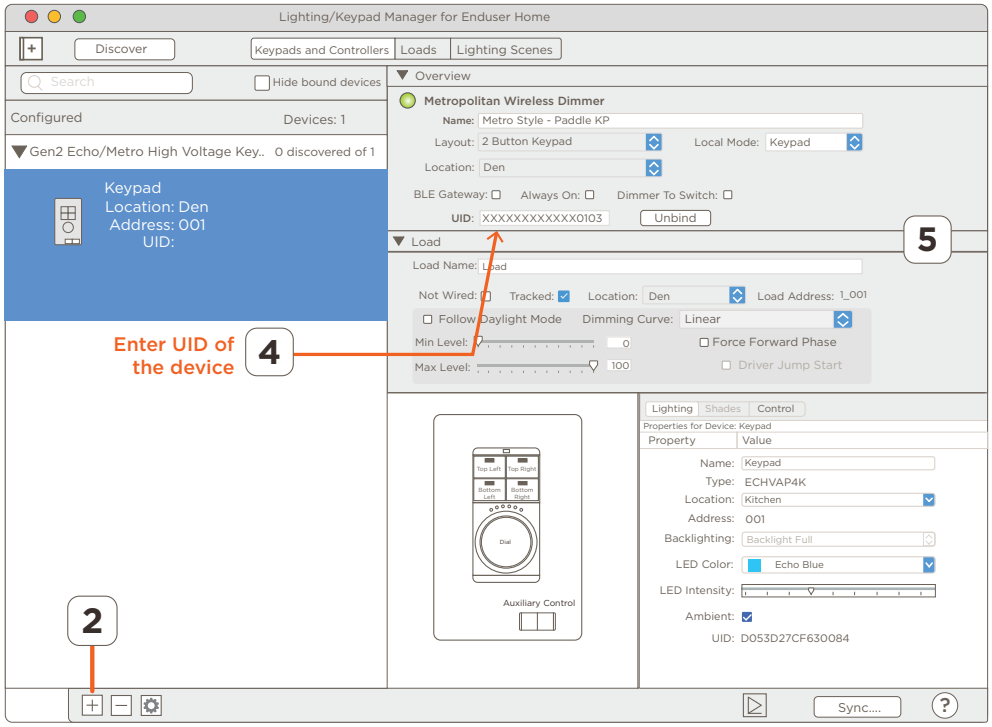
Additional Information:

- Select the Unbind button to remove the UID from the Blueprint configuration and unbind the keypad.
- Enter the UID manually to the UID field to re-add to the Blueprint configuration and rebind the keypad.
- The UID can also be removed and added using the UID field available under the Lighting tab

Bind a keypad by manually entering the UID

A second way to bind a keypad is to add the UID into Blueprint. Once entered, Blueprint will locate the keypad on the network and start communicating with it. How to add UIDs manually is shown below.

1. From the Blueprint menu-bar, open the Lighting and Shades Device Manager (**Tools > Savant Lighting and Shades...**).
2. Select the add device icon (+) at the bottom of the Configured column.
3. From the add devices dialog that opens, enter the number of devices of each to add (not shown in image below). More information on the Add device dialog is available in the Manually Add Devices to Configuration (Off-Site Process) section above.
4. Enter the UID of the device into the UID field. Typically Blueprint automatically appends the last four characters. Click away from the UID field. Blueprint will now locate the keypad. A green LED will appear next to the keypad when the keypad is located and communicating with Blueprint. The LED indicates the keypad was found, can communicate with Blueprint, and is bound to the configuration running in Blueprint.
5. Finish populating the relevant fields, sync the updates to the data table and upload the updates to the Host.



8. Working with Scenes

Create and Add a Scene to a Keypad Button

The following loads/scenes can be added to a keypad button:

- Scene that is associated with the load that is wired to the keypad device and is automatically generated when the lighting device is added to Blueprint. A user scene generated by a load is identified with a lightbulb icon ( )
- Scene that is associated with loads connected to other keypad devices. These scenes are automatically generated when other lighting devices are added to Blueprint.
- Scene that is associated with a BLE Smart Group and is user created. See the Program BLE Smart Bulbs to Keypads section above for more information.
- A user created scene. Once created, this scene gets listed under the Programmed Scenes heading that is located under the Lighting Scenes tab. A user created scene is identified with a profile icon ( )that looks like a persons profileThis scene is identified and is created and configured under the Lighting Scenes tab.
- An All Off scene is generated automatically and is used to switch off all the loads at once with one button push. Savant suggests not modifying this scene.

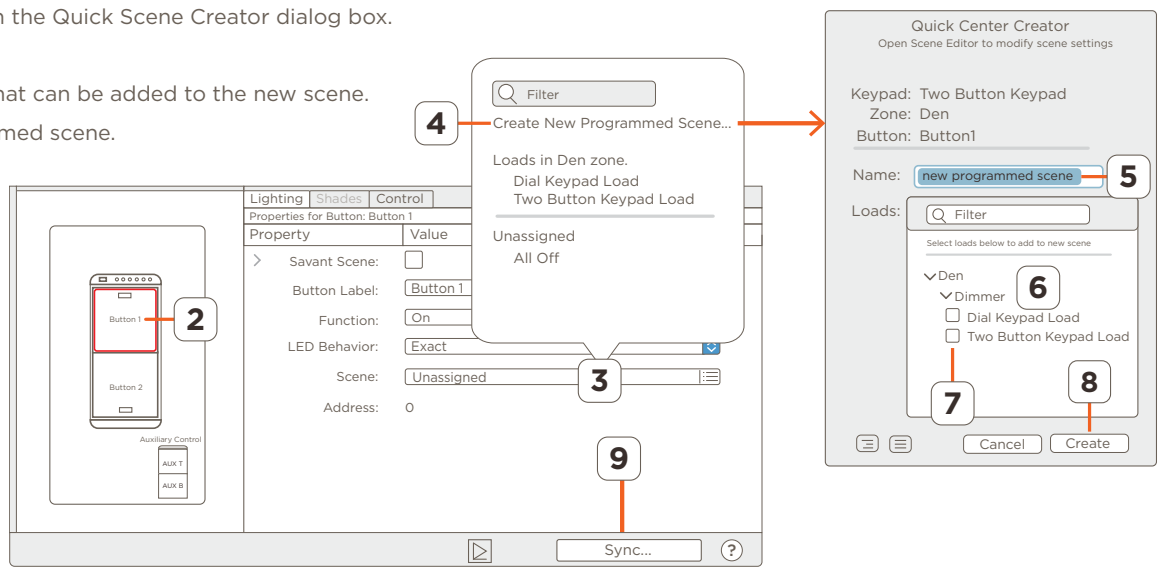
HELPFUL! The two methods of adding a Programmed Scene to a keypad are:

- Create and add the Programmed Scene directly to a button on the keypad.
- From under the Lighting scenes tab, create the Programmed Scene. Once the scene is created, it can be programmed into a keypad button.

The next two sections describe the two processes.

Create a Programmed Scene and add the scene to a button from the Lighting and Controller Tab

