PURE EDGE LIGHTING

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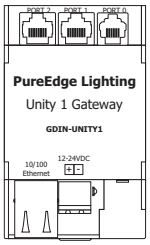
Installation Instructions for **Unity 1 Gateway IP Interface**

GENERAL INFORMATION

- This instruction shows a typical installation.
- Unity 1 must be used with Pure Smart TruColor™ LED Strips and linear fixtures. Refer to the instructions provided with the Pure Smart TruColor™ LED Strips and linear fixtures to complete the installation.

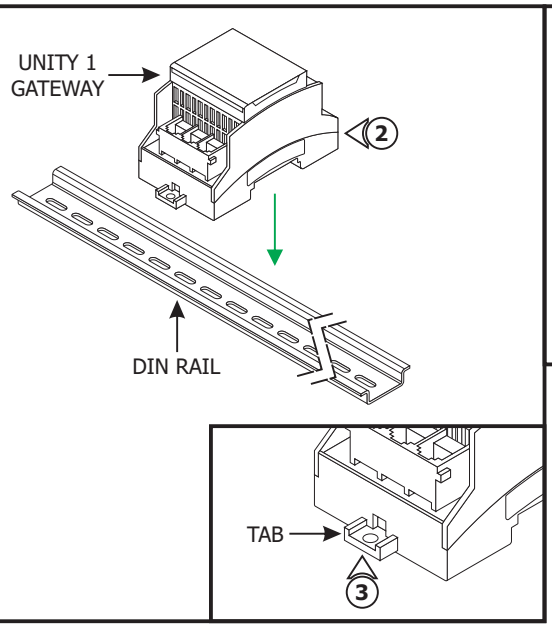
SAVE THESE INSTRUCTIONS!



Section One: Hardwiring

Install the Interface

A

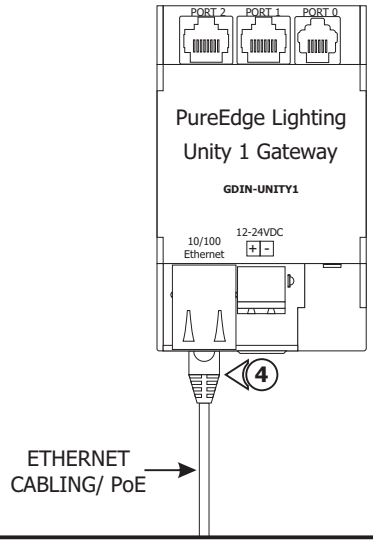


1: Determine the mounting location for the Unity 1 Gateway.

2: To install the Unity 1 Gateway on a DIN rail, ensure the DIN rail is properly mounted. Gently release the mounting tab on the bottom of the Unity 1 Gateway and hook one side of the Gateway on the top edge of the DIN rail. Press down until the mounting tabs snap securely onto the DIN rail.

3: To install the Unity 1 Gateway on a surface, use fingers to gently release the mounting tabs on the bottom of the Unity 1 Gateway and use the appropriate fasteners through the mounting holes to secure in place.

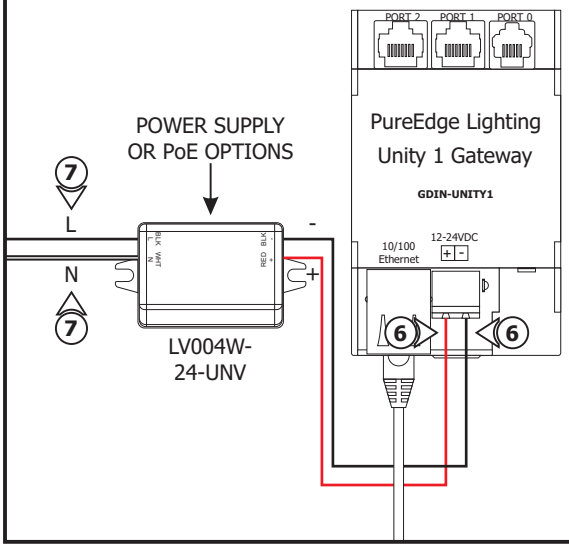
B



NOTE: If using PoE, omit step 4.

4: Connect the Ethernet port from the home network to the Unity 1 Gateway.

C



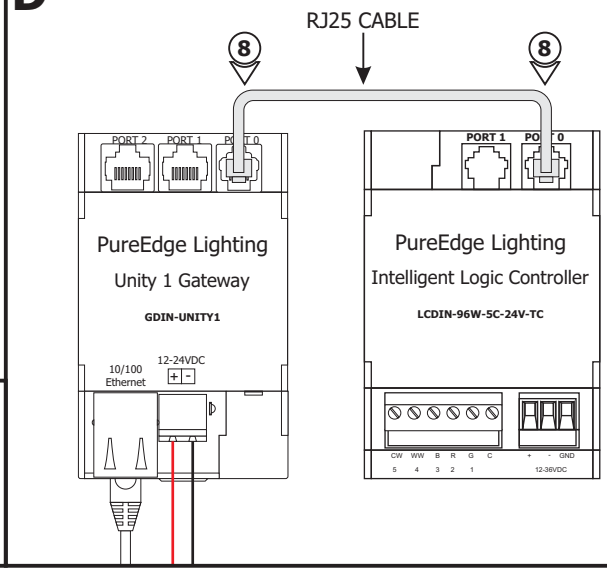
NOTE: Hardwired power supply is optional. The Gateways have PoE functionability and/or any 12V/24VDC power supply will work.

5: Connect the low voltage power supply wires to the Unity 1 or use other PoE options.

6: Connect the low voltage + power supply wire to the Unity 1 "+" terminal and tighten the screw. Connect the low voltage "-" power supply wire to the Unity 1 - terminal and tighten the screw.

7: Connect the black line power supply wire to the line voltage wire. Connect the white neutral power supply wire to the line voltage neutral wire.

