

Project		Catalog #		Type	
Prepared by		Notes		Date	



WaveLinx

WaveLinx Area Controller, 2nd Gen (WAC2)

Controls and manages communications between WaveLinx PRO wireless, Low-Voltage, network devices and the intuitive mobile application

Typical Applications

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

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Product Certification*



- Complies with the following electromagnetic requirements:
FCC part 15 Sub Part B EN/IEC 61000-4-3
EN/IEC 61000-4-5
EN/IEC 61000-4-2
EN/IEC 61000-4-2
- EN/IEC 61000-4-4
IEC60950-1 (Impulse Test)
UL/IEC 62368-1

Product Features



Compatibility



Overview

The WaveLinx Area Controller (WAC) is the main component of the WaveLinx connected 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 PRO smart and connected Mobile App and various WaveLinx PRO devices to create communications and a building ecosystem that provides out-of-the-box functionality and leverages Cooper Lighting Solutions patent pending automatic code commissioning features. Using standard-based wireless mesh compliant topology the WAC communicates to various WaveLinx PRO 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 (WaveLinx CORE application required), lighting, occupancy and daylight settings and scene control. A single WAC can be connected to the building Local Area Network (LAN) to coordinate 49 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.

Product Features & Benefits

- **Built-in WiFi with WPA2** - Securely and easily program your spaces with any Wi-Fi enabled IOS(r) or Android(r) compatible device using the free WaveLinx app or by any device with a supported web browser.
- **PRO (802.15.4) radio** - Communicates with controls on a floor using Cooper Lighting PRO communication protocol.
- **Built-in time clock** - Supports timeclock event based on both sunrise and sunset or fixed time-of-day.
- **Ethernet 10/1000/Mbps connection** - Remotely access the WaveLinx Area Controller to make programming changes or network multiple WaveLinx Area Controllers together to manage them remotely using WaveLinx CORE.
- **Plenum rated and ceiling mount kit** - Offers installation flexibility by allowing installers mount the WaveLinx Area Controller above or on ceilings, walls, rack.
- **Power via Power over Ethernet (PoE) with optional PoE injector** - Offers installation flexibility by allowing installers to power the WaveLinx Area Controller via a PoE switch or 120VAC using the 120VAC to PoE injector.
- **Independently IECC 62443-2 cyber security certified** - Build trust between manufacturers and end users by having DEKRA, an authorized cybersecurity certification lab, assess and certify the device.

*T24 and RoHS are self-tested by Cooper Lighting Solutions. Not a third party certification.

Order Information

All WaveLinx connected lighting (WCL) system accessories require at least one WaveLinx Area Controller (WAC2) for communications. Ensure the bill of material includes one of the following components.

Catalog Number

Catalog Number	Description
WAC2-120	WaveLinx Area Controller G2 with 120VAC to PoE Injector
WAC2-POE	WaveLinx Area Controller G2, PoE powered

Optional Accessories

For connection to 120VAC outlets.

Catalog Number

Catalog Number	Description
WPOE2-120	120VAC to PoE Injector

Spare Parts

The below spare part should be used for customers with 1st generation WAC and WaveLinx CORE. Please contact Cooper Lighting Solutions if this is the first time that you are planning to replace a 1st generation WAC with a 2nd generation WAC in a networked topology.

Catalog Number

Catalog Number	Description
WAC2-120-V9	WaveLinx Area Controller G2 with firmware 9.X with 120VAC to POE injector
WAC2-POE-V9	WaveLinx Area Controller G2 with firmware 9.X

Product Specifications

Mechanical

Size: 4.69" W x 4.80" H x 1.99" D (119mm x 122mm x 50mm)

Weight: 0.70 lbs (0.32 kg) with bracket
0.62 lbs (0.28 kg) without bracket

Environment:

- **Operating temperature:** 32°F to 131°F (0°C to 55°C)
- **PoE Injector temperature:** 32°F to 122°F (0°C to 50°C)
- **PoE Injector storage temperature:** -13°F to 158°F (-25°C to 70°C)
- **Storage temperature:** -22° F to 185° F (-30°C to 85°C)
- **Relative humidity operating:** 5% to 90% RH (non-condensing)
- For indoor use only