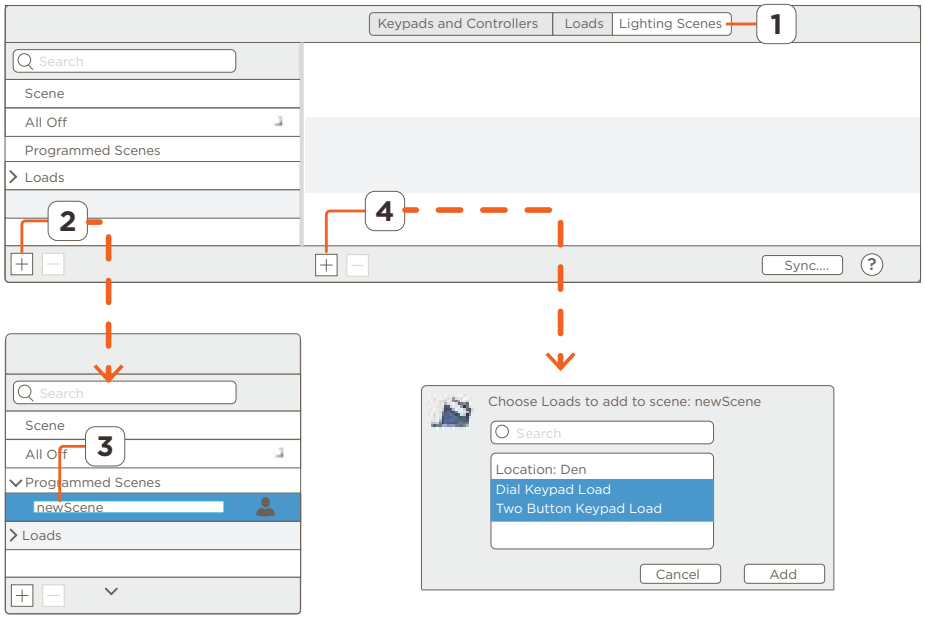
1. Open the Lighting and Shades Device Manager and select the Keypads and Controllers tab.
2. Select a keypad and then a button from the keypad.
3. Select the **Scene** field to open a scene dialog box. This box lists all available scenes that can be added to a button.
4. Select the **Create New Programmed Scene...** entry to open the Quick Scene Creator dialog box.
5. Add a Name to the newly created programmed scene .
6. Expand the zone and device fields to reveal all the loads that can be added to the new scene.
7. Add a check to each load to add that load to the programmed scene.
8. Select Create to create the scene.
9. Program the **Button Label**, **Function**, and **LED Behavior** fields for the button.
10. Select the **Lighting Scenes** tab and locate the newly created Programmed Scene.
11. Modify the parameters of the loads listed under the newly created Programmed Scene (not in image to the right).
12. Select **Sync...** to add the new scene to the lighting data table and then upload the updated configuration.
13. Test the functionality on the keypad's button and from within the Savant App's Lighting Service.



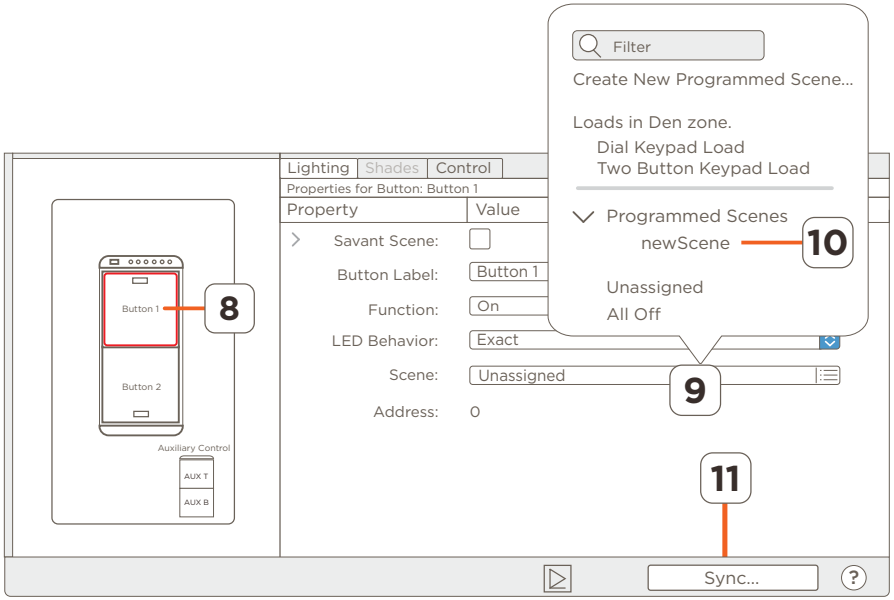
HELPFUL! Programmed Scenes can only be deleted from the Lighting Scenes tab.

Create a Programmed Scene in the Lighting Scenes Tab then add to a Keypad Button.

1. Open the Lighting and Shades Device Manager and select the **Lighting Scenes** tab.
2. Add a new Programmed Scene by selecting the ADD (+) icon located in the lower left portion of the Scene column.
3. Label the scene. The label should describe the Scene being added.
4. Select the Add (+) icon located in the lower middle section.
5. Select the loads to add to the Scene from the **Choose Loads to add to scene:** dialog box that opens. Select the **Add** button and the loads will automatically populate into the newly created scene.
6. Select the scene.
7. Modify the parameters such as Min/Max brightness and Fade values of each load added to the new Programmed Scene (not shown in images).



8. Select the **Keypads and Controllers** tab at the top of the Manager (not shown in image).
9. Select a **keypad** and then a **button** on that keypad.
10. Select the **Scene:** field. Expand the **Programmed Scenes** entry from the dialog box that opens..
11. Select the newly created scene to add it to the keypad button's Scene field.
12. Program the **Button Label**, **Function**, and **LED Behavior** fields for the button.
13. Select the **Sync** button to add the updates made to the lighting data table.
14. Save and upload the configuration to the Host.
15. Test the functionality on the keypad's button and from within the Savant App's Lighting Service.



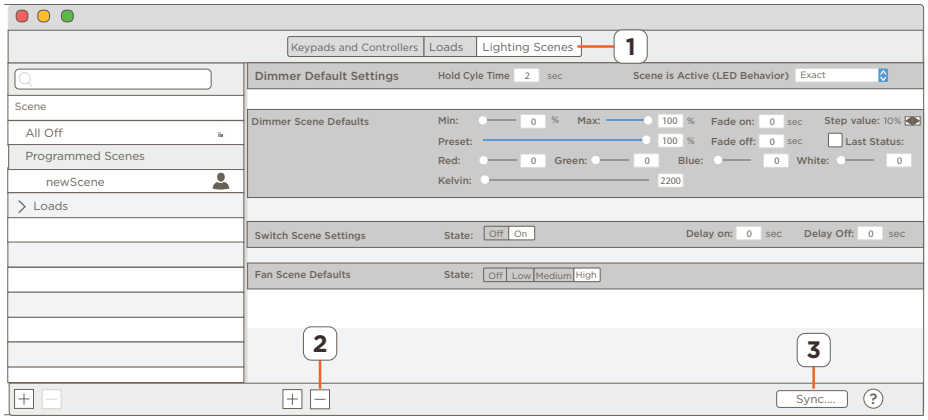
HELPFUL! Programmed Scenes can only be deleted from the Lighting Scenes tab.

Delete a Programmed Scene

1. Select the Lighting Scenes tab.
2. Select to highlight the scene to be removed.
3. Select the Delete (−) icon and the scene is removed.

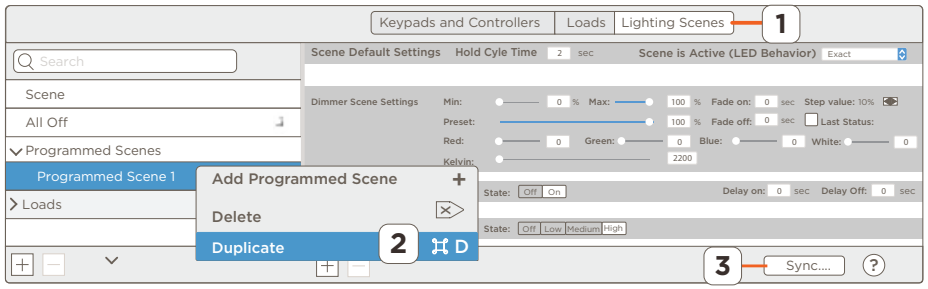
TIP! A second method of removing the scene is to highlight the scene, right-click and select Delete.

4. Select the **Sync** button to update the lighting data table and upload the updated configuration to the Host.



Duplicate a Programmed Scene

1. Select the lighting Scenes tab.
2. Highlight the scene to be duplicated, right-click and select Duplicate. A copy of the scene is created with all the same field entries as the duplicated scene.
3. Select the **Sync** button to update the lighting data table and upload the updated configuration to the Host.



9. Keypad Replacement Feature

If a high voltage keypad needs to be replaced, the Keypad Replacement Feature allows a newly discovered keypad to be dragged onto a keypad in the Configured column to replace it. During the process, the UID is replaced and Binding status is carried over to the new keypad. When making the swap, observe the following:

- The process should be completed on-site where a new keypad can be discovered.
- The process requires the replacement keypad be wired, provisioned, and powered on.
- Legacy Metro Keypads - Only a Metro Legacy keypad with the exact same model keypad can be replaced (i.e WID to WID, WIS to WIS, WIK to WIK)
- Lamp Controllers can be replaced with a Lamp Controller.
- Replacing a Gen 1 keypad with Gen 2 or Gen 2 keypad with a Gen 1 is not supported in this feature.
- Gen 2 keypads of the same type can be replaced.
- Gen 2 Dial type keypad can be replaced with Configurable keypads as long as the keypads use the same format (Adaptive to Adaptive, Forward to Forward).
- An Adaptive Phase Dial keypad can be replaced with any Configurable adaptive phase type keypad.