D

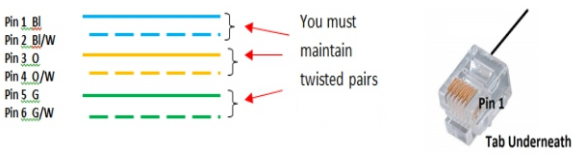


NOTE: Refer to the instructions with the Intelligent Logic Controller for complete wiring.

8: If connecting the Unity 1 Gateway to the Intelligent Logic Controller, use an RJ25 cable to connect from Port 0 on the Unity 1 Gateway to Port 0 on the Intelligent Logic Controller.

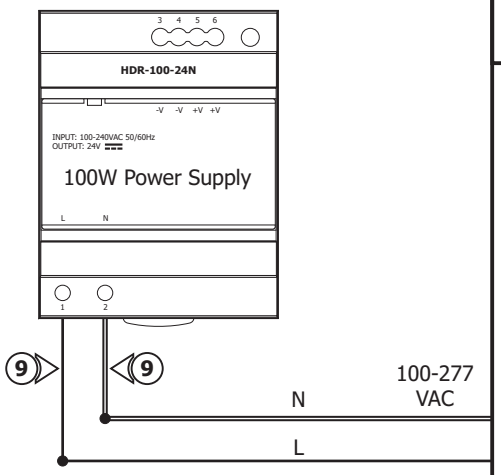
E

Note: Blue (local comm)**:**
CAT 5 or better terminated with RJ25 (6P6C).



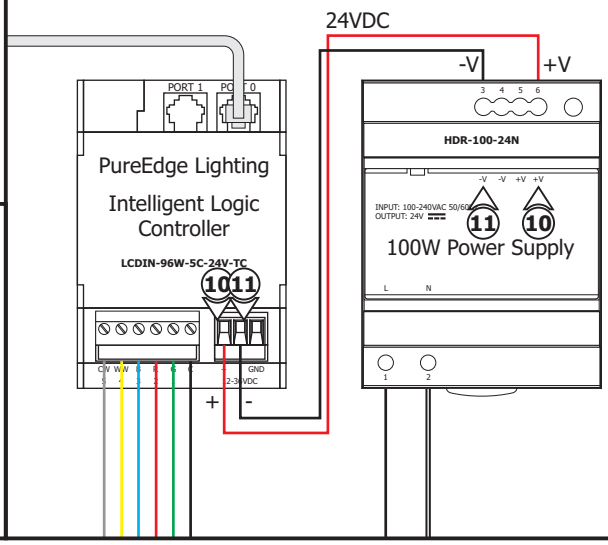
NOTE: The **Unity 1 wiring** uses standard RJ-25 (RJ-11) 6P6C connectors available at Home Depot, Amazon, and all electrical distributors. **You cannot use standard flat telephone cable for this type cable (i) does not have twisted pairs and (ii) utilizes typically a swapped wiring pinout (1-6, 2-5, 3-4, etc.) which is not compatible with the Unity 1. Failure to follow the Unity 1 wiring standard will void your warranty**. If you return a unit to Pure Edge Lighting with its communication chip destroyed this is a telltale sign that you used Telephone cabling. **REPEAT--DO NOT USE TELEPHONE CABLE**. Also, **do not attempt to use standard Ethernet cabling (568B or 568A)** by simply cutting the browns or oranges for this **will leave the twisted pairs inconsistent with our Unity 1 Wiring Standard** (the middle two lines will not be a twisted pair and data integrity will be lost).

F



9: Connect the line power supply wire to the line voltage wire. Connect the neutral power supply wire to the line voltage neutral wire.

G

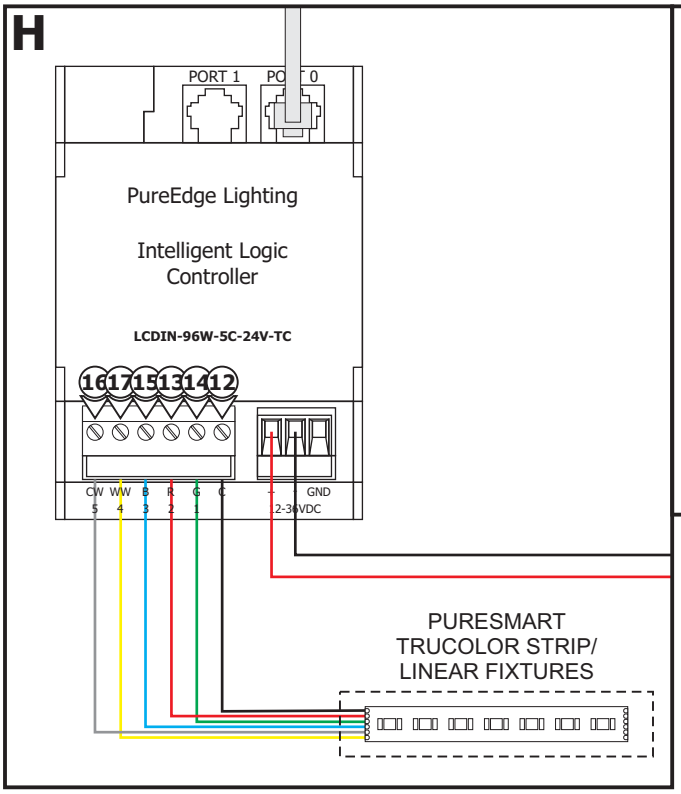


10: Insert one end of the red wire into the +V terminal on the 100W Power Supply. Insert the other end of the red wire into the + terminal on the Intelligent Logic Controller.

11: Insert one end of the black wire into the -V terminal on the 100W Power Supply. Insert the other end of the black wire into the - terminal on the Intelligent Logic Controller.

NOTE: If connecting multiple Intelligent Logic Controllers, connect Port 1 of the existing Logic Controller to Port 0 of the next Logic Controller. Maximum 255 controllers.

H



12: Insert the "+" fixture wire into the "C" terminal of the Intelligent Logic Controller and tighten the screw.

13: Insert the "R" fixture wire into the "R" terminal of the Intelligent Logic Controller and tighten the screw.