Mounting: Ceiling, wall or din rail mount options

Color: White

Electrical

Input Connections:

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

Input Power:

- PoE (IEEE 802.3af)
- 4W (typical) / 8W (max)

Hardware Specifications

Status Indicators:

- LAN connectivity LED - green
- WAN connectivity LED - green
- Wi-Fi connectivity LED - blue
- BT reserved for future functionality - blue
- IEEE 802.15.4 connectivity LED - blue
- Power indication LED - blue

Software Specifications

Programming:

- Settings and Configuration stored in non-volatile flash memory
- Up to 200 total WCL devices
(for best performance, connect up to 150 devices)
- 49 user defined areas + 1 construction area
- Up to 200 total zones per WAC2
- Up to 100 occupancy sets per WAC2
- Individual luminaire daylight sets (when using integrated sensors)

Wireless Specifications

Radio: 2.4GHz

Standard: IEEE 802.15.4 (802.11 wifi used for mobile app connection)

Transmitter Power:

- IEEE802.15.4: Max 16 dBm, Min 14 dBm
- WiFi: Max 14 dBm, Min 11 dBm

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

Note – consult outdoor sensor spec sheets for guidance when connecting to devices located outdoors

System Performance

Maximum number of Devices: 200 per WaveLinx Area Controller
(best practice 150 devices)

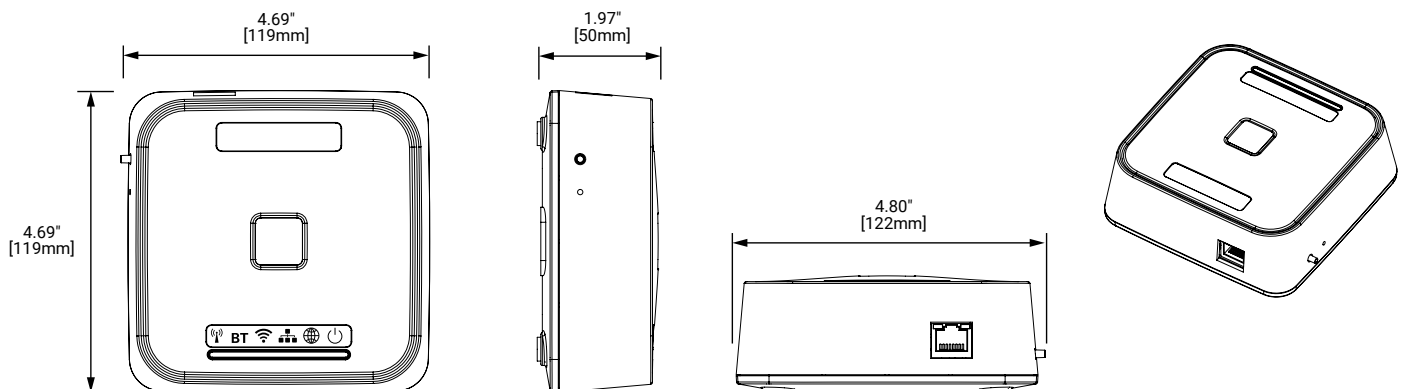
Standards/Ratings*

- UL/IEC 62368-1 (IT Equipment)
- UL 2043 (Plenum Mounting)
- FCC Part 15/ICES-003
- IEC 62443-4-2 Cybersecurity Certification
- DLC QPL Listed
- Complies with the following electromagnetic requirements:
 - FCC part 15 Sub Part B
 - EN/IEC 61000-4-2
 - EN/IEC 61000-4-3
 - EN/IEC 61000-4-4
 - EN/IEC 61000-4-5
 - IEC60950-1 (Impulse Test)
 - UL/IEC 62368-1

Warranty

Five year warranty standard

Dimensional Details



System Diagram:

