

Project		Catalog #		Type	
Prepared by		Notes		Date	



WaveLinx

Wireless Area Controller

Coordinates between the WaveLinx smart and connected Mobile App and various WaveLinx devices

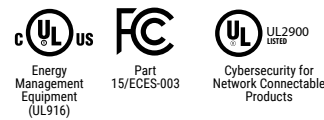
Typical Applications

Office • Education • Healthcare • Hospitality • Retail
Industrial • Manufacturing

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Product Certification



- Complies with the following electromagnetic requirements:
EN 61000-4-2
EN 61000-4-4
EN 61000-4-5

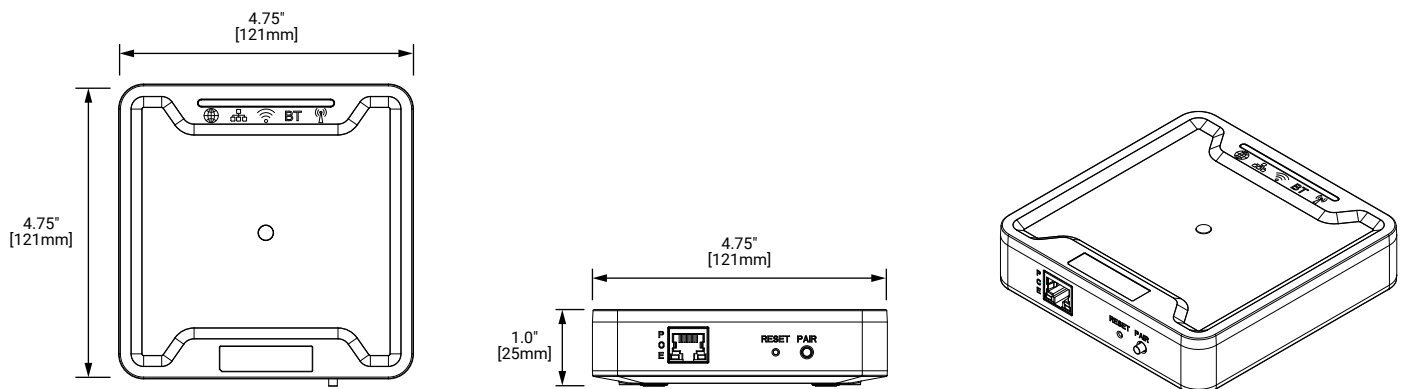
Product Features



Top Product Features

- Central to the WaveLinx Connected Lighting system
- Patent pending automatic code commissioning features
- Coordinates between various WaveLinx smart devices and Mobile App
- Connect up to 150 devices for 16 areas (15 user defined + 1 construction area)
- Drag and drop programming of lighting zones and areas via Mobile App
- Connects to building LAN for access to BMS and OpenADR interfaces

Dimensional Details



Order Information

All WaveLinx Connected Lighting (WCL) system accessories require at least one Wireless Area Controller (WAC) for communications. Ensure the bill of material includes one of the following components.

Catalog Number

Catalog Number	Description
WAC-POE	Wireless Area Controller, POE powered

Optional Accessories

For connection to 120VAC outlets.

Catalog Number

Catalog Number	Description
WPOE-120	120VAC to PoE Injector

Product Specifications

Key Features

- Easily installed on or above ceilings (plenum rated), walls, shelves, racks, or DIN rail
- Powered via Power over Ethernet (PoE - IEEE 802.3af)
- Controls up to 150 WaveLinx devices (light fixtures, relay switchpacks, wallstations, sensors, etc.)
- Supports 15 user-defined and one construction area with multiple lighting zones, occupancy sets, and daylight sets per area
- Drag and drop programming of lighting zones and areas via WaveLinx Mobile App
- Connects to building LAN for access to BMS and OpenADR interfaces

Mechanical

Size: 4.75" W x 4.75" H x 1" D (121mm x 121mm x 25mm)

