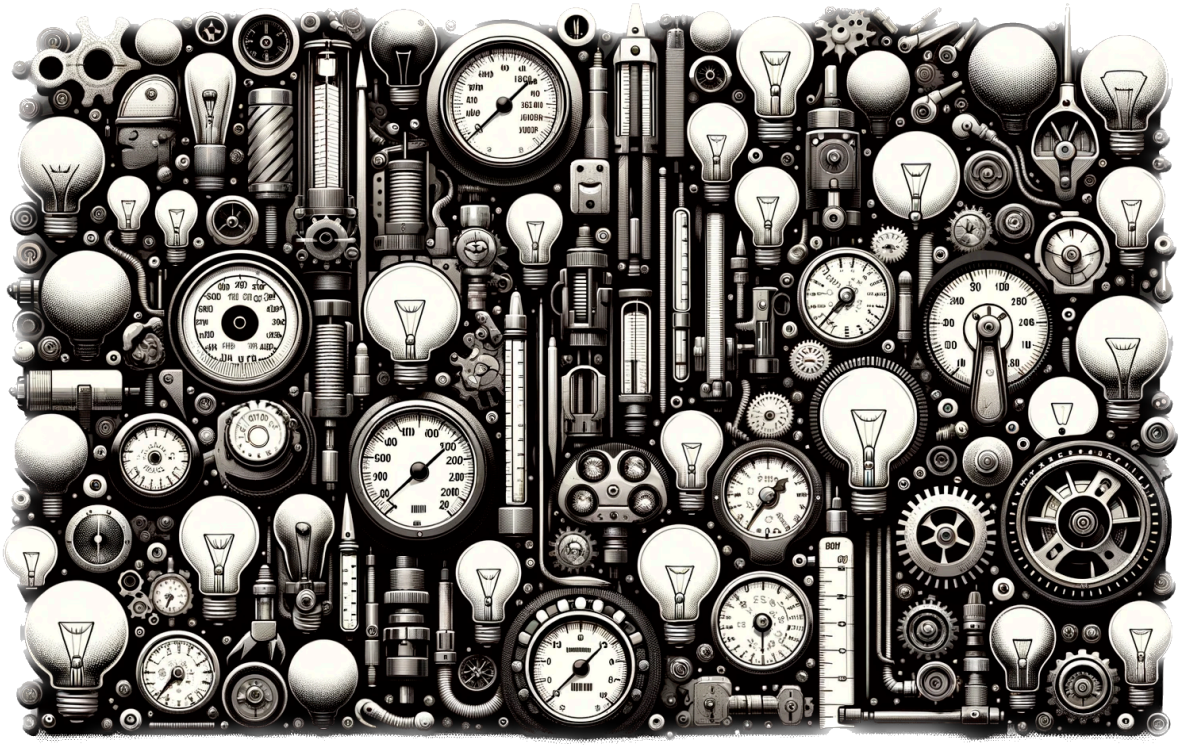
X-PoE Fixture Profiling Guide



ABOUT THIS GUIDE

This guide discusses how X-PoE load auto-discovery functions, as well as how to fine-tune the channel settings for achieving optimal dimming results, ensuring a seamless and efficient lighting control experience. Please review the per-port power specifications as well as the X-PoE classes before continuing.

X-POE AUTO-DISCOVERY

When an X-PoE PD (XPD) or a chain of XPDs is connected to an un-configured X-PoE port, the X-PoE class for that load is automatically determined. This determination is based on the signature resistor or combination of signature resistors present on the XPDs. Settings are then applied to the port that are generic enough to accommodate most fixtures with similar current specifications.

