

## Athena Wireless Processor

The Athena wireless processor is a ceiling-mounted device that integrates Clear Connect – Type X devices (such as Ketra loads) with Lutron’s existing Clear Connect – Type A devices (such as Pico wireless controls and Radio Powr Savr sensors).

Each Athena wireless processor can communicate with:

- Up to 100 Clear Connect – Type X devices
- Ketra Type X loads
- Athena Wireless Nodes
- 50 Clear Connect – Type A devices
- Pico wireless controls
- Radio Powr Savr daylight sensors (5 maximum)
- Radio Powr Savr occupancy/vacancy sensors (15 maximum)

### Features

- Must be powered by an IEEE 802.3af-2003 or 802.3at-2009 compliant Power over Ethernet (PoE), supply, Lutron models L-POEI-BL or Q-POE-PNL or by others (sold separately).
- Scene control via the Lutron App and Pico wireless controls.
- Lutron QS scene keypads.<sup>1</sup>
- Timeclock scheduling of daily events.
- Connects to the network via an Ethernet connection.
- Local device operation will continue to function if internet connection is lost.
- Secure system access from anywhere in the world using the Lutron App if connected to the Lutron cloud via an internet connection.
- Supports integration via Lutron LEAP API and BACnet IP without additional interfaces. Refer to Athena API Integration specification submittal p/n 3691208 at [www.lutron.com](http://www.lutron.com) for more details.

### Model Available

- A-RF2



<sup>1</sup> Additional equipment required

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| <b>Job Name:</b>   | <b>Model Numbers:</b> |
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# Specifications

## Regulatory Approvals

- cULus
- FCC
- IC
- NOM
- IFTEL

## PoE Power

- 48 V $\pm$  100 mA (IEEE 802.3af-2003 or 802.3at-2009 compliant PoE supply)
- If there are designated Ketra emergency fixtures within the wireless processor's subnet, power for the wireless processor's PoE must be supplied via normal-only feed and not using an uninterruptible power supply or generator.
- Processor is an IEEE 802.3af compliant Class 1 device; typical 1.5 W (max 4.0 W)
- Compatible power supplies L-POEI-BL and Q-POE-PNL available for purchase separately - fully compliant to IEEE 802.3af (max 15.4 W)

## Environment

- Operating temperatures 32 °F to 104 °F (0 °C to 40 °C)
- Relative humidity: 0% to 90% non-condensing
- For indoor use only

## Communications and Capacity

- A maximum of 16 Athena processors per system (wired or wireless)
- Clear Connect – Type A devices: Pico wireless controls, Radio Powr Savr occupancy and daylight sensors
  - Each device must be within 30 ft (9 m) through walls or 60 ft (18 m) line-of-sight
  - Utilizes 434 MHz RF (North America)
  - 50 Clear Connect – Type A devices per processor (5 Radio Powr Savr daylight sensors and 15 Radio Powr Savr Occupancy/Vacancy sensors maximum)
- Clear Connect – Type X devices: Commercial Ketra lighting fixtures or Athena Wireless Nodes
  - All devices associated with the wireless processor must be within a 75 ft (23 m) radius of the processor.
  - There must be a minimum of two devices within 25 ft (7.6 m) of the wireless processor.
  - Each Clear Connect – Type X device should have two or more non-battery powered Type X devices within 25 ft (7.6 m) of another compatible Clear Connect – Type X device. Using more than two devices is ideal for creating an ultra high-performance mesh network.
  - Utilizes 2.4 GHz RF.
  - 100 Clear Connect – Type X devices per processor.

## ESD Protection

- Tested to withstand electrostatic discharge without damage or memory loss, in accordance with IEC 61000-4-2.

## Surge Protection

- Tested to withstand surge voltages without damage or loss of operation, in accordance with IEEE C62.41-1991 Recommended Practice for Surge Voltages in Low-Voltage AC Power Circuits.

## Power Failure

- **10-year power failure memory:** Should the power be interrupted, the wireless processor will return to its previous state prior to the interruption when power is restored.