14: Insert the "G" fixture wire into the "G" terminal of the Intelligent Logic Controller and tighten the screw.

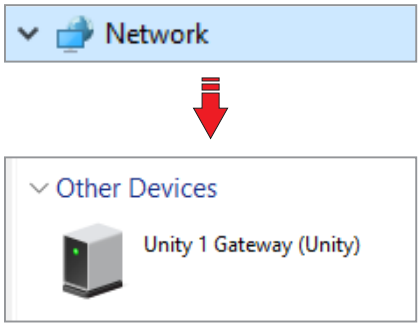
15: Insert the "B" fixture wire into the "B" terminal of the Intelligent Logic Controller and tighten the screw.

16: Insert the "C" fixture wire into the "CW" terminal of the Intelligent Logic Controller and tighten the screw.

17: Insert the "W" fixture wire into the "WW" terminal of the Intelligent Logic Controller and tighten the screw.

Section Two: Software Setup

I



1: Energize the entire system.

2: Open File Explorer on Windows and search for the Network tab. Expand the Network tab for available uPnP* devices. Any connected Unity 1 device should appear here.

2: Double click on the Unity 1 icon to expose its web page.

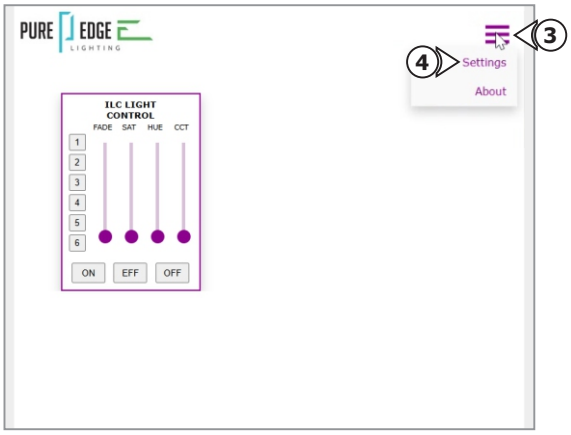
3: Hold cursor over on the triple dash menu icon.

4: Click on Settings.

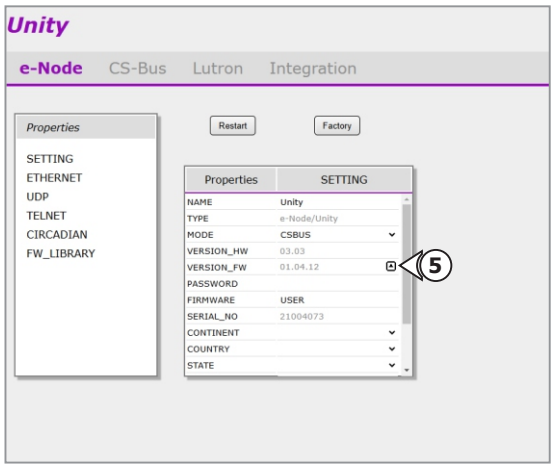
NOTE: You may be asked for a Password. Unless the Password has been changed or blanked out, enter Admin and select Logon. You may have to turn on Discover or load the uPnP service within Windows to enable this type of Discover.

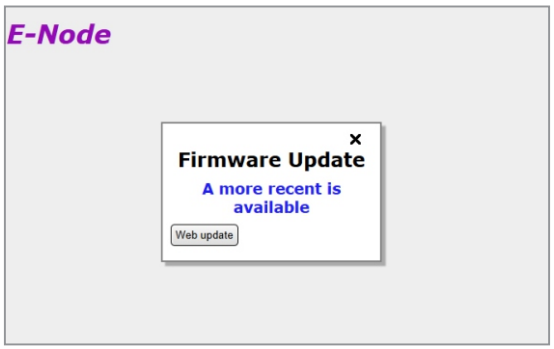
NOTE: ILC Light Control may or may not show up upon initial discovery.

J



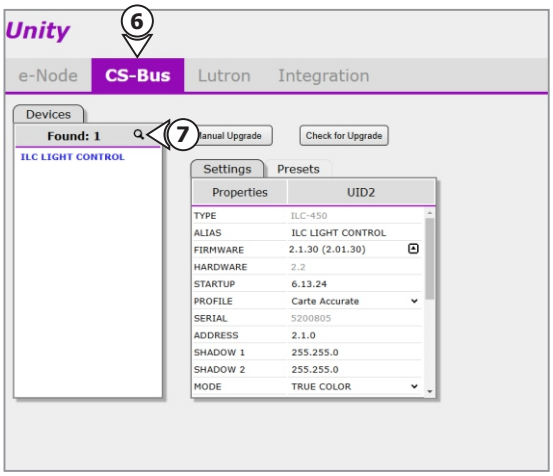
K





5: Click firmware version to check for updates. Follow the instructions on the screen.

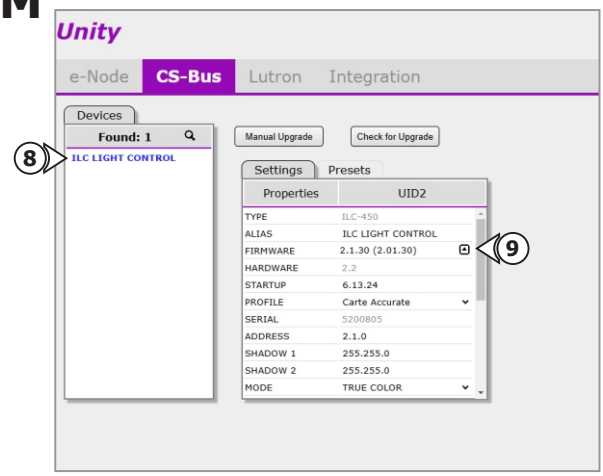
L



6: Click the CS-Bus tab.

7: Click the magnifying glass to discover all the ILC's (Intelligent Logic Controllers).