Follow the instructions below to utilize this feature to replace an installed and configured keypad.

Replace the Existing Keypad Hardware

1. Toggle the appropriate circuit breaker in the electrical panel to remove power from the keypad that is being replaced.
2. Remove the keypad's front panel, unscrew the two 6-32 x 1-inch screws that secure the keypad to the switch box, and pull the keypad out of the box.
3. Disconnect and label each wire as they are removed from the keypad.

TIP! Take a picture of the keypad's wiring to help ease the installation process.

4. Make the appropriate connections to the wires on the replacement keypad. Basic wiring diagrams are available in the Quick Reference Guide for that keypad.
5. Install the keypad into the electrical switch box. Ensure wires are neatly tucked back into the box, and no wires are pinched. DO NOT use a powered screwdriver. Powered screwdrivers can over-tighten the screws.
6. Toggle the circuit breaker in the electrical panel to apply power back to the keypad. The keypad will now go through its boot process.
7. Provision the keypad to the local network. Provisioning instructions are available in the **Wireless Keypad Provisioning Guide**, located in the Savant Customer Community. Once provisioned, use Blueprint to perform the replacement process.

Replace a Keypad in Blueprint

8. Open the Blueprint configuration and then open the Lighting and Shades Device Manager (**Tools > Savant Lighting and Shades...**)

9. From the Lighting Manager, select the Expand icon ( ) to gain access to the Discovered column.

10. Select the **Discover** button to search for and list the replacement keypad. Select the **Stop Discover** button once the new keypad is listed. Note: Since the old keypad has been replaced, the Status LED in the Configured column may change to either red or yellow indicating the keypad hardware is no longer available to Blueprint.

11. Drag and Drop the replacement keypad from the Discovered column to the keypad being replaced. The Re-Bind banner will appear when the keypad can be dropped.

12. Verify the new UID of the replacement keypad is displayed in the UID field and the status LED switches back to green indicating the new keypad is bound to the configuration running in Blueprint.

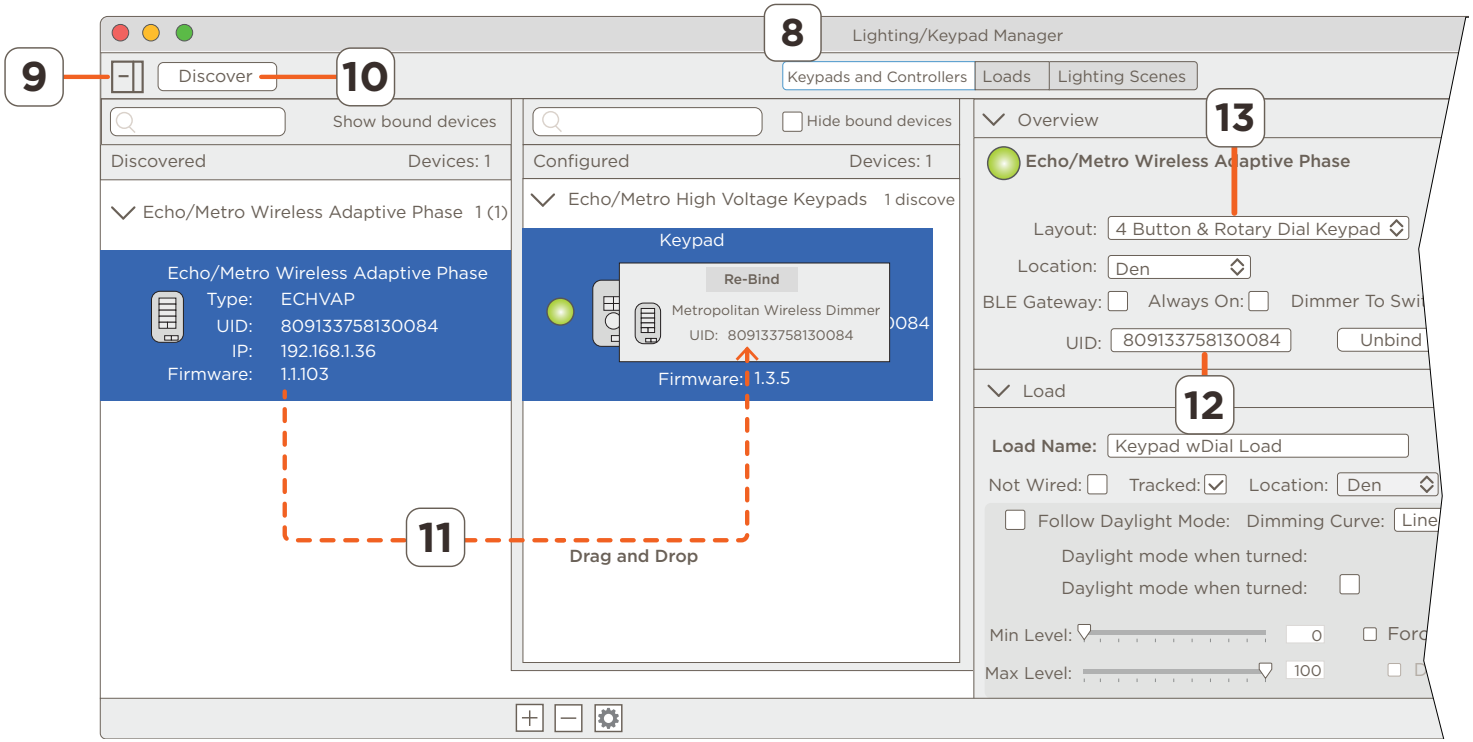
13. If the button layout on the new keypad has changed, select the new button layout from the Layout field.

14. Make any other changes to either the keypad or keypad button fields (not shown in image below).

15. Select the **Sync...** button to add the updates to the Lighting Data Table and upload to the Host (not shown in image below).

16. Open the Lighting Service in the Savant App and verify the new keypad functions correctly.

⚠ **IMPORTANT NOTE!** If any keypad buttons on the keypad being replaced has a Scene from the Savant App associated with it (i.e. Savant Scene box on button in Blueprint is checked), the user may need to re-add the scene to those buttons in the Savant App (Settings > Device Settings > Button Settings"Keypad Name").

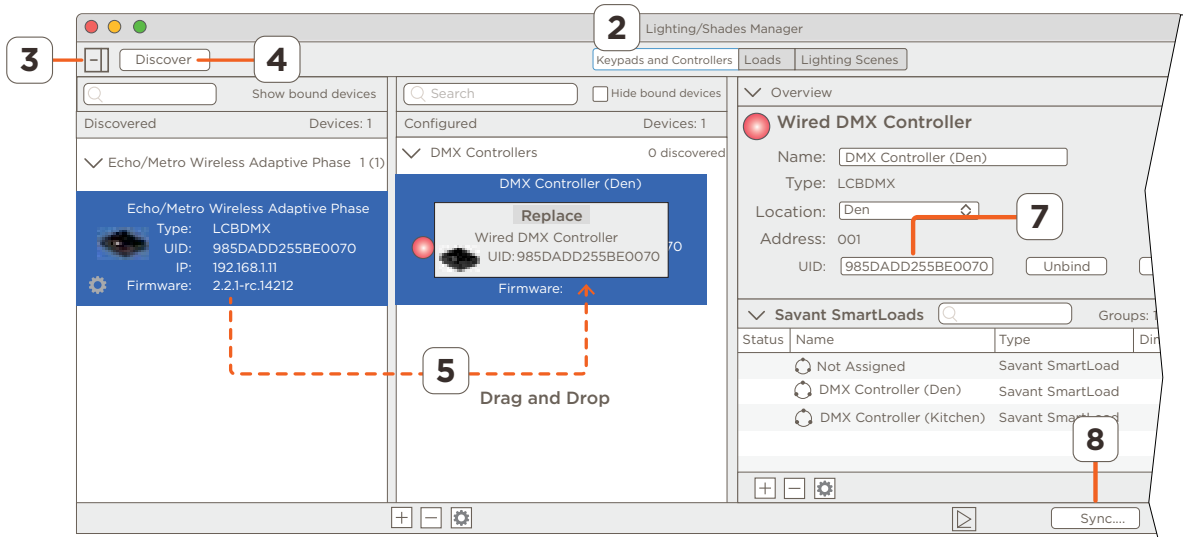


10. Lighting Controller Replacement Feature

Specific controllers available through the Lighting and Shades Device Manager support the Controller Replacement Function. To replace a controller, a user can drag and drop the controller from the Discovered column and on top of an existing listed controller in the Configured column. The replacement process updates the UID and automatically binds the replacement keypad to the configuration in Blueprint. When making the swap, observe the following:

