LumInsight® IoT Base Station

Product Description

The LumInsight IoT Base Station is comparable to the LumInsight IoT Gateway, but with a bi-directional pole-mounted amplifier that doubles the range. Part of an Echelon intelligent control system, the Base Station connects wireless lighting controllers with the central management system through an Ethernet link for LAN connections or a cellular link via an integrated modem. The Base Station supports up to 1,000 controllers over a range of up to 4 miles, line of sight, facilitating secure and robust network communication. Echelon intelligent networks are designed to handle multiple Gateways and Base Stations for large scale deployment support.

Operation

The Base Station is housed in an IP66-rated NEMA 4x enclosure that can be pole- or wall-mounted. It uses a 900 MHz antenna that is connected via a lightning protected port, either affixed directly to the device or remotely mounted. All models operate from 120–240VAC at 50/60Hz. The Base Station is supplied with a secondary amplifier, with a 50’ extension cable, that is typically pole-mounted in a location selected to optimize the range of communication. The device is built on a powerful and open Linux-based platform with a built-in modem for cellular connection from multiple wireless carriers.

Features and Benefits

- Manages network of Lumewave by Echelon® wireless lighting controllers and communication with the central management system (CMS)
- Compatible with LumInsight 2 Cloud CMS
- Provides distributed intelligence to the edge of the network for uninterrupted service
- Ethernet link for LAN connection or cellular link via built-in modem
- Supports up to 1,000 controllers up to a 4-mile line of sight
- Secure AES encryption for wireless data transmission
- External RF port for extended coax antenna runs
- Lightning surge arrester on all antenna ports
- Wall or pole mount inside of UL IP66 rated polycarbonate enclosure
- Works in extended temperature range conditions without service interruptions

Typical Smart City or campus RF communication network.

| Project: | Date: | Detail: |
Product Specifications

Wireless parameters

- **Network type:** Cluster mesh topology (optimized for municipal-wide network)
  - IEEE 802.15.4
- **Operating frequency:** 902-928 MHz
- **RF Power:** +30dBm
- **Range:** Up to 4 miles (6.4km), line of sight
- **Number of controllers supported:** Up to 1000, depending on physical topology and mounting height
- **Status messages:** Supports continuous status messages from wireless controllers

Connectivity

- **Cellular model:** Multiple carriers
- **Ethernet model:** 10/100 Ethernet

Mounting and operation

- **Housing:** Polycarbonate with built-in pole mounting brackets
- **Mounting:** Wall or pole
- **Dimensions:** 17.6” x 13” x 4.1” (H x W x D)
- **Operating voltage:** 120-240VAC, 50/60Hz
- **Temperature range:** -30°C to +70°C (Base Station box);
  - -40°C to +70°C (external amplifier)

Safety, compliance and warranty

- IP66 certified
- NEMA 4x
- FCC and IC approved
- 5 year limited warranty*  
  *Subject to terms and conditions found at [http://echelon.com/lp/warranty_five_year](http://echelon.com/lp/warranty_five_year)

Wiring Diagrams

Optimal Base Station location and proper installation are critical to system operation. Please refer to Installation Guide for details.

### Ordering # | Product Name | Product Description
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100150-281 | Luminsight IoT Base Station - Ethernet | Ethernet connection base station for wireless controllers (e.g. TOP900, EMB900) with bi-directional amplifier and 50’ cable for range extension
100150-291 | Luminsight IoT Base Station - Cellular | Cellular connection base station for wireless controllers (e.g. TOP900, EMB900) with bi-directional amplifier and 50’ cable for range extension

Note: For use with Luminsight 2 CMS; not compatible with Luminsight 1 or Luminsight Desktop CMS

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