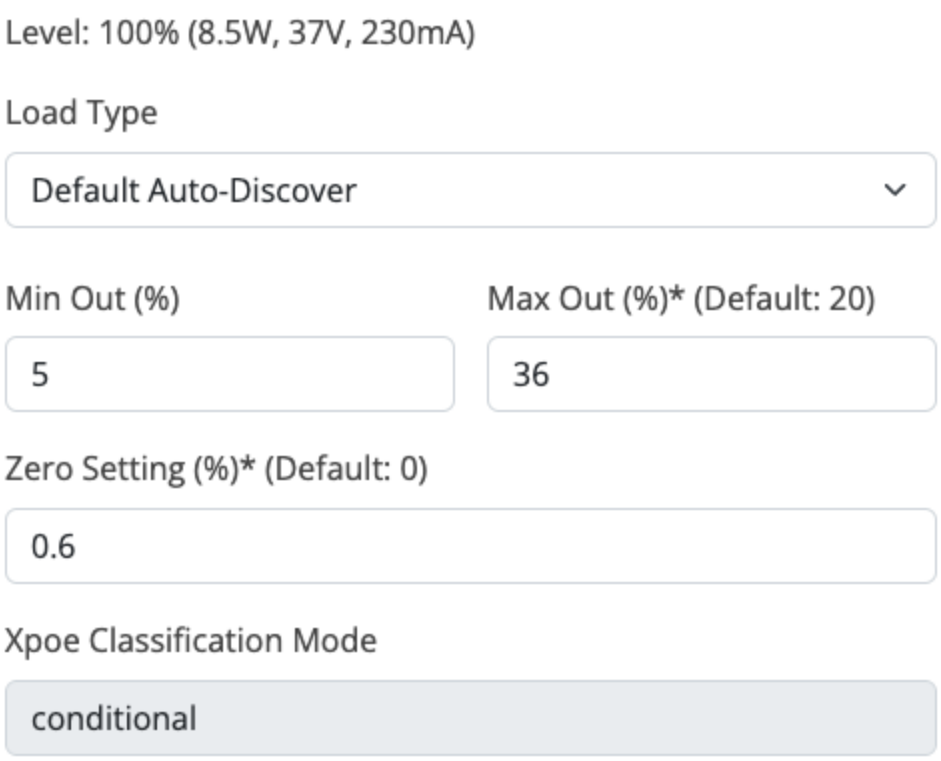
Auto-Discovery Example

- A constant current fixture with current specifications around 900mA would have an XPD that is detected as Class F.
- The following settings are automatically applied to the port:

X-POE CLASS	MAX OUT	MIN OUT	ZERO SETTING
900mA Constant Current	82%	5%	0.6%

Using X-PoE Auto-Discovery

When an X-PoE lighting controller is first powered up, all the load types will be set to "Default Auto-Discover". If the ports are not pre-configured before connecting a load, the settings will be automatically discovered and applied based on the XPDs. Depending on the use-case, this may be all that is needed, and no further load configuration is necessary[1].



WARNING

Any settings applied to a port in "Default Auto-Discover" are not permanently saved and will be lost on reboot (for unlocked configurations).

X-POE FIXTURE PROFILING (AUTOMATIC)

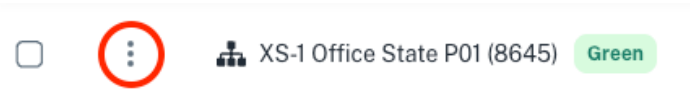
In some cases, a fixture may be able to set to a slightly higher level before reaching its specified current, or may be able to be dimmed lower than the generic X-PoE Class settings. This is called "Fixture Profiling", and it is accomplished by altering the default X-PoE class settings to achieve better performance with specific fixtures.

NOTE

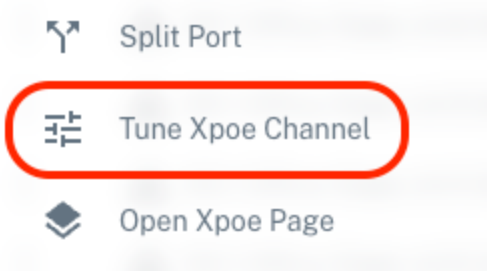
If using constant voltage loads, see the constant voltage loads section below before getting started.