- The process should be completed while on-site since it requires a new controller to be discovered.
- The process requires the replacement controller to be wired, assigned an IP Address, and powered on.
- The replacement controller must be the same product as the controller getting replaced (i.e., DMX to DMX, 010V to 010V, PBC to PBC). For example, replacing a DMX controller with a Panel Bridge Controller is not supported.
- The following controllers support this feature: (DMX, PBC, 010V)

1. Swap both power and Ethernet from the old to the new controller. Allow the replacement controller to boot and get assigned an IP Address.
2. Open the Blueprint configuration and then the Lighting and Shades Device Manager (Tools > Savant Lighting and Shades...).
3. Select the Expand icon ( ) from the Lighting Manager to gain access to the Discovered column.
4. Select the **Discover** button to search for and list the replacement controller. Select the **Stop Discover** button once the new controller is listed. Note that since the old controller was disconnected from power and Ethernet, the Status LED in the Configured column may change to either red or yellow, indicating the controller hardware is no longer available to Blueprint.
5. Drag the replacement controller from the Discovered column to the controller getting replaced and when the **Replace** banner appears, drop the controller on top of the existing one.
6. Read the **Replace Controller** dialog box that opens and select Continue if agreed (not in the image below). The new controller will replace the old controller and will reboot itself.
7. Verify the new UID of the replacement controller is displayed in the UID field and the status LED switches back to green, indicating the new keypad is bound to the configuration running in Blueprint. Verify other aspects of the lighting configuration, such as the controller's Name and configured Smartload Groups, are retained.
8. Select the **Sync...** button to add the updates to the Lighting Data Table and upload to the Host (not shown in the image below).
9. Open the Lighting Service in the Savant App and verify the new keypad functions correctly.



HELPFUL! All configured SmartGroups and BLE Components are re-assigned to the new controller, which can take up to a few minutes to complete. During this process, a dialog box indicating a Replacement is in progress is displayed.

11. Duplicating a Keypad

New for the 10.2 release gives users the ability to duplicate a keypad. Instructions on how to do this are below.

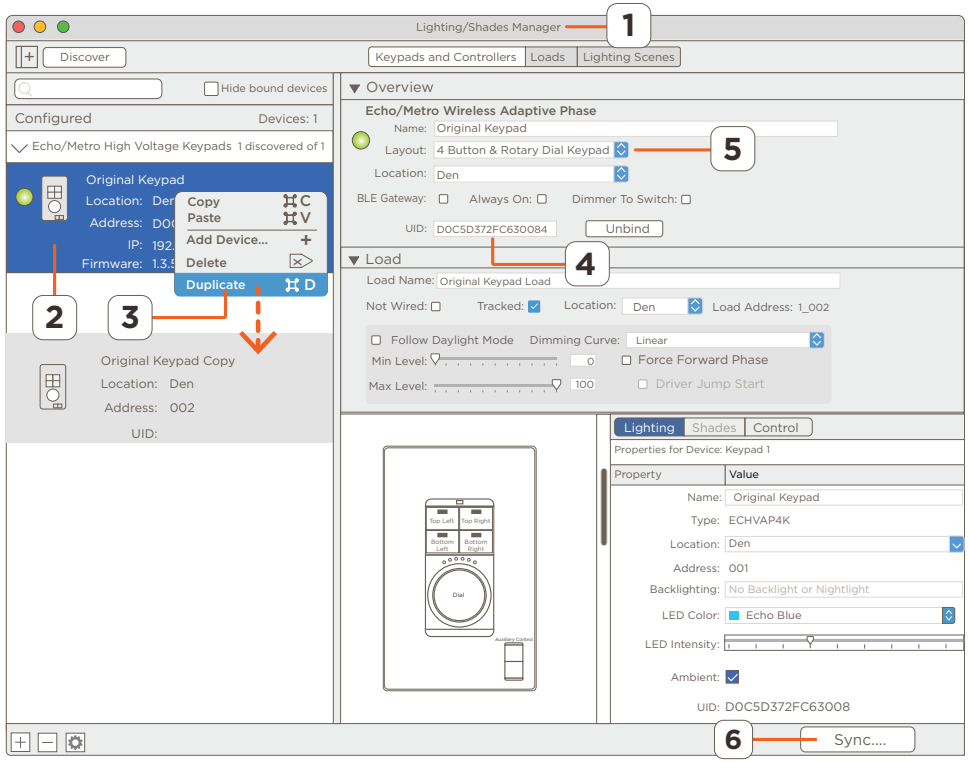
IMPORTANT NOTES:

- The UID of the duplicated keypad must contain the same last four characters as the original keypad.
- The number of buttons or the button configuration on the new keypad can be different than the original (as long as the last four digits of the UID are the same). When this is the case, the keypad buttons will need to be re-configured.

1. Open the Savant Lighting and Shades Device Manager (**Tools > Savant Lighting and Shades...**).
2. Locate and select the keypad to be duplicated from Configured column.

HELPFUL! Only keypads listed in the Configured column can be duplicated. If the keypad is not listed, it will need to be Discovered and added to the Configuration (list in the Configured Column).

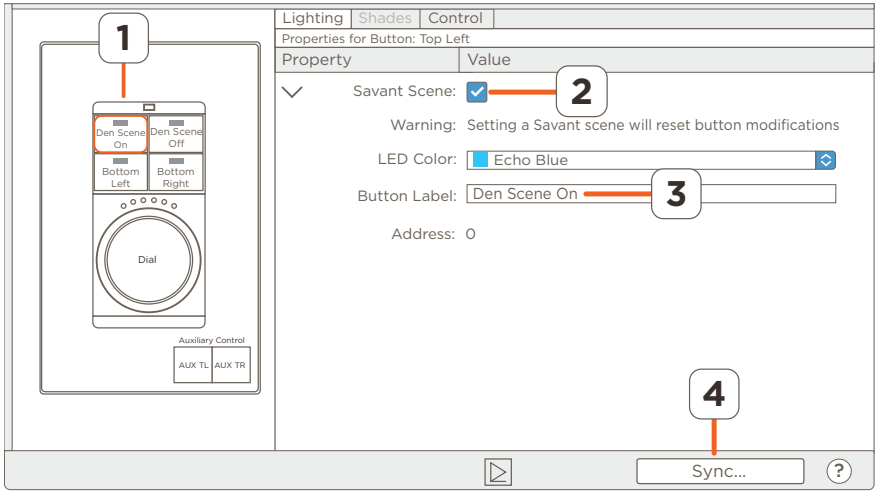
3. Right-click and select **Duplicate** to create an unbound duplicate of the keypad. Verify that the keypad and keypad button fields all display a copy of the original.
4. Enter the UID of the new keypad into the UID field.
   - If the hardware for the keypad is powered and provisioned, the Lighting Manager will locate and connect to it. In addition, a green status LED will appear beside it, which indicates the Lighting Manager can communicate with it.
   - If the hardware for the keypad is unavailable, a red status LED will appear beside it, indicating the Lighting Manager can't communicate with it.
5. If the configuration of the buttons or number of buttons on the duplicated keypad is different, select the new button layout from the Layout drop down menu.
6. Select the **Sync...** button and upload the updated configuration. Verify the new keypad functions as intended.



12. Add a Scene from the Savant App to a Keypad Button

Set Keypad Button to Savant Scene

1. Select one of the keypad's buttons.
2. Add a check to the Savant Scene checkbox. Note that checking the Savant Scene box will remove a few button fields. Those functions are not needed.
3. Enter a label that identifies the scene that will get added to the button.
4. Select the **Sync...** button to update the lighting data table, and upload the updated configuration to the Host.



