

How wireless lighting can take your business to the next level



Powering Business Worldwide

How wireless lighting can take your business to the next level

Today's commercial and industrial facilities expect solutions that add value beyond lighting. Today we will:

- Explore the increasing demand for wireless connected lighting technology
- How it can simplify controls installation, enable automatic code compliance, transmit key building data
- Create real future opportunities for you as this cost-effective technology becomes mainstream

Trends that you are seeing



Rising conduit and wire costs

Conduit and copper has seen continued cost increase, as much as 22% over the past 12 months.

- Eliminate up to 60% of the wire runs
- Less wire - Less pipe



Installation times

Get off the job at least 40% faster simple install and simple setup.

- More jobs with the same people means more money for you
- Faster install



Utility incentives

Many states provide rebate incentives for LED fixtures with integrated sensors.

- Less material to install, and the rebate pays for it
- Incentives up to \$75 per fixture



Shortage of qualified labor

80% of electrical contracting firms are reporting difficulty filling hourly craft worker positions and higher salaries.

- Save up to 45 minutes per control zone
- Less time - Less people



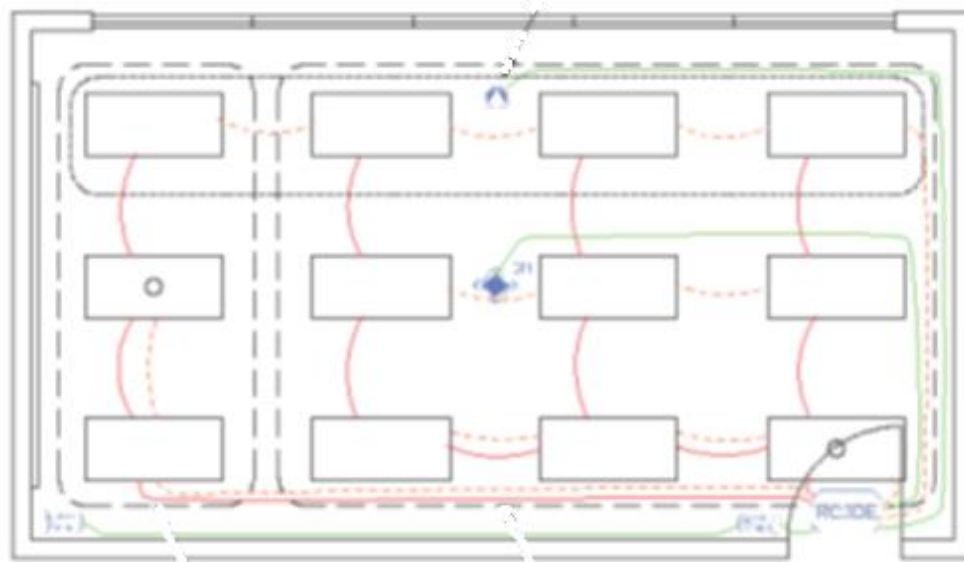
Energy savings

How do you make sure you meet local code and provide energy savings to your customer?

- Network Lighting Controls (NLCs) provide 47-70% savings with integrated luminaire lighting controls
- Up to 70% energy savings

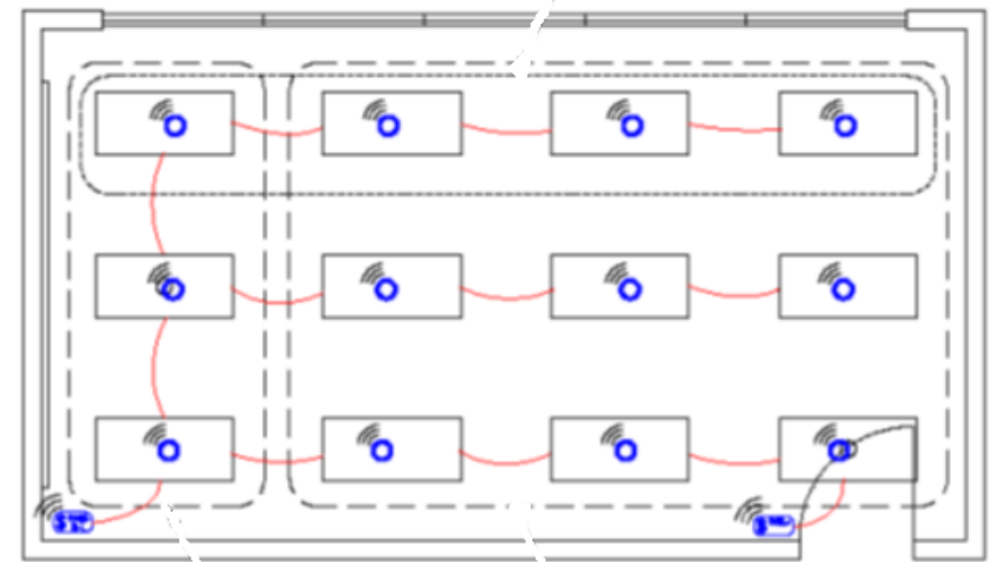
Why use wireless vs. wired?

Wired System



- Hardwired control zones
- Extra junction boxes
- More conduit/time/people
- Additional low-voltage cable runs
- Inflexible

Wireless System



- Just power devices/fixtures
- Fewer junction boxes
- Less conduit/time/people
- Controls included (integrated)
- Flexible, ready for the future

Introducing WaveLinx!

Get off the job faster using a wireless system that is code-compliant and cost effective for today's electrician.



Why use WaveLinx?



WaveLinx is the most secure, **comprehensive** and cost effective wireless lighting system on the market.

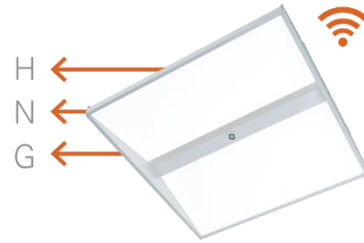
WaveLinx

Wireless Connected Lighting System

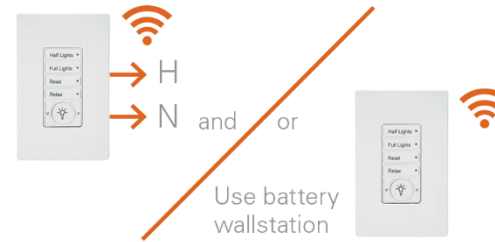
Use what you already know

Complete projects faster while reducing costs with the WaveLinx Wireless system for LED lighting and controls

