



Wired DMX Low Voltage Lighting Controller (LCB-DMX1) / Wired 0-10V Control 8 Channels Lighting Controller (LCB-010V8)

Deployment Guide

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Important Safety Information - Read First

Before installing, configuring, or operating any equipment and other, Savant recommends that each dealer, integrator, installer, etc. access and read all the relevant technical documentation. Savant technical documentation can be located by visiting Savant.com. Vendor documentation is supplied with the equipment.

Read and understand all safety instructions, cautions, and warnings in this document and the labels on the equipment.

Safety Classifications In this Document

NOTE:	Provides special information for installing, configuring, and operating the equipment.
 IMPORTANT!	Provides special information that is critical to installing, configuring, and operating the equipment.
 CAUTION!	Provides special information for avoiding situations that may cause damage to equipment.
 WARNING!	Provides special information for avoiding situations that may cause physical danger to the installer, end user, etc.

Electric Shock Prevention

 **ELECTRIC SHOCK!** The source power poses an electric shock hazard that has the potential to cause serious injury to installers and end users.

 **ELECTRICAL DISCONNECT:** The source power outlet and power supply input power sockets should be easily accessible to disconnect power in the event of an electrical hazard or malfunction.

Weight Injury Prevention

 **WEIGHT INJURY!** Installing some of the Savant equipment requires two installers to ensure safe handling during installation. Failure to use two installers may result in injury.

Safety Statements

All safety instructions below should be read, understood, and applied under all relevant circumstances when working with this equipment.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of any polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If any provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect any power cord from being walked on or pinched; particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer, following all relevant safety precautions for any such attachments/accessories.
12. Disconnect any outlet powered apparatus from its power source during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as a damaged power supply cord or plug, liquid being spilled or objects having fallen into the apparatus, the apparatus has been exposed to rain or moisture, apparatus having been dropped, or other failure to operate normally.
14. To completely disconnect this equipment from the AC mains, disconnect the power supply cord plug from the AC receptacle.
15. For applicable equipment, use the included power cord with the grounding prong intact to ensure proper grounding of the device.
16. For any hardwired or fixed in-wall apparatus, carefully follow all wiring diagrams and instructions. All electrical wiring and servicing should be performed by a properly licensed electrician.

1. Introduction

This document will guide the installer/integrator through the process of installing, configuring, and adding the following devices to a Savant Pro System.

- Savant Wired DMX Low Voltage Controller (LCB-DMX1)
- Savant Wired 0-10V Control 8 Channel Lighting Controller (LCB-010V8)

Before You Begin

Read through this document in its entirety and ensure that the following required items are available:

1. Savant Control System running da Vinci release version 8.9 or higher.....
2. Savant Wired DMX Low Voltage Lighting Controller (LCB-DMX1)
or
Savant Wired 0-10V Control 8 Channels (LCB-010V8)
3. Unique ID (UID) of the Controller
4. Savant Development Environment (SDE/MacBook®)
RacePoint Blueprint da Vinci 8.9 or higher
5. Ethernet network meeting Savant requirements
See [Appendix B: Network Requirements](#)
6. Lighting fixture(s) that support either DMX or 0-10V Lighting.....
The type of lighting fixture installed is dependent on the controller used.

2. Deployment Steps

Follow these steps to successfully deploy the controller. This page can be used as a checklist to record which steps have been completed.

1. Review product specifications and connection details. See [Equipment Overview](#)
2. Wire the controller (DMX or 0-10V) into the Savant Control System. See [Connections](#).....
3. Add controller to a Blueprint configuration. See [Blueprint Configuration - Add Controller](#)
4. Device naming and addressing using the OLA Server. See [Blueprint Configuration - OLA Server](#).....
5. Create lighting groups and add lighting fixtures to groups. See [Blueprint Configuration - Add Fixtures to a Smart Group](#).....
6. Update Lighting Data Table. See [Blueprint Configuration - Update Data Table](#)
7. Upload the Blueprint configuration to the Savant System Host. See [Blueprint Configuration - Upload Config](#).....
8. Test system using Savant Pro App.....

3. Equipment Overview

Both Smart Hosts have the same connections, box contents, and specifications.

3.1. Box Contents and Specifications (LCB-DMX1)

Box Contents

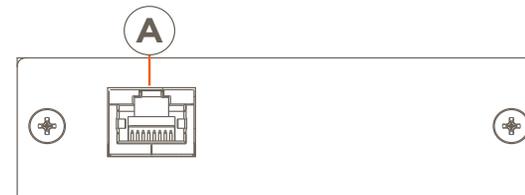
- (1) DMX Controller (LCB-DMX1)
- (1) Install Kit (075-0218-01)
 - (1) 5 VDC, 10 Watt Power Adapter (025-0192-xx)
- (1) Documentation and Regulatory Insert (009-1736-xx)

Specifications

Environmental				
Temperature	32° to 104° F (0° to 40° C)			
Humidity	10% to 90% Relative Humidity (non-condensing)			
Dimensions and Weights				
	Length	Width	Height	Weight
LCB-DMX1-01	5.65 in (14.35 cm)	3.74 in (9.5 cm)	1.18 in (30.0 cm)	.7 lb (0.32 kg)
Shipping	8.8 in (22.35 cm)	7.80 in (19.81 cm)	1.6 in (4.06 cm)	1.3 lb (0.59 kg)
Rack Space	1U			
Power				
Input Power	5V DC			
Nominal Power	10 Watts			
Regulatory				
	FCC Part 15	CE Mark	C-Tick	
Safety and Emissions				
RohS	Compliant			
Minimum Supported Release				
Savant OS	da Vinci 8.9			

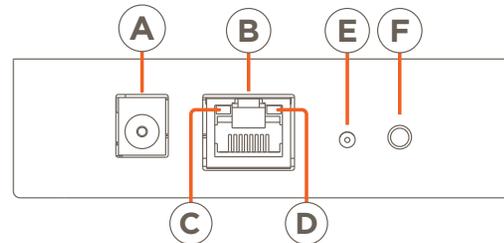
3.2. Right and Left Panel Descriptions

Right Panel



- A** **DMX Port** - 8-pin RJ-45 port used to transmit and receive serial binary data to control the DMX fixtures.

Left Panel



- A** **Power Input** - Connect the supplied power adapter between the 5V DC port and a surge protected (120-240V AC, 50/60 Hz) outlet.
- B** **Ethernet** - 8-Pin RJ 45 port. 10/100/1000 BaseT auto-negotiating port with link activity LEDs
- C** **Link LED**
 - Solid Orange** - Network Speed 100/1000 Mbps.
 - Off** - Network Speed < 100 Mbps
- D** **Data LED**
 - Solid Green** - Ethernet link established.
 - Green Blinking** - Ethernet activity is occurring.
 - Off** - Ethernet link not established.
- E** **Status LED**
 - Solid Green** - DMX Data is being transmitted out the DMX port.
 - Off** - No DMX Data
- F** **Reset** - Press and release to perform a hard reset. Status LED will illuminate while button is pressed.

3.3. Box Contents and Specifications (LCB-010V8)

Box Contents

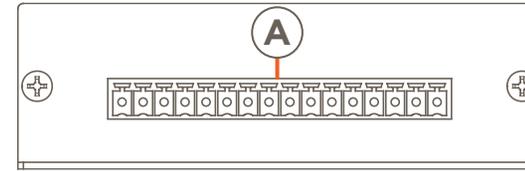
- (1) 0-10V Controller (LCB-010V8)
- (1) Install Kit (075-0217-02)
 - (1) 5 VDC, 10 Watt Power Adapter (025-0192-xx)
 - (1) 16 Pin Screw Down Plug-In Connector (028-0855-xx)
- (1) Documentation and Regulatory Insert (009-1736-xx)

Specifications

Environmental				
Temperature	32° to 104° F (0° to 40° C)			
Humidity	10% to 90% Relative Humidity (non-condensing)			
Dimensions and Weights				
	Length	Width	Height	Weight
LCB-DMX1-01	5.65 in (14.35 cm)	3.74 in (9.5 cm)	1.18 in (30.0 cm)	.7 lb (0.32 kg)
Shipping	8.8 in (22.35 cm)	7.80 in (19.81 cm)	1.6 in (4.06 cm)	1.3 lb (0.59 kg)
Rack Space	1U			
Power				
Input Power	5V DC			
Nominal Power	10 Watts			
Regulatory				
Safety and Emissions	FCC Part 15	CE Mark	C-Tick	
				
RohS	Compliant			
Minimum Supported Release				
Savant OS	da Vinci 8.9			

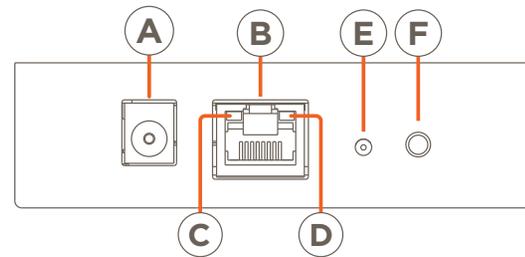
3.4. Right and Left Panel Descriptions

Right Panel



- A** 16-pin screw down plug in connector. For wiring information, see the wiring diagrams in the [Connections](#) section below.