Add Scene From Savant App to the Button

5. Open the Savant App.
6. Select the SCENES icon from the top right of the HOME screen.
7. From the SCENES screen, either add a new Scene or verify a Scene exists that could get added to the button. Go back to the HOME screen when ready.
8. Select the SETTINGS icon and navigate to:

   Device Settings > Button Settings > "Keypad Name"

9. From the "Keypad" screen, select a **Button** to add the scene.
10. Add a check to the Scene getting added to the button.
11. Select **DONE**. The scene will now list on the button.
12. Follow steps 1 - 11 to add scenes to additional buttons.
13. Press the appropriate keypad button to activate the scene added in the steps above. Verify all configured buttons activate their scenes as required.

HELPFUL! A lock symbol alongside a button indicates the Savant Scene checkbox associated with the keypad's button in the Lighting and Shades Device manager is unchecked.

13. Volume Control on Keypad Dial

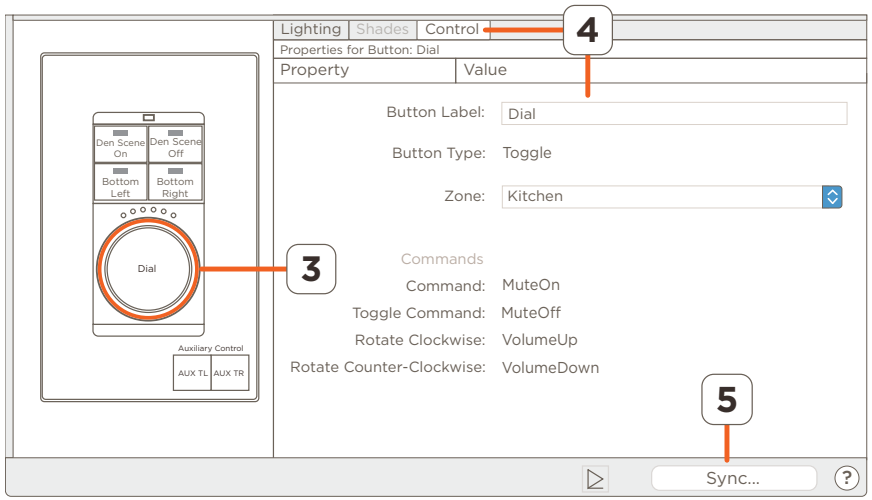
In addition to supporting lighting, the dial on the five-button keypad supports volume control on most A/V devices. Use the information below as a reference when configuring this feature.

HELPFUL INFORMATION! The rotary dial does not support controlling the volume on devices that require IR signaling for volume control. To control volume using the rotary dial, the controlled device must support volume control over either RS-232 or IP."

Before You Begin

- The instructions below assume the A/V device in the system is configured and functioning properly in a Savant system. Verify that the Savant Music Service can control the A/V device and the audio can be heard through the speaker or speakers before attempting to configure the keypad's rotary dial volume control function.

1. In Blueprint, open the Lighting and Shade Device Manager (**Tools > Savant Lighting and Shades...**) (Not shown in the image to the right).
2. Select the Keypads and Controllers tab at the top of the Lighting and Shade window and highlight the Keypad with Dial from the **Configured** column. (Not shown in the image to the right)
3. Select to highlight the rotary dial. When selected, a red/orange ring will appear and the **Properties for Button**: window opens.
4. Select the **Control** tab and update the following:
   - **Button Label** - Enter a label that identifies the button's function (i.e., Volume, Audio).
   - **Button Type** - This field defaults to **Toggle** and can't be modified.
   - **Zone** - Select from the drop-down menu which zone will play the audio. For example, select the kitchen zone if there are speakers configured in both the Kitchen and Den and the audio is to be played in the kitchen.
5. Select the **Sync** button and answer the prompts.
6. From the Blueprint toolbar, select the **Upload to Master** icon and upload the configuration to the Host.



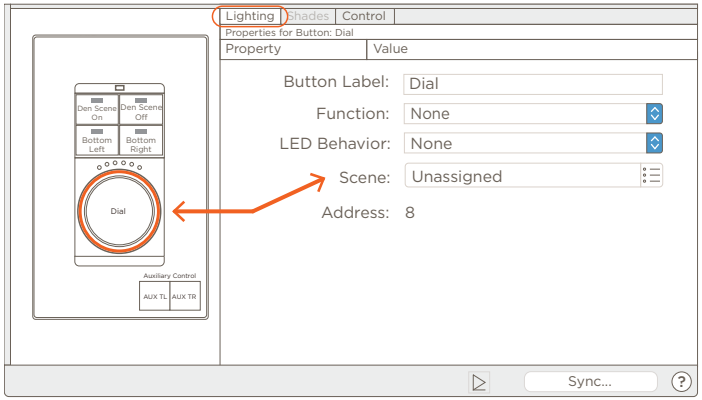
7. Open the Savant App and then the Music service. Verify the rotary dial on the configured keypad can control the volume. Each of the commands in the Commands fields should now function as indicated.

HELPFUL

When configuring volume on the rotary dial, under the Control tab, anytime a zone is added to the Zone field:

- the Function and LED Behavior field under the **Lighting** tab defaults to None and
- The **Scene** field defaults to Unassigned.

If volume control on the keypad isn't functioning correctly, verify these fields have defaulted to these values. If not, modify the fields, so they look like the image to the right.



14. Dynamic Dimming

Dynamic Dimming gets configured on any of the keypad buttons listed below. When Dynamic Dimming is programmed on a button, the load programmed on the last button pressed will now be controlled using the Dynamic Dimming programmed button.

For example, if the function set on the Dial of a WIK keypad is Dynamic Dimming, that Dial can control the load programmed on the last pressed keypad button. With a WIK, the Dial could control any load programmed on the four buttons above it. Follow the steps below to program the Dial on a WIK to control the loads configured on that keypad's last pressed button.

The Dynamic Dimming feature:

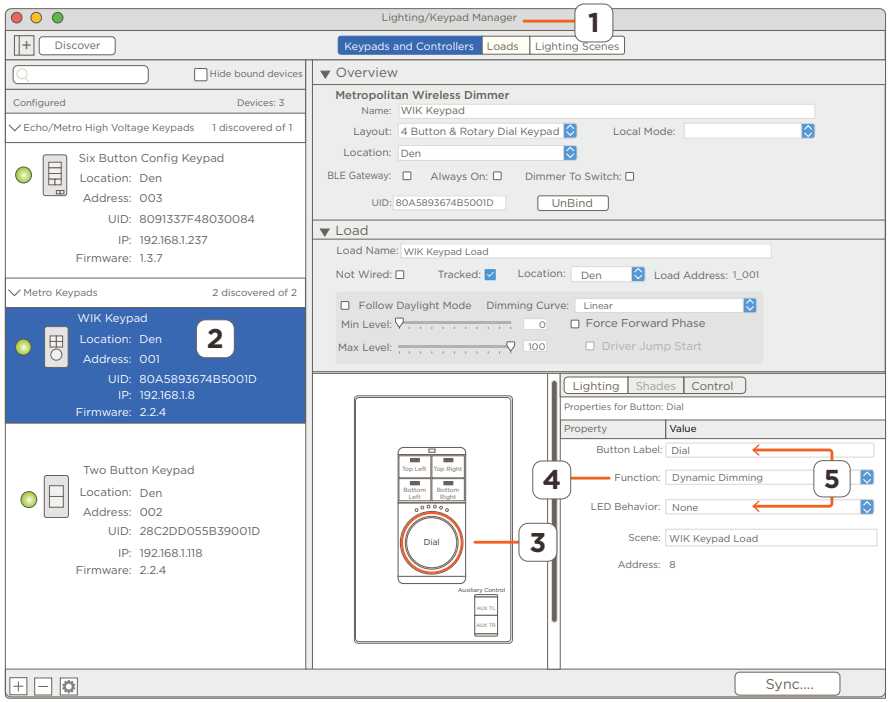
- Offers one button control of multiple loads.
- Is supported on both high voltage wireless and low voltage Echo/Metro/Ascend keypads.
- Is supported on the UP/DOWN buttons of a configurable keypad and the Dial on the WIK keypads.
- Below is a list of the supported keypad buttons:
  - The Dial on a WIK or WPK.
  - The UP/DOWN button on a WIB and WPB Configurable Keypad.
  - The UP/DOWN button on a WIX and WPX Configurable Keypad with DMX Control.
  - The UP/DOWN button on a WFB Ascend Keypad.

