



# Wattstopper®

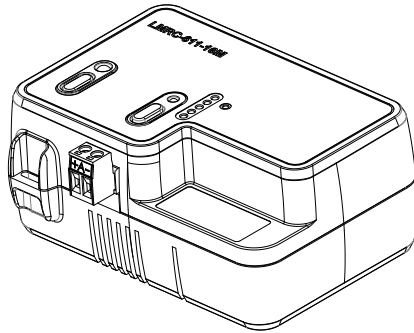
DLM Single Relay Room Controller w/0-10V Dimming and IPv6/Bluetooth®

No: 28388 – 5/19 rev. 2

Quick Start Guide • Guide de démarrage rapide • Guía de inicio rápido

## Catalog Number • Numéro de Catalogue • Número de Catálogo: LMRC-611-16M

Country of Origin: Made in China • Pays d'origine: Fabriqué en Chine • País de origen: Hecho en China



## SPECIFICATIONS

Input Voltage ..... 120/277VAC, 50/60Hz

Relay rated for up to:

Incandescent ..... 16A @120VAC

Ballast and E-Ballast ..... 16A @120/277VAC

Class 1 & 2 Dimming Output, 0-10V sinks up to 50mA per channel

Metering capability provides power monitoring within 2% of the true value.

Environment:

Operating Temperature .....32° to 131°F (0° to 55°C)

Storage Temperature ..... 23° to 176°F (-5° to 80°C)

Relative Humidity ..... 5 to 95% (non condensing)

Wireless Hardware

Radio ..... Single 2.4GHz

Antenna ..... IPv6 Mesh and Bluetooth low energy technology

Standards Supports both 802.15.4 and Bluetooth low energy

Wireless Communication

IPv6 Mesh (6LoWPAN) Range ..... up to 100 ft.

Bluetooth low energy Range ..... up to 30 ft.

Wireless Encryption

AES-128 bit symmetric key, randomly generated per PAN

Shared via secured DTLS only

Other

Compatible Border Router: ..... Wattstopper LMBR-650

BACnet IPv6 capable

Compliance/Regulatory

UL2043 Plenum rated, FCC, RoHS,

Bluetooth certified

UL and cUL listed (E101196)

**Installation shall be in accordance with all applicable regulations, local and NEC codes.** Wire connections shall be rated suitable for the wire size (lead and building wiring) employed.

For Class 2 DLM devices and device wiring: To be connected to a Class 2 power source only. Do not reclassify and install as Class 1, or Power and Lighting Wiring.

## PRODUCT DESCRIPTION

The LMRC-611-16M is a wireless room controller that is compatible with all Wattstopper IPv6/Bluetooth® low energy technology wireless DLM sensors and switches. Using Push-to-Pair, wireless devices can be paired to a room controller for stand-alone room operation.

The LMRC-611-16M can also be joined to a multi-room mesh network by adding an LMBR-650 border router. Wireless room controllers can join an LMBR-650 network using the wireless DLM Config app or LMCS v4.7.1 and later.

## MOUNTING AND WIRING

The LMRC-611-16M room controller can be mounted external to any junction box with 1/2" knockouts, and can be mounted in a plenum space.

All line voltage wiring is #14 AWG. The relay is rated for up to 16A; total load for LMRC-611-16M not to exceed 16A. On/Off or 0–10V dimming loads can connect to any load relay.

For dimming ballasts, either or both the Class 1 and Class 2 0–10V wires may be connected. For Class 1 Dimming, wiring is 18# AWG.

Class 1 is preferred in new installations when the violet and gray dimming signal wires are included in the fixture power cable. Class 2 is used for new or existing installation when it is easier to run the violet and gray dimming signal wires outside the fixture cable.