Weight: 4.06 oz (115 g) wireless manager

1.41 oz (40 g) ceiling mounting kit

Environment:

- **Operating temperature:** 32°F to 104°F (0°C to 40°C)
- **Storage temperature:** 32° F to 104° F (0° C to 40° C)
- **Relative humidity operating:** 10% to 90% RH (non-condensing)
- For indoor use only

Mounting: Ceiling, wall or din rail mount options

Color: Gray

Electrical

Input Connections:

- POE 1-/100BaseTx Cat. 5 RJ45 port
- PAIR button allows devices to join the network

Max Electrical Input:

- PoE (IEEE802.3af) 0.35A - 48VDC
- PoE injector 0.43A - 120/240VAC

Hardware Specifications

Status Indicators:

- Status LED on front of unit
- LAN connectivity LED
- WAN connectivity LED
- Wi-Fi connectivity LED
- Bluetooth connectivity LED
- IEEE 802.15.4 connectivity LED
- Blue LED on unit top for power indication

Software Specifications

Programming:

- Settings and Configuration stored in non-volatile flash memory
- Up to 150 total WCL devices (for best performance, connect up to 100 devices)
- 15 user defined areas + 1 construction area
- Up to 16 scenes per area
- Up to 16 zones per area
- Up to 6 occupancy sets per area
- Individual luminaire daylight sets (when using integrated sensors)

Wireless Specifications

Radio: 2.4GHz

Standard: IEEE 802.15.4

Transmitter Power: +17dBm

Range: 150ft (50m) LOS through 2 standard construction walls (best practice)

Note - for outdoor range, see outdoor sensor spec sheets

System Performance

Maximum number of Devices: 150 per Wireless Area Controller (best practice 100 devices)

Standards/Ratings

- cULus Listed - Energy Management Equipment (UL916)
- FCC Part 15/ECES-003
- UL Certified - Cybersecurity for Network-Connectable Products (UL 2900)
- Complies with the following electromagnetic requirements:
 - EN 61000-4-2
 - EN 61000-4-4
 - EN 61000-4-5

Security:

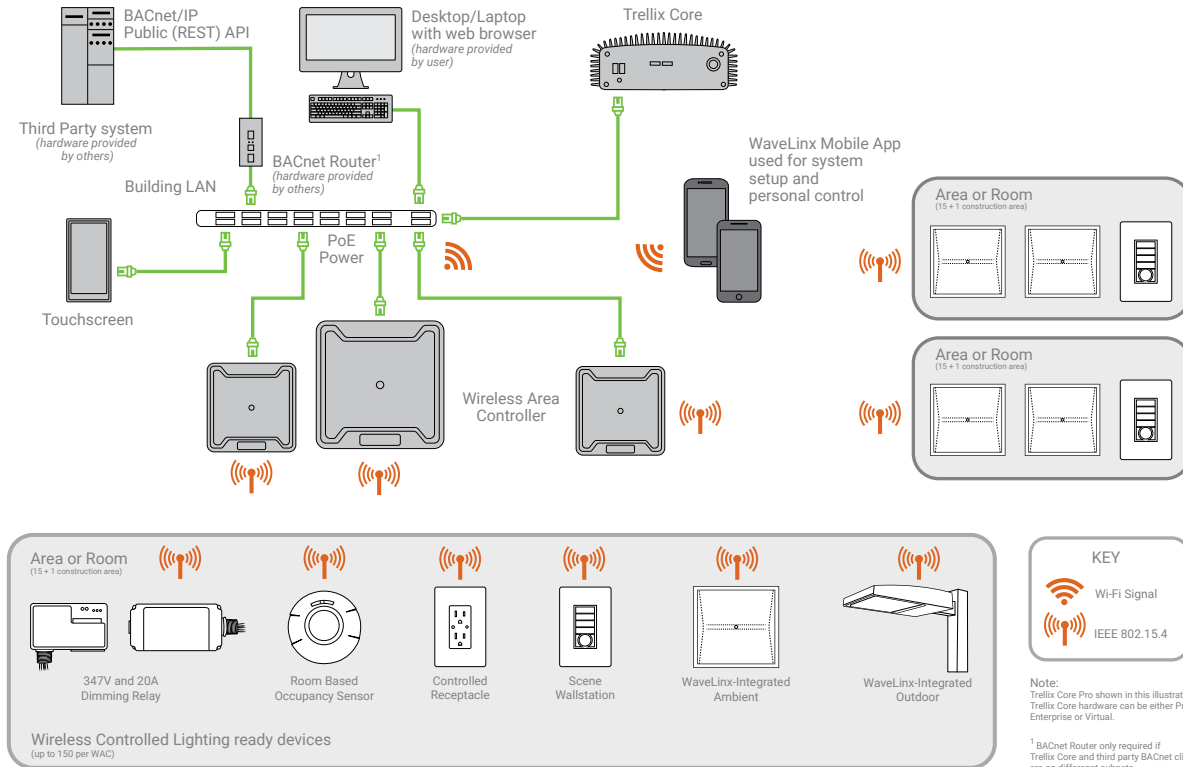
- AES 128-bit encryption for wireless communication

