

Igor® PoE Emergency Lighting Setup and Configuration Guide

Purpose

This guide explains the hardware setup, software configuration, administration and operation of the emergency lighting for the Igor PoE solution. This document is provided for informational purposes and is not intended to be a warranty or specification. It is intended to supplement the instructions for a typical installation.

Users of this guide should be familiar with the Igor platform, including hardware installation, commissioning and administration as described in the following Igor documents: *ID-0210 Igor PoE Lighting Quick Start Installation Guide* and *ID-0220 Igor Gateway Software Quick Start User Guide*.

Definitions

You should be familiar with the following terms:

Backup Power: emergency electrical power source

Device: sensors, dimmers, wall controls

Emergency Event: primary electrical power source failure

Fixture: LED light fixture

Primary Power: non-emergency electrical power

PSE: PoE Power Supply Equipment

Uninterruptible Power Supply/Source (UPS): electrical device that provides emergency power to a load when the primary power source fails

IMPORTANT SAFEGUARDS

When using electrical equipment, basic safety precautions should always be followed, including the following:

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

- Do not use outdoors.
- Do not let power supply cords touch hot surfaces.
- Do not mount near gas or electric heaters.
- Do not use this equipment for other than its intended use.

SAVE THESE INSTRUCTIONS

Task Overview

This guide describes the following tasks:

1. For the emergency lighting solution to be operational, install the Igor network and emergency lighting physical infrastructure.
2. Use the Igor Gateway Software Admin application to commission locations and fixtures.
3. Configure the Emergency Lighting within the Igor Gateway Software Admin application.
Note: Once configured, the network will self-monitor for an emergency event. If an emergency event is detected, backup power will be directed to power specified fixtures that are designated as emergency lights within the Igor Gateway Software Admin application.

Assumptions

- Igor PoE Lighting equipment has been completely installed, including LED fixtures, Igor nodes, PoE PSE equipment and the Igor Gateway Appliance.
- The PoE lighting network has been configured and network communication has been established between the Igor Gateway software and the nodes.
- The uninterruptible power supply complies with local jurisdiction requirements for emergency power. (See UPS Sizing Recommendations, page 4.)
Important: UPS battery back-up is required on PoE Power Supply Equipment (PSE) that is to provide PoE power to the designated emergency nodes. Emergency timeout is set to five (5) seconds; and the light level will be dimmed to the designated emergency dim level (for example, 100% on).