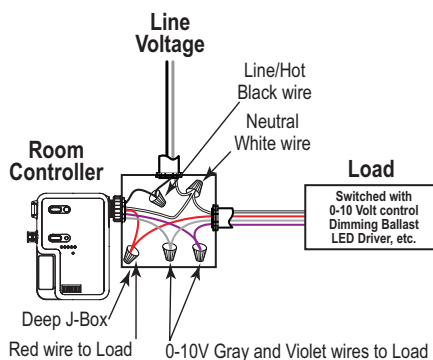
Class 1 and Class 2 wiring should be maintained throughout the installation and cannot be swapped—appropriate wiring practices should be used. Class 1 and Class 2 circuitry in the LMRC-611-16M units are galvanically isolated.

### IMPORTANT INSTALLATION NOTES:

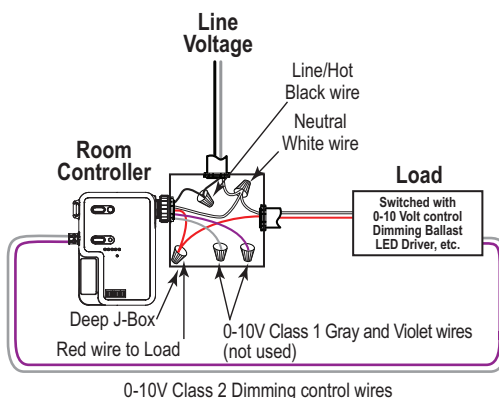
- You must maintain a minimum of 6" between each room controller on the same junction box. This means mounting the LMRC on opposite ends.
- Ceiling mounted LMRCs must be mounted with the label side facing down towards the floor to increase communication performance with other wireless switch and sensor devices. LMRCs mounted on the wall must have the unit label face into the room.

## WIRING

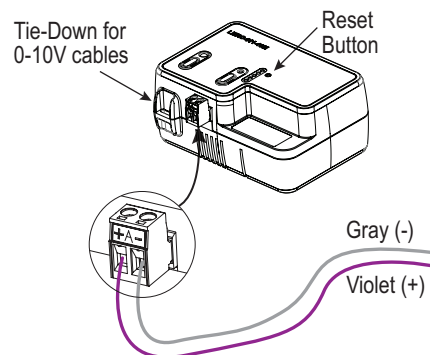
### LMRC-611-16M with Class 1 Dimming



### LMRC-611-16M with Class 2 Dimming

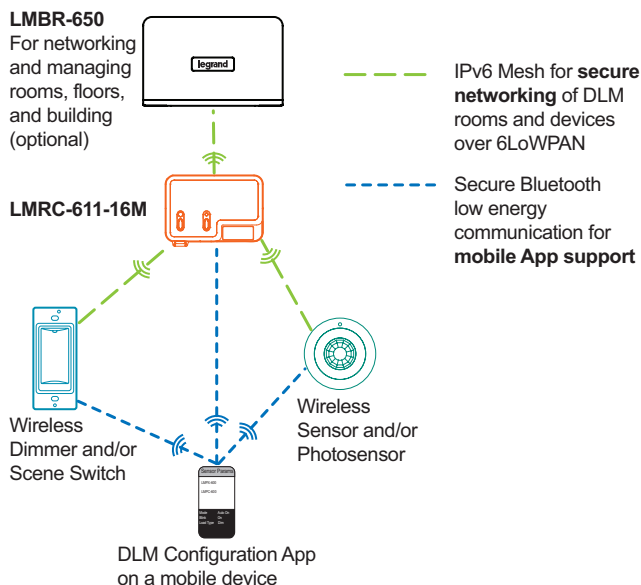


### 0-10V Class 2 Connections



**⚡ WARNING: TURN THE POWER OFF AT THE CIRCUIT BREAKER BEFORE WIRING. ⚡**

## WIRELESS DLM CONNECTION



### Distance Recommendations:

- 30' max between LMRC-611-16M and mobile device
- 60' max. between LMRC-611-16M and battery device
- 10' minimum and 100' maximum between LMBR-650 and LMRC-611-16M

## SETTING UP A ROOM NETWORK BY PAIRING DEVICES

Pair wireless devices to a room controller to create a secure individual room network and enable Plug N' Go operation. Device pairing can be done by using Push-to-Pair (PtP) mode on the room controller and all other wireless devices, or by using the DLM Config App. To pair devices in a network, they must all have the same wireless channel and PAN ID. By default the channel is 15 and the PAN ID is 1. Using Push-to-Pair mode, the PAN ID for all devices being paired is migrated to a new number, so that only those devices communicate with each other.

