LEADING THE FUTURE OF
LIGHTING + TECHNOLOGY

Date: _____ Location: _____

Type: _____ Project: _____

Project: _____

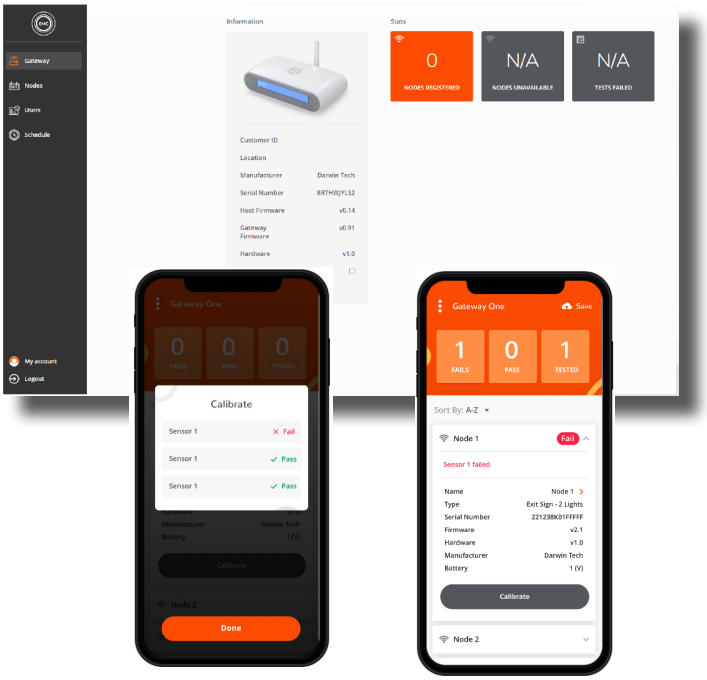
Emergency Light Test (ELT) System

Retrofit system for wireless automation of emergency lighting testing using Bluetooth™ mesh network or Sub-GHz framework

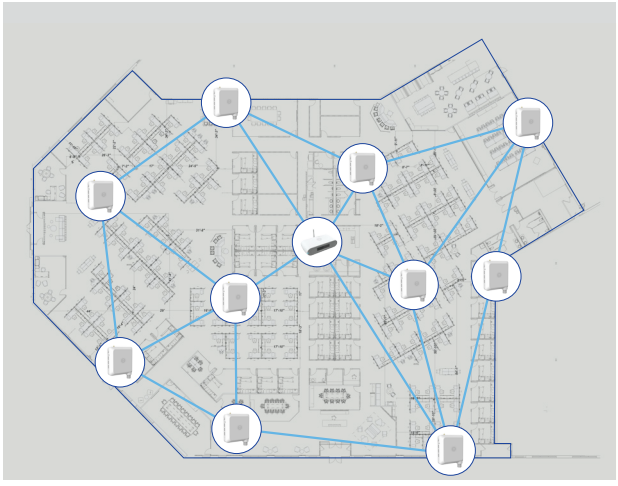
System Features

- System easily retrofits onto new and existing emergency lighting systems to provide automated, wireless testing to NFPA 101 standards (30-seconds monthly, 90-minutes annually)
- Digital testing records and maintenance reports
- Node installs into trade-standard ½" knockout on fixture or adjacent junction box to accommodate a wide variety of emergency lighting styles
- Two wireless frequency options to suit your environment:
  - Qualified Bluetooth™ mesh product – low interference, high reliability (2.4 GHz)
  - Sub-GHz (900 MHz) - non-mesh, longer point-to-point range; sub-gateway capable for scalability