In the instructions below describe how to program Dynamic Dimming on the WIK Dial. The instructions use the following parameters:

- A two-button Metro keypad has a load called Two Button Keypad Load, a previously programmed keypad that is part of a configuration
- A six-button Configurable keypad has a load called **Six button Keypad Load**, a previously programmed keypad that is part of the configuration.

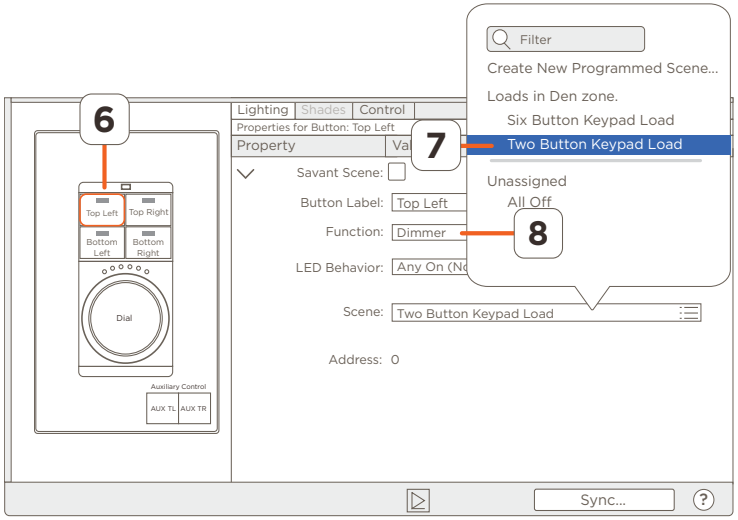
Program Dynamic Dimming to a Button

1. Open the Lighting and Shades Device Manager (**Tools > Savant Lighting and Shades...**).
2. In Blueprint, drag and drop a Dynamic Dimming supported keypad from Discovered column to the Configured column. A WIK was added in this example.
3. Select to highlight the keypad's dial.
4. Select **Dynamic Dimming** from the Function field's drop-down menu.
5. Finish programming the remaining buttons as required. It is not necessary to program the Scene field since the keypad's dial will be controlling other loads (i.e. loads that are associated with the last button pressed).



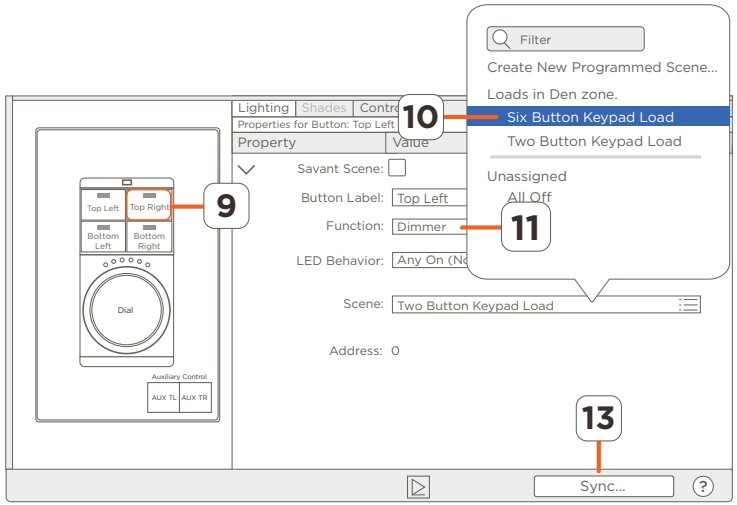
Program a Load to a Second Button on Keypad

6. Select the **Top Left** button.
7. Select a load from the list that opens. In this example, the load labeled **Two Button Keypad Load** was selected.
8. Select from the Function field's drop-down menu the function triggered when controlling the load programmed in step 7 above.



Program Additional Loads to the Remaining Buttons

9. Select the **Top Right** button.
10. Select a load from the list that opens. In this example, the load labeled **Six Button Keypad Load** was selected.
11. Select from the Function field's drop-down menu the function triggered when controlling the load set in step 10 above.
12. Follow steps 9 - 11 and program any additional buttons as required.
13. Select the **Sync** button to update the lighting data table and upload the configuration to the Host.



Test the Feature

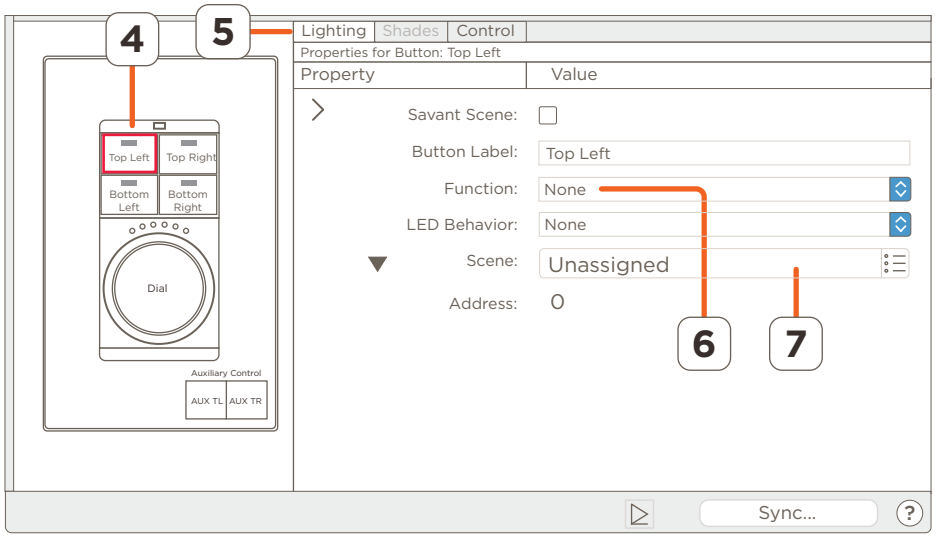
14. Press the Top Left button on the Dial keypad to switch on its programmed load (in the example, this is the load connected to the two button keypad).
15. Turn the Dial Clockwise (CW) and Counterclockwise (CCW) and observe the load changes intensity. The dial keypad is now controlling the load connected to the two-button keypad.
16. Press the Top Right button on the Dial keypad to switch on its programmed load (in the example, this is the load connected to the six-button keypad).
17. Turn the Dial Clockwise (CW) and Counterclockwise (CCW) and observe the load change intensity. The dial keypad is now controlling the load connected to the six-button keypad.
18. Press the Top Left button again. Observe that the dial now controls the load connected to the two-button keypad again. As explained previously, the load connected to the last button pressed is controlled by the button set to Dynamic Dimming.