Wired integrated luminaire or retrofit kit



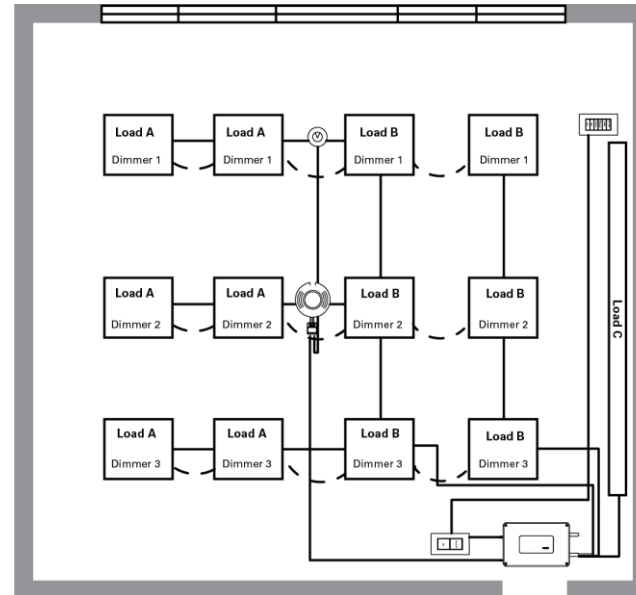
Wire for power not load switching



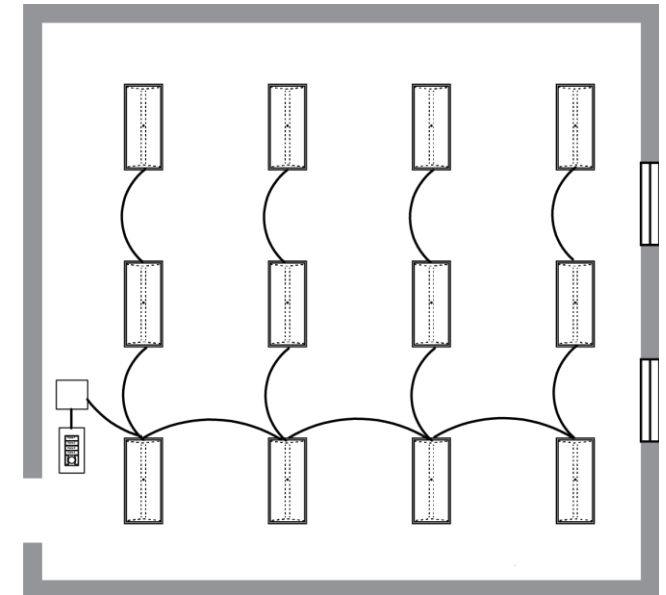
Easy programming with mobile application
(wireless Area Controller required)



Go from this...

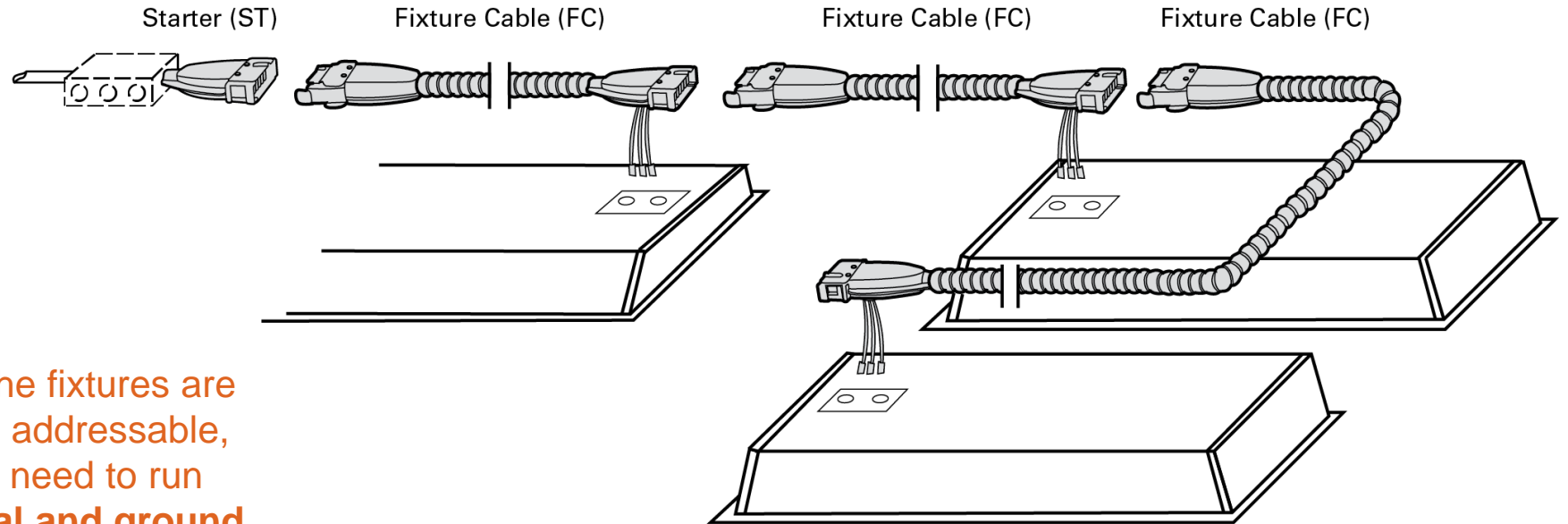


Go from this...



With construction costs rising and the labor force shrinking, you need every advantage to get more done with less people.

Modular Wiring System (MWS) provides a fast, reliable and cost-effective way to wire lighting fixtures. MWS uses simple plug-in connections that provide basic power over wire that works better than traditional methods.



Because the fixtures are smart and addressable, you only need to run **hot, neutral and ground** to each using MWS to get a flexible space.

Simple plug-in connections make installation fast and easy.

Assuming 12 fixtures in a typical classroom, MWS will save more than 1 day per electrician per room. That is over \$300 in total installed cost savings per room.

Pipe and Wire

QTY.	MATERIAL	EA.	EXT.
60 ft	1/2" EMT	\$0.42/ft	\$25.20
252 ft	#12 THHN	\$0.08/ft	\$20.16
2	1/2" Couplings	\$0.35	\$0.70
10	1/2" Couplings	\$0.35	\$3.50
5	J-box covers	\$1.30	\$6.50
12	Fixture whips	\$3.90	\$46.80
			\$102.86

QTY.	LABOR@ \$65/HR	EA.	EXT.
12	.75 hr each	\$48.75	\$585.00
TOTAL Install Cost			\$687.86

Requires:

- 1 EC to bend and install
- 1-2 EC's to pull wire and make connections

9 hrs install

MWS

QTY.	MATERIAL	EA.	EXT.
12	12FC12 / 2G09	\$14.85	\$178.20
2	12ST12 / 2G	\$7.00	\$14.00
3	12EC12 / 2G11	\$16.20	\$46.80
			\$240.80

QTY.	LABOR@ \$65/HR	EA.	EXT.
12	.103 hr each	\$6.70	\$80.30
TOTAL Install Cost			\$321.14

Requires:

- 1 EC to connect fixture cable and plug

1.25 hrs install

up to
50% Savings
Total Installed Cost
with MWS

WaveLinx

Wireless Connected Lighting System

Basic steps of design

1. Select and layout Fixtures

- Use integrated luminaires to make the most of your lighting aesthetics and controls requirements.
- Add the WaveLinx Outdoor Load Control module to area, site and flood lighting for complete building site control.



2. Place Wallstations

- Wallstations are the users primary method of control, make sure the placement and engraving delight the customer.
- Wallstations are fully programmable to control any zone or scene in the area.



3. Place Receptacles

- Receptacle control is required to meet California Title 24 and ASHRAE 90.1 2016.
- These wireless receptacles make it easy to meet code for any new construction or retrofit.



4. Place Relays, Ceiling Sensors and Tilemount

- The WaveLinx relay switchpack with 0-10V makes it easy to control large zones of lighting or any 3rd party luminaire.
- The ceiling sensor adds extra occupancy coverage to the areas that either do not have integrated sensor or need extra coverage.
- Tilemount daylight sensors enable 0-10V dimmable downlights to support daylight dimming and add them to the control zones.