Left Panel

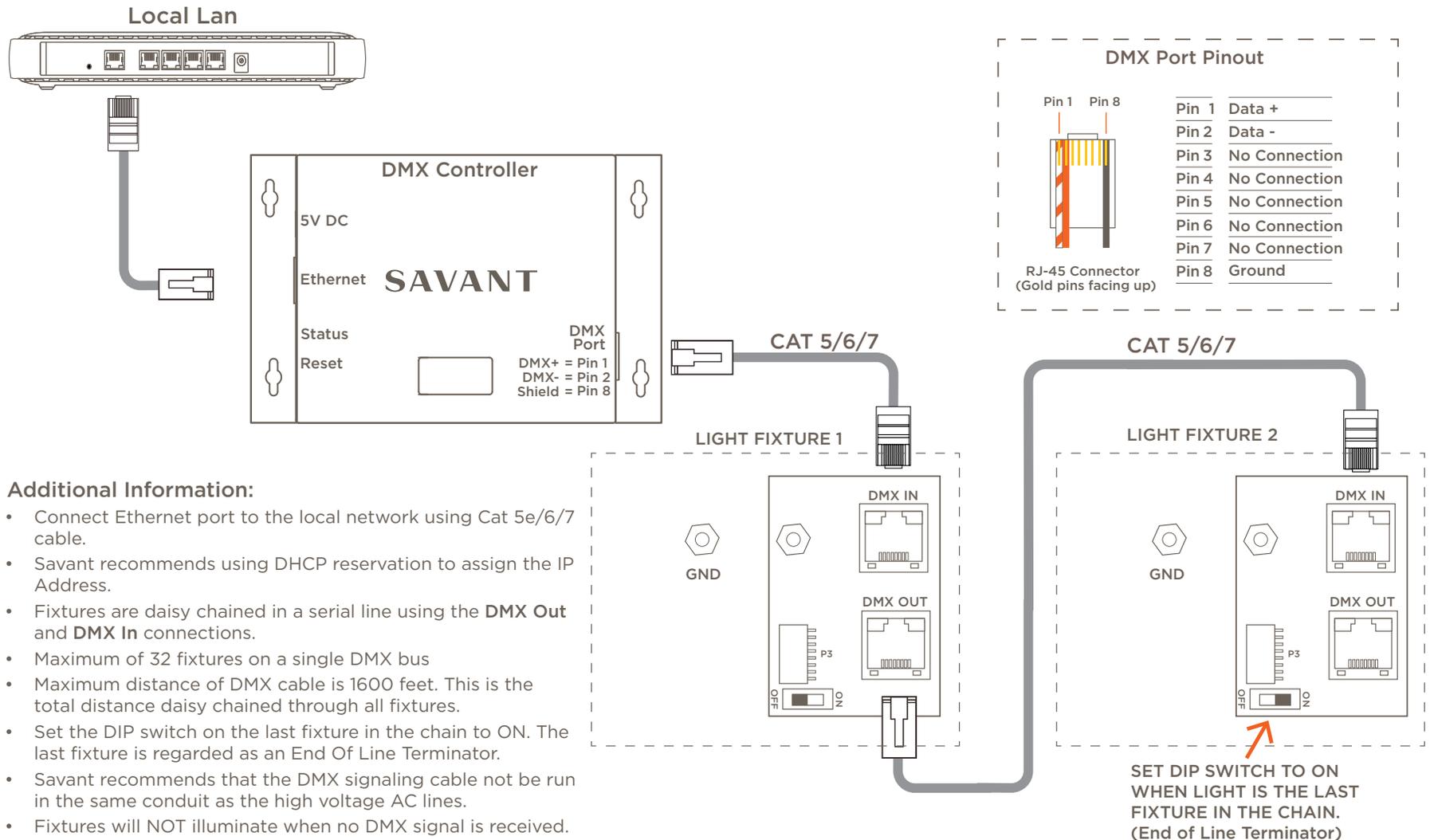


- A** **Power Input** - Connect the supplied power adapter between the 5V DC port and a surge protected (120-240V AC, 50/60 Hz) outlet.
- B** **Ethernet** - 8-Pin RJ 45 port. 10/100/1000 BaseT auto-negotiating port with link activity LEDs.
- C** **Link LED**
 - Solid Orange** - Network Speed 100/1000 Mbps.
 - Off** - Network Speed < 100 Mbps
- D** **Data LED**
 - Solid Green** - Ethernet link established.
 - Green Blinking** - Ethernet activity is occurring.
 - Off** - Ethernet link not established.
- E** **Status LED**
 - Solid Green** - During power up.
 - Off** - During normal operation.
- F** **Reset** - Press and release to perform a hard reset. Status LED will illuminate while button is pressed.

4. Connections

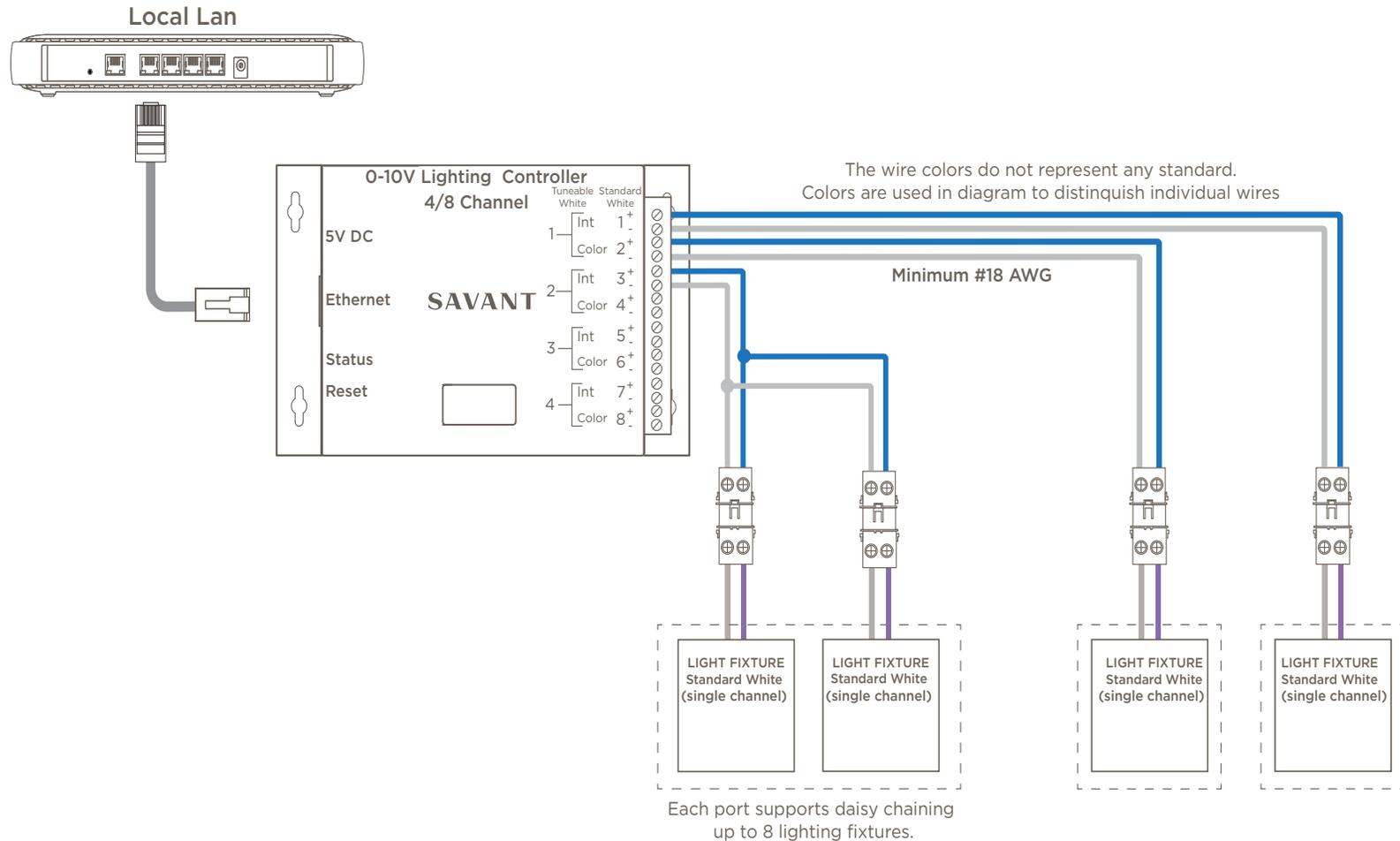
4.1. DMX Controller

Use the diagrams to make DMX Controller signaling connections.



4.2.0 - 10 Volt Controller (Single Channel)

Use the diagram to make 0 to 10V Controller signaling connections for a single channel type controller.

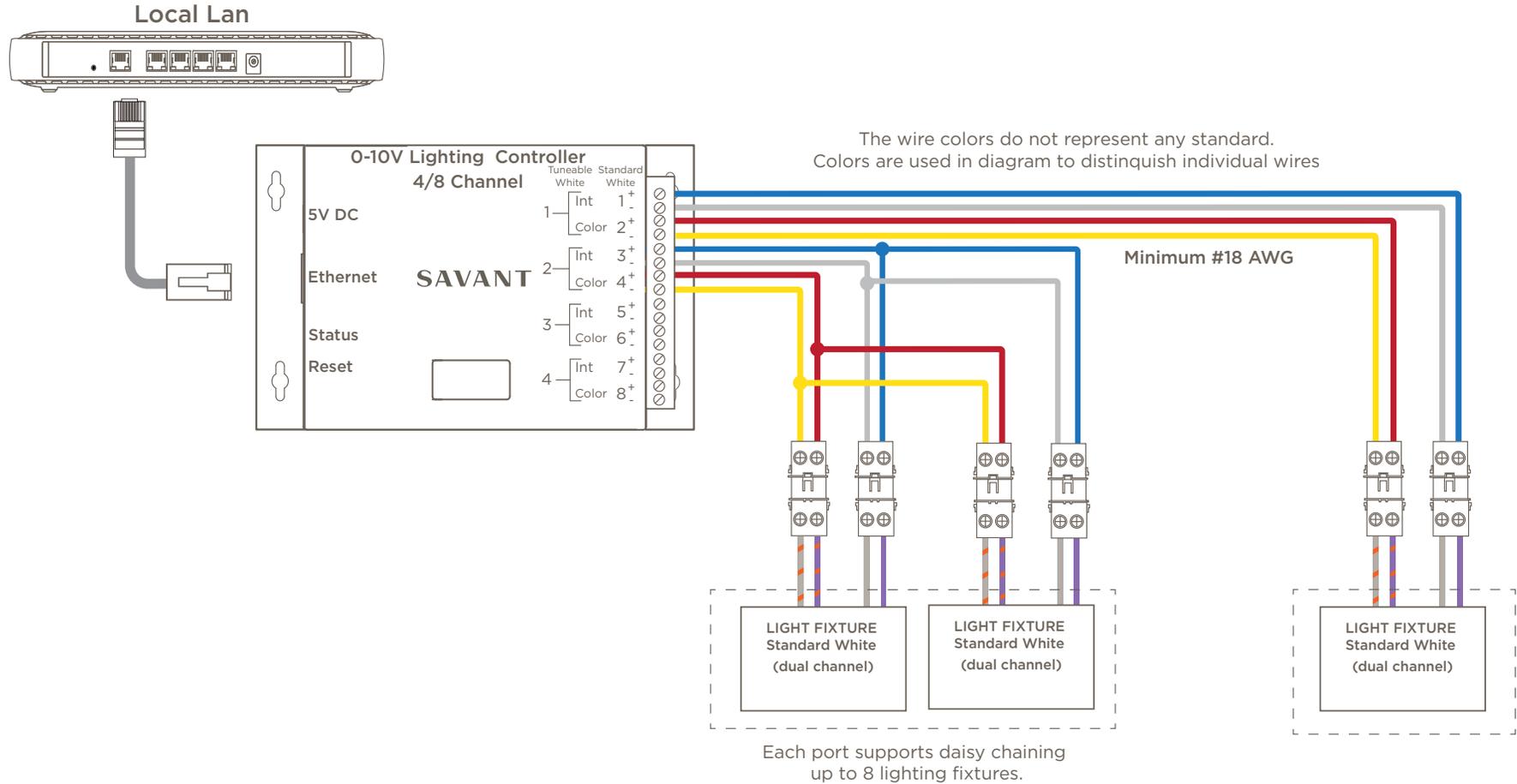


Additional Information:

- Connect Ethernet port to the local network using Cat 5e/6/7 cable.
- Savant recommends using DHCP reservation to assign the IP Address.
- Up to 8 lighting fixtures per output port is supported.
- See the [USAI Lighting - Products Specification Sheets](#) located on the [Savant Customer Community](#) for information regarding the individual lighting fixtures.