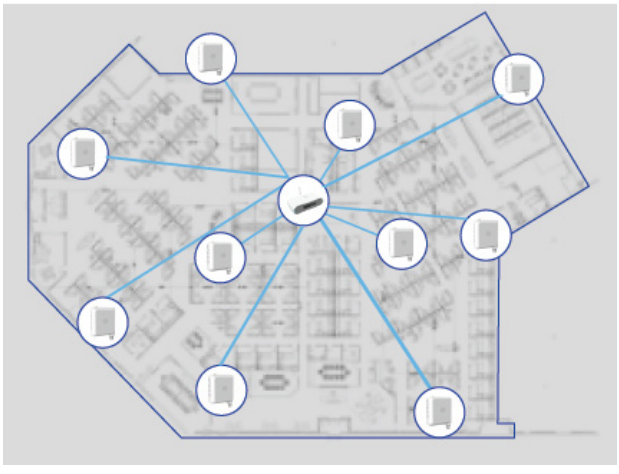
  *Systems can be mixed on-site, but require a gateway for each and operate independently
- Scalable from basic on-premises to cloud-hosted enterprise-grade solution
- Configurable test scheduling, customizable notifications and optional CMMS integration
- Free smart phone app for system commissioning, maintenance and operation – Android and iOS support
- The ELT system is not suitable for centrally-powered emergency lighting systems and is intended for indoor use only.



System Architecture



True many-to-many Bluetooth mesh architecture.



Sub-GHz (900 MHz) - non-mesh, longer point-to-point range.

Gateway

Gateway

The ELT gateway manages scheduled tests, stores system data and provides connectivity between local mesh and cloud or other remote access. Minimum of one gateway required per installation. 200 nodes per gateway maximum. Larger installations may require additional gateways.

Mechanical

- Weight: 8 ozs
- Temperature range: 0-40 C / 32-104 F
- Humidity: 0-85%
- Mounting: Multi-directional keyhole slots on bottom

Hardware

- Power button
- Status LED
- 16-character LED display
- Reset pinhole button
- Restore pinhole button
- SMA male antenna connector (antenna included)
- Cortex ARM processor and full Linux stack
- 4GB flash memory

Electrical

- 5VDC @ 1A (120VAC wall adapter included)

Connectivity

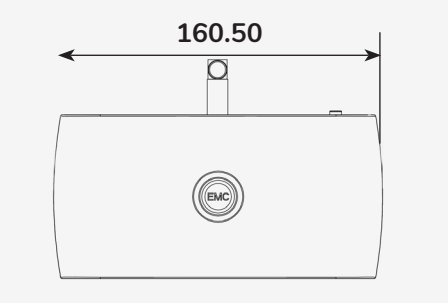
- 10/100 Ethernet RJ45 port (6' CAT-5 cable included)

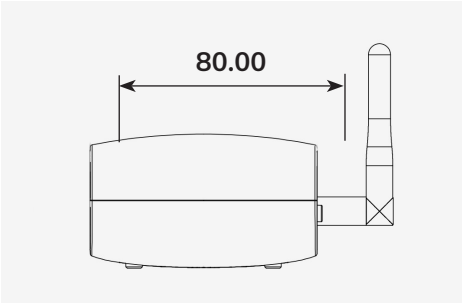
Security

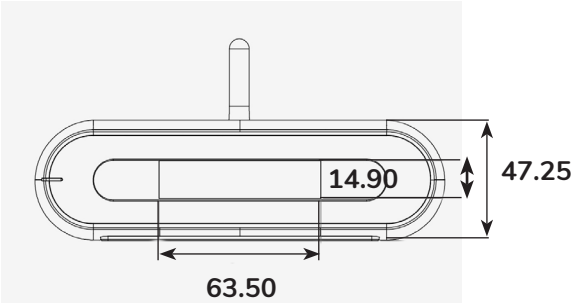
- MQTT with TLS 1.2 encryption
- Amazon root CA
- Password protection via SHA256 within PPBRDF2

Certifications

- UL 924
- FCC Part 15B + Part 15C







Node

Node

The ELT node installs onto nearly any existing emergency light fixtures and tests battery and light health by toggling power to the fixture. It easily installs into any ½" knockout on the fixture or adjacent junction box. The node can monitor emergency batteries up to 32VDC, and supports up to four ELT light sensors or three light sensors and one dock (antenna + LED extender). Can also act as a mesh extender with no sensors.