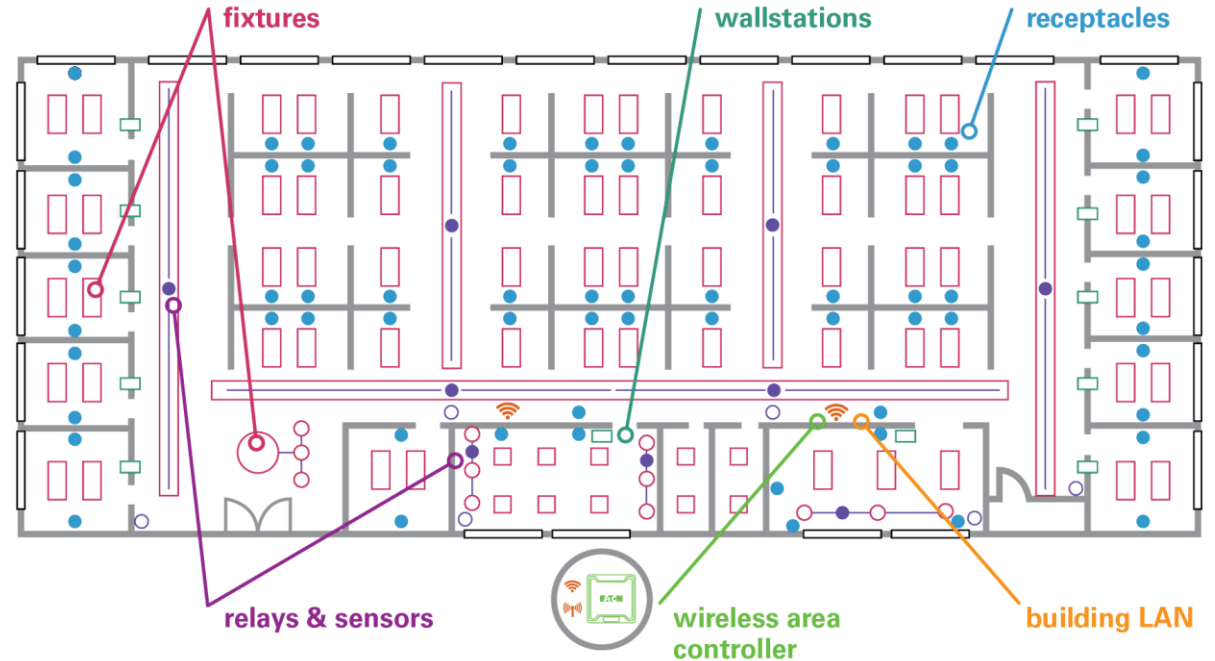
5. Place Wireless Area Controllers

- Every application needs at least one Wireless Area Controller (WAC).
- Mounted above the ceiling tile the WAC controls up to 200 devices over 16 areas.



6. Connected to Enterprise LAN Network

- For enterprise solutions ensure all WACs and Insights Manager are on the same network.
- Insights Manager Pro can communicate to 20 WACs.
- Insights Manager Pro exposes 1000 BACnet and API nodes for 3rd party integration.



1. Connect all wireless devices to line voltage power (fixtures, receptacles, relays, switches)
2. Confirm device readiness (Video 1)
3. Connect with WaveLinx mobile application (Video 3)
4. Create an Area (Video 4)
5. Identify devices in area with reverse identification (Video 4)
6. Drag devices into created (Video 5)
7. Repeat for each area you create
8. System complete

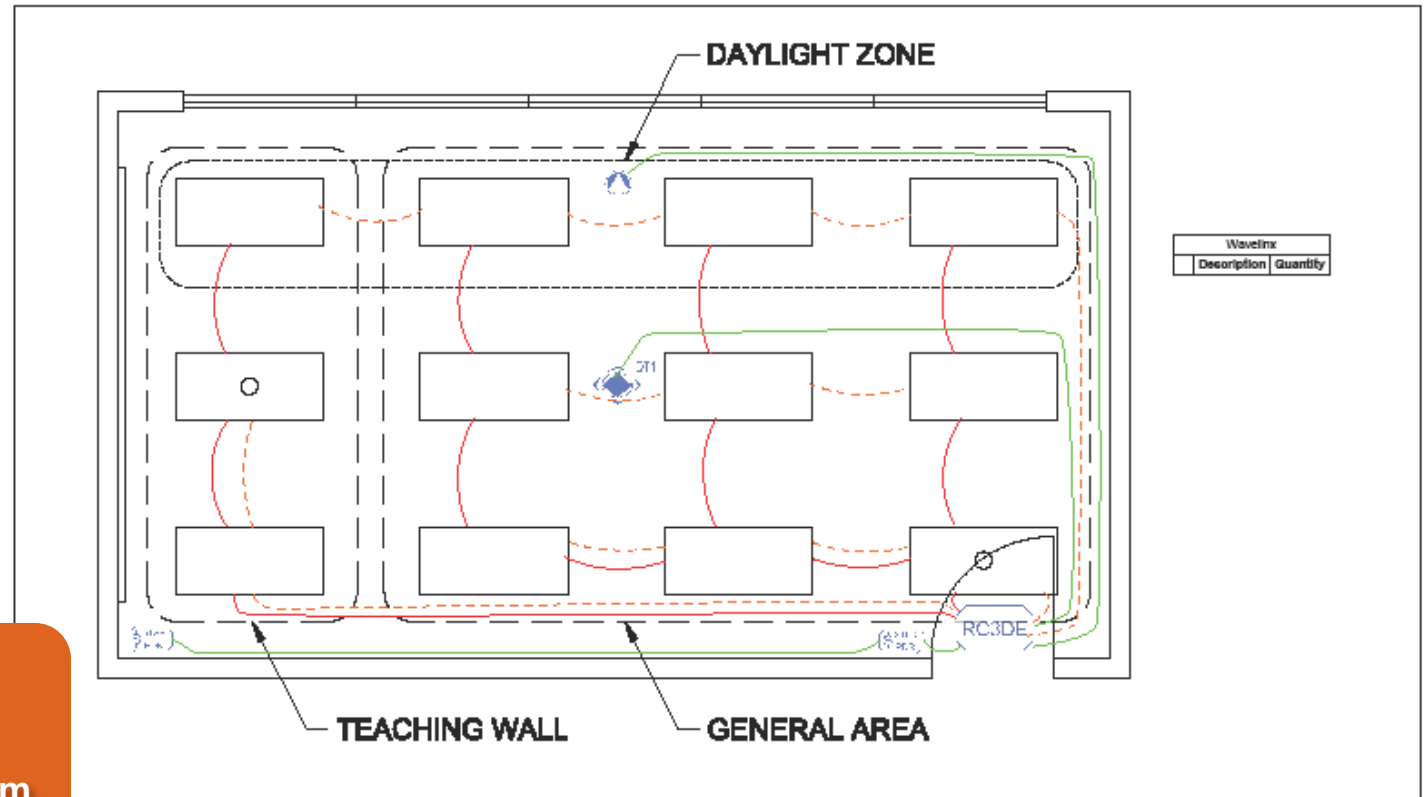
How to Videos



How to do a take off – Incumbent process

1. Lighting (9 hrs)
2. Controller (1 hr)
3. Sensors (2.3 hrs)
4. Wall Switches (0.4 hrs)
5. Line Voltage Wiring (3 hrs)
6. Low Voltage Control (0.7 hrs)
7. CAT communications (1.4 hrs)