4.3.0 - 10 Volt Controller (Dual Channel)

Use the diagram to make 0 to 10V Controller signaling connections for a dual channel type controller.

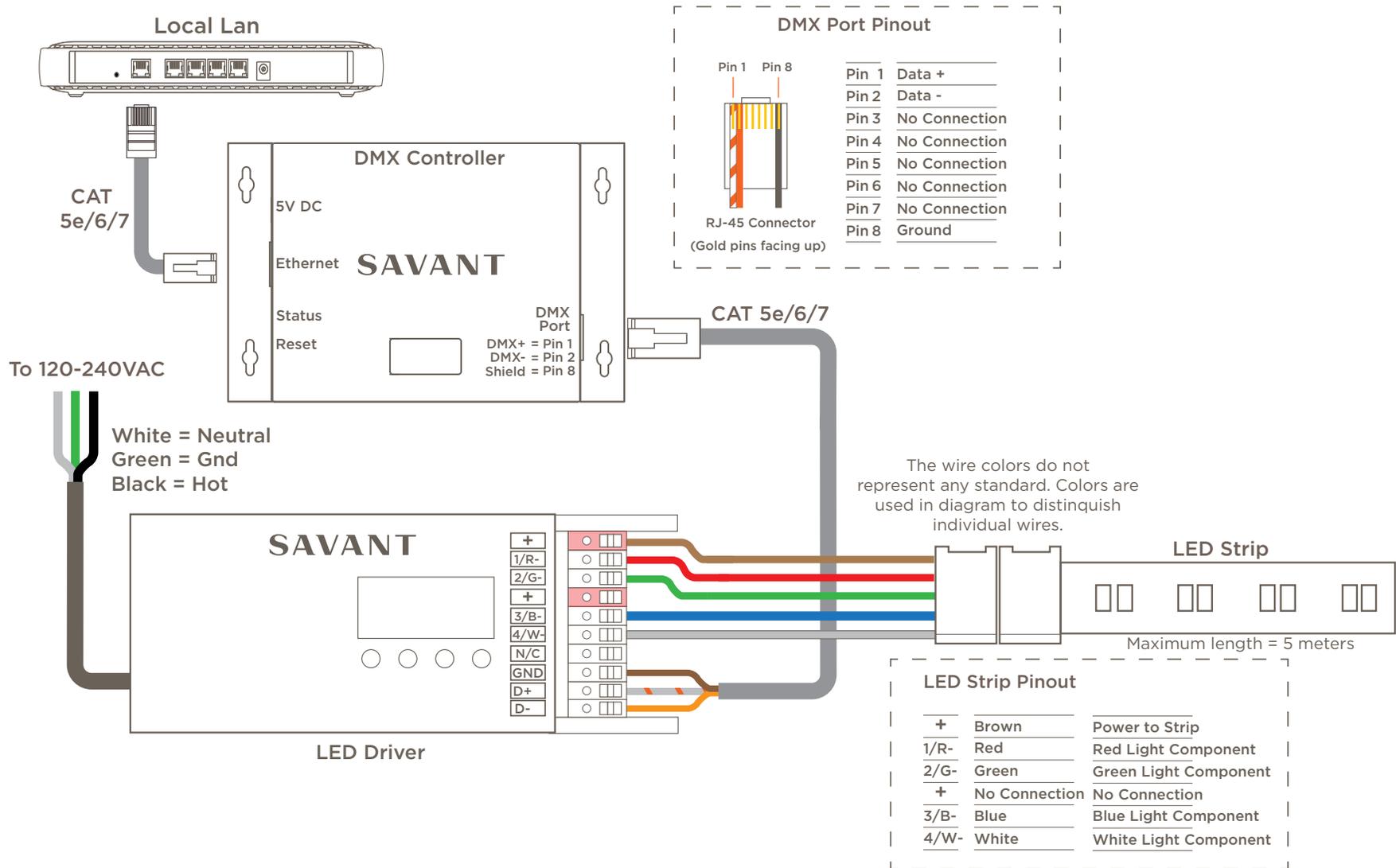


Additional Information:

- Connect Ethernet port to the local network using Cat 5e/6/7 cable.
- Savant recommends using DHCP reservation to assign the IP Address.
- Up to 8 lighting fixtures per output is supported.
- See the **USAI Lighting - Products Specification Sheets** located on the **Savant Customer Community** for information regarding the individual lighting fixtures.

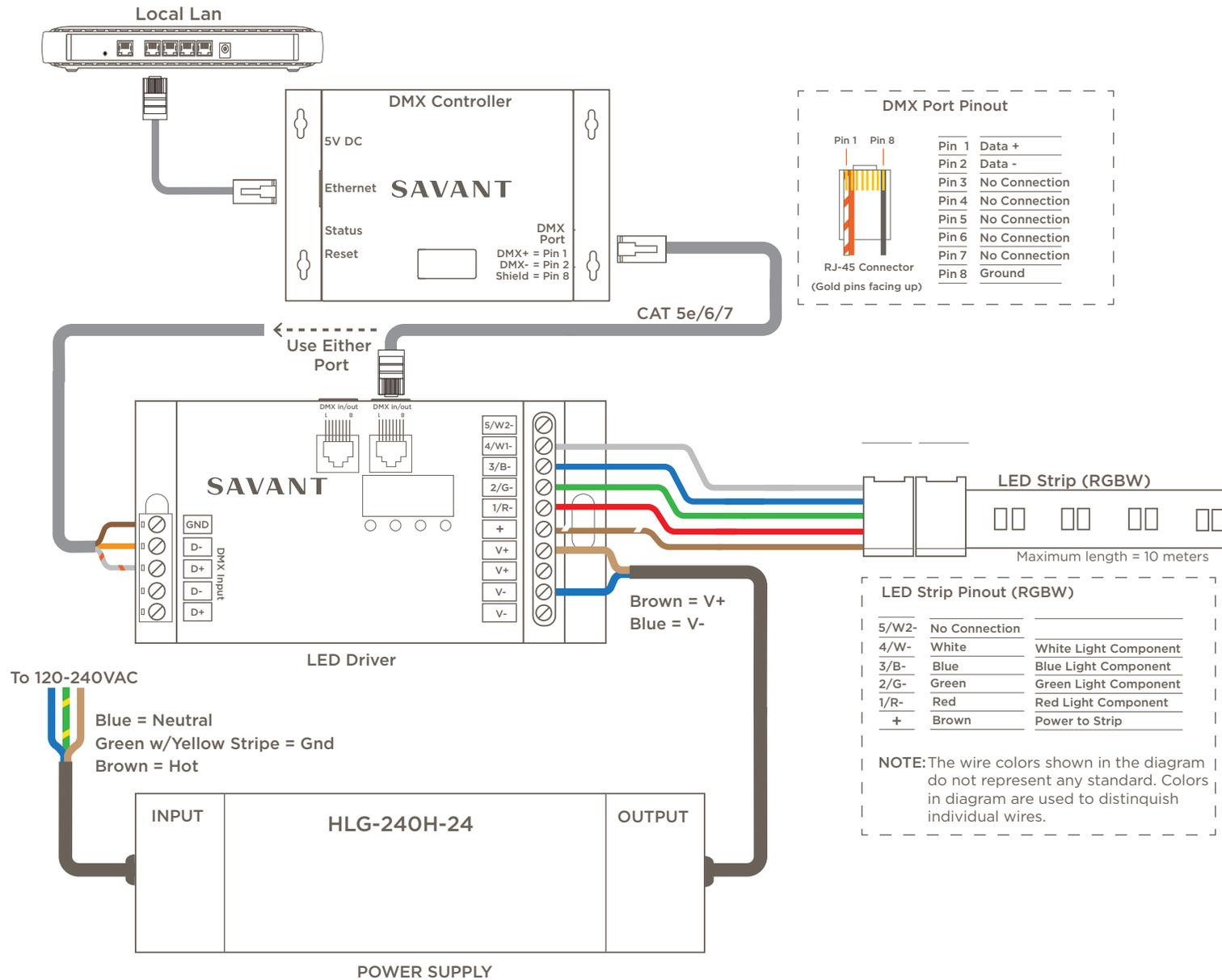
4.4. LED STRIPS (5 METER)

Use the diagram to make connections between the LED driver and LED strips. There are two types of drivers and strips. The driver that supports 5 meter LED strips is shown in diagram below.



4.5. LED STRIPS (10 METER)

Use the diagram to make connections between the LED driver and LED strips. There are two types of drivers and strips. The driver that supports 10 meter LED strips is shown in diagram below. Section 4.4 above displays how to make connections between the LED Driver and the 5 meter LED Strips.