Automatic Fixture Profiling

1. Select the three-dot menu next to the desired X-PoE channel or port.



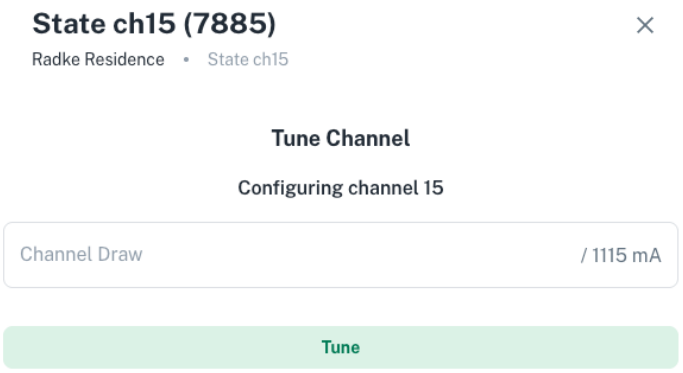
2. Select **"Tune Xpoe Channel"** or **"Tune Xpoe Port"**.



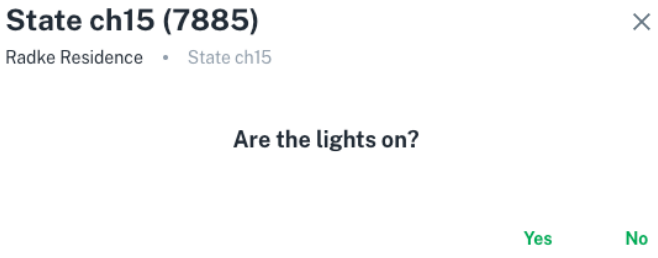
NOTE

If tuning an X-PoE port, you will be prompted to select which channel of the port should be tuned.

3. Enter the expected current draw of the load connected to the X-PoE channel, then click Tune.



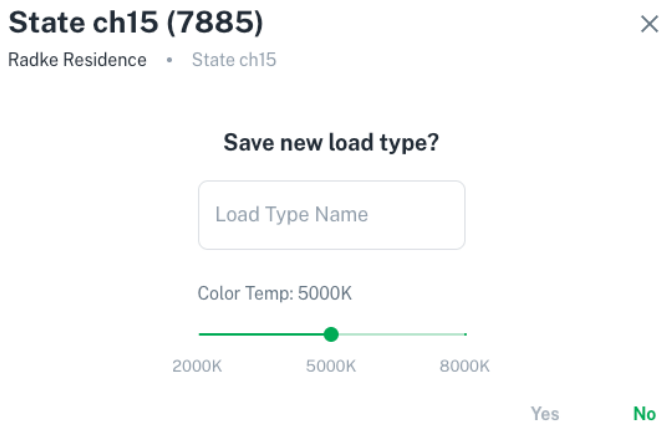
4. Follow the on-screen prompts and confirm whether the load appears on or off when prompted.



NOTE

For best results, perform fixture tuning with minimal ambient light. Some fixtures may appear off when they are actually operating at a very low brightness level, so observe the load carefully.

5. If desired, save the tuned settings as a new load type so they can be applied to similar loads elsewhere in the system.



Once the process is complete, the channel will be configured with the optimized load settings determined during tuning.

X-POE FIXTURE PROFILING (MANUAL)

This section explains how to manually perform fixture profiling on an X-PoE channel. Manual fixture profiling allows you to fine-tune the output characteristics (such as maximum and minimum output levels) for specific fixtures beyond the default settings. Follow these steps to achieve optimal dimming and performance tailored to your fixture's requirements.

Initial Class Setting

In the channel configuration settings, select a default load type that most closely matches the settings for your fixture. In some cases, this may be auto-discovered.

Tuning the Max Out

1. Start with the max out setting from the default X-PoE Class.



2. Set the channel level to 100% and confirm the light engine is active.

3. While monitoring the channel's power data, gradually increase the max out setting by increments of 1% and select "Apply". Repeat until the current draw and voltage output of the channel match the specifications of the light engine.