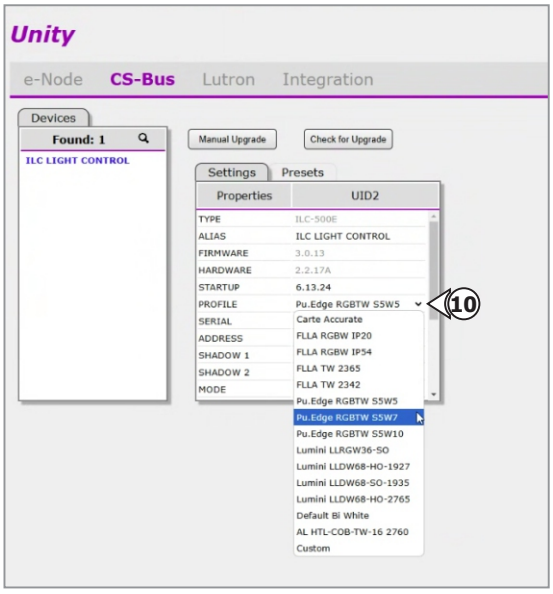
M



8: Click on the desired device.

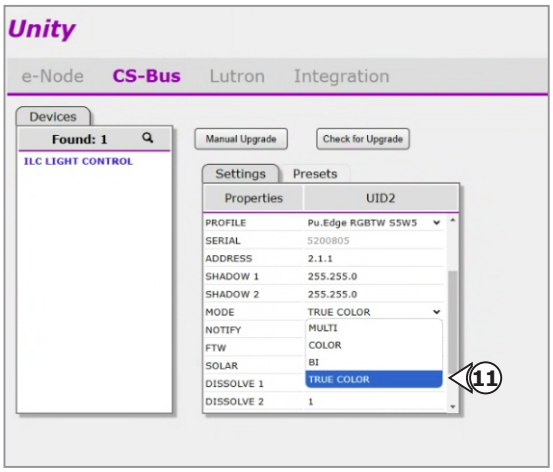
9: Check for firmware updates and follow the instructions to update.

N



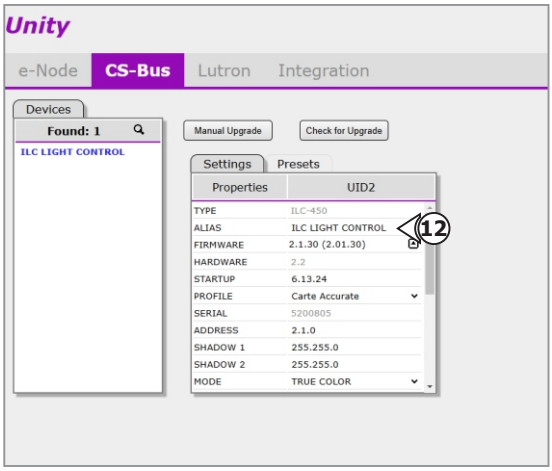
10: Select the appropriate Pure Edge Profile.

O



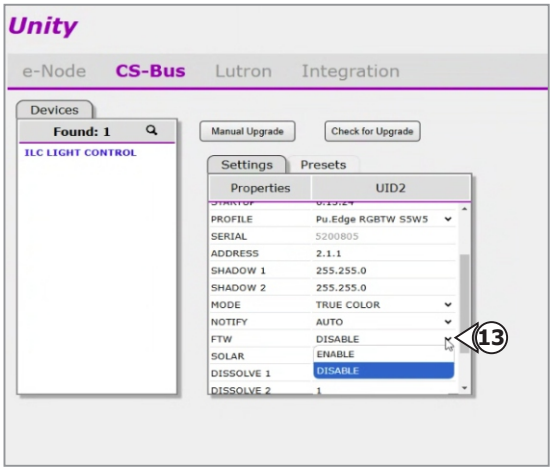
11: Select mode TRUE COLOR.

P



12: Rename the Alias to the appropriate fixture name to keep track of multiple fixtures.

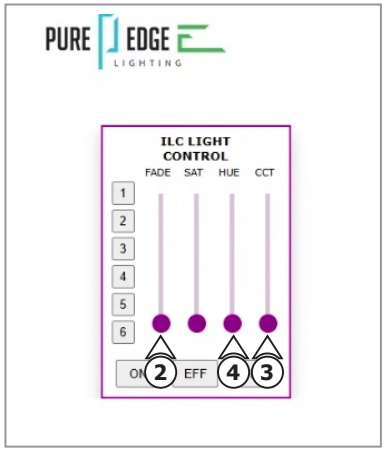
Q

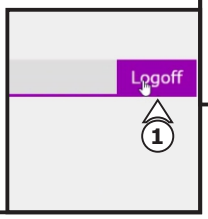


13: Disable the FTW.

Section Three: Test the Fixtures

R





1: Click Logoff in the top right corner.

2: Adjust the FADE slider all the way to the top.

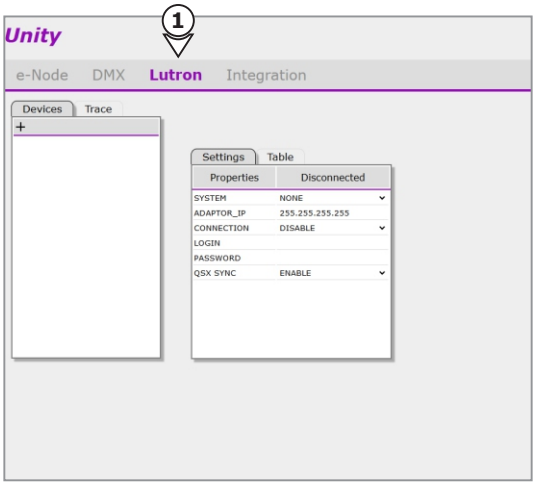
3: Test the Tunable White spectrum. Adjust the CCT slider stopping at various points along the way, checking to see if the spectrum is changing. Then return the slider to the bottom.