5. Blueprint Configuration - Add Controller

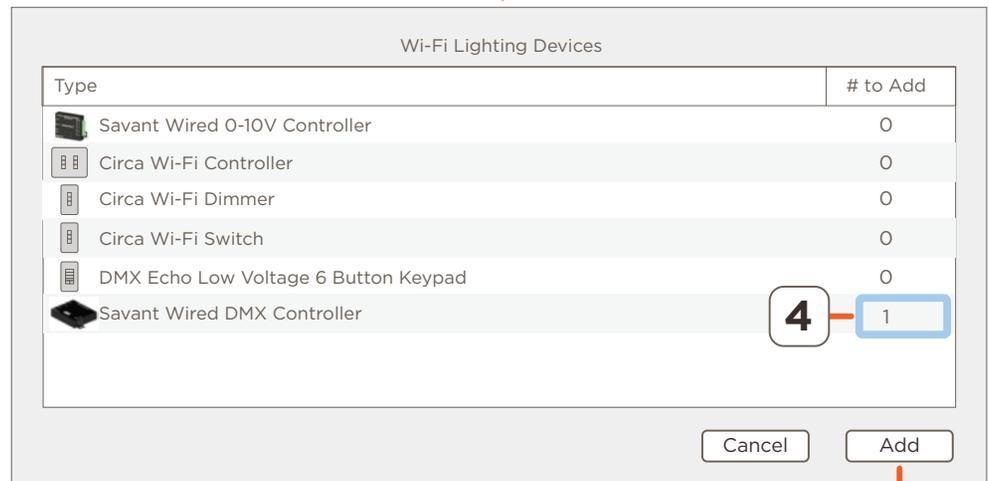
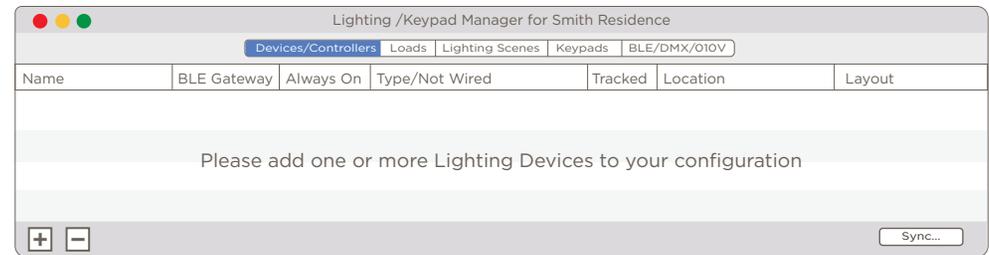
With the controller (DMX or 0-10V) connected and power applied, follow the steps below to add the controller into a Blueprint configuration. The process described below refers to the DMX controller. However, the same process described below can be used to add a 0-10V controller.

5.1. Add Controller to the Lighting Manager

How to add the controller into an existing Blueprint configuration is described below.

1. Through SAM (Savant Application Manager), open an existing configuration into Blueprint.
2. From the menu bar, select **Tools > Savant Lighting and Keypads**.
3. From within the Devices/Controllers tab, select the **Add**  icon.
4. Double-click the **# to Add** field to the controller being added and enter the number of that type of controller to add to the configuration.
5. Select **Add** button and verify the DMX Controller is added to the Devices/Controllers tab.
6. **Optional:** If desired, the name of the controller can be changed. To do this, double click the name and enter a new name that identifies the controller.
7. Set the location where the controller will be installed.

 **HELPFUL!** To remove an entry from the Lighting/Keypad Manager, select the device, select the remove icon , and follow the prompts.



5.2. Obtain UID of Controller

The UID of the controller can be located a few different ways. Each are described below:

Label on top of Controller

The UID is printed on a label located on the top cover of the controller itself. This number will be needed in section 5.3 below.

rpmEmbScanner

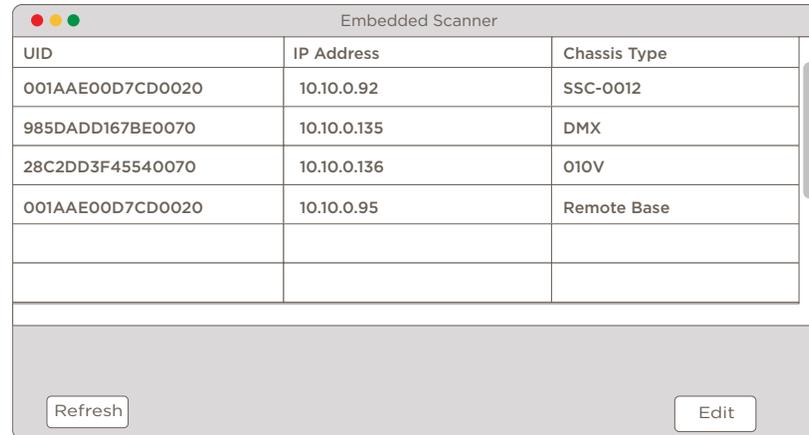
The UID is available using the rpmEmbScanner tool available through SAM (Savant Application Manager).

1. From SAM, select **Launch > rpmEmbScanner**.
2. Locate the controller:
 - DMX = DMX Controller
 - 010V = 0 - 10 V ControllerCopy the UID. This number is needed in section 5.3 below.

HELPFUL! The UID can be copied and paste directly from the rpmEmbScanner tool. The commands below can be used to do this.

Copy UID - Select (⌘ command + c) on keyboard.

Paste UID - Select (⌘ command + v) on keyboard.



UID	IP Address	Chassis Type
001AAE00D7CD0020	10.10.0.92	SSC-0012
985DADD167BE0070	10.10.0.135	DMX
28C2DD3F45540070	10.10.0.136	010V
001AAE00D7CD0020	10.10.0.95	Remote Base

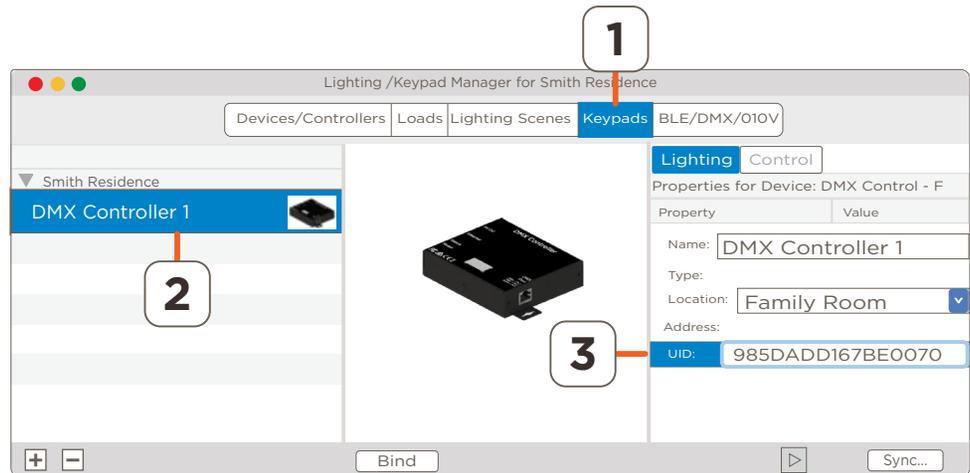
5.3. Add UID to Lighting Manager

The UID (Unique ID) of the controller needs to be entered into Blueprint. Once the UID is entered, Blueprint will recognize the controller and be able to communicate with it. Follow steps below to add the UID.

1. Select the **Keypads** tab.
2. Select the controller from list in the left most panel

HELPFUL! If the controller is not visible select the disclosure triangle to open a list of available devices.

3. Double-click the UID field and add the UID.

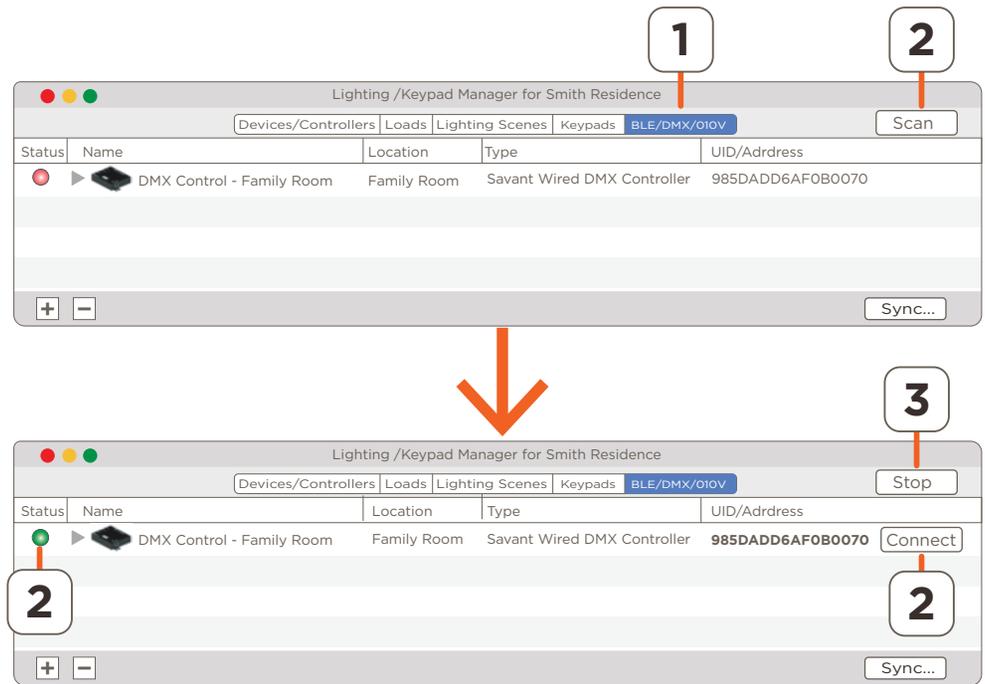


5.4. Scan for Controller

With the UID set, the lighting manager can locate the controller in the network.

1. Select the **BLE/DMX/010V** tab. If the controller has never been discovered the Status LED will display red.
2. Select the **Scan** button. Once the lighting manager connects with the controller, the Status LED changes to green and a button labeled **Connect** will appear to the right of the controller entry. See second image to the right
3. OPTIONAL: Select the **Stop** button once the controller is located.

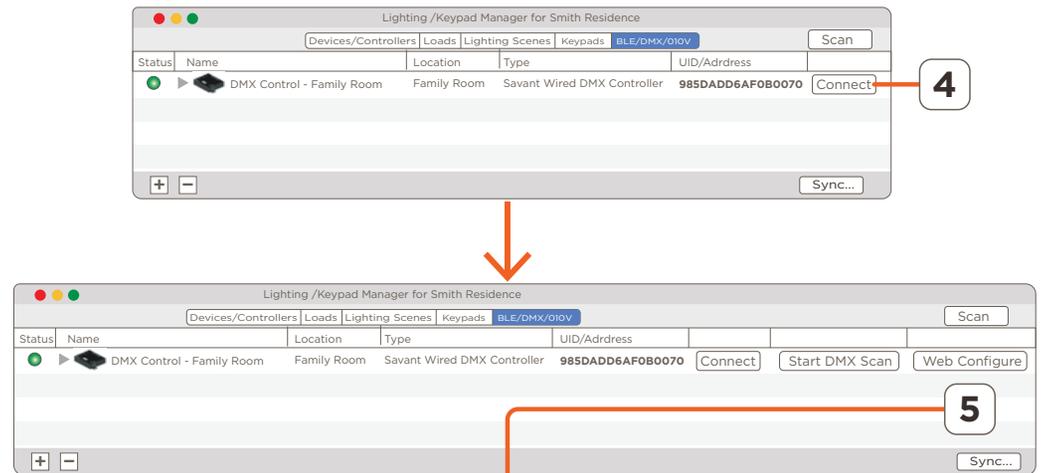
 **HELPFUL!** During the scan process, the Scan button from step 2 above automatically changes to a Stop button.