Igor PoE Emergency Lighting Test Setup

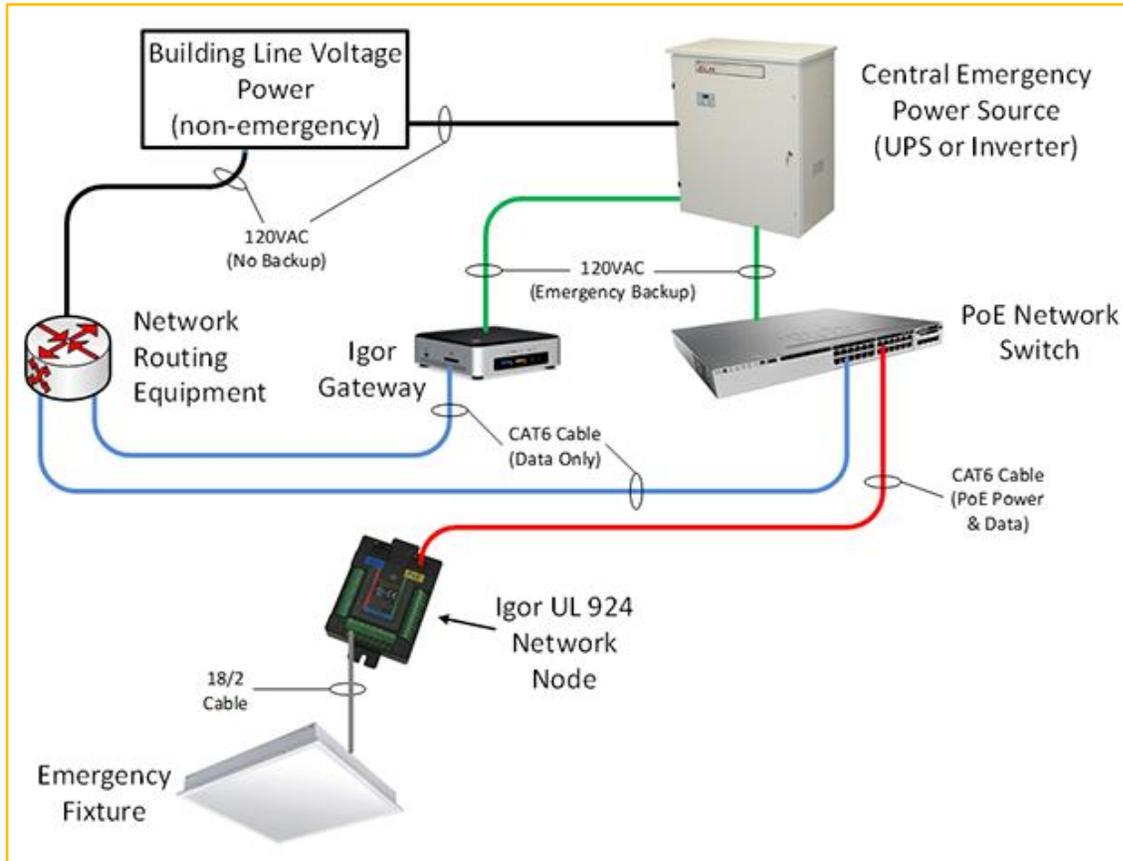


Fig. 1 – Emergency Lighting Test Setup Diagram

Theory of Operation

Igor Gateway software emits “Expected Data” approximately every two (2) seconds to designated emergency nodes. When building power is lost, network routing equipment will go offline, thus interrupting the “Expected Data” to designated emergency nodes. Within 5 seconds of not receiving the “Expected Data,” the emergency nodes will turn on connected LED fixtures at a 20% (adj) dimming level.

Hardware Components

- Igor Gateway Appliance
- PSE
- UPS
- Igor PoE Lighting Node(s)
- LED Fixture(s)
- CAT5e Patch Cables

UPS Sizing Recommendations

There are many UPS sizing tools available online from various manufacturers. In selecting the correct UPS for your Igor PoE emergency lighting system, these values are required:

- Total PoE emergency lighting load (Watts)
- PoE emergency mode lighting dimming level (for example, 100% on)
- Required UPS runtime (UL 924 requires minimum 90 minutes in USA)

UPS Compliance

- UPS may be a single piece of equipment, or a system comprised of multiple technologies (battery, generator, fuel cell)
- Local jurisdiction dictates UPS regulatory compliance requirements. For example, field inspection may require UPS system complies with UL 924 requirements, or it may require each piece of individual UPS equipment is UL 924 listed.

PoE Node Emergency Configuration

Configuring Igor nodes for emergency lighting scenarios includes the following:

- Using the Igor Gateway software to designate emergency lights
- Testing the emergency lighting setup

Important:

- Igor PoE lighting nodes can come pre-installed in LED fixtures from the manufacturer or can be used to retrofit existing line voltage LED fixtures.
- Only retrofit LED fixtures with Igor node compatible forward voltage range of 12-48VDC (Class 2) and maximum current value of 1750mA or less. To connect a light to a node, refer to the following Igor Document: *ID-2250 Igor PoE LED Driver Retrofit Installations Instructions*.
- Consult with Igor for list of verified fixtures or with LED fixture manufacturer to verify LED voltage and current requirements.

After the Igor platform components and emergency lighting hardware have been installed, commission the zones and fixtures; and then designate emergency lights. For more details, please refer to the following Igor document: *ID-0320 Igor Gateway Software Advanced User Guide*.

Igor Gateway Software Emergency Lighting Configuration

This section covers the configuration steps for an Igor PoE emergency lighting system.

Lighting Stages

Stage 1: When the node powers up, start-up mode sets all lights to low level (safety level).

Stage 2: If any node, standalone or daisy-chain, contains a designated emergency light, all lights on the node and daisy-chain, if applicable, will go to their emergency dim level.

Stage 3: If it is not an emergency light, it stays on the safety level up to two (2) minutes.

- If the node cannot communicate to the Gateway, it goes in to offline mode.
- If it can communicate to the Gateway, it goes to the light level set on the Gateway.

Identify and Designate Lights as Emergency Lights

1. Access the Gateway Software Admin application.
2. From the left navigation **Spaces** category, click the Space that contains the light you want to designate as an emergency light.
3. Click the **Manage Devices** button to display the Manage Devices screen (Fig. 3 example below).