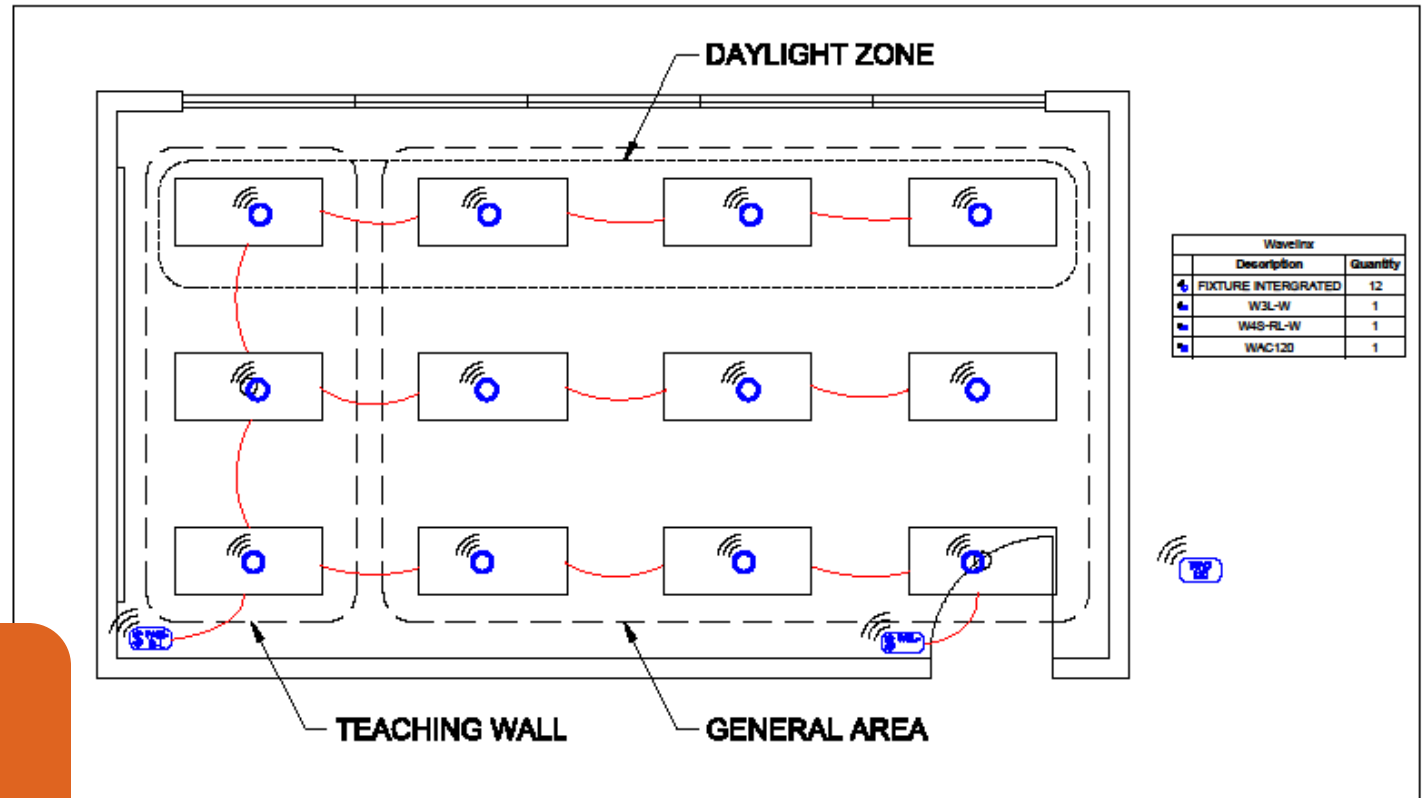
up to
17.8 hrs
traditional wired system



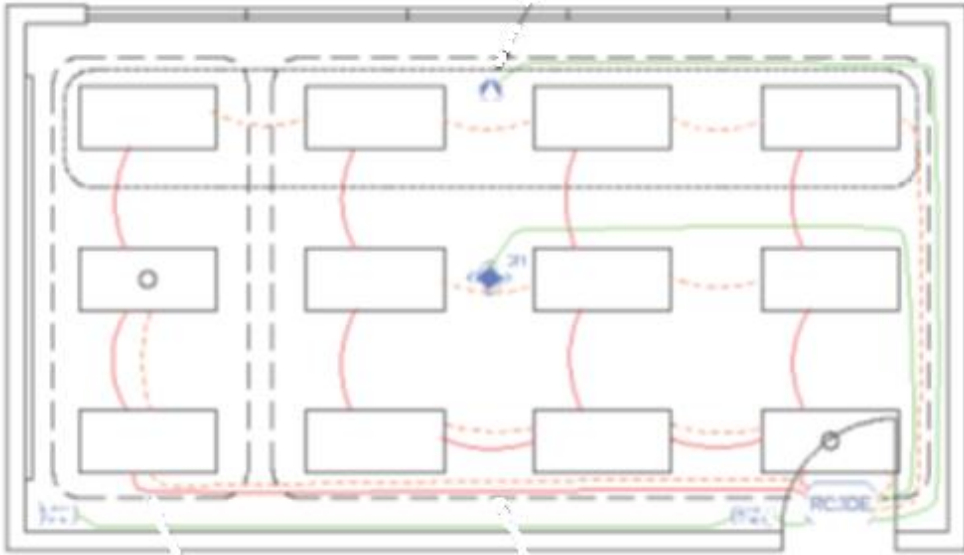
How to do a take off – WaveLinx process

1. Lighting (9 hrs)
2. **Controller (N/A)**
3. **Sensors (N/A)**
4. Wall Switches (0.4 hr)
5. Line Voltage Wiring (2 hrs)
6. **Low Voltage Control (NA)**
7. **CAT communications (NA)**

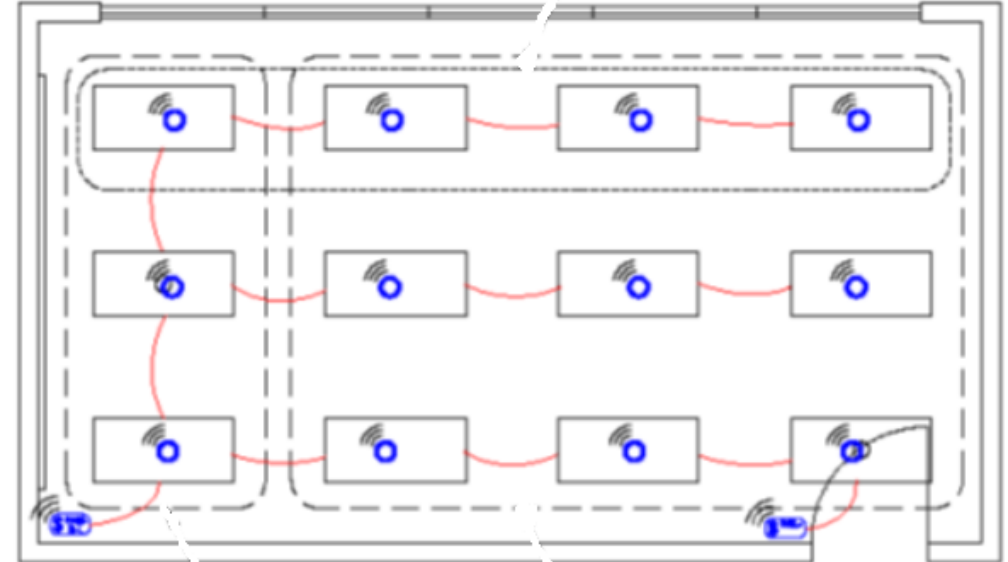
up to
11.4 hrs
WaveLinx Wireless
System



Estimated labor savings



17.8 hours normal installation time



11.4 hours actual installation time

up to
6.4 hrs Savings
per room at your labor rate with
the WaveLinx Wireless System

Straightforward rules



- **Up to 16 Areas**
- **16 Zones per Area**
- **6 Scenes per Area**

** When you reach any of the installation rules in bold above add an additional Wireless Area Controller to the bill of materials.*