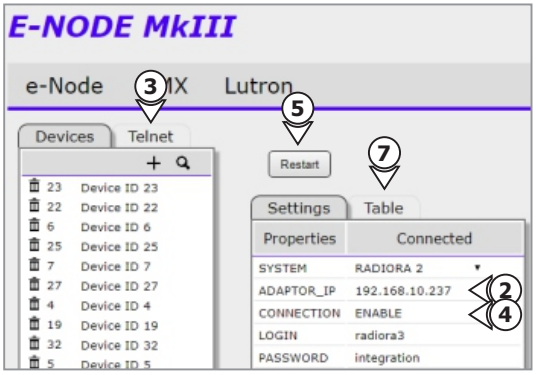
4: Test the HUE spectrum. Adjust the HUE slider to test for solid green, solid blue, and solid red.

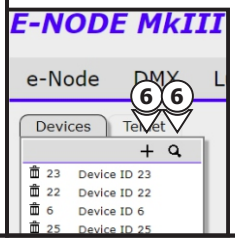
5: After successfully testing, proceed to Integration.

Section Four: Integration Lutron

S







1: Click the Lutron Tab.

2: Under the Lutron/Settings tab below, enter the (Lutron) Adapter IP.

3: Enter an available Telnet Login and Password available from Lutron.

4: Click Connection: ENABLE.

5: Click Restart. The Disconnected Message should shortly switch to Connected.

6: Under Lutron/Devices above, either add an activated Lutron Device ID (DID) by selecting the + mark and manually typing in a valid Lutron DID number, or depress an operational button on an assigned Lutron device and auto discover that DID by selecting the magnifying glass.

7: If seen the DID (number) should appear in the device window.

Lutron Integration Alert

Revision 2/6/2025

Important Information Regarding Lutron Designer v25.1 and later

Immediate Action Required

Background/LEAP Partner

Converging Systems has been an important integration partner of Lutron for over twenty years and continues to invest significant engineering and marketing resources toward this partnership in the future. Over our integration history with Lutron, Converging Systems' customers have been able to broaden the range of supported motor and lighting products (projection screen, motorized LED lifts, WI-FI ceiling fans, landscape lighting and a variety of complementary luminaries manufactured both by Converging Systems as well as its OEMs and 3rd party partners) ***natively supported*** by Lutron's residential and commercial offerings including the Lutron App by virtue of Converging Systems' forty years of engineering innovations in the control of motor/color output and network expertise.

Over the last three years, Converging Systems was also selected as an important ***Lutron LEAP protocol*** partner that has enabled newer Lutron hardware platforms including RadioRA3/Homeworks® QSX/ and Athena to also remain compatible with Converging Systems hardware offerings sold both under Converging Systems' own brand names as well as under a number of its OEM customers' brand names. Of note, these partners include some of the largest and well-known players in the industry!

The Existing Ability to Control Color/Tunable White and Fan Operation

Over the past few years, Lutron has advanced its User Interface (UI) for the control of color and tunable white fixtures through an important User Interface which is native within the Lutron App (for RR3, HWQSX and Athena).

For those customers unable or not certified to offer the Lutron Ketra offering in the early days of its launch (or for RadioRA3 dealers who wished to offer color prior to CEDIA 2024), Converging Systems enabled those dealers to embrace and experiment with the control of color through our offerings. Overtime with that experience under their belt, more and more Lutron dealers have now become certified as an approved Ketra reseller (or were able to adopt the Lumaris RGBW solutions in late 2024

after it was launched for RadioRA3 as well). However, during that transition period (prior to CEDIA 2024 and prior to a HWQSX dealer becoming Ketra approved), we have enabled a wide swath of Lutron dealers to learn about full spectrum and Tunable White offerings by leveraging off of the above Lutron **U**ser **I**nterface (shown above) and combining that with Converging Systems' products **that they have been able to purchase** from us (or from our partners) ***for the past three years***. For those new to our offerings, we have until now been able to provide full compatibility from Lutron Ketra/ Lumaris **U**ser **I**nterface for the control of our products, even if the targeted Lutron Digital Luminaire (Ketra or Lumaris) product was not available or not installed with the Lutron project! Interestingly, we also have been able to allow full integration of Moden Form Fans with its built-in LED light source using this Ketra **U**ser **I**nterface even through there was not Ketra or Lumaris product on site!

Next Steps for Existing Projects—Prior to Release of Designer V 25.1 scheduled for February 14, 2025

Starting with the next version of Lutron Designer (v25.1), the offerings will include some minor changes in the Lutron hardware platform's operation that will eliminate the operation of any phantom Ketra/Lumaris load(s), otherwise known as an "un-activated" device. This change relates only for new projects (not upgrades of existing projects) that are initially started as a new project using Designer v25.1 or later.

Joint Lutron/Converging Systems Statement:

"Please note that Lutron is dedicated to protecting/grandfathering the operation of all cloud-based Lutron Designer project files that contain any un-activated Ketra or Lumaris objects currently used with Converging Systems devices (i.e., phantom Ketra or phantom Lumaris devices) that have been created with Designer versions prior to v25.1 regardless if these Designer projects are subsequently upgraded (manually or automatically) in the future (i.e., to version 25.1 or later)."

Possible Action Required

Today, simply make sure that any newly ordered products from either Converging Systems or any of our OEMs partners are integrated into a new Designer project prior to the release of v25.1 (expected on or around February 14, 2025) with the proper type of phantom Ketra or Lumaris objects and are properly Link Assigned (for HWQSX and Athena) to a real or phantom Type X gateway (in you Lutron project) prior to February 14, 2025 or the release of Designer v25.1. This will insure that even if you do not have a Ketra or Lumaris object in a particular room where one of our controllers is located, that the phantom Ketra or Lumaris User Interface will continue to control our devices with all the capabilities and color technology that is available today within our products.

If you are planning on utilizing an activated Ketra or Lumaris within your project to which a Converging Systems object will be "tracking," this upcoming Lutron modification will have no bearing on you and requires no action.

New Directive for New Projects to be initially created with Designer v25.1 scheduled for February 14, 2025 or thereabout.

Even though the existence of only the ***phantom*** Ketra or Lumaris will transition away within Designer v25.1, acceptable solutions and methodologies will continue to exist that should satisfy most users because Converging Systems will continue to be LEAP protocol partner with Lutron. See separate Appendix (following) for various alternatives.