5.5. Access OLA Server (Web UI)

With the controller located, the controller's embedded OLA server can be accessed through a Web UI. Follow next few steps to access the OLA server.

4. Select the **Connect** button. This connects the lighting manager to the controller as well as opens a **Web Configure** and **Start DMX Scan** button.
5. Select the **Web Configure** button to open the **Home** page to the OLA Server.



Opens DMX OLA Server Web UI

6. Blueprint Configuration - OLA Server

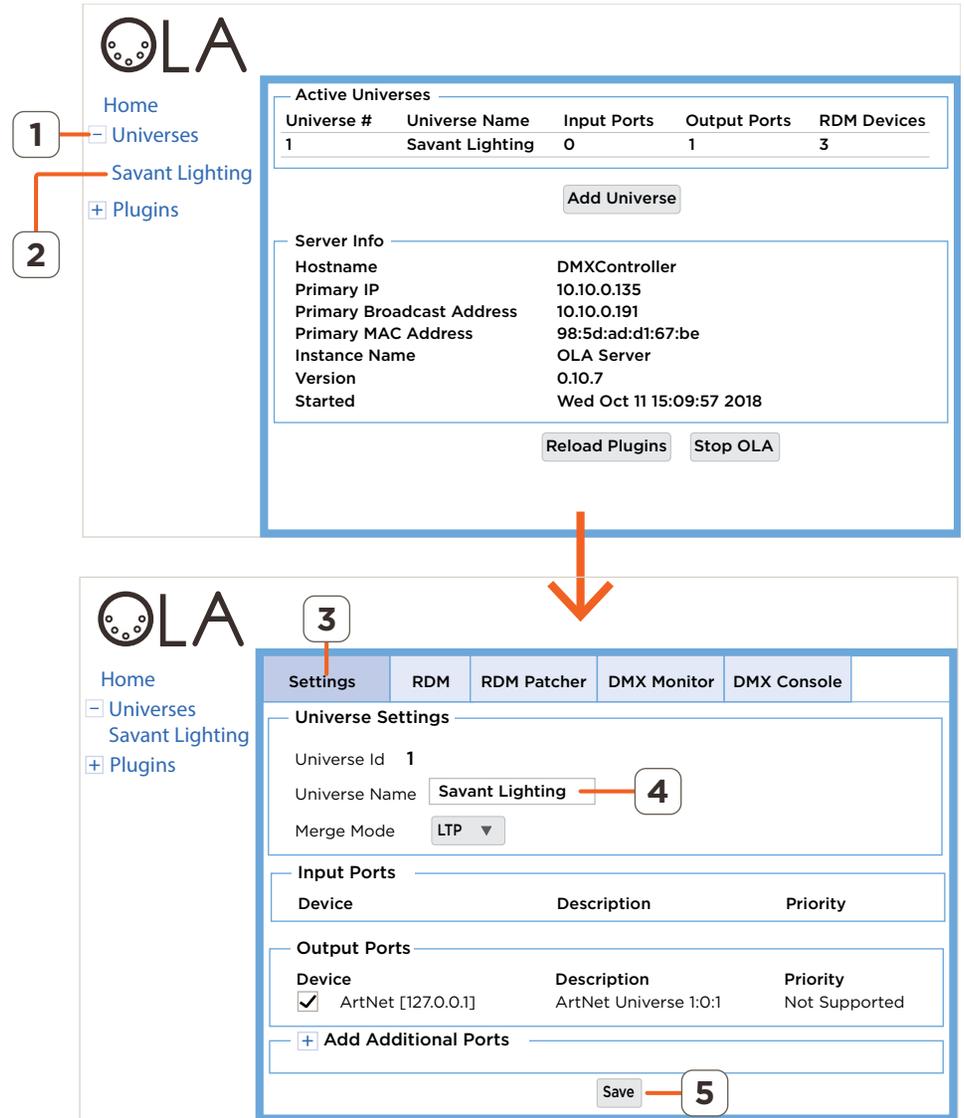
The next few sections describe what needs to be set in the OLA embedded server. The procedure covers the basics of what is required to add the controllers and fixtures to a Blueprint configuration. More information pertaining to the OLA server and any fields that are not part of the basic setup is available in [Appendix A: OLA Server - Additional Information](#)

 **HELPFUL!** When connected to the OLA Server, all control to the Savant Control System is lost. Be sure to close out of the OLA Server before uploading configuration to the Host.

6.1. Update Preconfigured Universe

To simplify the process, a preconfigured Universe labeled Savant Lighting is available in the OLA server. This Universe is populated with settings all controllers need to function correctly. The steps below configure job sight specific information such as naming conventions and DMX network addresses.

1. Select the  icon to expand the Universes field.
2. Select the Universe labeled **Savant Lighting**. This opens the preconfigured Universe. This Universe supports all Savant wired lighting controllers.
3. Select the **Settings** tab.
4. **Optional:** If desired, the Universe Name field can be changed. To modify, double click this field and rename to something that identifies the Universe for your system.
5. Select the **Save** button if changes were made.



The screenshot shows the OLA server interface. The top section displays the 'Active Universes' table:

Universe #	Universe Name	Input Ports	Output Ports	RDM Devices
1	Savant Lighting	0	1	3

Below the table is an 'Add Universe' button. The 'Server Info' section shows the following details:

- Hostname: DMXController
- Primary IP: 10.10.0.135
- Primary Broadcast Address: 10.10.0.191
- Primary MAC Address: 98:5d:ad:d1:67:be
- Instance Name: OLA Server
- Version: 0.10.7
- Started: Wed Oct 11 15:09:57 2018

Buttons for 'Reload Plugins' and 'Stop OLA' are visible at the bottom of the server info section.

The bottom section shows the 'Settings' tab for the 'Savant Lighting' universe. The 'Universe Settings' section includes:

- Universe Id: 1
- Universe Name: Savant Lighting (highlighted with a red circle and number 4)
- Merge Mode: LTP

The 'Input Ports' and 'Output Ports' sections are empty. The 'Output Ports' section has a table with one entry:

Device	Description	Priority
<input checked="" type="checkbox"/> ArtNet [127.0.0.1]	ArtNet Universe 1:0:1	Not Supported

At the bottom, there is an 'Add Additional Ports' button and a 'Save' button (highlighted with a red circle and number 5).

6.2. Configure Lighting Drivers - RDM Tab

The RDM tab gives a user access to the controllers and lighting fixtures. The steps below describe how to update the fields required to make the system function-able. For more information regarding each of the fields in the RDM tab, refer to [Appendix A: OLA Server - Additional Information](#).

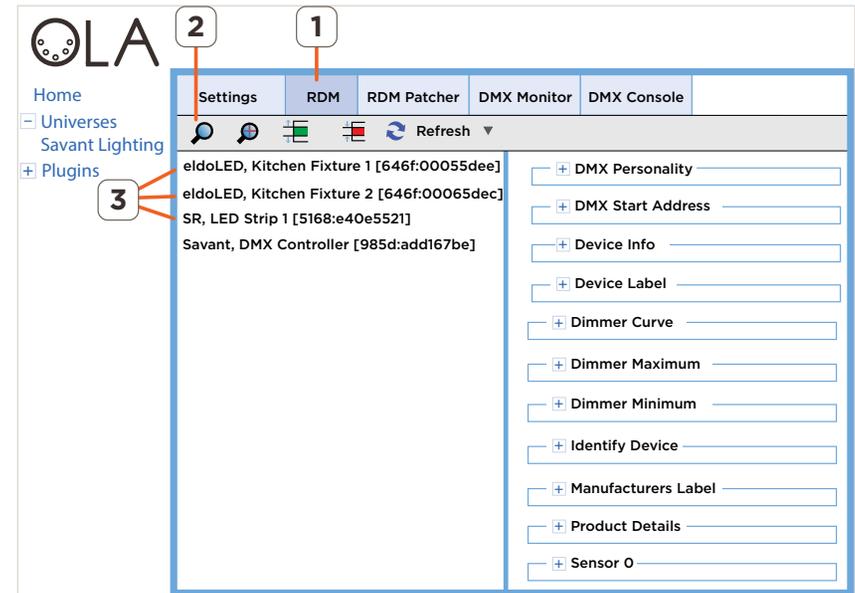
Configure LED Drivers (Lighting Fixtures and LED Strips)

1. With the Savant Lighting Universe selected, select the **RDM** tab.
2. Select the search icon  to start the discovery process. After a few seconds, the controllers and lighting fixtures in the network will begin to populate.
3. Select an LED Driver (eldoLED/SR). In the right panel, all fields associated with this driver will get populated. Configure each of the fields described below. Select **Save** to apply each change made.

- **DMX Personality** - Select which color space the lighting fixture supports.
- **DMX Start Address** - The address (footprint) of each lighting fixture gets automatically populated. Savant recommends accepting this addressing scheme. However, if required, the starting address can be entered here and the rest of the addressing for that lighting fixture will be automatically populated.

