1. **What is WaveLinx?**
WaveLinx Wireless Connected Lighting (WaveLinx) eliminates the cost and complexity of traditional control systems, and simplifies installation and commissioning while providing a flexible and reconfigurable wireless topology for “on the fly” space changes.

2. **What components do I need to have a complete WaveLinx system?**
- Insight Manager (Pro, Enterprise, Virtual)
- Lighting Xpert Insights Software
- BACnet Integration
- API Integration
- Wireless Area Controller (Gateway)
- WaveLinx Mobile App (Commissioning and user personal control)
- WaveLinx Wallstation (Manual lighting and scene control)
- Wireless Integrated Sensor (Fixture integrated occupancy sensor, ambient light sensor and control)
- WaveLinx Relay Switchpack with 0-10V
- WaveLinx Relays Switchpack with 0-10V 347VAC
- WaveLinx Receptacle 15A and 20A (Wall mounted power outlet)
- WaveLinx Room Based Sensor (Ceiling mounted multi sensor)
- Halo RL 56 (direct wireless downlights)
- WaveLinx Outdoor Load Control Module (area, site, flood lighting control)

3. **How many devices can exist on a Wireless Area Controller?**
The WaveLinx system supports over 200 wireless devices per Wireless Area Controller (WAC). These devices should be within 300 feet line of sight to the WAC. It is best practice to have a Wireless Area Controller communicate to devices on the same floor.

4. **Can the Wireless Area Controllers be networked?**
Yes, the Insight Manager Enterprise supports up to 500 Wireless Area Controllers networked together on the same LAN or VLAN.

5. **Can the Wireless Area Controller communicate to devices beyond the 300 ft line of sight best practice?**
Yes, WaveLinx supports wireless device beyond the 300 ft limit by allowing devices to be repeaters and supports up to 5 hops maximum to extend the wireless communications footprint.
6. **Does the WaveLinx system support outdoor lighting?**
Yes, WaveLinx supports indoor and outdoor lighting from a single system. Outdoor lighting control is made possible using a 7 Pin outdoor load control module that responds to astronomic time clock, schedule, wallstation and software commands.

7. **What wireless technologies are used?**
The Wireless Area Controller or gateway includes an IEEE 802.15.4 standard radio for communications to the WaveLinx devices. Additional wireless radios are included in the Wireless Area Controller for supporting Bluetooth communications, Wi-Fi communications, as well as the capability to support the emerging standard Thread-based communications via its IEEE 802.15.4 radio.

8. **What luminaires are capable of supporting Wireless Controlled Lighting?**
Several Eaton luminaries are currently being updated to support Wireless Connected Lighting options.
- **Ambient** – Encounter, Skyridge, Cruze, ArcLine, Accord, SWLED, GRLED, FRLED
- **Industrial** – HBLED, Steeler, WSL, iLED
- **Recessed** – Portfolio, Halo Commercial, Halo SLD, iRis P3, PN3, Halo RL 56
- **Architectural** – Define, Index, Arc, Divide, Bridge, JayLum, RZL
- **Outdoor** – Galleon, Prevail, Navion, Arbor, Impact Elite, Night Falcon

Additional luminaires are continuously being reviewed and planned to support WaveLinx.

The WaveLinx Relay Switchpack with 0-10V allows virtually any 0-10V luminaire to be controlled by our Wireless Connected Lighting Solution.

9. **Does Wireless Connected Lighting support the new DLC NLC requirements?**
Yes, Eaton was one of the first systems to qualify for the DLC NLC V2.0 requirements.

10. **Does WaveLinx support the space requirements of Title 24?**
Yes, WaveLinx was designed to meet the latest energy codes including Title 24 2016. In addition WaveLinx includes out of the box functionality that includes control sequences that automatically meet many requirements of Title 24.

