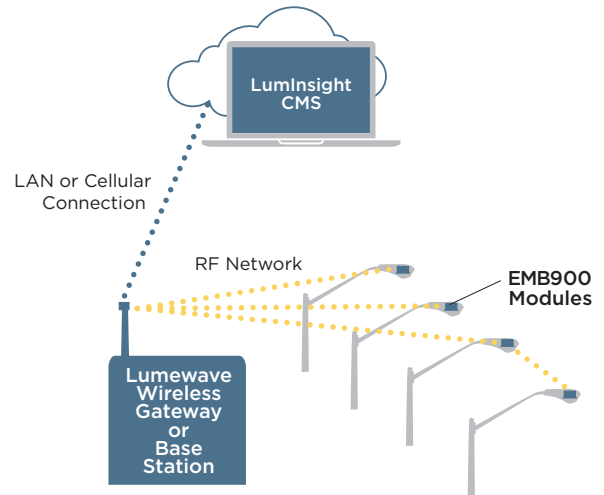# Wireless Lighting Module (EMB900S, EMB900V, EMB900E)

Typical Smart City or campus RF communication network.

Product Description

Part of a *Lumewave by Echelon®* intelligent control system, the EMB900S (pictured above), EMB900V, and EMB900E are wireless control modules that mount directly to a lighting fixture, providing remote monitoring and control. The EMB900S and EMB900V mount to the exterior of an indoor luminaire via the 1/2″ threaded nipple, either vertically (EMB900V) or horizontally (EMB900S). The EMB900E is embedded within a luminaire and utilizes an external antenna for wireless communication; this model may be installed in outdoor fixtures. The modules continuously gather and transmit data about the operational condition of lamps, energy use, voltage, current, power factor, and fixture location to a central management system (CMS).

Operation

With the modules, fixtures can be addressed and grouped for unified ON/OFF, bi-level with OFF, or 0-10 volt dimming control. EMB900s can establish time-of-day and astronomical clock schedules, or can follow a daylight responsive schedule using a TOP900 as a master photocell. Modules can operate without a network connection, using onboard distributed intelligence, and store energy data for 31 days. EMB900s support peer to peer communications and over-the-air upgrades.

Features and Benefits

- Wireless communication for remote control and monitoring; supports adaptive lighting, flexible scheduling, maintenance reports, fault alerts and more

- Designed to mount inside any lighting fixture, or to the exterior of an indoor fixture; three mounting configurations for application flexibility

- Embedded or external RF antenna

- Compatible with most lamp types, including LED, eHID, plasma, and induction

- Provides ON/OFF, bi-level or full range dimming control

- Power metering calibrated to 1% accuracy

- Secure AES 128-bit encryption

- High end trim for enhanced energy savings

- Supports repeater functionality for optimal coverage

- Supports peer to peer communications

Project:	
Date:	Detail:

Product Specifications

Control parameters

- Control profiles and interfaces
  - Power to fixture ON/OFF
  - Bi-level with OFF
- Control events and schedules
  - Weekday and weekend schedules
  - Up to eight control events per day
  - Scheduled events based on time of day and/or astronomical time
  - Schedule use of motion sensors
  - Real-time commands and overrides
- Data logging
- Failure detection and reporting
- Over the air flashing (program updates)