### Recommended Pairing Methods for Different Scenarios

	Rooms with One Room Controller	Rooms with Multiple Room Controllers
Set Up a new room network	DLM Config App or Push-to-Pair Mode	DLM Config App or Push-to-Pair Mode
Add a device to an existing room network	DLM Config App or Push-to-Pair Mode	DLM Config App

**NOTE:** LMCS-100 software, version 4.7 or later can also be used to pair devices. However, LMCS-100 requires use of an LMBR-650.

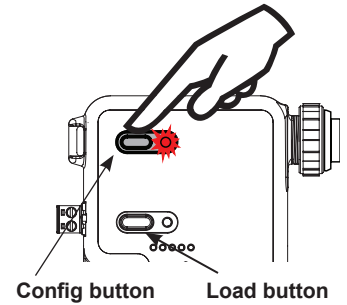
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## SET UP A ROOM NETWORK USING PUSH-TO-PAIR MODE

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### Push-to-Pair in a room with a single LMRC-611-16M Room Controller

**NOTE:** Once you enter PtP mode on the room controller, a three minute timer begins. If the Config button on any device in the room is pressed, the timer resets and begins the three minute countdown again. If no Config button is pressed within three minutes, the room controller will exit PtP mode.



1. **Enter PtP mode on the room controller.** Press the Config button three times (within three seconds) until the LED on the room controller flashes green.
2. **Enter PtP mode on a sensor or switch.** On one of the sensors or switches, press the Config button three times. As with the room controller, the LED on the device will flash green.
3. **Pair the devices.** On that same sensor or switch, press the Config button once to pair it to the room controller. The load connected to the room controller will toggle once (if the load is OFF, it will turn ON; if ON, it will turn OFF) to indicate that pairing was successful. Also, the sensor or switch's blinking LED will turn to solid green as another indicator of a successful pairing.

**NOTE:** Repeat steps 2 and 3 for each of sensor and switch in the room, so that all devices are paired together in the same network. For each device, the load will toggle during step 3 and its config LED will turn solid green.

4. **Exit PtP mode.** Exit PtP from any device, by pressing the Config button 3 times. The LED on the room controller will flash blue while it completes the pairing process. The default PAN ID on all devices will change to a new number, based on the last four digits of the Mac address on the room controller, and now those devices will communicate only with each other and not any devices which have not been paired. Once complete, the switches and sensors will automatically exit PtP mode and will reboot. The LED on each switch or sensor will flash white at least once before resuming normal operation.

**NOTE:** It is important to exit PtP mode within the three minute time limit mentioned above. If you do not, none of the device pairings will be remembered and you have to start the process over from the beginning.

### Push-to-Pair in a room with multiple LMRC-611-16Ms

In a room with multiple loads, there may be more than one LMRC-611-16M. They can all be paired to the same room network, allowing the scene switch to set each load to different levels per scene. One of the room controllers will become the master, determining the PAN ID and channel settings for all the devices in the network.

1. **Enter wireless Push-to-Pair (PtP) mode on all room controllers.** Press the Config button three times on each LMRC-611-16M to put them all in PtP mode. The green LEDs will flash on all room controllers. The first room controller placed into PtP will become the master.
2. **Enter PtP mode on a sensor or switch.** On one of the sensors or switches, press the Config button three times. As with the room controller, the LED on the device will flash green.
3. **Pair the devices.** On that same sensor or switch, press the Config button once to pair it to the room controller. The load connected to the room controller will toggle once (if the load is OFF, it will turn ON; if ON, it will turn OFF) to indicate that pairing was successful and its config LED will turn solid green.

**NOTE:** Repeat steps 2 and 3 for each sensor and switch in the room, so that all devices are paired together in the same network. For each device, the load will toggle and its config LED will turn solid green during step 3.