## Mounting

- The Athena wireless processor can be recess-mounted or wall-mounted (using the included recess bracket) or using the included junction box bracket. When mounting on a 4 in x 4 in (102 mm x 102 mm) junction box, a mud ring (not supplied) must be used.
- The processor can also be shelf-mounted using the L-SMNT-WH (sold separately).
- The Athena wireless processor and Clear Connect - Type A devices must be mounted 5 ft (1.5 m) away from wireless interference sources like microwaves, Wireless Access Points (WAP), etc.
- Do not install the wireless processor in metallic enclosures.
- Do not install the Athena wireless processor above metal ceilings or tiles with metal backing.
- The Athena wireless processor should be mounted in the middle of non-metal ceiling tile or drywall, visible from inside the space.

## Wiring

- Use Cat5e minimum cable. Maximum length is 328 ft (100 m) from router to processor. Each wireless processor needs to have a home run Ethernet connection back to the PoE supply.
- PoE wiring must be kept internal to the building. Do not run PoE wiring outdoors.

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## Specifications *(continued)*

### Internet Connection

- Providing the Athena wireless processor with an internet connection is highly recommended for all projects and applications. The following Athena features require an internet connection:
- Control of the Athena system via the Lutron App, iOS/Android
- Automatic firmware updates
- DALI emergency testing functionality
- Remote diagnostics, service, and support
- Athena dashboard

### Accessory Parts

| Model Number | Description  | Page of Product Diagram |
|--------------|--|-------------------------|
| L-CMNT-WH    | Recess-mount adapter (included)  | 7                       |
| L-JMNT-WH    | Junction box mount adapter (included)  | 7                       |
| L-SMNT-WH*   | Shelf-mount adapter  | 5                       |
| L-POEI-BL    | PoE injector with U.S. plug adapter, 6 ft (1.8 m) right-angle and 3 ft (0.9 m) Ethernet cable included | 5                       |

\* Needs right-angle Ethernet cable similar to the one included in the L-POEI-BL.

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| Job Name:   | Model Numbers: |
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## Athena Security Statement

Lutron takes cybersecurity very seriously. We actively monitor the threat landscape and take a proactive approach to security and privacy, continuously working to update and enhance our systems and processes.

At Lutron, we call our approach to cybersecurity “**Secure Lifecycle**”, and we would like to present the following steps we take to protect your security and privacy:

- **Security by Design.** When building a new system, Lutron utilizes a dedicated security team to ensure best practices are implemented. Security is built in. It is not an afterthought or an add-on.
- **Third-Party Validation.** Security is complicated. Lutron has a dedicated team of internal experts, but we also leverage external experts to double-check our work, and to make security recommendations.
- **Continuous Monitoring and Improvements.** Security is a constantly moving target. Lutron uses a dedicated security team to continuously monitor for potential threats and, when needed, send out security patches to update installed systems.
- **Ongoing Support.** Lutron has the resources you need to answer questions about security when they arise

We incorporate a variety of security features into our product designs. These features include recommendations from the National Institute of Standards and Technology (NIST) among others, and they are aimed at meeting our secure lifecycle protections. While we do not publish a comprehensive list of our security features, the following list is a small example of some of the techniques employed in our system designs for Athena Processors (wired and wireless), Light Management Hubs, devices and associated services (such as mobile applications and cloud resources):

1. Secure and authenticated remote access with unique keys for every Athena system.
2. A secure hardware element (“chip”) on all wired and wireless Athena processors to guard the keys used for secure communication and authentication.
3. Enforcing industry-standard encrypted communication and techniques for our integration protocols to the highest extent possible. Any integrated third-party components or systems should be evaluated independently.
4. Secure commissioning – all communication between the system programming software tool/app and the processors is encrypted and authenticated. Programming a system requires permission to access that system.
5. Security updates are pushed out automatically to the lighting system for urgent security patches. Lutron is committed to one year of security support from system start-up date.
6. Use of industry-standard techniques for cloud-based integrations, such as OAuth2.0
7. Signed processor firmware to ensure a firmware update is authentically from Lutron.