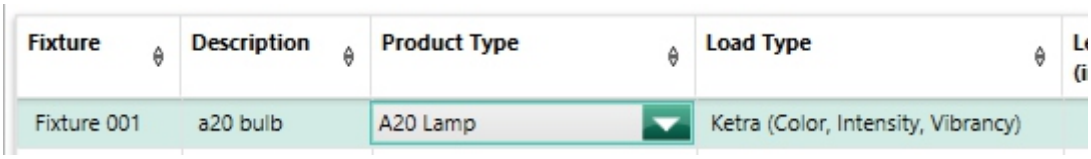
Appendix 1

Option 1. For each zone or location where you wish to place a Converging Systems' device to operate, simply add an appropriate **activated** Lutron Digital Light (Ketra or Lumaris) as the **activated** device or "**Leader**" to control our operation (in addition of course to the control of the Lutron Leader device. The **U**ser **I**nterface on the Lutron APP (see below) will continue to operate activated Lutron Leader (devices) while enabling the transmission of 128-bit encrypted data to our system in order that our units can mirror the operation of the Lutron Leader (device).

For the Control of CCT	For the Control of Full Color
	

See below for types of UI available (related to type of device activated):

- Full Color/ Full Correlated Color Temperature (TW) Device. Specifically, if you have a full color/full CCT (TW) luminaire device being controlled by our technology, simply add a Ketra device and activate it.



Fixture	Description	Product Type	Load Type
Fixture 001	a20 bulb	A20 Lamp	Ketra (Color, Intensity, Vibrancy)

Note: If you are using RadioRA3, add the Lumaris RGBW object

- Tunable White Device. Or, if you have a **C**orrelated **C**olor **T**emperature (TW) device being controlled by our technology, simply add an appropriate Lumaris for the approximate range of CCT that is being supported.

Fixture 029	Lumaris Tunable White	Lumaris Soft White

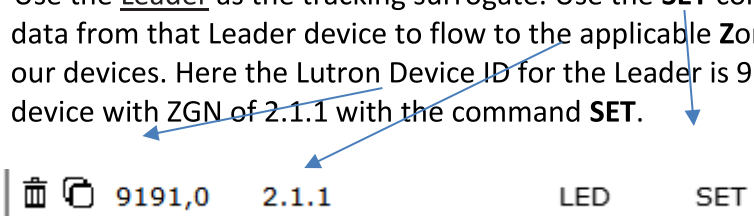
Other Steps within Lutron

-For HWQSX and Athena, link assign the LEADER above to the appropriate Type X device.

-Active the Leader load as per Lutron instructions (it must be activated to work here).

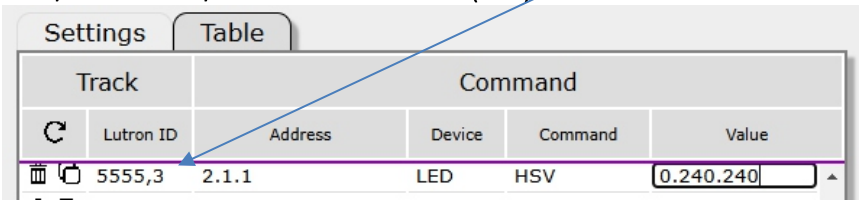
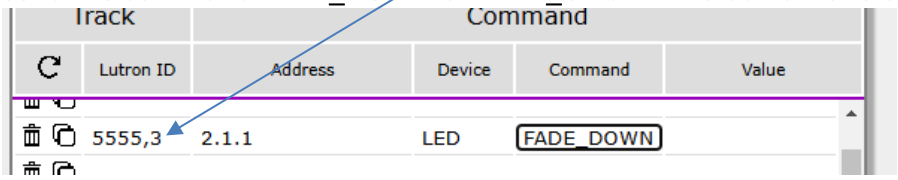
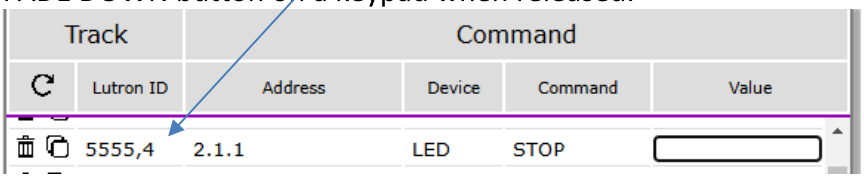
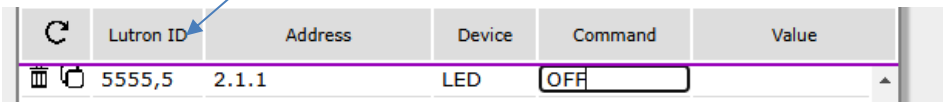
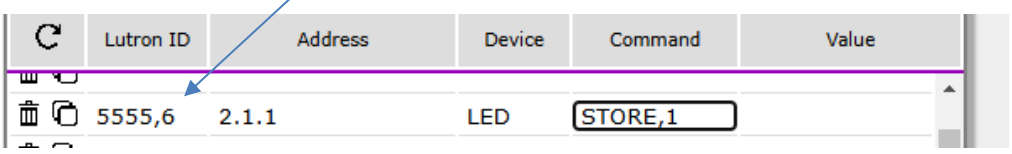
Other Steps within the e-Node 4x00 Web page/Lutron Tab

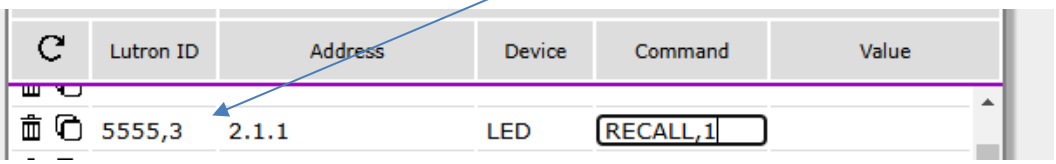
-Use the Leader as the tracking surrogate. Use the **SET** command to enabling tracking (mirroring) data from that Leader device to flow to the applicable **Z**one/**G**roup/**N**ode address (2.1.1) for our devices. Here the Lutron Device ID for the Leader is 9191, and it is being mirrored on our device with ZGN of 2.1.1 with the command **SET**.