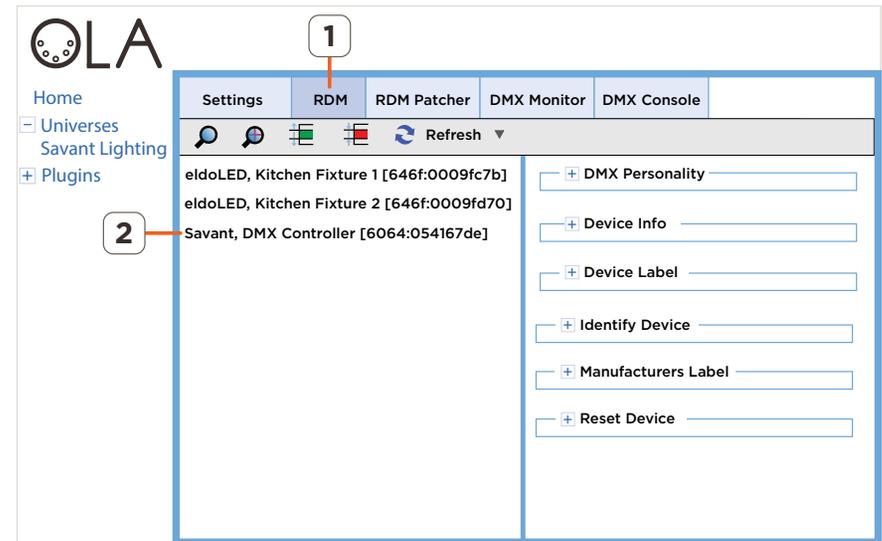
Addressing of the lighting fixtures is described in the [Configure Addressing - RDM Patcher Tab](#) section. The RDM Patcher tab includes a clear visual indicator of available addresses.

- **Device Label** - Enter a label that identifies the lighting fixture. The label entered is added to the following:
 - The left side panel in the OLA Server. See the image above for reference.
 - The Name field in the lighting manager in Blueprint.
- **Identify Device** - Used to locate the controller and any lighting fixtures communicating with it.
 - To locate a lighting fixture, add a check to the **Identify Device** check-box and select **Save**. The lighting fixture will begin flashing once per second.
 - To stop the flashing, uncheck the same box and select **Save**.



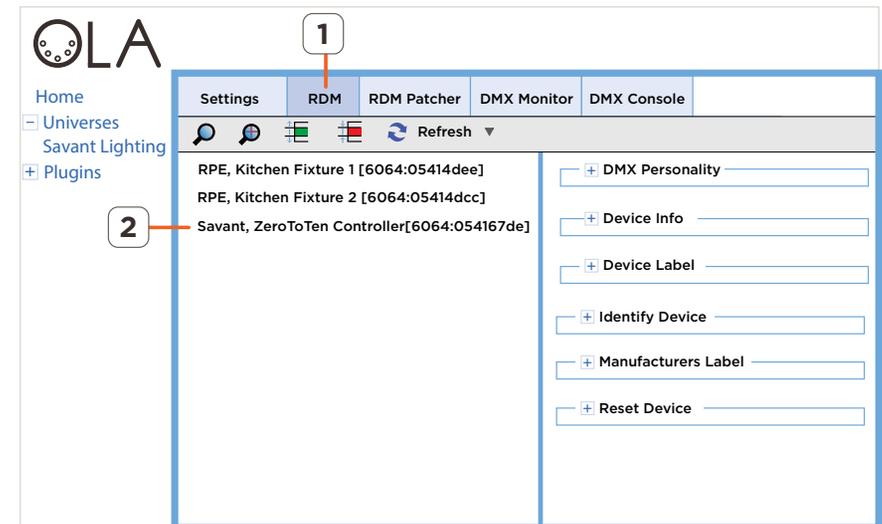
Configure Controller - DMX

1. Select the **RDM** tab if not already there. In the leftmost panel, all the controllers and lighting fixtures on the network are listed. If not, select the search icon  to re-discover the devices.
2. Select the **DMX Controller**. In the right panel, all fields associated with this driver will populate. In the rightmost panel, configure each of the fields described below. Select **Save** to apply each change made.
 - **DMX Personality** - Select which type of controller is installed in system (DMX 128, DMX_Keypad 128).
 - **Device Label** - This field is populated with DMX Controller and can't be modified.
 - **Identify Device (optional)** - Used to locate the controller and any lighting fixtures communicating with it.
 - To locate the devices, add a check to the check box in the Identify Device field and select **Save**. The Status LED on the controller will begin blinking once per second and all lighting fixtures connected to the controller will begin flashing.
 - To stop the blinking/flashing, uncheck the same box and select **Save**.



Configure Controller - (0 to 10V)

1. Select the **RDM** tab if not already there. In the leftmost panel, all the controllers and lighting fixtures on the network are listed. If not, select the search icon  to re-discover the devices.
2. Select the **ZeroToTen Controller**. In the rightmost panel, configure each of the fields described below. Select **Save** to apply each change made.
 - **DMX Personality** - Select which type of controller is installed in the system (Dual Channel, Single Channel).
 - **Dual Channel** - Controls Tunable White type lighting fixtures/drivers. Fixtures that control white light with varying degrees of temperature.
 - **Single Channel** - Control standard white lighting fixtures/drivers.
 - **Device Label** - Populated with **ZeroToTen Controller** and can't be modified.
 - **Identify Device (optional)** - Used to locate the controller and any lighting fixtures communicating with it.
 - To locate the devices, add a check to the check box in the Identify Device field and select **Save**. The Status LED on the controller will begin blinking once per second and all lighting fixtures connected to the controller will begin flashing.
 - To stop the blinking/flashing, uncheck the same box and select **Save**.



6.3. Light Fixture Addressing - RDM Patcher Tab

Each device in the DMX lighting system utilizes between 1 and 5 addresses (footprint). For example:

- DMX Light Fixture = Between 1 and 5 addresses dependent on the footprint of lighting fixture (W, WW, RGB, RGBW, RGBWW).
- LED Strip = 2, 3 or 4 addresses (WW, RGB, RGBW)
- 0-10V or DMX Controller = No addresses - Controllers don't use any DMX addresses.

Below are 2 methods for setting the addresses. The first method using the Magic Wand utility and is the preferred method.

Set Addresses using the Magic Wand

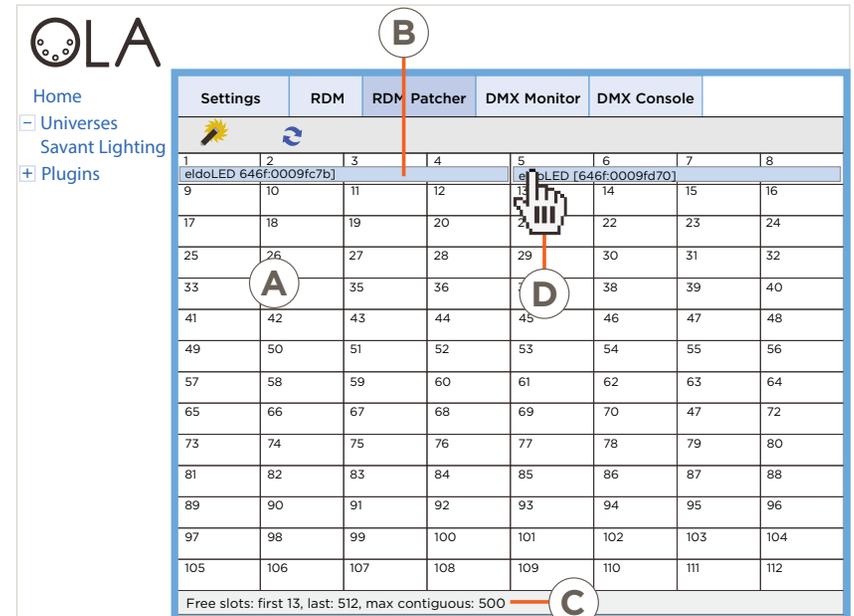
Lighting fixtures are shipped from the factory with the same address. If all fixtures shipped from factory with address=1, when they appear in the RDM Patcher tab, they will all have address = 1 and displayed as stacked on top of each other in the matrix shown below. The OLA Server offers a magic wand utility that assigns unique addresses to each fixture so they no longer overlap. Follow the steps below to use the magic wand

1. Select the **RDM Patcher** tab.
2. Select the magic wand icon .
3. Select **Yes** if you agree to the pop-over that opens. The addresses for each fixture are then updated and automatically reordered in the matrix.

Set Addresses Manually

The magic wand described above assigns a unique address (footprint) to each lighting fixture. This is displayed in the matrix in the **RDM Patcher** tab (see image below right). However, a user can also change the addressing manually. To change the addressing manually, the information below shows how to do this.

- A** Each cell is an address. A Universe contains 512 addresses. Each lighting fixture is assigned between one and five addresses. A portion of that address is added to each packet to ensure the packet is sent to the correct device.
 - B** The blue rectangle covers all the addresses assigned to each device. For example, The eldoLED, Lighting Fixture 1 is assigned addresses 1,2,3, and 4.
- The bottom row gives an indication of how the table is utilized:
- **Free Slots: first 13** - Indicates that the first free address in the table is cell 13.
 - **last 512** - Indicates the last free address in the table is cell 512.
 - **max contiguous** - Indicates the largest number of addresses (cells) available that are next to each other in sequence.
- D** To move a device to a different address, select, drag, and drop the device to its new location.



The screenshot shows the OLA interface with the RDM Patcher tab selected. A grid of 112 addresses (rows 1-10, columns 1-8) is displayed. A blue rectangle highlights the first 13 addresses (row 1, columns 1-4). A hand icon is shown moving a device from address 1 to address 29. The bottom status bar shows 'Free slots: first 13, last: 512, max contiguous: 500'.

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88
89	90	91	92	93	94	95	96
97	98	99	100	101	102	103	104
105	106	107	108	109	110	111	112

6.4. OPTIONAL: Test Communications - DMX Console Tab

The information below is made available for debug purposes only. From the DMX Console tab, each individual address in each lighting fixture can be tested. **If you do not suspect any problems with the lighting fixtures, skip this section.**

If a problem is suspected, use the information below to troubleshoot

1. Select the DMX Console tab.
2. Identify the addressing for each fixture installed.
3. Adjust the sliders for each address to individually test color space for each fixture.



TIP! To switch all channels to full On, select the yellow light bulb icon. To switch all channels to full Off, select the clear light bulb icon.

4. Select the right facing blue arrow to access the next 16 addresses and test those fixtures. Continue until all lighting fixtures are tested.
5. With all fixtures verified, continue to the next section.

For more information on the functions of the DMX Console tab, refer to the information below.

A

Each number above the slider corresponds to an address. There are 512 addresses available in a DMX network. Sixteen addresses are presented at one time. To access the next 16 addresses, select the blue right facing arrow. To access the previous 16 addresses, select the blue left facing arrow.

B

Adjust the slider to increase or decrease the intensity of the color associated with that address. For example, moving the slider for address 5 up or down, increases or decreases the intensity of the color red to the lighting fixture using address 5.