WaveLinx

Wireless Connected Lighting System

Get off the job faster and at a lower installation cost

WaveLinx products

CATALOG NUMBER	DESCRIPTION	VOLTAGE	UPC
WAC-POE	Wireless Area Controller 1 required per 15 rooms	WPOE-120	080083763818
WPOE-120	PoE power supply for WAC	120V	080083763825
WSP-CA-010	Wireless Dimming Switchpack 0-10V output supports up to 30 typical LED drivers	120-347VAC 16A LED	080083840816
W4S-RLS4-*	4 small button field programmable wallstation with Raise/Lower (W, V, G, B)	120/277VAC Not load switching, for radio power only	080083866809
WB5-S3-W	White 3 small 1 large button with Raise/Lower field programmable wallstation (Scene 1, Scene 2, Scene 3, Off, v, ^)	Qty 4 AAA batteries	080083865505
WB6-S3D-W	White 6 small button field programmable wallstation (Scene 1, Scene 2, Scene 3, Raise, Lower, Off)		080083865604
WB6-S5-W	White 6 small button field programmable wallstation (Scene 1, Scene 2, Scene 3, Scene 4, Scene 5, Off)		080083865628
WOLC-7P-010	Outdoor Lighting Control Module	120/347VAC 10A LED	080083837540
WR-20	Wireless 20A Receptacle	120V 20A	080083763788
WR-15	Wireless 15A Receptacle	120V 15A	080083763771
CWPD-1500	Wireless PIR 1500 sq ft ceiling sensor	Qty 2 AA batteries	080083763795

Reduce installation time by 60% with MWS products

CATALOG NUMBER	DESCRIPTION	UPC
12EC12/2G11	120V 12AWG Extender Cable 11' long	622697307677
12EC12/2G15	120V 12AWG Extender Cable 15' long	622697308094
12FC12/2G11	120V 12AWG Fixture Cable 11' long	622697362317
12ST12/2G	120V 12AWG Circuit Starter Cable	622697277376
27EC12/2G11	277V 12AWG Extender Cable 11' long	622697310127
27EC12/2G15	277V 12AWG Extender Cable 15' long	622697310172
27FC12/2G11	277V 12AWG Fixture Cable 11' long	622697362690
27ST12/2G	277V 12AWG Circuit Starter Cable	622697277604
27ST12/2G	277V 12AWG Circuit Starter Cable	080083837540

Save time and money with stock fixtures with integrated sensors

CATALOG NUMBER	DESCRIPTION	LUMEN PACKAGE & CCT	UPC
22CZ-LD5-34-UNV-LB40-CD1-SWPD1-U	2x2 Cruze luminaire w/integrated sensor	3400 Lumen, 4000K CCT	080083809073
22CZRK-LD4-34-UNV-LB40-CD1-SWPD1-U	2x2 Cruze retrofit kit w/integrated sensor	3400 Lumen, 4000K CCT	080083809103
24CZ-LD5-40-UNV-LB40-CD1-SWPD1-U	2x4 Cruze luminaire w/integrated sensor	4000 Lumen, 4000K CCT	080083809080
24CZRK-LD4-40-UNV-LB40-CD1-SWPD1-U	2x4 Cruze retrofit kit w/integrated sensor	4000 Lumen, 4000K CCT	080083809097
22CZ-34HE-UNV-LB40-CD1-SWPD1-U	2x2 Cruze ST High Efficiency luminaire w/integrated sensor	3400 Lumen, 4000K CCT	080083881246
24CZ-40HE-UNV-LB40-CD1-SWPD1-U	2x4 Cruze ST High Efficiency luminaire w/integrated sensor	4000 Lumen, 4000K CCT	080083881468



Get off the job faster with WaveLinx Wireless Connected Lighting System



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Wireless Dimming Switchpack

Plug Load | 0-10V | Wireless

The wireless dimming switchpack with 0-10V (WSP-MV-010) offers 120-277VAC 20amp zero crossing relay control and continuous 0-10V dimming control of LED and non LED loads. The wireless relay switchpack with 0-10V control also supports 20amp plug load control.



Wireless 347V Dimming Switchpack

0-10V | 120-347VAC | Wireless

The 347V dimming switchpack (WSP-CA-010) offers 120-347VAC 20amp relay control and continuous 1-10V dimming control of LED and non LED loads.



Wireless Receptacle

Plug Load | Wireless

The wireless receptacle provides simplified wireless plug load control. Plug load control is required now in many building codes as part of an energy saving control strategy. The wireless receptacle is automatically paired with all WaveLinx occupancy sensors in a space when it is assigned to an area using the WaveLinx Mobile Application.



Integrated Sensor

Sensing | Daylight | Wireless

The integrated sensor combines control within the light fixtures to reduce installation and design time, while meeting energy codes. With the integrated sensor the lighting design is the control design.



Wireless Ceiling Sensor

Sensing | Daylight | Wireless | Battery

The room-based wireless sensor offers PIR occupancy and daylight sensing of up to 1500 square feet. The room-based sensor is battery powered and is one of the smallest ceiling-mounted room-based wireless occupancy and daylight sensors on the market. The sensor in combination with the WaveLinx mobile application allows you to gain considerable energy savings from occupancy sensing-based control of lighting and plug loads.



Wireless Tilemount Daylight Sensor

Daylight | Dimming | Downlights | Wireless

The Tilemount daylight sensor provides daylight dimming and control for connected downlight luminaires or other luminaires that do not support the WaveLinx Integrated Sensor. The Tilemount daylight sensor provides 0-10V dimming control of LED and non LED loads for 120-277V 3amps luminaires.

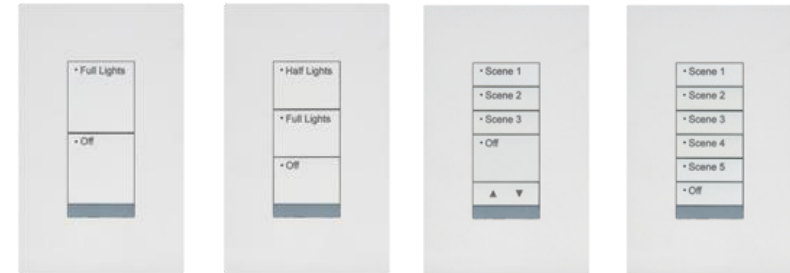


Wireless Wallstation

Manual | Scenes | Zones | Wireless

The wireless wallstation is available in several small and large button configurations as well as various colors. These wallstations are mains powered and provide wireless control of the lighting in each area.

The wireless wallstation mounts in a standard wallbox and includes a decorator style color matching wallplate. Each wallstation is fully configurable to provide local and multi-level control in each area.



Battery Wallstation

Battery | Manual | Scenes | Zones | Wireless

The wireless wallstation is available in several small and large button configurations. These battery powered wallstations are for new or retrofit installations and provide wireless control of the lighting in each area. The wallstation surface mounts to a wall and includes a decorator style color matching wallplate. Each wallstation is fully configurable to provide local and multi-level control in each area. Battery life expectancy up to ten years.

Industrial



Industrial high bay and low bay sensors

The WaveLinx industrial high bay and low bay sensors offer passive infrared (PIR) occupancy with a photocell for closed loop daylight sensing. The sensors are IP66 rated for warehouse, manufacturing and industrial spaces.

- Up to 40 feet and coverage up to 2500 square feet
- Easy tool-less fixture connection (Zhaga Book 18 socket) with out of the box controls functionality.