4. **Pair the room controllers together.** Press the Config button once on each room controller. This indicates to the room controllers that they will be paired with each other.  
The master room controller's LED blink rate will double once the first device is paired to it. This faster blink rate is convenient when multiple room controllers are present on the same network.
5. **Exit PtP mode.** From any device, press the Config button 3 times. The LED on the room controller will flash blue while it completes the pairing process. The default PAN ID on all devices will change to a new number, based on the last four digits of the Mac address on the room controller, and now those devices will communicate only with each other and not any devices which have not been paired. Once complete, the switches and sensors will automatically exit PtP mode. The LED on each switch or sensor will flash white at least once before resuming normal operation.

**NOTE:** It is important to exit PtP mode within the three minute time limit mentioned above. If you do not, none of the device pairings will be remembered and you have to start the process over from the beginning.

### Pairing a device to an existing network

If you need to add a device to an existing in-room network, follow the procedure below:

1. **Enter wireless Push-to-Pair (PtP) mode on the room controller.** Press the Config button three times (within three seconds) until the LED on the room controller flashes green.
2. **Enter PtP mode on the new device.** On the new device, press the Config button three times. As with the room controller, the LED on the switch will flash green.
3. **Pair the devices.** On the new device, press the Config button once to pair it to the room controller. The load connected to the room controller will toggle once (if the load is OFF, it will turn ON; if ON, it will turn OFF) to indicate that pairing was successful and its config LED will turn solid green.
4. **Exit PtP mode.** Exit PtP from any device, by pressing the Config button 3 times. The LED on the room controller will flash blue while it completes the pairing process. The PAN ID of the new device will change to the value used by the previously paired devices and the room controller also returns to that value.

## DEVICE PAIRING AND UNIT ADJUSTMENT USING THE DLM CONFIG APP

The DLM Config App is available for both iOS® and Android® devices. Search “DLM Config” on your device to download.



The app provides the ability to pair various devices in a room. Additionally, you can modify load binding and edit various DLM parameters for each device.

For details on the features and operation, download the DLM Config App User Guide from the wattstopper web site at : <https://www.legrand.us/wattstopper.aspx>

## PLUG N’ GO

Plug n’ Go supports the most energy efficient control strategy. A set of wireless scenes are automatically assigned for load control by switches and sensors, after pairing is complete.

**NOTE:** LMCS-100 software, version 4.7 or later can also be used to pair devices and edit DLM parameters. However, LMCS-100 requires use of an LMBR-650.

## UNIT ADJUSTMENT – PUSH N’ LEARN (PNL)

### Load Selection Procedure

In situations in which there is more than one LMRC-611-16M in a room, the configuration button allows access to Push n’ Learn™ (PnL) technology to change the binding relationship between the LMSW-605/LMDM-601 and loads.

**NOTE:** PnL cannot be used to change the binding on wireless sensors, although it is possible to enter PnL mode from a sensor.

### Step 1 Enter Push n’ Learn

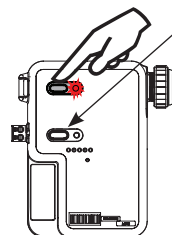
Press and hold the Config button (on any DLM device) for 3 seconds.

The red LED on the LMRC-611-16M begins to blink. The LED on all switches and sensors in the local room network will also blink red. The LEDs will continue to blink until you exit PnL mode.

**NOTE:** If a switch or sensor is currently “asleep”, it will not blink. To ensure the switch is currently awake before initiating PnL, press its Config button first, or initiate PnL from that switch.

All loads in the room turn OFF immediately after entering PnL, then one load will turn ON. This is Load #1. On the LMRC-611-16M for that load, the blue Load LED will also be ON.

Config button & red LED



Blue LED

Blue LED ON when load is ON.

Load button:  
Press & release for ON/  
OFF.

Press & hold to Dim.

### Step 2 Load selection

Press and release the Config button to step through the loads connected to the DLM Local Network. Each time you press the Config button, the next load in the series will turn ON along with its Load LED, and the previous load will turn OFF.