Electrical and operational specifications

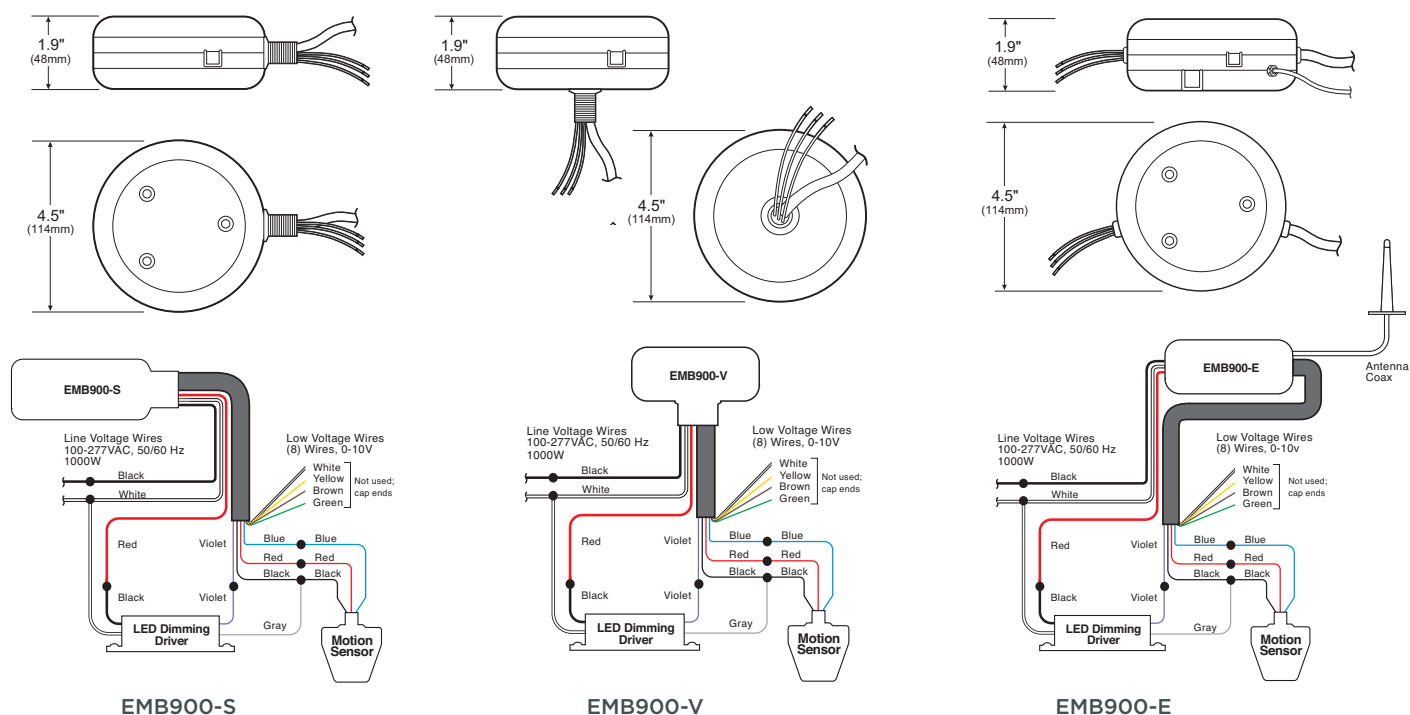|	
Operating voltage:	100–277VAC, 50/60 Hz
Power switching:	1000W
Power consumption:	<2W @ 120/277V
Operating temperature:	-40°C to +70°C; 95%RH

Surge protection:	345J
Relay protection:	Zero crossing
Failsafe:	Power ON, lamp level high
Wireless communication:	IEEE 802.15.4; 902-928 MHz
	10 channel DSSS (Direct Sequence Spread Spectrum)
	RF power adjustable to +24 dBm (250 mW)
Range extender:	EMB900 can be used as repeater to extend range
Input/interface:	Motion sensor
Outputs/interfaces:	0-10V (sink) dimming
	12VDC

Safety, compliance and warranty

- FCC and IC approved
- UL 916 and Canadian C22.2 listed
- 5 year limited warranty*

  *Subject to terms and conditions found at http://echelon.com/lp/warranty_five_year

Dimensions and Wiring

EMB900-S

EMB900-V

EMB900-E

Ordering #	Product Name	Product Description
100127	EMB900S	Wireless lighting module, side mount
100128	EMB900V	Wireless lighting module, vertical mount
100129	EMB900E	Wireless lighting module, external antenna

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