Wireless Lighting Module (EMB900S, EMB900V, EMB900E)

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

Typical Smart City or campus RF communication network.
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 +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

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