11. **What are the benefits of Wireless Controlled Lighting?**
- **Reduce installation time and cost** with simple out of the box functional wireless lighting system setup, integral diagnostics and a simple mobile application for configuration and control.
- **Save on operating costs** with a system that is designed to provide immediate and consistent energy savings and drive energy efficiency throughout the building.
- **Manage flexibility** with quickly re-assignable fixtures to create new control zones and areas via WaveLinx Mobile App.
- **Reduce training time and simplify control** using the intuitive WaveLinx Mobile user app to configure area favorites, daylighting, occupancy and scene controls.

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12. **Does WaveLinx provide power measurement data?**
Yes, using the WaveLinx Mobile application power measurement data can be provided for each area and zone.

13. **How is emergency lighting accomplished using WaveLinx?**
Many of the luminaires currently planned to integrate with WaveLinx include battery backup options. At the building level our CEPC-1-D product can be used with the WaveLinx Relay Switchpack with 0-10V to support individual luminaires or a zone of luminaires.

14. **Where can we use WaveLinx?**
WaveLinx can enable 0-10V luminaries to meet controls application requirements in commercial, industrial, healthcare and education spaces. WaveLinx also provides out of the box functionality and basic commissioning capabilities while maintaining energy code and DLC CALC compliance.

WaveLinx supports any size building where you are looking for a wirelessly controlled lighting solution.

15. **How long does it take to setup WaveLinx?**
WaveLinx includes out of the box functionality to allow the installing contractor to immediately see the lighting is functional and verify the system working. Occupancy and daylighting functions will work out of the box immediately upon installation and power-up for any luminaire installed with the integrated sensor.

16. **How much time does it take to setup WaveLinx compared to other systems?**
Once the WaveLinx devices are physically installed joining them to the Wireless Area Controller(WAC) is done with the press of the PAIR button on the WAC. This process is called Construction Grouping and also verifies wireless communications and addressing of each device as well as add the devices to the WaveLinx mobile application.

Actual system setup is done with the WaveLinx Mobile Application by dragging devices into areas. This process uses our Patent Pending Automatic Code Commissioning process to program all devices to a code compliant Title 24 2016 compliant sequence of operations.

17. **Are there any battery powered devices in the system?**
Yes, the Wireless Ceiling Sensor uses two AA batteries. The system uses a low power approach to sense motion with this product that limits power consumption and provides up to 10 year battery life.

18. **How can the end user control dimming of the areas?**
The end user can adjust the dimming of luminaires in each area from local wallstations in the space or via the WaveLinx mobile app.
19. How are emergency fixtures handled in WaveLinx?
This depends on the type of fixtures and WaveLinx device being used. With Eaton Luminaires that include the integrated sensor an internal battery pack is provided. In the case where a Wireless Relay Switchpack is used often emergency power is provided by a generator or inverter and the Eaton CEPC-1-D is used to drive the lighting to full bright.

20. Can you easily replace a WaveLinx device and avoid reprogramming?
Yes, if a device needs to be replaced. The original device can be removed and a new replacement device is added to the Wireless Area Controller (WAC). Within the WaveLinx Mobile App simply select the icon for the original device and click the "replace" option to select the new replacement device. It will automatically inherit all previous programming and grouping.

21. Will WaveLinx interfere with the building Wi-Fi system?
No, WaveLinx using a 802.15.4 communication protocol which uses different communications channels than building Wi-Fi.

22. Is WaveLinx secure?
Yes, the WaveLinx system uses AES 128bit encryption for communications from device to device. The WaveLinx system uses Eaton assurance 7 layer security comfort. The system also uses NIST recommended building security best practices and procedures where connected to the building network. For more detailed information on WaveLinx security see the WaveLinx security FAQ.

23. What are the wireless specifications for WaveLinx?
- WaveLinx uses the IEEE 802.15.4 standard radio to communicate to devices
- Approximately 200 (best practices) devices are supported per Wireless Area Controller
Communicates 150 ft through two interior walls for device to device communication.

24. What is the cost of WaveLinx?
WaveLinx is meant as a cost effective code compliant wireless solution. We are currently targeting less than $2 per sq ft for the WaveLinx Wireless Connected Lighting controls products.