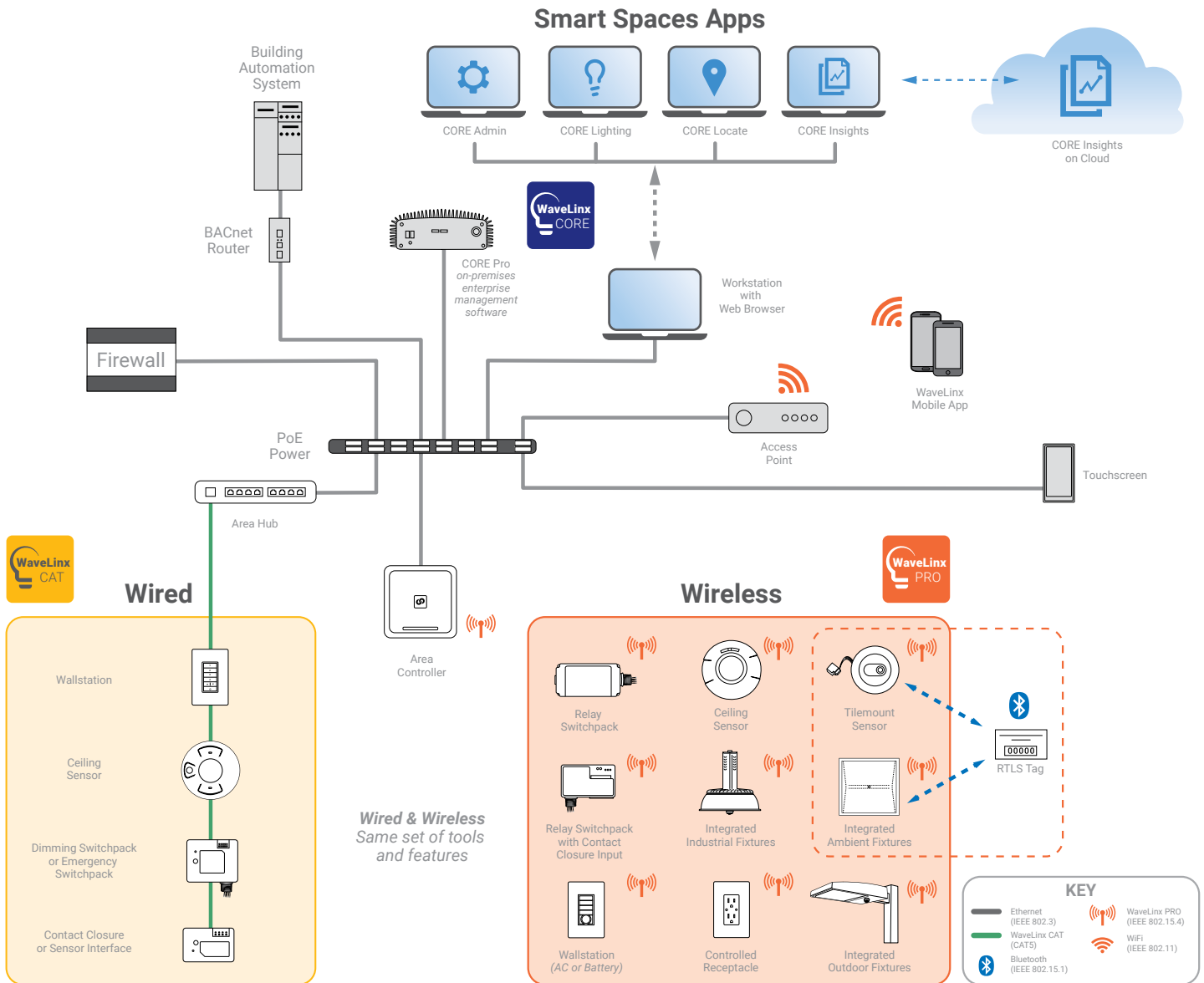
This diagram shows the main components of the WaveLinx connected lighting system with CAT and PRO devices.

The PRO devices communicate using wireless mesh technology based on the IEEE 802.15.4 standard. A PoE LAN connection for each WaveLinx Area Controller (WAC) is required for power and data access to the building lighting network.

The CAT devices communicate over the category 5 based communication bus and control the light fixtures using a relay (on/off) and 0-10V output (dim/raise).

WaveLinx Area Controllers (WAC) communicate with WaveLinx CORE Apps over the Ethernet network.

[View WaveLinx Network and IT Guidance Technical Guide](#)



Control Systems
• WaveLinx