Area and Site



Wireless outdoor lighting control module

The WaveLinx 7-pin outdoor lighting control module enables schedules to provide ON, OFF and dimming controls based on astronomic or time schedules based on a 7 day week. Allows to create multiple control zones.

Parking Lot



Outdoor fixture mount sensors

The WaveLinx industrial high bay and low bay sensors offer passive infrared (PIR) occupancy with a photocell for closed loop daylight sensing. The sensors are IP66 rated for warehouse, manufacturing and industrial spaces.

- Up to 40 feet and coverage up to 5000 square feet
- Easy tool-less fixture connection (Zhaga Book 18 socket) with out-of-the-box controls functionality.

Lighting products

Ambient lighting



Recessed lighting



Industrial lighting

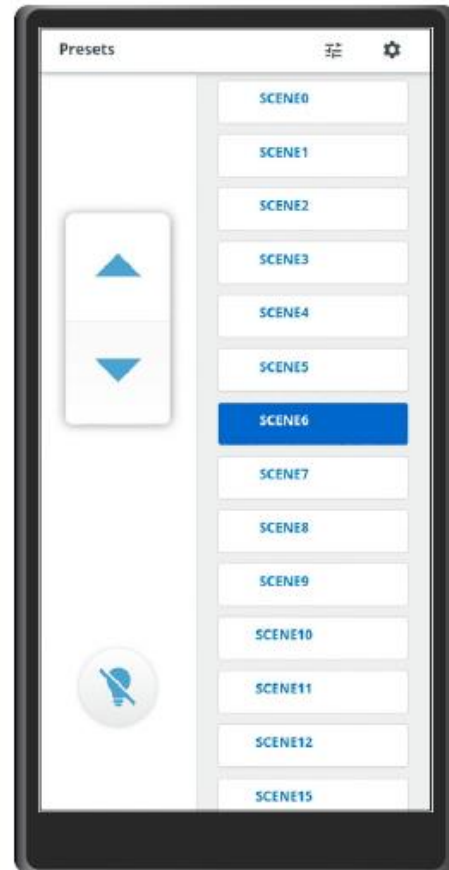


Architectural lighting



Outdoor lighting





TSE57

Features

- **Light control** – Control the lights for a room/open space by allowing users to recall the light scenes/presets defined for the area and to raise/lower the light level for the entire area or the zones defined within an area.
- **Architectural design** – Low profile design with edge to edge glass and high resolution display making the touchscreen look amazing on any wall. The touchscreen's user interface has been designed to ensure that users can immediately understand how to operate the touchscreen.
- **Easy installation** – The touchscreen easily mounts in a single gang switch box (minimum 1.4" / 35mm depth required) and is powered via PoE (IEEE 802.3af). Once powered, all the installer has to do, is select the Wireless Area Controller (WAC) discovered on the network and one of the user defined areas. All the information with regards to the scene names, zone names is automatically imported from the Wireless Area Controller.


WaveLinx

Wireless Connected Lighting System

Download the WaveLinx app



EATON WaveLinx [View More by This Developer](#)
By Eaton Corporation
This app is only available on the App Store for iOS devices.




Description
User and Commissioning application for use with EATON Wireless Connected Lighting
– Drag and drop programming
[EATON WaveLinx Support](#) ...More

What's New in Version 1.0.7
Various improvements and bug fixes.

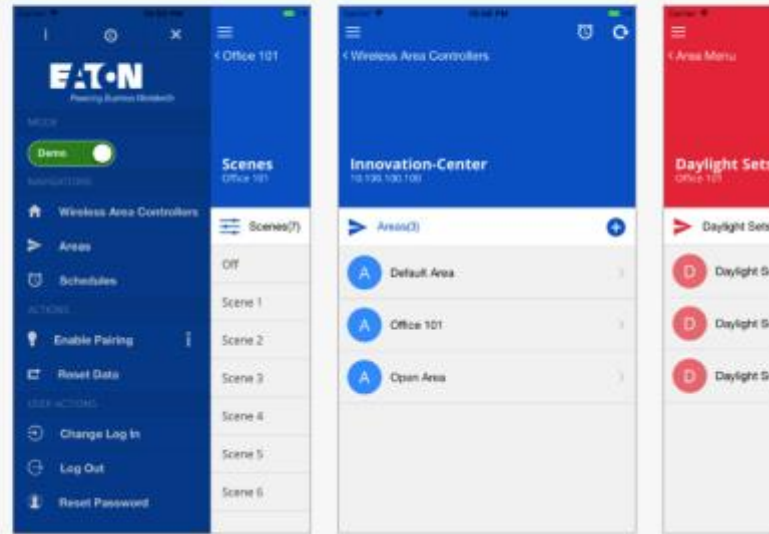
Free
Category: Productivity
Updated: Aug 29, 2017
Version: 1.0.7
Size: 26.4 MB
Language: English
Seller: Eaton Corporation
© 2017 Eaton Corporation
Rated 4+

Compatibility: Requires iOS 8.0 or later. Compatible with iPhone, iPad, and iPod touch.

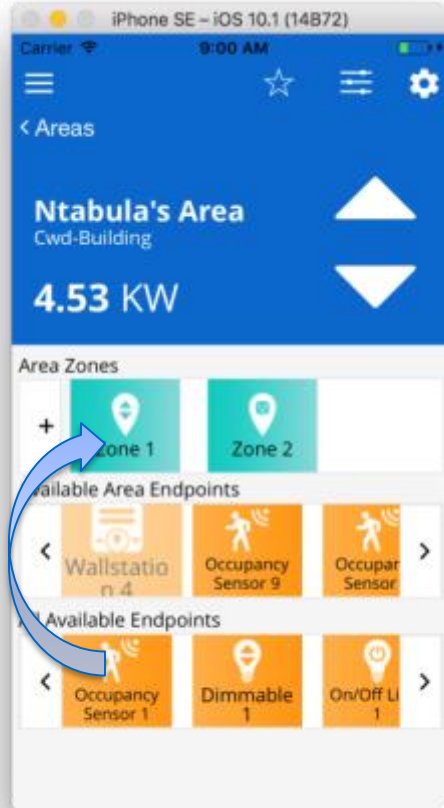
Customer Ratings
This application hasn't received enough ratings to display a summary.

More by Eaton Corporation

Eaton's UPS Tool

Screenshots iPhone | iPad



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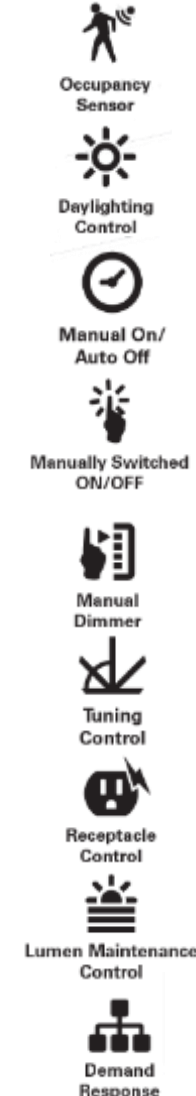
Area information and setup

