

# WIRELESS DIGITAL PHOTOSENSOR

LMDL-600



- Daylight responsive on/off and dimming control for up to three lighting zones
- Dual IPv6 and Bluetooth® low energy antennas provide robust signal strength and reliable communication
- 60 degree spatial response for optimal detection of ambient light level
- Uses IPV6 to establish network communication with all DLM wireless devices
- Quick and easy wireless installation – no Cat 5e connection needed
- Up to 10-year battery life; battery level can be viewed with wireless DLM software
- Calibration using DLM Configuration App



## DESCRIPTION

The LMDL-600 is a wireless open loop photo sensor that measures the daylight contribution in order to automatically switch or dim multiple zones of lighting. It is part of the NEW wireless Digital Lighting Management (DLM) system and sends light level signals to control loads connected to DLM on/off or dimming room controllers.

The LMDL-600 can be configured as an open loop, single zone or multi-zone photosensor.

## OPERATION

The LMDL-600 operates on an included CR123A battery providing a 10+ year lifespan. An installer can create a wireless network via Push-to-Pair, by connecting to other wireless DLM devices in the room via the LMRC-611 wireless dimming room controller, drastically reducing installation time and eliminating wiring errors. The LMDL-600 sends the footcandle level to a room controller where daylighting loads are assigned to the LMDL-600 using any one of three options (Calibration is REQUIRED beyond device pairing described below):

1. **DLM Configuration App available for iOS® or Android®.** Simply walk through the on screen prompts to connect the wireless DLM devices in the room and choose from sequence of Operations profiles. Plug n' Go automatic configuration assigns all loads connected to dimming room controllers to the dimming switch upon system startup.

2. **Push-to-Pair**, by pushing the "config" button on each wireless device in the room to pair them together.
3. **LMCS for networked projects.** Wattstopper LMCS software provides an easy method for commissioning the entire building and applying desired settings to devices on the network.

Following a quick initial setup, the LMDL-600 monitors the daylight contribution through a window or skylight and wirelessly communicates with the room controller(s) to maintain design light levels in each lighting zone. Wattstopper's exclusive automatic calibration control algorithm uses on/off or dimming setpoints and other control parameters to establish the correct light levels throughout the day regardless of changing daylight contribution.

## APPLICATIONS

The LMDL-600 photosensor is recommended for open offices, cafeterias, classrooms, warehouses and any other indoor spaces with daylight contribution. Depending on the mounting orientation, the sensor can detect only daylight or a combination of daylight and electrical light. Each of the control zones can initiate on/off switching or continuous dimming.

PROJECT

LOCATION/  
TYPE

## SIMPLIFIED SETUP AND CONFIGURATION

The LMDL-600's built-in IPv6 radio and Bluetooth low energy technology transceivers allow two-way communication for wireless configuration using the DLM Configuration App as well as system operation. Set up occurs by entering the daylight and the workplane illuminance into the DLM Configuration App. Within the app are easy walk-through steps for easy completion of the setup process. The configuration app may be used to adjust setpoints and other parameters including hold off functionality or the ability turn the lights off should there be enough light in the target area. Adjustable switching parameters include on and off setpoints and time delays. The off setpoint can be adjusted to a value of 25, 50 (default), 75, or 100 percent above the on setpoint. Adjustable dimming parameters include a setpoint, ramp up and down rates. Electric lights can be turned off (default) or dimmed to a user-selectable minimum level when daylight contribution is abundant using various switch mode overrides and caps.

## FEATURES

- Component of the NEW wireless Digital Lighting Management integrated control system
- Compatible with wireless DLM wall switches for manual override, if desired
- Multi-colored LED status indicators
- Mounting options for side lit applications
- Robust and reliable BACnet over IPv6 Network based on open standards & protocols formed automatically with other wireless DLM components
- Three options for commissioning: the DLM Configuration App for iOS or Android, Push-to-Pair, or LMCS for networked projects
- IPv6 wireless standard delivers reliable, long range, low latency wireless communication that is scalable for a single room or entire buildings with thousands of rooms
- Internal antennas with diversity provide robust signal strength and reliable IPv6 communication
- Photodiode has an extended range of 1-1,500 footcandles (fc) for precise measurement of visible light.
- Wireless system, backed by two levels of security.
- Device Validation: Trusted hardware chips prevent any outside devices from being able to connect to the lighting control network
- Zero touch provisioning: Pre-loaded digital identity and security profile increases system security level
- Ongoing AES encryption: Communication between devices is protected by AES128 symmetric key encryption
- Firmware can easily be updated over the air using the DLM Configuration App (which communicates via Bluetooth low energy technology) or LMCS software.
- A fully networked DLM system, paired with RACCESS remote support, allows updates to be pushed to the entire building from the Wattstopper Remote Operations Center (ROC), avoiding downtime or service calls.
- Complies with California Title 24, Section 110.9 requirements
- The product meets the materials restrictions of RoHS