15. Assign a Custom Workflow to a Button

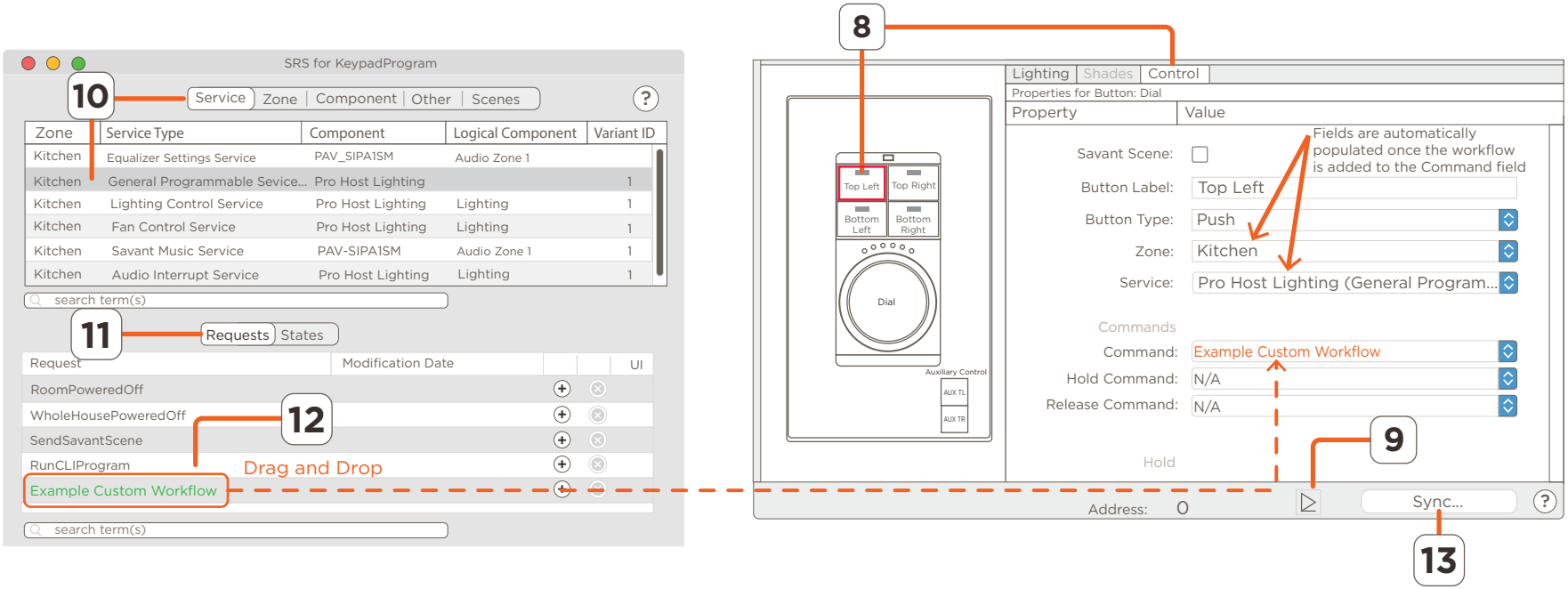
Assigning a Custom workflow to a keypad button is described below. Before starting the process, verify that:

- The keypad was added and configured in the Lighting and Shade Device Manager.
- A custom workflow was created and configured under the General Programmable Service Requests. For information on creating custom workflows using Automator, see the **Custom Workflow Developement - Racepoint Blueprint Programming Guide** available on the Savant Customer Community.

1. In Blueprint, open the Lighting and Shade Device Manager (**Tools > Savant Lighting and Shades...**) (Not shown in the image to the right).
2. Select the Keypads and Controllers tab at the top of the Lighting and Shade window (Not shown in the image to the right).
3. Highlight any keypad listed in the **Configured** column. In this procedure, the keypad with the rotary dial was chosen (Not shown in the image to the right).
4. Select the keypad button where the workflow will be added. When selected, a red/orange square will appear and the **Properties for Button**: window opens.
5. Select the Lighting tab.
6. Set the Function field to **None**. Doing this causes the LED Behavior field to automatically change to None as well.
7. Set the Scene field to **Unassigned**.



8. With the keypad button still highligthed, select the **Control** tab.
9. Open the SRS window by selecting the ▷ icon at the lower right of window.
10. From the SRS (Service State Request) window, select the **Service** tab and then the Service where the workflow is configured.
11. Select the **Requests** tab.
12. Drag and drop the workflow from the SRS window to the appropriate Command field associated with the button selected. The Zone and Service fields are automatically populated with the appropriate data once the workflow is added to the Command field.



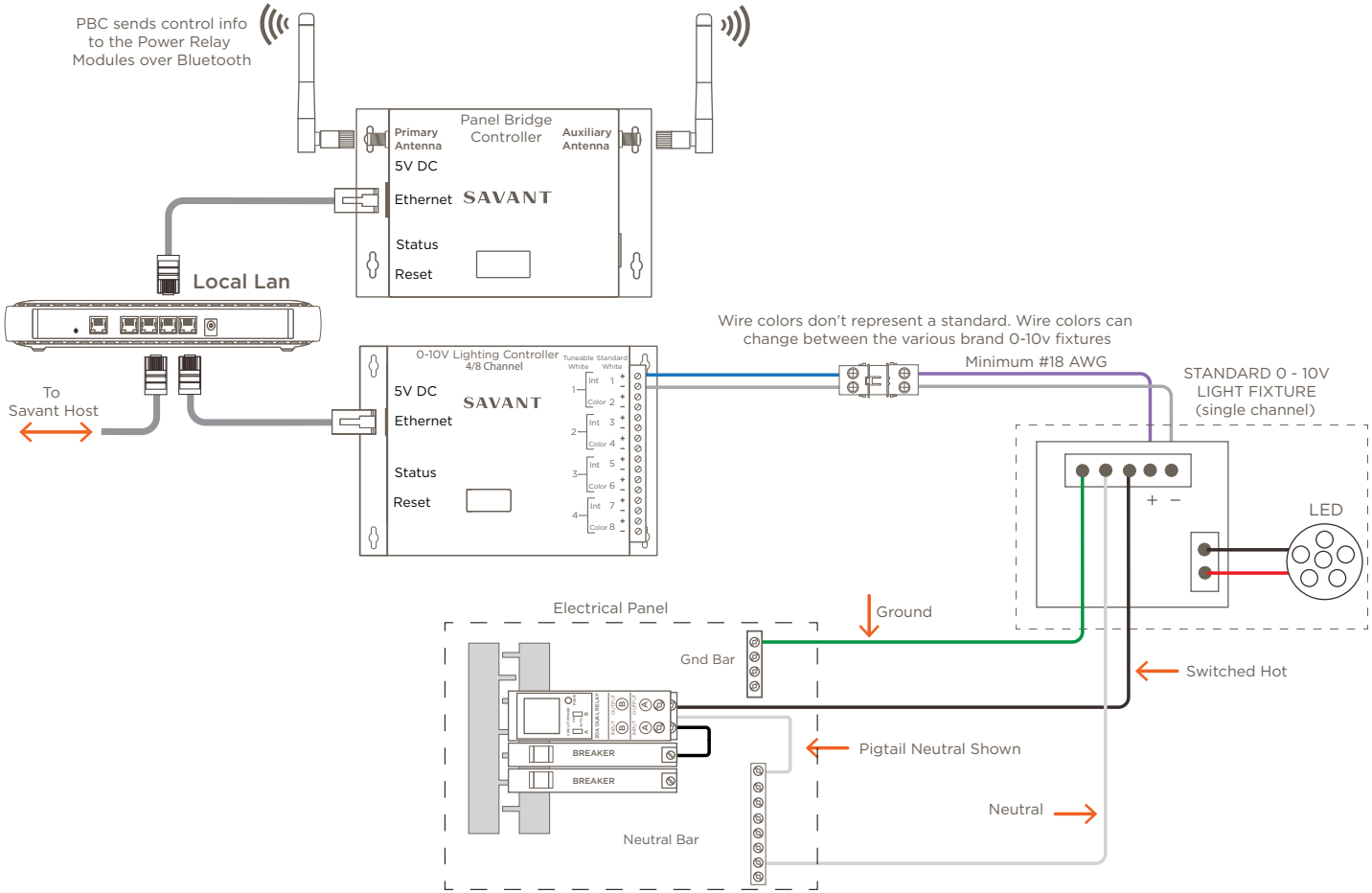
13. With the workflow added, select the **Sync...** button and follow the prompts to update the lighting data table.
14. Select the **Upload to Master** icon in the Blueprint toolbar to upload the updated configuration to the Host.

16. Power Cutoff using 0-10V Controller

When the dimming level on a 010V lighting fixture reaches zero, some lighting fixtures don't completely shut off. This problem is inherent in a few different types of 010V lighting fixtures. To remedy this, Savant has developed a feature that cuts the power to the lighting fixture once the dimming value reaches zero. The feature requires a 010V lighting controller and either a wireless keypad or breaker panel relay type power module. The theory is to completely remove power from the lighting fixture once the dimming value reaches zero. Use the information below to wire and configure this feature.