In addition, the intensity is tracked both in the numbering above the slider and in the table to the right of the sliders. Intensity range = 0-255.

C

Each slider represents a color space to a specific lighting fixture. The lighting fixture installed determines what color space(s) are adjusted. In the image to the right, addresses 5, 6, 7, and 8 are associated with a fixture that supports RGBW. If the fixture installed supports white, just one address is utilized and that slider would adjust the white color space.

D

Yellow Bulb - Instantly changes the intensity of all 512 channels to 255 (full on).

Clear Bulb - Instantly changes the intensity of all 512 channels to 0 (off).

The screenshot shows the DMX Console interface with the following elements:

- Navigation:** Home, Settings, RDM, RDM Patcher, DMX Monitor, DMX Console (selected).
- Universe:** Savant.
- Addressing:** A table with 16 columns (addresses 1-16) and 4 rows (R, G, B, W). Address 5 is highlighted with a yellow bulb icon, and address 6 is highlighted with a clear bulb icon.
- Sliders:** Below the table, sliders for addresses 5, 6, 7, and 8 are shown. Address 5 is set to 50, address 6 to 40, and address 7 to 40. Address 8 is set to 0.
- Color Space:** Labels R, G, B, W are shown below the sliders.
- Intensity Table:** A table of 16 columns and 4 rows showing intensity values for R, G, B, and W channels. Address 5 has R=50, G=0, B=0, W=0. Address 6 has R=40, G=0, B=0, W=0. Address 7 has R=0, G=40, B=0, W=0. Address 8 has R=0, G=0, B=40, W=0. All other addresses have 0 for all channels.

Address	R	G	B	W
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	50	0	0	0
6	40	0	0	0
7	0	40	0	0
8	0	0	40	0
9	0	0	0	0
10	0	0	0	0
11	0	0	0	0
12	0	0	0	0
13	0	0	0	0
14	0	0	0	0
15	0	0	0	0
16	0	0	0	0

8. Blueprint Configuration - Update Data Table

With all fixtures working, the configuration can now be saved and uploaded to the Host.

8.1. Update the Lighting Data Table

The additions made in the lighting/keypad manager need to be added to the lighting data table (Tools > Settings > Lighting). Follow steps below to update the lighting/keypad data table.

1. Select the **Sync...** button at the bottom of the lighting/keypad manager.
2. In the drop-down menu that opens, check or un-check the appropriate box or boxes Refer to descriptions below.

Loads, Scenes, Load Scenes, Buttons boxes

Checked - For boxes that are checked:

- An entry for each box checked is added to the lighting data table (Tools > Settings > Lighting)
- If the lighting data table already contains an entry for the box that is checked, that entry is updated with the new information.

Unchecked - For boxes that are unchecked (Loads, Scenes, Load Scenes, Buttons):

- If an entry for the unchecked box exists in the lighting data table (Tools > Settings > Lighting), that entry is removed.
- No new entries are added to the lighting data table.

Reset any user modifications box:

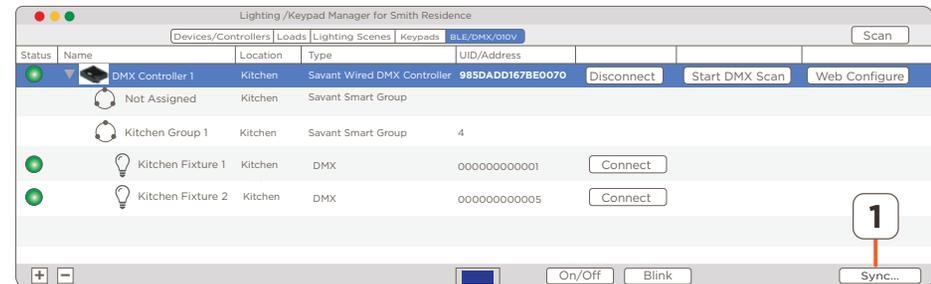
Checked:

- Changes to entries in the lighting data table are returned to their default values.

Unchecked (Default):

- Changes to entries in the lighting data table are left alone.
- Changes to entries through the Lighting/keypad manager are updated in the lighting data table.
- New entries created in the lighting/keypad manager are added to the lighting data table.

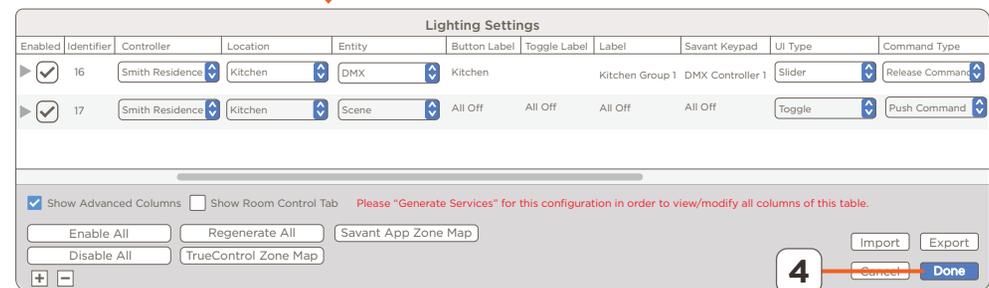
3. Select **Sync** button in the drop-down menu when satisfied the correct boxes are checked.
4. In the lighting data table that appears, verify the entries are either created or modified. Select **Done** when complete.



NOTE: Savant recommends adding a check to the Loads and Scenes



NOTE: Savant recommends checking just the Loads and Scenes boxes. Adding checks to the Load Scenes and Buttons boxes increases the number of icons presented in the Savant Pro App. The additional icons make the App look very busy and confusing.



HELPFUL! In the lighting data table, the loads will automatically be added to the same room that the controller is configured to. If desired, the zone that the loads are populated in, can be changed.

9. Blueprint Configuration - Upload Configuration

With the configuration complete, it can now be uploaded to the Savant Pro System Host. Follow steps below to upload.

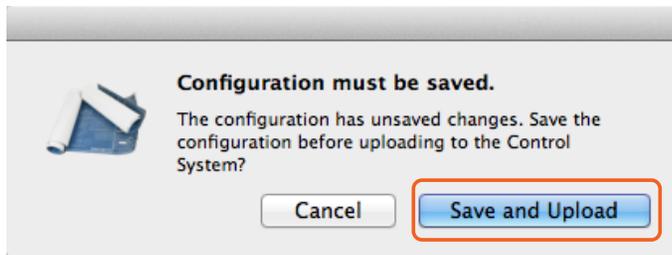
⚠ IMPORTANT! When connected to the OLA Server, all control to the Savant Control System is lost. Be sure to close out of the OLA Server before uploading configuration to the Host.

1. Select the **Generate Services** icon from the Blueprint tool bar. The State Icon will change to either Blue or Green indicating the services are created.
2. Select Update **All UI Screens > Sync with Services** (only if necessary) to sync the user interfaces such as an iPad to the services created. The State Icon will switch to Green when complete.
3. To upload, select the **Upload to Master** icon from the Blueprint tool bar. See image below.

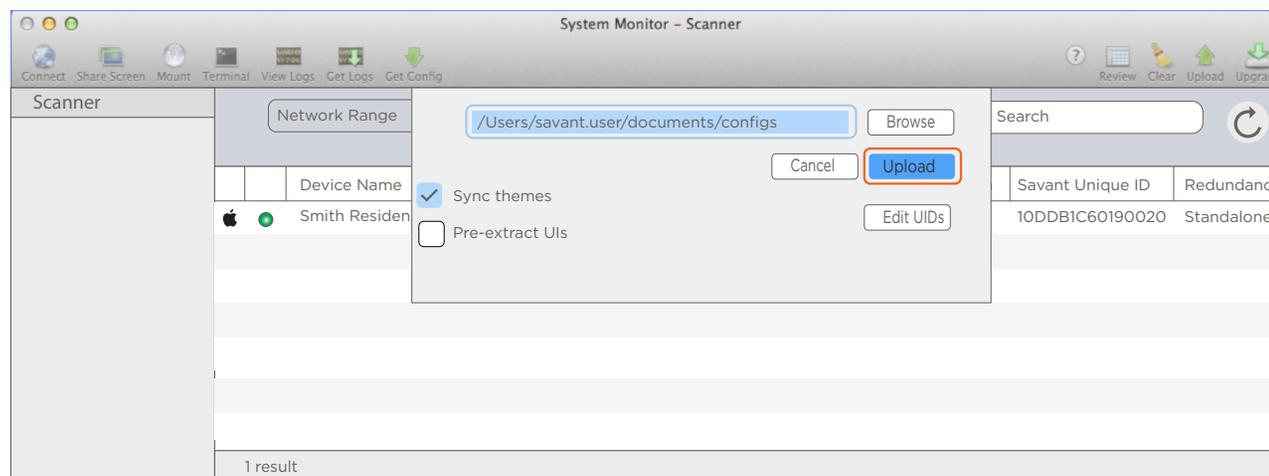


Select Upload to Master

4. In the configuration must be saved dialog box that opens, read the dialog and select Save and Upload.



5. The System Monitor application will open as displayed below. Verify the path to the configuration file is correct. Select **Upload** when satisfied. Configuration will now upload to the Host.



10. Savant Pro App

With the upload complete, the DMX lighting network will either create a Lighting Service in the Savant Pro 8 App or get added to an existing Lighting Service. See the Pro 8 App Lighting Service User Guide (009-1696-xx) which is available on the **Savant Customer Community**.

Appendix A: OLA Server - Additional Information

SETTINGS TAB

Below are descriptions of the fields in the Settings tab of the Savant Lighting Universe

- **Universe Id** - The Savant Lighting Universe ID is automatically populated and should NOT be changed.
- **Universe Name** - By default this field is set to Savant Lighting. To change the name, double-click the Universe Name field and enter a name that identifies the Universe.
- **Merge Mode** - Set to LTP (latest takes precedent) and is the recommended setting.
- **Output Ports** - ArtNet[127.0.0] is the data distribution protocol supported.

The screenshot shows the OLA Server interface. On the left is a navigation menu with 'Home', 'Universes' (expanded to show 'Savant Lighting' and 'Plugins'), and 'Plugins'. The main content area has tabs for 'Settings', 'RDM', 'RDM Patcher', 'DMX Monitor', and 'DMX Console'. The 'Settings' tab is active, showing 'Universe Settings' with fields for 'Universe Id' (1), 'Universe Name' (Savant Lighting), and 'Merge Mode' (LTP). Below are 'Input Ports' and 'Output Ports' tables. The 'Output Ports' table has one entry: ArtNet [127.0.0.1] with priority 'Not Supported'. A 'Save' button is at the bottom right.