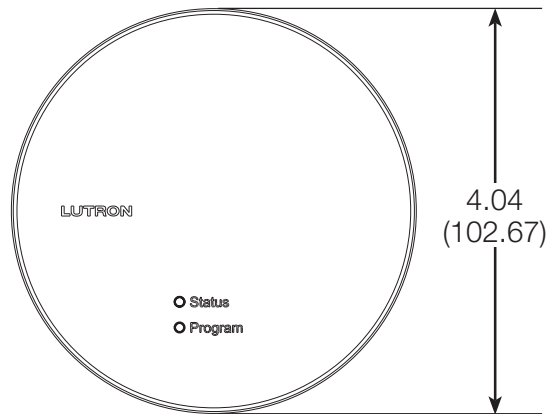
If you have additional questions or would like to make a vulnerability disclosure to Lutron, please contact Lutron’s 24/7 Technical support Line at 1.844.LUTRON1 or email us at support@lutron.com

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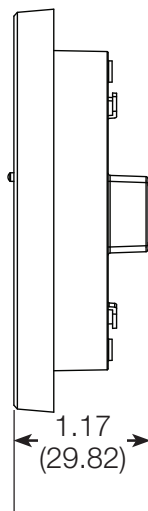
## Dimensions

All dimensions are shown as: in (mm)

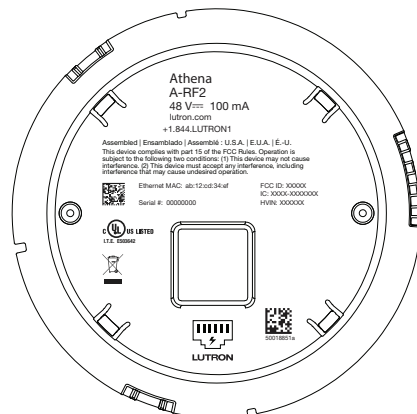
**Front View**



**Side View**

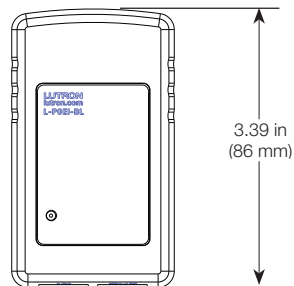


**Back View**

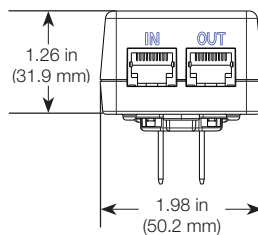


## PoE Injector (sold separately): L-POEI-BL

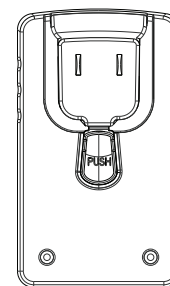
**Front View**



**Bottom View**

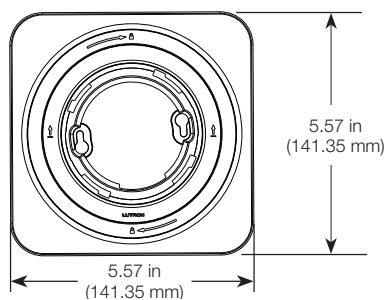


**Back View**



## Shelf-mount Adapter (sold separately): L-SMNT-WH\*

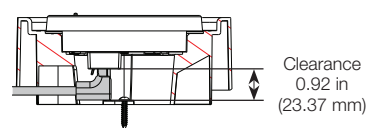
**Front View**



**Side View**



**Detail View**



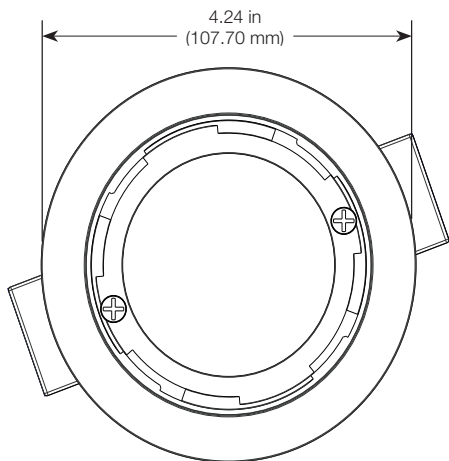
\* Needs right-angle Ethernet cable similar to the one included in the L-POEI-BL.