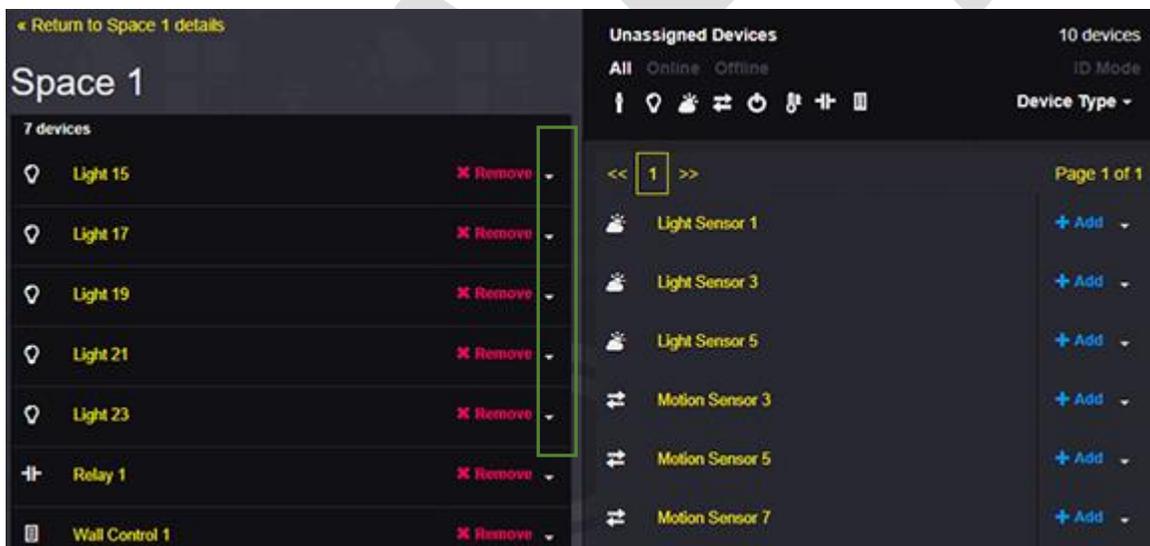


Fig. 3 - Spaces > Manage Devices screen

4. In the left *Devices* pane, for the light you want to designate as an emergency light, click the drop-down arrow to the right of the **Remove** button.
5. From the drop-down menu (Fig. 3), click the **Enable Emergency Lighting** option.

Note: The designated light(s) will then show a small "E" to the right of the light icon in device listings. When you designate a light as an emergency light that is part of a chain, all lights on that chain will be designated as emergency lights. If the light/chain is already designated as an emergency light, the drop-down will display "Disable Emergency Lighting."

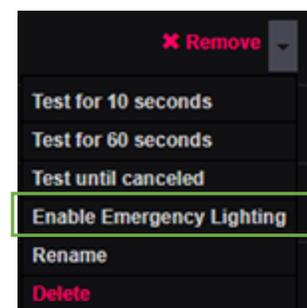


Fig. 2 - Devices > Light drop-down menu > Enable Emergency Lighting option

6. Repeat for each light and Space that contains lights you want to designate for emergency lighting.

Solution Operation

Once you have completed the configuration process, the Igor Intelligent Lighting Network emergency lighting solution will be enabled and operable. When an emergency event is detected, the designated emergency light fixtures will continue to receive power from the backup power source and operate at the emergency dimming level.

Igor PoE Emergency Lighting Test Plan

1. Set up the system per previous instructions.
2. Verify the Igor Gateway software has communication and control of LED fixtures by turning light(s) On/Off and adjusting dimming level.
3. Using the Igor Gateway Software Admin application, turn off the Space in which the LED fixture is controlled.
4. Turn off power to the routing equipment and UPS to simulate a building power outage.
5. Verify that within 10 seconds of turning off power, the LED fixture turns On at the emergency dimming level.
6. Verify that the LED fixture stays On for at least 90 minutes.
7. Turn power back on to routing equipment and UPS
8. Verify that Igor Gateway software regains controls of LED fixture within five (5) minutes.

Gateway Software Test Options

Test options are only available for lights and will cause them to blink for a short period of time to assist in identifying specific LED fixtures.

To the far right of the designated emergency light, click the light's drop-down arrow, and select one of the Test options.

After Power Returns

Non-emergency lights will go back to the dim level of the Space to which they are assigned. Emergency lights will wait until the dim level changes in the Space to which they are assigned.

Disable Emergency Light Designation

To disable the emergency light designation, in Spaces > Manage Lights, in the *Devices* pane, to the far right of the designated light, click the light's drop-down arrow; and then click the **Disable emergency lighting** option.

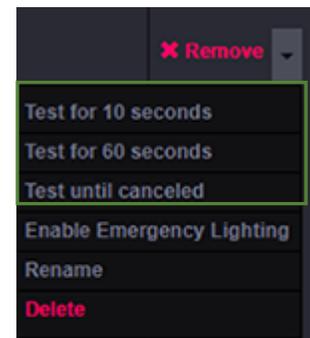


Fig. 4 - Devices > light drop-down menu > Test light options

Additional Resources

Refer to the following Igor resources for more information:

- ID-0210 Igor PoE Lighting Quick Start Installation Guide
- ID-0320 Igor Gateway Software Advanced User Guide
- ID-2250 Igor PoE LED Driver Retrofit Installations Instructions
- ID-3121 Igor Network Communication Port Requirements

If you have any questions, please contact Igor Support Services:

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