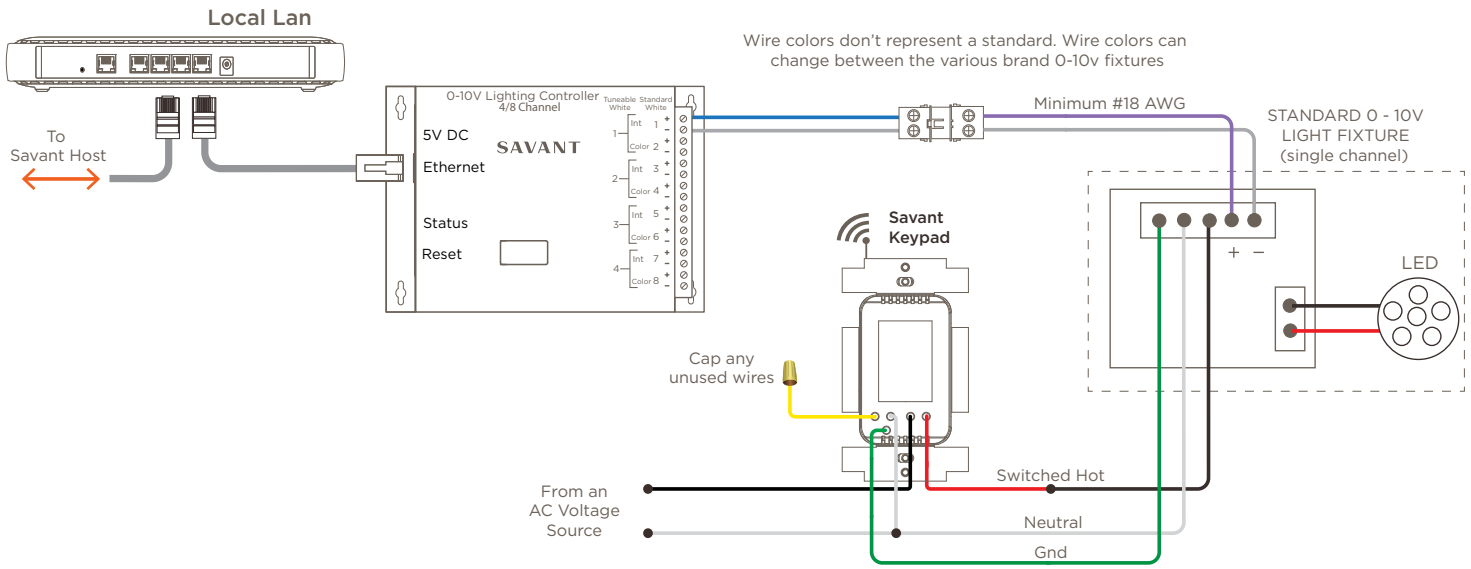
Solution 1: 0-10V Controller/Power Relay Toggle the Power to Lighting Fixture

From the wiring diagram solution below: The 0-10 V controller controls the lighting fixture. When the 0-10v signal reaches zero, the 0-10v controller sends that information to the Panel Bridge controller through the Host. The Panel Bridge controller then tells the Power Relay module to switch power to the lighting fixture off.



Solution 2: Savant Keypad Toggles Power to Lighting Fixture

From the wiring diagram solution below: The 0-10 V controller controls the lighting fixture. When the 0-10v signal reaches zero, the 0-10v controller informs the Host. tHE host then sends a signal to the Savant Keypad to remove power from the output wire.

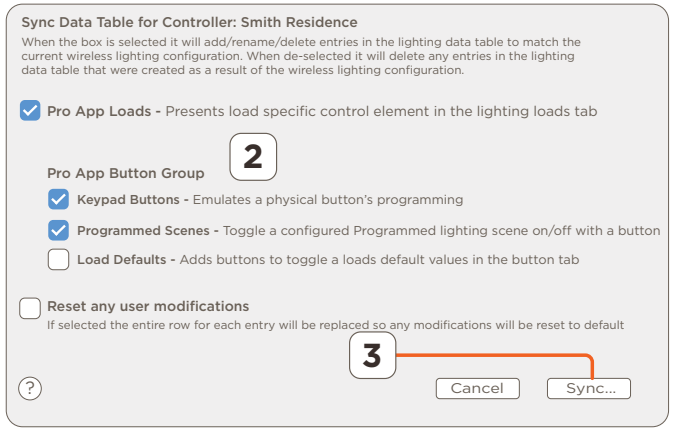


17. Update the Lighting Data Table

Once all keypads have been added or updated in the Lighting and Shade Device Manager, the lighting data table needs to be updated before uploading the configuration to the Savant Host. The lighting data table defines the way in which the lighting controls are presented within the various Savant User Interfaces such as the Savant App, Pro Remotes, and Touch Panels. Configured settings or actions not added to the lighting data table will still be executable via other means. For example, using a state trigger or programmed keypad buttons

Follow the instructions below to Sync... the updates made in the Lighting and Shades Device Manager to the Lighting Data Table.

1. From within the Lighting and Shades Device Manager, locate and select the **Sync...** button. The Sync button is located at the bottom right side of the manager.
2. In the **Sync Data Table for Controller** dialog that opens, add a check to the boxes that will get sync'd to the lighting data table. By default, Pro App Loads, Keypad Buttons, and Programmed Scenes are checked. Syncing the Load Defaults is not needed in most deployments and may result in an overly cluttered or confusing user experience.
3. With the sync settings adjusted as desired, select the Sync option from within the Sync Data Table for Controller dialog box.
4. The lighting data table will automatically open when step 3 is completed. Review the data table settings and select the **Done** button to save.



NOTE: The checked boxes shown above are the default values.

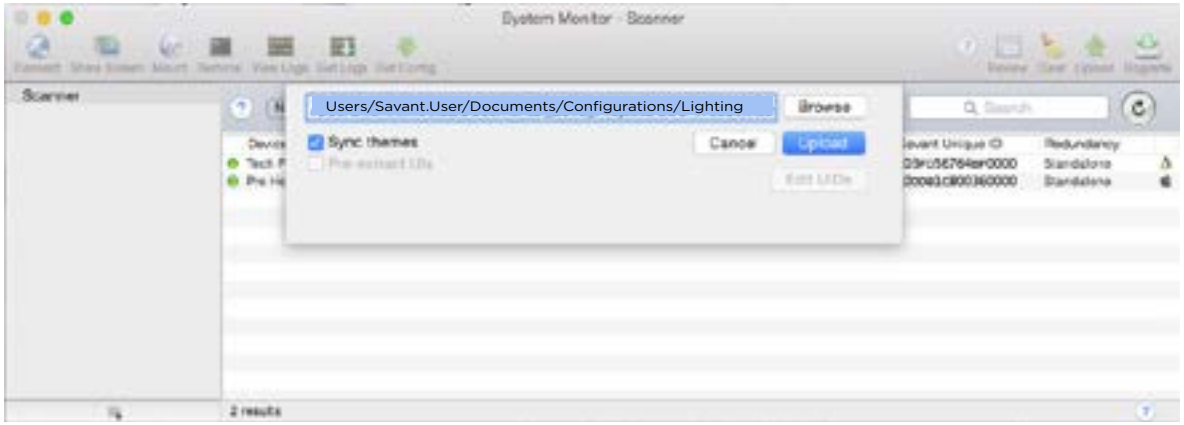
HELPFUL INFORMATION

Pro App Loads	Checked	-	Entries (rows) corresponding to each keypad's load are added to the lighting data table.
		-	In the Savant App's lighting service, a loads panel ( ) gets added to the lighting service and a list of keypad loads are added to this panel. The default for this box is checked.
	Unchecked	-	No entries corresponding to a keypad's load are added to the lighting data table.
		-	In the Savant App, a loads panel ( ) doesn't get created.
Pro App Button Group	Checked	-	Entries corresponding to the checked box are added to the lighting data table. If there's an existing entry from a previous Sync operation, that entry gets updated.
		-	In the Savant App, the entries that get added to the lighting data table are added to the button panel ( ) in the App.
	Unchecked	-	Entries for the unchecked field are not added to the lighting data table.
Reset any user modifications	Checked	-	Modifications made in the Lighting and Shades Device Manager are discarded and not transferred to the lighting data table. Any checked Pro App Button Group boxes, cause the lighting data table entry for the checked box to go back to default values.
	Unchecked	-	The changes made in the Lighting and Shades Device Manager are saved and transferred to the lighting data table for each checked box under the Pro App Button Group.

18. Uploading the Configuration

1. From the Blueprint toolbar, select the **Generate Services** icon. Verify the correct services are generated in the **Services for:** dialog box that opens. Close this dialog when satisfied all services were generated.

2. From the Blueprint toolbar, select the Upload to Master icon.
3. Follow the prompts and select **Upload** to Upload the configuration to the Host.



4. Once file is uploaded and installed on the Host, verify the updates made function correctly.

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