Option 2. Lutron buttons on Seetouch, Palladiom, Sunnata and even the 5/10/and 15 buttton Desktop keypad buttons remain a very popular means to control **activated** Ketra and Lumaris devices. In addition, in this case, Lutron occupancy sensor and timeclocks can also be programmed within Designer to trigger activated Ketra and Lumaris devices as well. And as with Option 1, any of those activated Ketra and Lumaris devices can then be used as the LEADER to trigger matching events on connected Converging Systems supported products by using the same logic described in Option 1 by using the SET command to track or follow that activated Ketra or Lumaris object (and connect it to a relevant ZGN object).

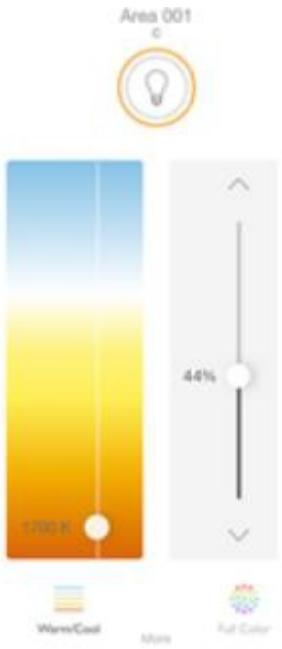
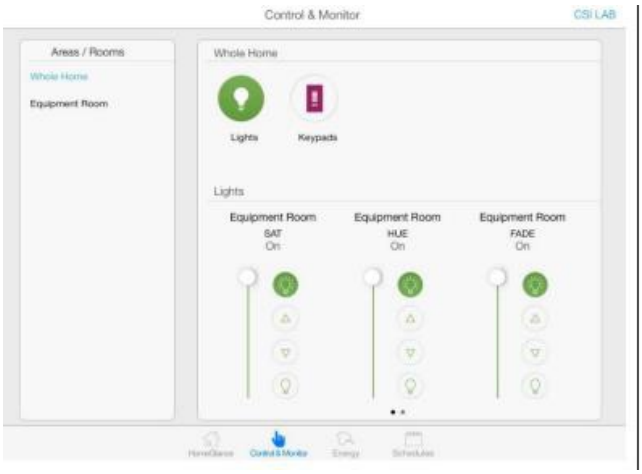
Option 3. Option 3 is a unique case (but related to button press scenarios described in Option 2) but where **there is not a Ketra or Lumaris load** but control of a Converging Systems lighting element is still desired. Where Lutron gives discrete (not duplicated) output from a button operation, we can track that button operation and map it to a custom operation within our product. Therefore, not all button operation currently operate within this Option 3. In those cases, you must follow the steps in Option 2 in order to continue to use those outlier button operation. See the table below for more information:

Button Operation	Notes
Press (yields a "3"internally in our system). If programmed within Designer, a button can emit a Press action which we can monitor.	Here a Lutron keypad button that is pressed ("3") emits a command to go to **H**ue/**S**aturation/**V**alue of 0.240.240 (red)*  Alternative, here a Lutron press ("3") from a Fade Down or Fade UP button will send the command FADE_DOWN or FADE_UP until the button is released. 
Release (yields a "4" internally in our system). If programmed within Designer, a button can emit a Release action which we can monitor.	Here a Lutron release ("4") sends a STOP that is often used for a FADE UP or FADE DOWN button on a keypad when released. 
Double Tap (yields a "5" internally in our system) . If programmed within Designer, a button can emit a Double Tap action which we can monitor.	Here a Lutron double tap ("5" sends an OFF command that is often used in lieu of a toggle button to make the double tap an OFF (while the initial tap might be an ON to discrete HSV or CCT level). 
Extended Hold (yields a "6" internally in our system) If programmed within Designer, a button can emit an Extended Hold	Here a Lutron extended hold ("6") sends a special command (STORE in register #1 in our memory) 

which we can monitor.	Alternatively, in this case, a single button press (#3) of this same button might be be useful to trigger a RECALL of a color state from Register #1. 
Toggle	Toggle only is useful for turning a light off and back on from the state where it originally started before an OFF command was received. In order to use Toggle within Option 3, it is required that an initial state button press is utilized at which point the TOGGLE command will turn it off (and then back on to that same state, etc.) However, if an initial state is not set, TOGGLE will not work. Toggle works perfectly in Option 2 though.
Sequence Logic	Sequence Logic works perfectly with an activated Ketra or Lumaris, but in an environment where there is no activated Ketra or Lumaris, this operation cannot be deciphered by us for there is no discrete data stream present on each subsequent button press. Try to add an activated Ketra or Lumaris and pursue Option 2.

*See this document for reference of colors (page 8).

Option 4. Option 4 is a unique case (which provides alternative functionality to that provided in Option 1) but where **there is not a Ketra or Lumaris load** , but control of a Converging Systems lighting element is still desired. Option 4 continues to operate as a surrogate for the more refined Ketra or Lumaris **U**ser **I**nterface which enjoys a history of over 10 years of support since the first Lutron App came to market (long before Ketra and Lumaris). Here, phantom dimmers can be created which can be assigned to any variable that needs controlling (i.e., Hue, Saturation, Color Temperature are typical) but where an activated Lumaris or Ketra is not possible. See the images below for more information on these basic phantom dimmers can be used to control a full color or full CCT device but where there is not a Ketra or Lumaris load.