## SPECIFICATIONS

- Power Supply: Battery powered, Lithium Ion, CR123A 3V, 1500 mAh (included)
- Connection to DLM Network: Wireless IPv6 Mesh
- Wireless Standards supported:
  - IPv6 (6LoWPAN / 802.15.4 / 2.4GHz), range up to 60 ft.
  - Bluetooth low energy (802.15.4 / 2.4GHz), range up to 30 ft.
- Built-in Antennas: IPv6 and Bluetooth low energy
- Device Security: Factory provisioned trusted hardware
- Wireless Encryption: AES 128-bit symmetric key
- Operating conditions: for indoor use only; 32-104°F (0-40°C); 5-95% RH, non-condensing
- FCC part 15 compliant
- Five year warranty

## CONNECTION

### LMBR-650

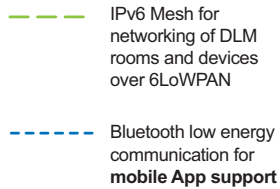
For networking and managing rooms, floors, and building (not needed for stand-alone rooms)

### LMRC-611MCC

Wireless Dimmer and/or Scene Switch

DLM Configuration App on a mobile device

### Wireless Room



### Distance Recommendations:

30' maximum between LMDL-600 and mobile device

60' maximum between LMDL-600 and room controller or bridge

10' minimum and 100' maximum between LMBR-650 and room controller or bridge

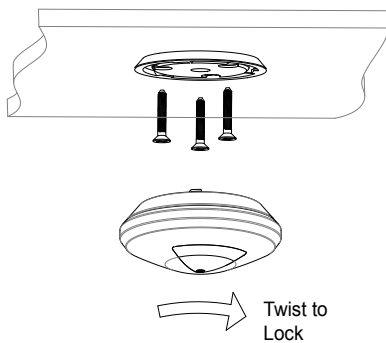
**NOTE:** LMDL-600 must be connected with an LMRC-611MCC room controller. It cannot communicate with the LMBC-650 wireless bridge.

## MOUNTING AND INSTALLATION

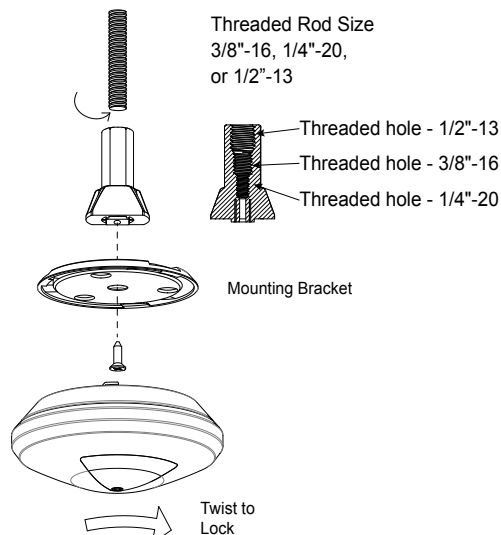
The LMDL-DL600 can be mounted using one of three possible methods:

- Mounted to the ceiling using the included mounting plate
- Mounted to a hanging threaded rod, for open ceiling environments, using the included threaded rod adapter
- Recessed mounting, using the optional LMDL-600-RPM Recessed Plenum Mounting Kit

