Wireless Dimming and Control Module (EMB901)

Product Description
Part of a Lumewave by Echelon® intelligent control system, the EMB901 is a low voltage, wireless controller designed for installation within an enclosed light fixture. The EMB901 is powered by the auxiliary DC output of the fixture’s driver, or by a Lumewave by Echelon XPP-12 power pack power pack. The module provides remote monitoring and control, luminaire diagnostics, scheduling, alarming, and notifications, over the control network for analysis by the central management system (CMS) software.

Operation
With the module, fixtures can be addressed and grouped for unified ON/OFF, high-low stepped dimming with OFF, or 0-10 volt continuous dimming operation. The EMB901 provides scheduled and adaptive control functions as well as high end trim. It can operate without a network connection, using onboard distributed intelligence, and it stores energy data for 31 days, The module supports 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
• Compact wireless controller for integration into luminaires; form factor accommodates slim fixture designs
• Connects to external RF antenna
• Compatible with most lamp types, including LED, eHID, plasma, and induction
• Provides ON/OFF, bi-level or full range dimming control
• Secure AES 128-bit encryption
• High end trim for enhanced energy savings
• Supports peer to peer communications
• Provides regular status updates to the CMS
**Product Specifications**

**Control parameters**
- Control profiles and interfaces
  - Power to fixture ON/OFF (when connected to XPP-12 power pack)
  - 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
- Over the air flashing (program updates)

**Electrical and operational specifications**
- Housing: ABS plastic; UL 5VA rated
- Operating voltage: 12-24VDC
- Operating temperature: -40°C to +70°C

**Antenna connection:** 50 Ohm SMA jack
- FCC antenna with 20” coax and mating SMA plug

**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)

**Input/interface:** Motion sensor

**Outputs/interfaces:**
- 0-10V (sink) dimming
- 12VDC @ 250mA continuous and 350 mA intermittently

**Safety, compliance and warranty**
- IP65 rated
- 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)

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### Dimensions and Wiring

**EMB901 powered by dimming driver with 12-24VDC auxiliary output**

**EMB901 powered by power pack (driver does not have DC output)**

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