Mechanical

- Weight: 8 ozs
- Temperature range: 0-40 C / 32-104 F
- Humidity: 0-85%
- Mounting: Trade size ½" knockout (lock-nut included)

Electrical

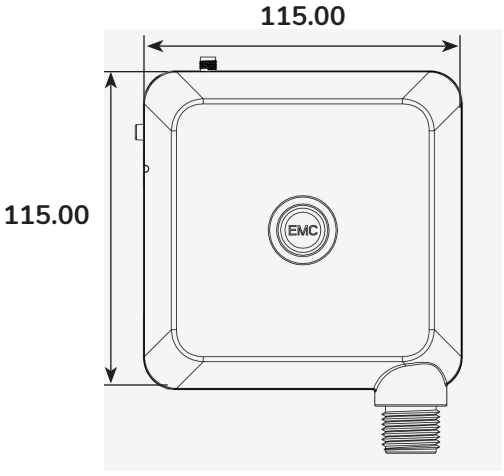
- 120-277VAC (85-277), 50-60 Hz

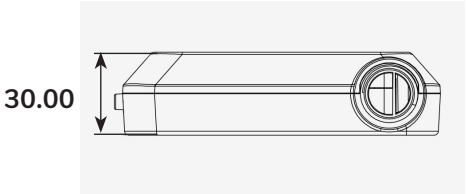
Hardware

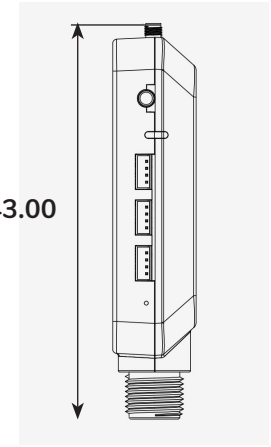
- 4x I2C sensor ports (1 through nipple)
- 0-32VDC emergency fixture battery monitoring port (cable + clips included)
- Status LED
- Reset button
- Restore pinhole button
- SMA male antenna connector (antenna included)
- Heavy-duty 15A AC Relay

Certifications

- UL 924
- FCC Part 158 + Part 15C







Dock + Sensor

Dock

The ELT dock is an optional accessory to extend the node's antenna and status LED in cases of recessed Node installation.

Mechanical

- Weight: 0.8 ozs
- Mounting: Double-sided VHB adhesive (included) or two screws (included)

Electrical

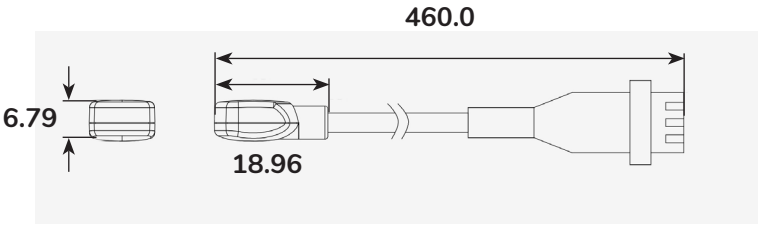
- Utilizes one I2C port and SMA antenna connector on node (cables included; antenna included with node to be installed on dock during installation)

Sensor

The ELT light sensor is a digital light sensor with an 18" positionable cable and I2C male connector. Light sensors are mounted near each light source on an emergency fixture and connected to the installed node (see installation instructions). Light sensors are calibrated during the mesh provisioning process.

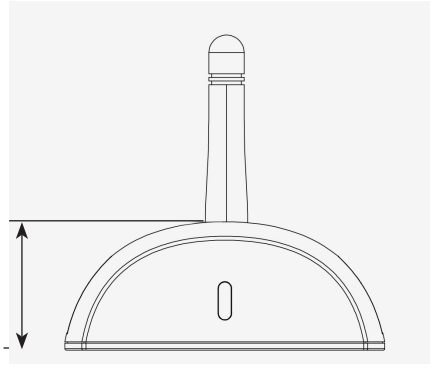
Mechanical

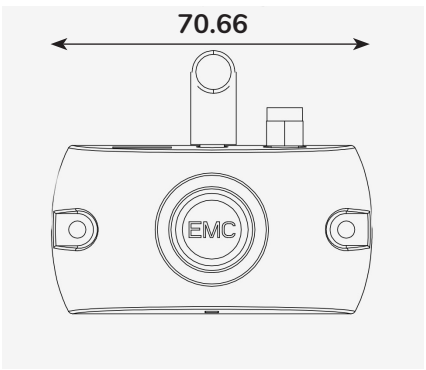
- Weight: 0.3 ozs
- Mounting: Positionable wire, VHB cable-mounts and cable ties (included)