Automatic Code Commissioning

- Create Areas
- Drag devices into Areas/Zones

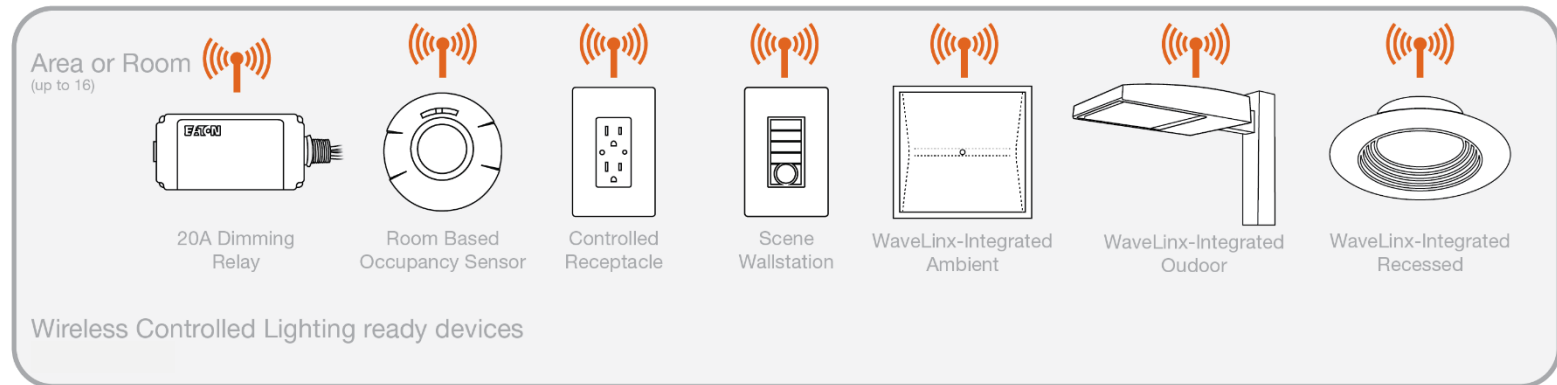
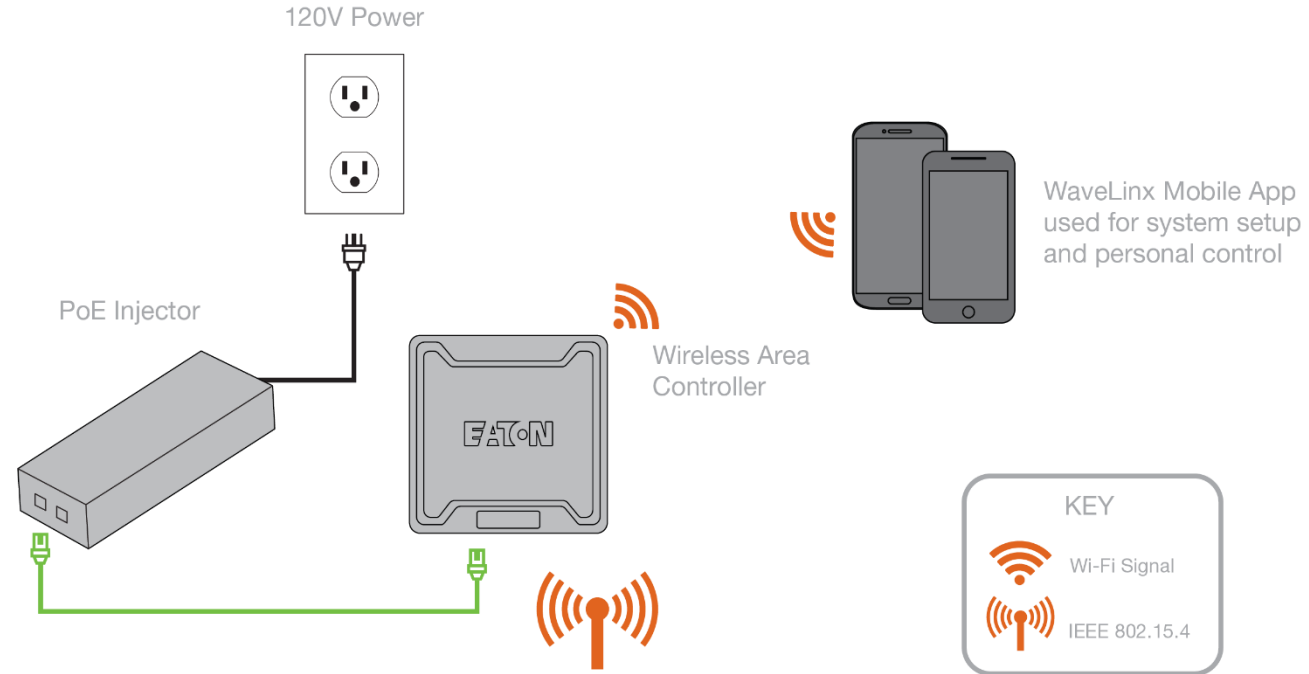
Automatic Sequence of Operations

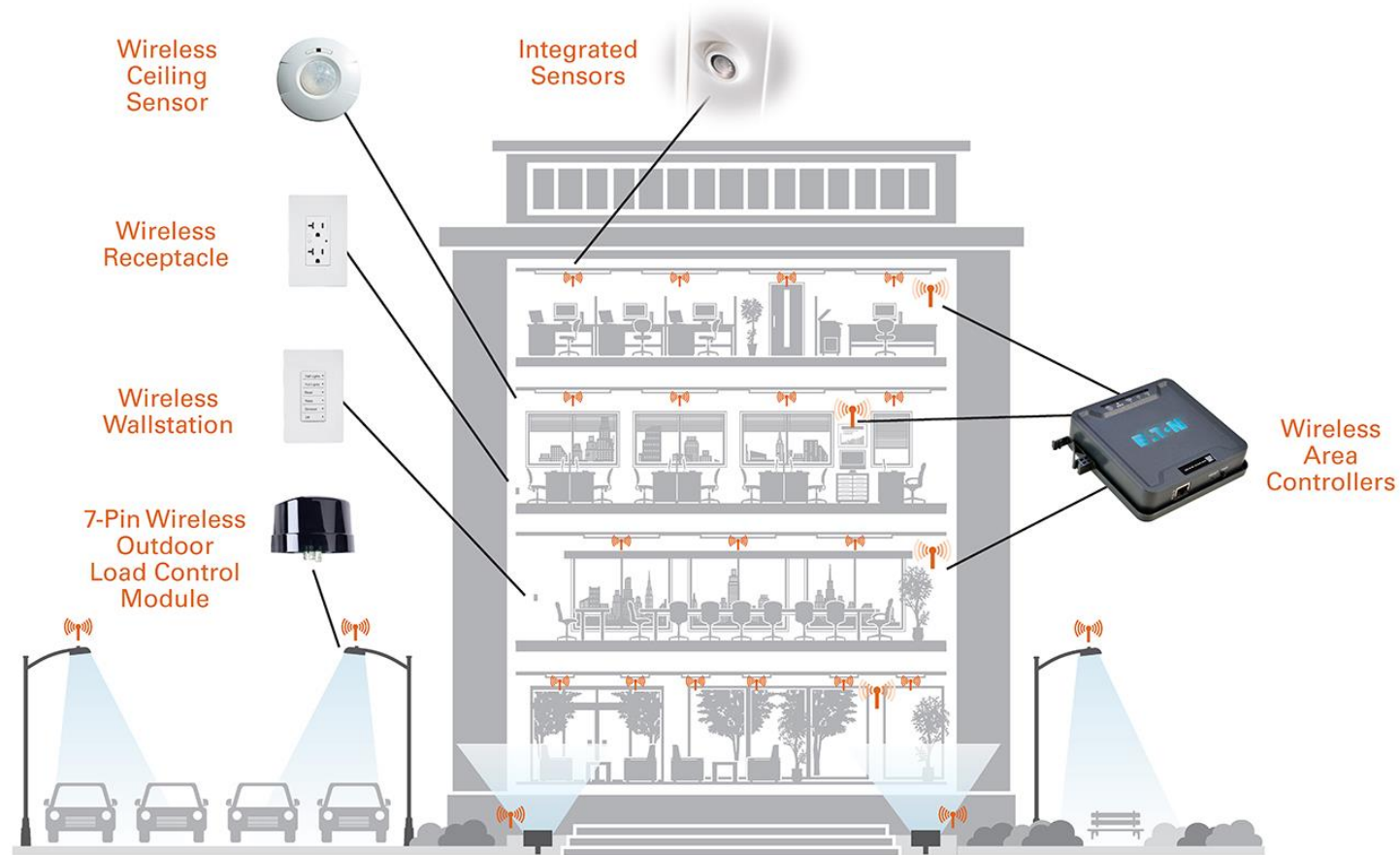
- Automatic ON to 50%
- Individual daylight zones to 500 lux
- Automatic OFF of lights & plug load
- Wallstation scene control
 - Dominant button is 50% light level
 - Other buttons are scenes
- Demand Response ready