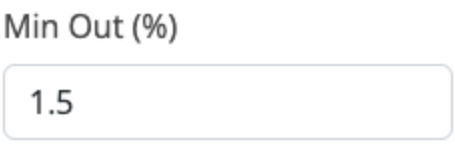


NOTE

- Manufacturer specifications rarely show the forward voltage and current draw of the light engine. This often needs to be requested from the manufacturer.
- Fixtures that require 48V will likely require an input voltage higher than 48V to the X-PoE lighting controller in order to provide 48V to the fixture.

Tuning the Min Out

1. Start with the default min out setting of 1.5%.



2. Set the channel level to 0.1%, select "Apply" and confirm the light is still being emitted from the fixture.

3. While monitoring the connected light engine, gradually decrease the min out setting by increments of 0.1% until the light engine is completely off.

4. Revert the min out setting to the last value where the light engine was still active.

5. Set the zero setting to 0.1% less than the min out. Example: if the min out from the previous step is 0.6%, set the zero setting to 0.5%.



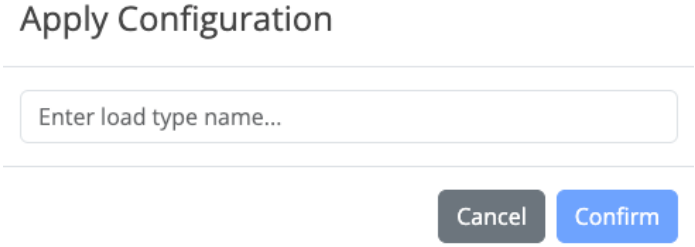
6. Validate the process by setting the channel to 100%, then back to 0.1% and confirming the light engine is still active.

Creating a New Load Type

1. Select "Save as New Load".



2. Give the new load type a name, and select "Confirm".



The new load type has now been saved and can be applied to other channels. For more information on custom load types, see Custom Loads in the X-PoE Install Guide.

Validating the New Load Settings

1. Set the channel to 100% and confirm the channel is not supplying more current or wattage than the fixture specifies. If the fixture is drawing too much or too little power, adjust the max out setting.
2. Set the channel to 0.1% and confirm the fixture is still emitting light. If the fixture is emitting too much light or no light at all, adjust the min out settings.
3. Set the channel to 0% and confirm the fixture is no longer emitting light. If the fixture is still emitting light at 0%, adjust the zero setting.

ADVANCED CONFIGURATION

Tuning the Zero Setting

This process is only necessary if the load does not turn off at 0%.

1. In the channel configuration settings, set the zero setting 0.1% less than the current zero setting.



2. Save the load type with the updated zero setting by selecting "Update and apply".



3. Set the channel level to 0.1% and confirm the light engine is active.
4. Set the channel level to 0%. If the light engine is still active, repeat this process.

Multiple Fixtures-Per-Port

When accommodating multiple fixtures on an X-PoE channel, it's important to note that the settings are not linear. Adjustments to the load type tuning are necessary for each change in fixture quantity on the channel.

> **NOTE**
> The input voltage of the lighting controller may also affect the fixture profile settings.

Constant Voltage Loads

When using constant voltage loads, if the input voltage of the lighting controller equals the forward voltage of the load, the max out will always be set to 100% regardless of quantity of fixtures or length of LED strip. If the constant voltage load has a forward voltage less than the input voltage of the lighting

controller, the max out will need to be calibrated using the method above. Additionally, the max out for constant voltage loads with a forward voltage less than the input voltage of the lighting controller will need to be tuned for each change in fixture quantity/strip length on the channel.

[1] When relying on the default X-PoE Class settings, the fixture might not achieve its maximum brightness potential and could potentially shut off before reaching the minimum dimness level.

RELATED INFORMATION

Technical Support

Questions about this guide can be sent to support@luum.io.

Document Feedback

While we have taken great care to ensure the accuracy and completeness of this document, we welcome your feedback and suggestions. If you notice any errors or omissions, or feel a topic could benefit from further explanation, please email your feedback to support@luum.io.

Revision History

Date	Revision	Notes
11/3/2026	A	Converted to the current guide format.

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