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| Job Name:   | Model Numbers: |
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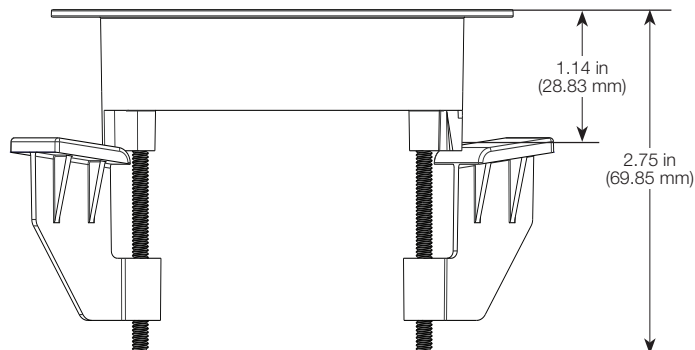
# Mounting

## Recess-mount Adapter *(included)*

Front View

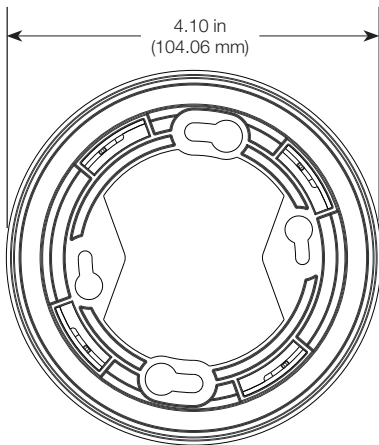


Side View



## Junction Box Mount Adapter *(included)*

Front View



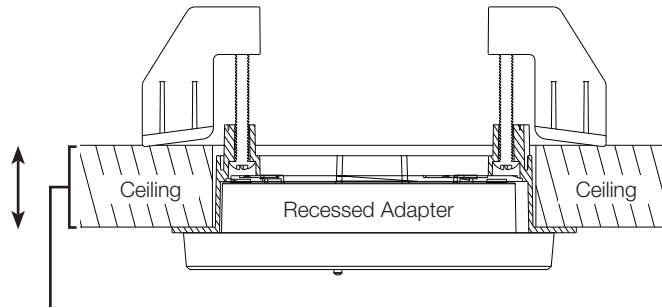
Side View



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| Job Name:   | Model Numbers: |
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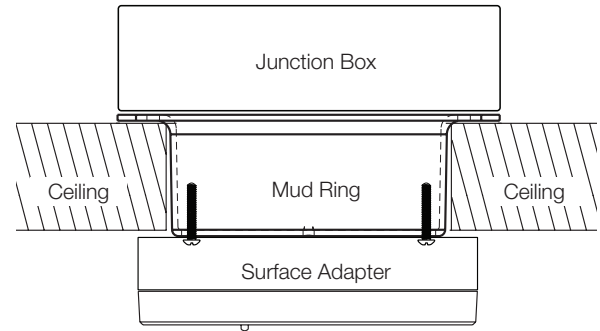
### Mounting (continued)\*

#### Recess/Wall-Mount: L-CMNT-WH

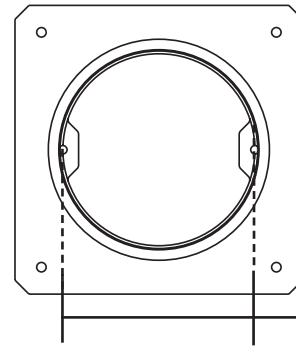


Ceiling thickness  
 Min: 0.30 in (7.62 mm)  
 to  
 Max: 1.20 in (30.48 mm)  
 Requires a 3.25 in to 3.5 in  
 (83 mm to 89 mm) opening

#### Surface-Mount: L-JMNT-WH



Use appropriate mud ring (not supplied by Lutron) for ceiling thickness. Mud ring is not included with any models.