More Refined Ketra/Lumaris User Interface	Utilitarian/Legacy User Interface
(only present with 25.1 when **there is an activated** Ketra or Lumaris)	(this has always been present and will continue to operate in the future)
	

Steps within Lutron Designer

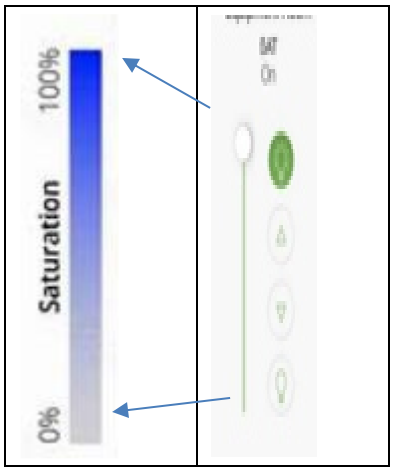
-Within Design Loads, add one or more phantom loads for required controls. For Zone Names, we have listed them as **Hue**, **Saturation** and **Brightness** and **CCT**. Place them in the room of choice.

Loads | HVAC Zones

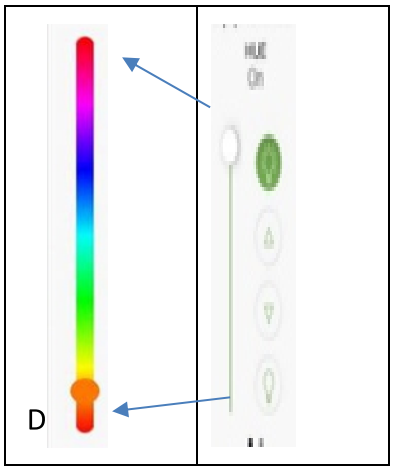
Zone Name	Lighting Layer	Zone Description	Fixture Type	Feed Circuit	Assigned To	Prod
Hue	Ambient	Hue	Undefined		... Output 3	-
Sat	Ambient	Sat	Undefined		... Output 2	-
Brightness	Ambient	Brightness	Undefined		... Output 4	-
CCT	Ambient	CCT	Undefined		... Output 1	-

Note: Since these are traditional phantom loads, they do not have to be activated but their name as assigned above will be helpful in controlling their functionality. These will appear in the Lutron app and although not state-of-the-art, will provide some level of control where a Ketra or Lumaris is not present. See below for the logic on how these sliders will operate

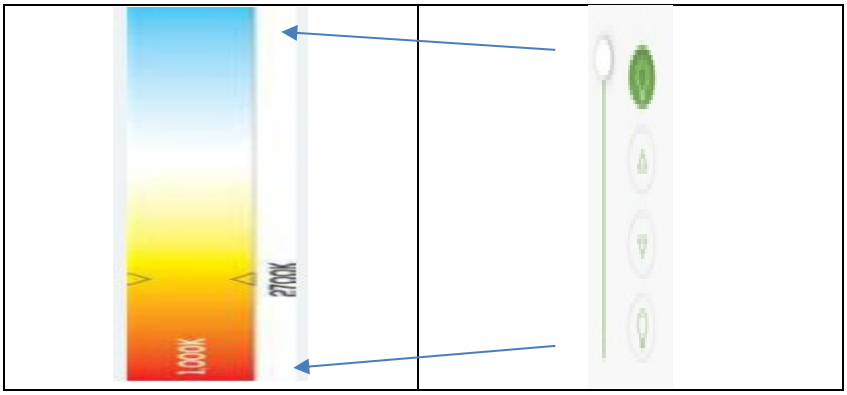
Saturation: When set to the bottom or OFF, the color is fully desaturated or WHITE, when set to the top or 100% the color is full saturated (or without any white component).



Hue: When set to the bottom or RED, and as the slider moves upward the hue shifts around the color wheel. Interestingly, since we are trying to represent a circular color space with a linear slider, Red will appear two times—one at the bottom and another at the top.



CCT (Color Temp): When set to the bottom, the color temperature is typically at the warmest possible with the targeted fixture (i.e., typically 1700K). When set to the top setting, the CCT is typically at the coolest possible with the fixture (7000K or 8000K).



Steps within the e-Node Web page/Lutron Tab

-Determine the Lutron ID for the phantom slider (from either the Integration Report for from our pulldown within the Lutron tab). Enter that Lutron ID (you will recognize it with a "0" in lieu of a "3", "4", "5" or "6" after the ID. The from the pulldown select the ZGN address and select under Command the appropriate operator as shown below. Enter nothing within the Value column.

Settings | Table

Track	Command			
Lutron ID	Address	Device	Command	Value
234,0	2.1.1	LED	HUE	
244,0	2.1.1	LED	SAT	
354,0	2.1.1	LED	SET	
454,0	2.1.1	LED	CCT	

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Settings | Table

Track	Command				
Lutron ID	Address	Device	Command	Value	
23,2,3	2.1.1	LED	RGBW	65.240.0.0	

8: Under the Lutron/Table above, for each desired mapping of a Lutron button push to a resulting DMX action, enter all fields (a) Lutron ID* (DID, button #), and type) (b) ZGN Address or DMX, (c) Device* (type), (d) Command*, and (e) Value (if required for Recalls, Stores, etc.) line by line.

*For these fields, right click and select from available/valid choices. For more information consult the Unity 1 Interfacing with Lutron" guide at https://www.convergingsystems.com/lighting_install_library.php

Section Five: Integration to All Others

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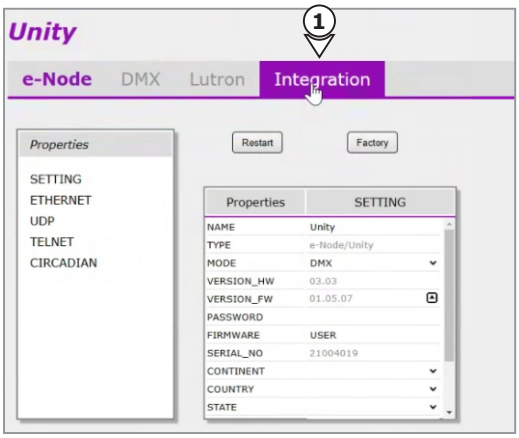

1: Select the Integration Tab and follow instructions to your control systems.

2: Click on the desired Integration Platform and follow instructions.

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