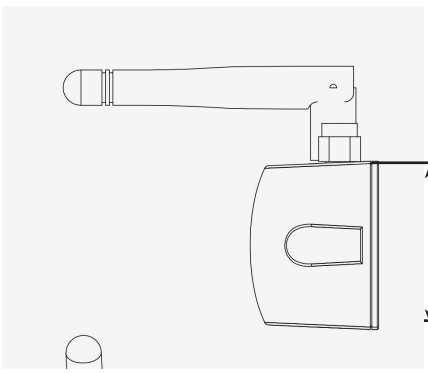


Electrical

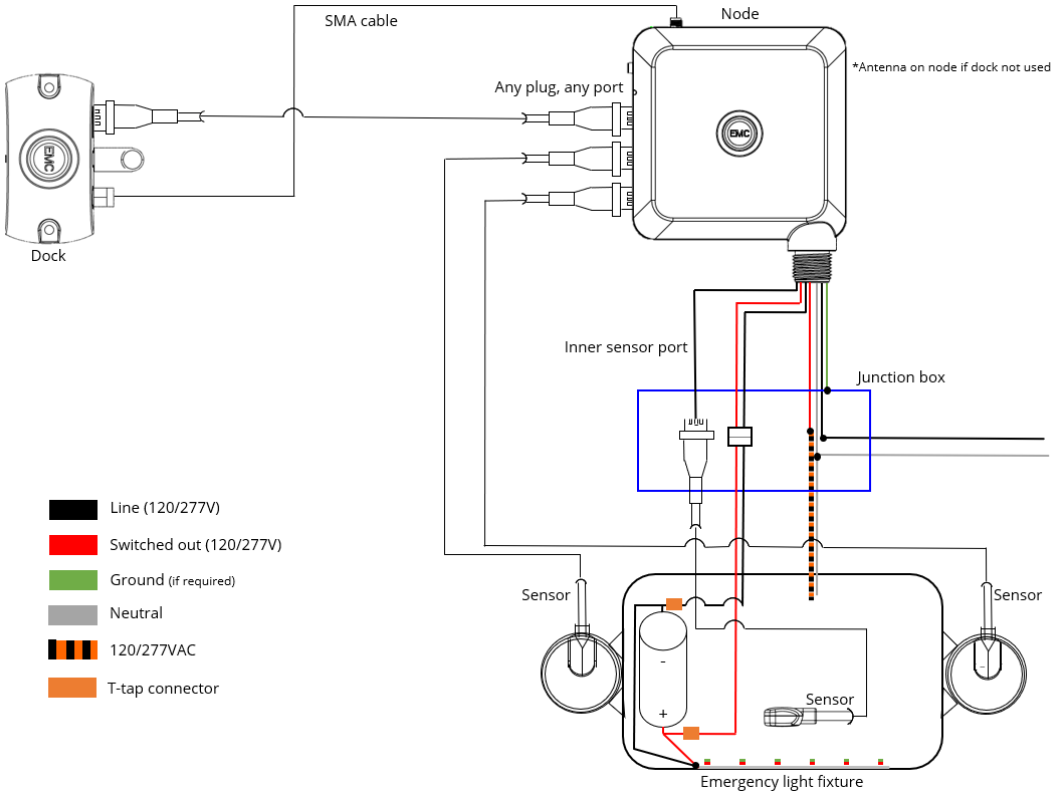
- 4-pin I2C male connector – powered by node







Wiring Diagram



LED Status

Status	Color	Condition
Solid	Green	System good, all nodes connected
Solid	Blue	Test in progress
Flashing	Green	Not connected to mesh
Flashing	Red	Last test failed
Alternating	Red/ Green	Node is in process of registering with the gateway
Alternating	Blue/ Green	Node's mesh network configured and node is connected to gateway
Flashing	Blue	Node not configured
Solid	Red	Hardware fault

Service Tiers

Tier	Description
Local Basic	Simple NFPA 101 compliance tool. No internet connection required. Great for simple, single deployments.
Remote Basic	Add an outbound internet connection to Local Basic, and gain the benefits of remote access to gateways and test data. Suitable for smaller deployments and systems.
Enterprise	Our full-featured cloud suite of tools for ongoing management of large enterprise deployements. Scalable to thousands of locations. Fees may apply.