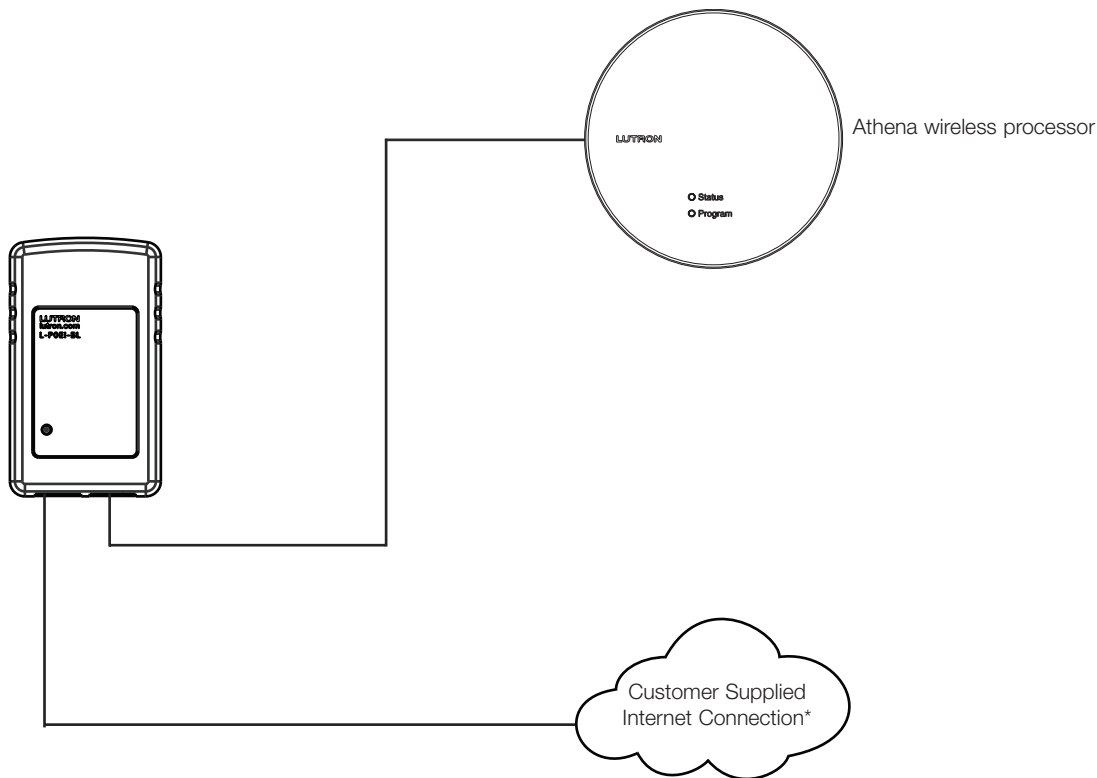
Use mud ring with hole spacing shown here. (Mud ring not included with any models)

2.75 in (70 mm)

\* Both the recess-mount and surface-mount adapters ship with the Athena wireless processor.

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# Single System Riser Diagram