Warranty

Five year warranty standard

System Architecture

This diagram shows the main components of the WaveLinx Connected Lighting (WCL) system. The WCL system communicates using wireless mesh technology based on the 802.15.4 standard. A POE LAN connection for each Wireless Area Controller (WAC) is required for power and data access to the building wireless network. System setup is achieved through a simple mobile application via wireless communication to the system.



Overview

The Wireless Area Controller (WAC) is the main component of the WaveLinx Wireless Controlled Lighting (WCL) system. WaveLinx eliminates the cost and complexity of typical wireless control system commissioning while providing a flexible and reconfigurable topology for on the fly space adjustments. The WaveLinx system meets modern code and utility requirements, delivers energy and cost savings, while enabling buildings to become smart buildings.

The WAC coordinates between the WaveLinx smart and connected Mobile App and various WaveLinx devices to create communications and a building ecosystem that provides out-of-the-box functionality and leverages Eaton's patent pending automatic code commissioning features. Using standard-based wireless mesh compliant topology the WAC communicates to various WaveLinx standard-based devices to provide area, lighting zone configuration, monitoring, and control.

The WAC provides centralized coordination of multiple areas for partial ON/partial OFF scheduling, demand response, lighting, occupancy and daylight settings and scene control. A single WAC can be connected to the building Local Area Network (LAN) to coordinate 15 user-defined and one construction area, or multiple WAC's can exist on a building LAN to scale the system to hundreds of areas all accessible for setup, configuration and control through the WaveLinx Mobile App.

PAIR Button Functionality

Using the PAIR button on the Wireless Area Controller allows the addition or removal of wireless devices to the WaveLinx system, reset building network login information and restore factory defaults.

	PAIR button press	Device outcome	WAC LED feedback
Enter Construction Group	1 press	1 press Dim to 10%	802.15.4 LED blinks
Leave Construction Group	1 press (after enter Construction group)	Raise to 75%	802.15.4 LED ON
Remove Devices Default Area	Press and hold for 4 seconds	Devices in default area leave WaveLinx network	
Reset administrator and Wi-Fi UN/PW	Press and hold for 20 seconds		Wi-Fi LED fast blink
Factory Defaults	Power cycle WAC Press and hold for 30 seconds	All devices and programming cleared from WAC	All LEDs fast blink for 1 minute

Control Systems

- Trellix

Better Data. Better Decisions.

Trellix combined with our WaveLinx Connected Lighting System is a distributed network of LED lighting fixtures with integrated sensing and beacon technology that captures real-time data; making your facility smarter so you can make smarter decisions.

Trellix provides an open IoT platform and infrastructure that connects intelligent sensors leveraging the real-estate of the physical light fixture to solve higher complexity problems in a commercial building to deliver actionable insights through the aggregation of valuable data.