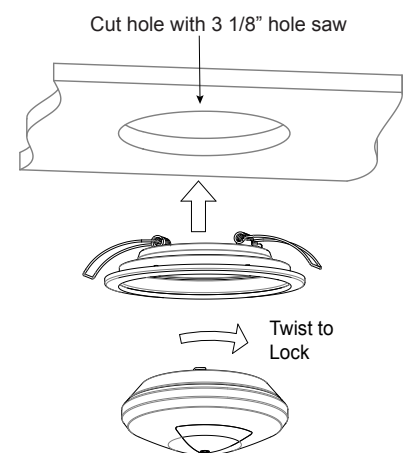
### Ceiling Mount



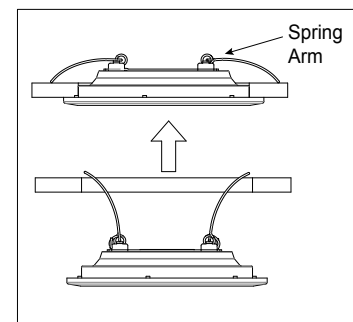
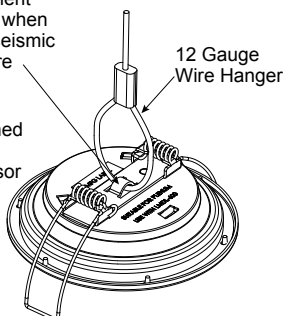
### Threaded Rod Mount



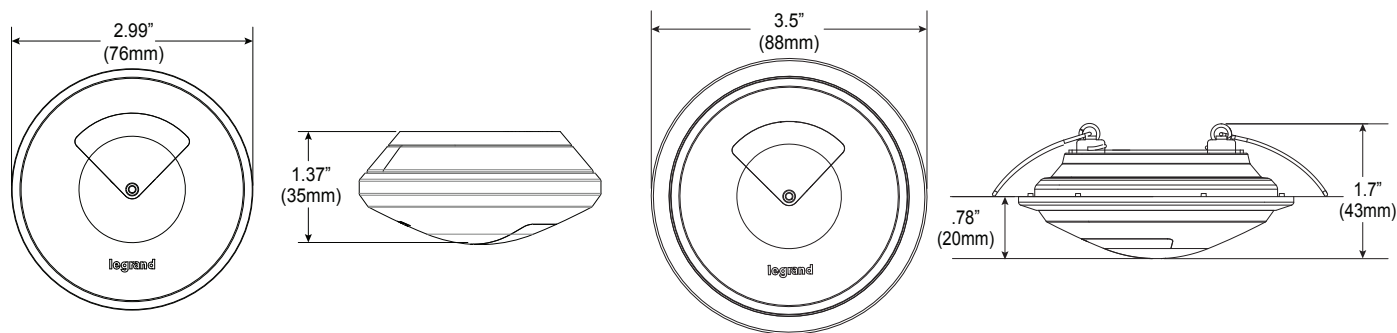
### Recessed Mount



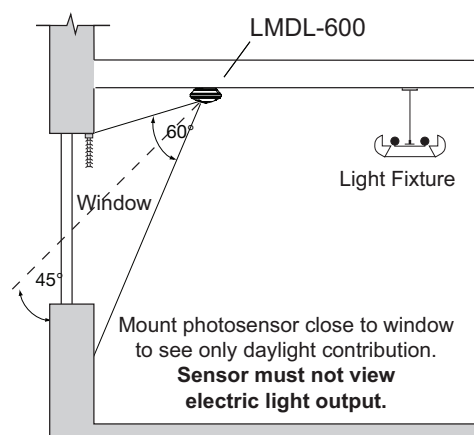
Hanger attachment feature, for use when local safety or seismic requirements are applicable.  
Note: Once the sensor is attached to the recessed mount, the sensor will be firmly in place.



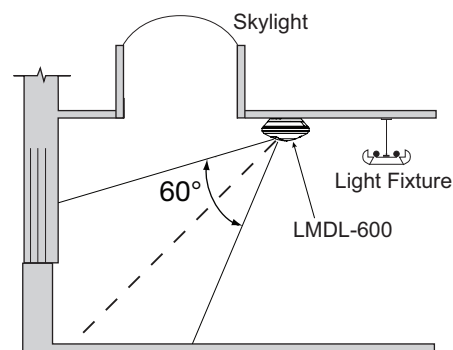
## DIMENSIONS AND PLACEMENT



### Sidelight Applications



### Skylight Applications



## ORDERING INFORMATION

Catalog #	Description
<input type="checkbox"/> LMDL-600	Wireless Open Loop Photosensor, Single or Multi-Zone
<input type="checkbox"/> LMDL-600-U	Wireless Open Loop Photosensor, Single or Multi-Zone, BAA/TAA compliant*
<input type="checkbox"/> LMDL-600-RPM	Recessed Plenum Mounting Kit for LMDL-600

\*Product is compliant with Buy American Act and Trade Agreements Act

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