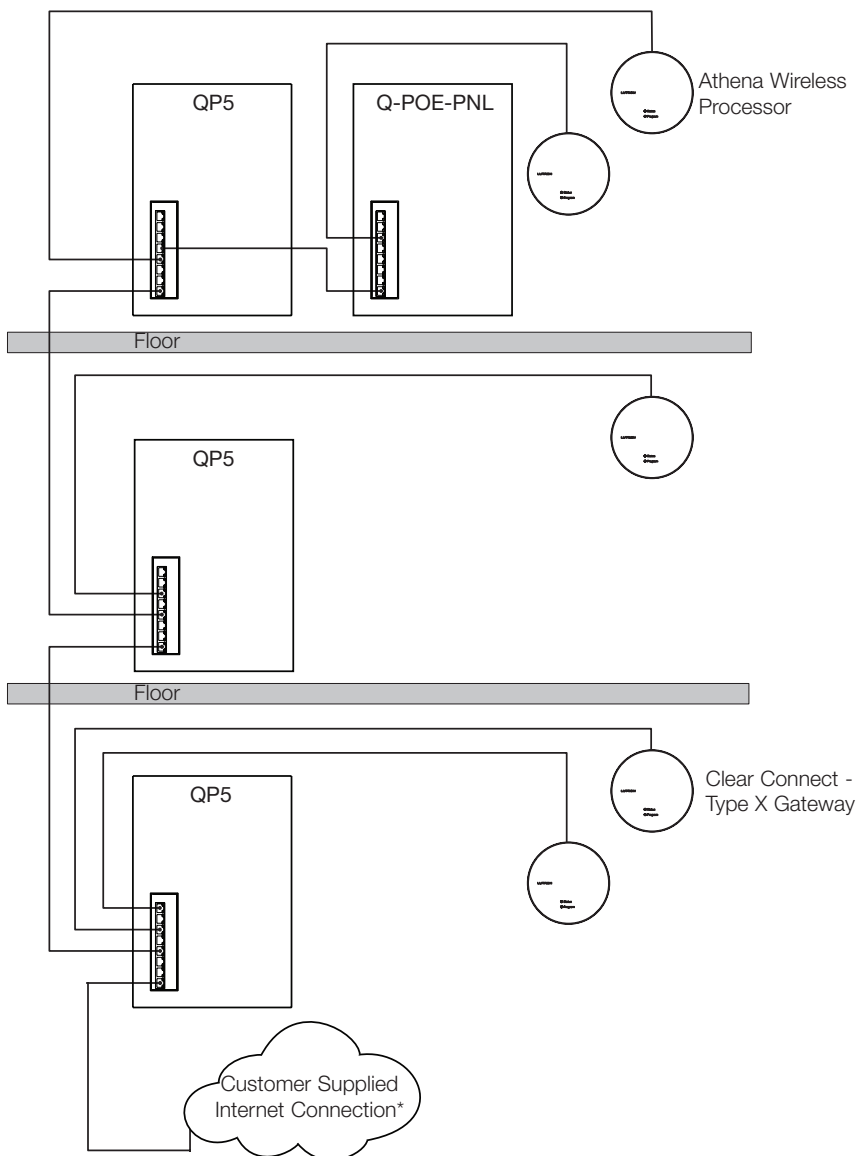


\* Internet connection not required for basic system functionality, but required for Lutron app, Athena dashboard, and other software features.

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| Job Name:   | Model Numbers: |
| Job Number: |                |



# Multi-Processor System Riser Diagram



Note: Refer to the IT Guide at [www.lutron.com/AthenaITguide](http://www.lutron.com/AthenaITguide) for more information on networking requirements.

\* Internet connection not required for basic system functionality, but required for Lutron app, Athena dashboard, and other software features.

|             |                |
|-------------|----------------|
| Job Name:   | Model Numbers: |
| Job Number: |                |

## Software

### OpenADR Compliant

- OpenADR 2.0b compliant when used with LUT-Q-OPNADR-CPN8064\*

### Lutron App Control Application

- System processors require an internet connection
- The Athena system can have up to 10 simultaneously connected mobile app clients
- Compatible with iOS® and Android®
- Requires iOS 13 or newer for Apple devices and Android 12 or newer for Android devices

### Scheduling

- Events can be scheduled to occur at fixed times or relative to sunrise/sunset and can be programmed to occur once or to be reoccurring

### User Access

- Username and password required for user access

### Load Shed/Demand Response

- Participate in load shed/demand response programs offered by local utility companies
- Apply a load shed reduction to the system, thereby reducing the building's lighting power usage

### DALI® Emergency Testing

- System capability that enables the Athena processor to schedule, manage, and report test results of DALI®-2 certified emergency loads connected to the QSN-2DALUNV-D/S modules
- Processor must be connected to the internet to obtain the test results report

### Lighting Control

- Monitor current status of areas, scenes, and zones
- Activate lighting scenes
- Adjust lighting zone levels
- Modify lighting zone levels in area scenes
- Control the intensity and color of Ketra fixtures
- Adjust saturated color and vibrancy of Ketra fixtures

### QS Shade Control

- Monitor current status of shade groups and drives
- Activate shade presets
- Adjust shade levels