WaveLinx dedicated installation

- Stand-alone space
- IT setup no required
- Scalable to join network

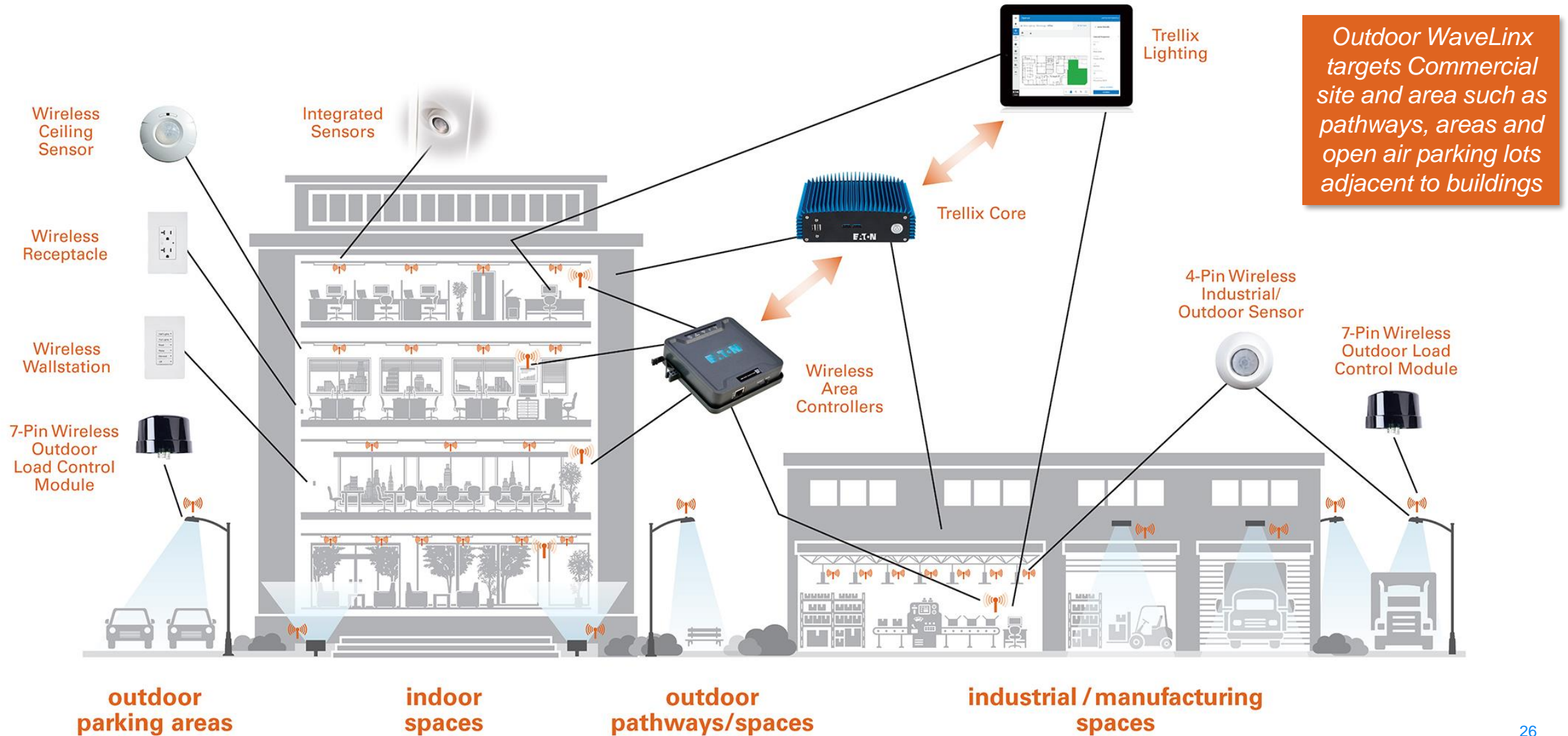




WaveLinx

Wireless Connected Lighting System

Enterprise installation



WaveLinx scalability



Gateways

1 WAC

20 WACs

500 WACs

Devices

150

3,000

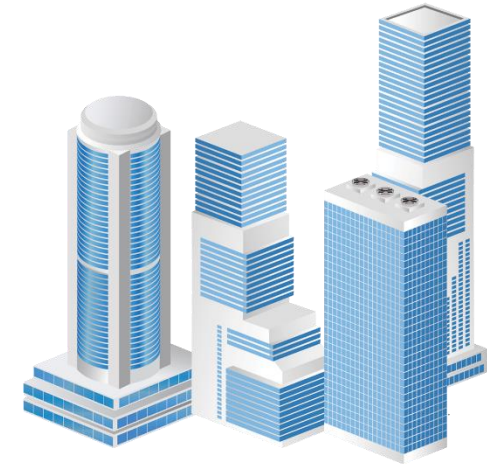
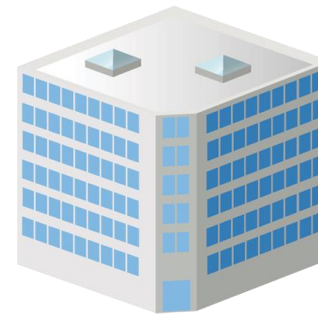
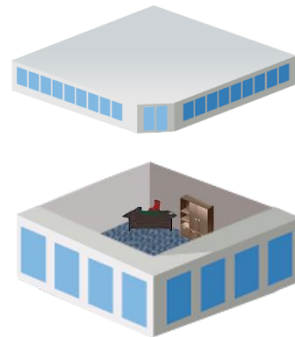
75,000

Software

Mobile app

Trellix Core

Trellix Enterprise



Control 150 devices for rooms and a single **floor**

Add Trellix and control over 3,000 devices for a **building**

Use a Trellix server (on-prem or virtual) and control over 75,000 devices for a **campus**

WaveLinx

Wireless Connected Lighting System

Where has it been installed?



Office



Education



Industrial



Outdoor

1,000's
of installations

over
35M Sf.
installed



Healthcare



Hospitality

More training opportunities

Cities	Dates
Peachtree City, GA	11/5/2019
Peachtree City, GA	2020 (TBD)

WaveLinx Commissioner Certification

- System Overview
- Wireless 101
- Out of the Box
- Construction Grouping
- Zone Identification
- Automatic Code Commissioning
- Design Application Guides
- WaveLinx Jeopardy
- Hands On training
- Web Page Complete
- Troubleshooting
- Networking Training
- Device/ Set Configuration
- Startup Best Practices
- Startup Close Out Process
- Diagnostics

Questions?

www.wavelinxconnect.com