Device	Description	Priority
<input checked="" type="checkbox"/> ArtNet [127.0.0.1]	ArtNet Universe 1:0:1	Not Supported

RDM TAB (Lighting Controllers)

Below are descriptions of the fields in the RDM tab of the Savant Lighting Universe for a DMX or 0-10V lighting controller.

DMX Personality - Sets the DMX personality that indicates the number of channels available. The fields available are dependent on the controller in the system.

- DMX Controller
 - DMX (128) - Select when controller is the LCB-DMX1.
 - DMX_Keypad (128) - Reserved for Future Use
- ZeroToTen
 - Dual Channel - Select if any of the lighting fixtures in the lighting network support the adjustment of both intensity and temperature (Tunable White) type LED.
 - Single Channel - Select only if all fixtures in the lighting network support the adjustment of the standard warm dim type LED.

Device Info - Information regarding the lighting controller is available.

Device Label - Identifies the type of controller installed. This is hard coded and can't be modified. The label set in this field also appears in the left panel of the OLA Server.

Identify Device - Field can be used to identify the controller as well as all lighting fixtures communicating with it. To do this:

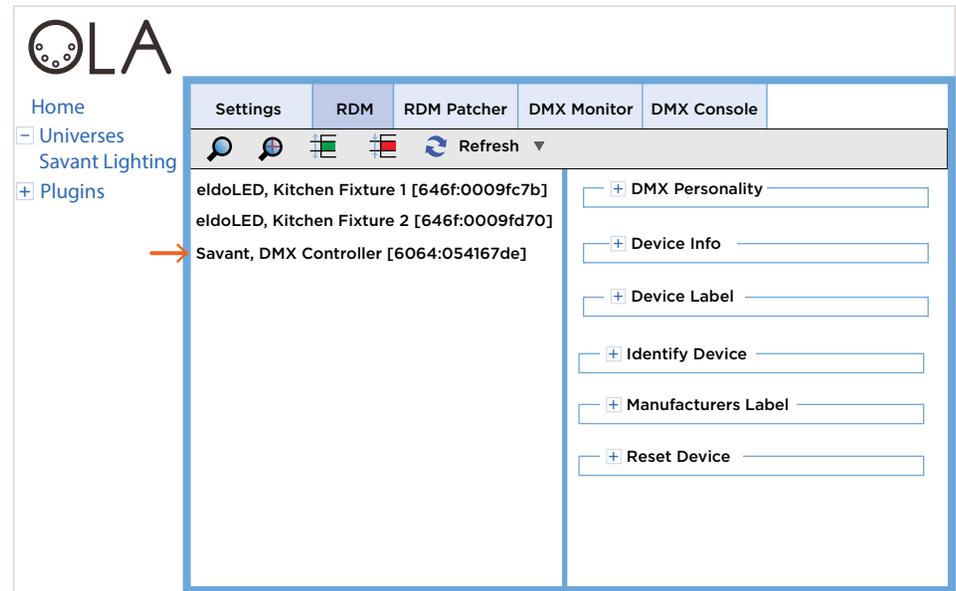
1. Expand the Identify Device field.
2. Add a check to the Identify Device check box.
3. Select Save.

The Status LED on the controller will begin blinking once per second and all lighting fixtures connected to the controller will begin flashing. Uncheck the same box and select **Save** to stop the blinking/flashing.

Manufacturers Label - Displays the manufacturer (Savant) of the controller and can't be modified. The label set in this field also appears in the left panel of the OLA Server.

Reset Device - To reset the controller, select from the drop-down menu what type of reset to initiate:

- Warm Reset - Reboots the controller but keeps all changes made.
- Cold Reset - Reboots the controller and reverts all changes made back to their factory defaults.



RDM TAB (Lighting Fixtures and LED Strips)

Below are descriptions of the fields in the RDM tab of the Savant Lighting Universe for a DMX lighting fixtures and LED strips.

DMX Personality - Set the color space supported on the lighting fixture.

DMX Start Address - The starting (first) address of the lighting fixture is presented and can be modified using this field. However, Savant recommends using the RDM Patcher tab and not the DMX Start address field to make changes to the lighting fixture addresses. The matrix in the RDM Patcher tab gives a clear indication of the addressing used on each fixture.

Device Info - Information regarding the lighting fixture or LED strip is available.

Device Label - Name given to the lighting fixture selected. The name presented in this field was initially set using the lighting/keypad manager in Blueprint. To modify, double click the field, enter a new label, and select Save.

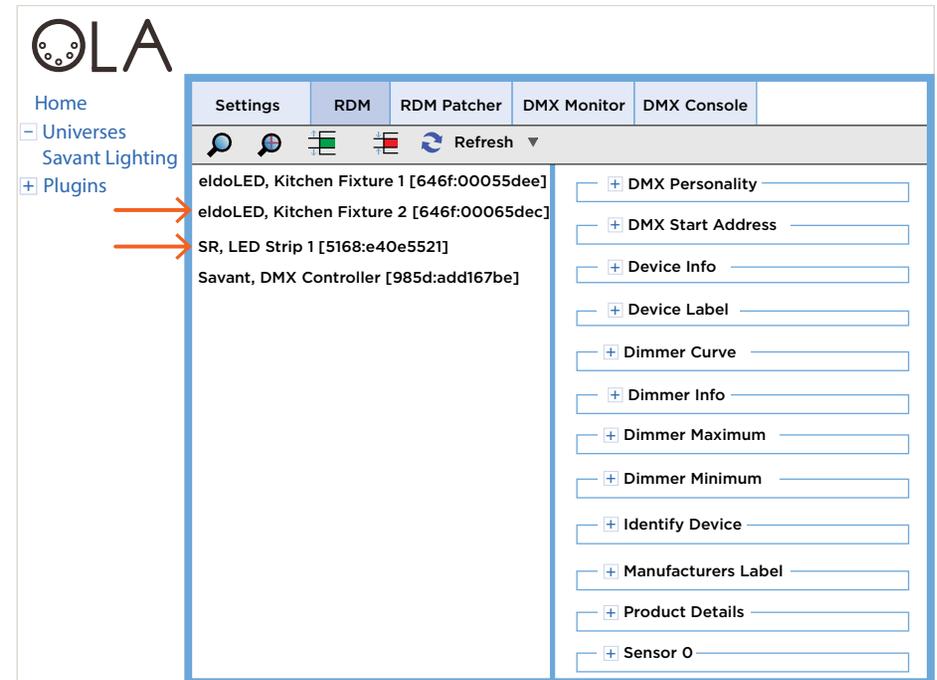
Dimming Curve - The Dimming Curve adjustment is handled in the Savant Pro App. Configuring the correct dimming curve will cause the output of the lighting fixture to look linear when moving the slider on the dimmer from low to high intensity.

Dimmer Info

- **Minimum Level Lower Limit** - Lowest value that Minimum Level can be set to. If device doesn't support this function, 0 is displayed.
- **Minimum Level Upper Limit** - Highest value that Minimum Level can be set to. If device doesn't support this function, 0 is displayed.
- **Maximum Level Lower Limit** - Lowest value that Maximum Level can be set to. If device doesn't support this function, 0 is displayed.
- **Maximum Level Upper Limit** - Highest value that Maximum Level can be set to. If device doesn't support this function, 0 is displayed.
- **# of Supported Curves** - Number of dimming curves supported on the device.
- **Levels Resolution** - Number of bits used by the device to output the level of intensity. Savant uses an 8-bit system (0-255 levels).
- **Split Levels Supported** - Are split levels supported (Minimum / Maximum Level Increasing). 00=No, 01=Yes

Dimmer Minimum

- **Minimum Level Increasing** - When increasing power at the output of a dimmer, this field sets the level of brightness that the LED will switch On. Setting this field correctly will reduce unintended behavior such as flickering. Values range from 0-255
- **Maximum Level Decreasing** - When decreasing power at the output of a dimmer, this field sets the level of brightness that is output before the LED switches Off. Setting this field correctly will reduce unintended behavior such as flickering. Values range from 0-255
- **On Below Minimum** - Add a check to this box to provide preheat functionality to bulbs with filaments. When selected, a small amount of power will always be present at the bulb to prevent the bulb from cooling down. On Below Minimum reduces the stress put on bulbs when they are first powered on.



RDM TAB (Lighting Fixtures and LED Strips) - Continued from previous page

Identify Device - Use this field to locate a lighting fixture in the lighting network.

1. Expand the Identify Device field.
2. Add a check to the Identify Device check box.
3. Select **Save**.

The lighting fixture will begin flashing once per second. Uncheck the same box and select **Save** to stop the flashing.

Manufacturers Label - The manufacturer of the driver installed in the lighting fixture is displayed.

Product Details - Information regarding the lighting fixture is presented.

Sensor 0 (DMX Light Fixture Only) - Displays the internal temperature recorded by the temperature sensor embedded in the lighting fixture.

Appendix B: Network Requirements

Savant requires the use of business class/commercial grade network equipment throughout the network to ensure the reliability of communication between devices. These higher quality components also allow for more accurate troubleshooting when needed.

Device Network Connections

Connect all Savant devices to the same local area network (LAN) or subnet as the Host. Savant recommends not implementing any type of traffic or packet shaping in your network topology for the Savant devices as this may interfere with performance.

Managing IP Addresses

To ensure that the IP Address will not change due to a power outage, a static IP Address or DHCP reservation should be configured. Savant recommends using DHCP reservation within the router. By using this method, static IP Addresses for all devices can be managed from a single UI avoiding the need to access devices individually. Setting DHCP reservation varies from router to router. Refer to the documentation for the router to configure DHCP reservation.

Network Changes

Savant recommends performing one of the following steps to refresh the IP connection after connecting to a new network, changing routers, or if the IP Address range is changed in the current router. This will reset any IP connection and ensure that the Host is communicating with the network correctly.

To refresh the IP Connection, perform one of the following steps:

- **Unplug/Plug Ethernet Connection**
 1. Unplug Ethernet cable.
 2. Wait 15 seconds.
 3. Re-insert Ethernet cable back into Ethernet port.
- **Cycle Power**
 1. Disconnect the controller from the AC power source.
 2. Wait 15 seconds.
 3. Reconnect.
- **Reset Button**
 1. Press and release the reset button. The system will reset and IP Address settings will be cleared.

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