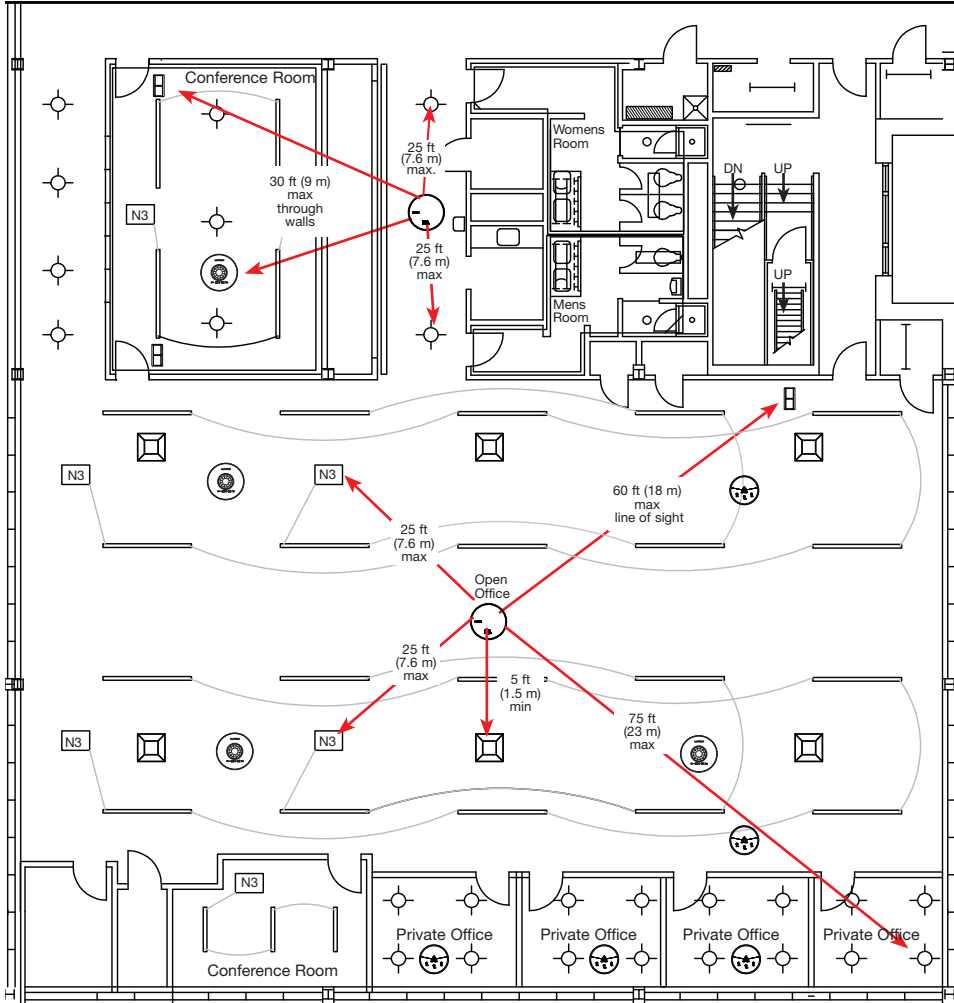
\* Requires a wired processor.

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| <b>Job Name:</b><br><br><b>Job Number:</b> | <b>Model Numbers:</b> |
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## Choose a Location to Install

Choose a location to mount the wireless processor so that it is centrally located in relationship to the other Clear Connect devices. A minimum of two or more Clear Connect – Type X devices must be within 25 ft (7.6 m) of the wireless processor. Clear Connect – Type A devices must be a maximum of 30 ft (9 m) through walls and 60 ft (18 m) line-of-sight of the wireless processor.

**Note:** Each Clear Connect – Type X device should have two or more non-battery powered Type X devices within 25 ft (7.6 m) of another compatible Clear Connect – Type X device. The wireless processor must be installed a minimum of 5 ft (1.5 m) away from any wireless access point.



### Fixture Legend

|  |  |
|--|--|
|  | = Clear Connect – Type X Ketra lamp            |
|  | = Ketra linear fixture                         |
|  | = Clear Connect - Type X Ketra N3              |
|  | = Athena wireless processor                    |
|  | = Wireless Access Point                        |
|  | = Clear Connect - Type A occupancy sensor      |
|  | = Clear Connect - Type A Pico wireless control |
|  | = Clear Connect - Type A Daylight Sensor       |

### Notes:

1. All Clear Connect – Type X devices must be within 75 ft (23 m) of the Athena wireless processor.
2. The Athena wireless processor cannot span multiple floors.
3. The Athena wireless processor should be mounted in the middle of non-metal ceiling tile or drywall, visible from inside the space.
4. Installation near metal, other than a junction box, may reduce RF range. The Athena wireless processor should be at least 12 in (305 mm) away from metal objects.
5. The Athena wireless processor should not be mounted within 5 ft (1.5 m) of a Wireless Access Point.

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