To bind or unbind a button or paddle from the load press that button or paddle on the LMSW-605 or LMDM-601. The LED on the paddle will blink once blue or red, and then revert to blinking red. Each time you press the paddle, it will cycle to the next option:

- **Blue** – The button or paddle is bound to the load.
- **Red** – The button or paddle is not bound to the load.

### Step 3 Exit Push n’ Learn

Press and hold the Config button until the red LED turns OFF, approximately 3 seconds.

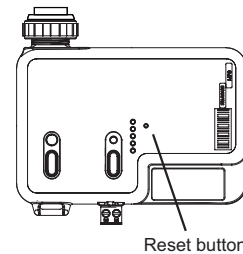
## RESETTING THE LMRC-611-16M

When you reset the LMRC-611-16M, the Channel and PAN ID will return to their default values. Note that if switches and sensors were previously paired to the room controller, they will still remain set to the previous Channel and PAN ID, but will not be in communication with the room controller and so will not control the load. However, in a room with multiple room controllers, the other room controllers would still be paired to the switches and sensors and those loads would respond.

There are two ways to reset the LMRC-611-16M:

- Press the Config button 10 times. The LED will blink green each time the Config button is pressed (except for the 7th press which will blink blue. On the 10th press, the LED will blink red. Then it will turn red again and then briefly turn white indicating it is rebooting.
- On the front of the room controller, is a small hole that will fit a paper clip. Use a paper clip to depress the button inside that hole and hold for 15 seconds. When you first press the reset button, the LED will blink red once, then after the 15 seconds will reboot and the LED will briefly turn white, indicating it is rebooting.

**If you want to re-pair a room controller that has been reset, the easiest way is to use the DLM Config app,** setting the room controller back to the previously used Channel and PAN ID.



If using Push-to-Pair, then **if the room has only this one room controller, or if the room controller was the master** in a network with more than one room controller, then following the standard Push-to-Pair method will return the LMRC-611-16M to the previous PAN ID, since it is based on that Mac address of the room controller. But, **if the room controller was not the master**, then you must follow the procedure for adding a new device to an existing room, with this room controller as the new device.

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## TROUBLESHOOTING

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<b>The wrong lights and plug loads are controlled</b>	Configure the switch buttons and sensors to control the desired loads using the Push n' Learn adjustment procedure or DLM Config App.
<b>LEDs on the room controller turn ON and OFF but load doesn't switch</b>	<ol style="list-style-type: none"><li>1. Make sure the DLM local network is not in PnL.</li><li>2. Check load connections to room controllers and/or plug load controllers.</li></ol>
<b>Lamps do not dim, or lamps drop out at low dim levels</b>	<ol style="list-style-type: none"><li>1. Make sure a 0–10V dimming ballast and rapid start sockets are installed per the ballast manufacturer's recommendation. Shunted sockets are typically not acceptable.</li><li>2. Disconnect the 0-10v wires from the RC then-short and open the 0-10v connection to confirm the lights go full dim, full bright.</li><li>3. Check wiring per ballast manufacturer's instructions.</li></ol>

CONTAINS FCC ID: Q4B-P3 IC:21161-P3

#### FCC REGULATORY STATEMENTS

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This device complies with FCC and IC safety levels of radio frequency (RF) exposure for Mobile devices.

This device is only authorized for use in a mobile application. At least 20 cm of separation distance between this device and the user's body must be maintained at all times.

Any changes or modifications not expressly approved by The Watt Stopper Inc. could void the user's authority to operate the equipment.

WARRANTY INFORMATION	INFORMATIONS RELATIVES À LA GARANTIE	INFORMACIÓN DE LA GARANTÍA
Wattstopper warranties its products to be free of defects in materials and workmanship for a period of five (5) years. There are no obligations or liabilities on the part of Wattstopper for consequential damages arising out of, or in connection with, the use or performance of this product or other indirect damages with respect to loss of property, revenue or profit, or cost of removal, installation or reinstallation.	Wattstopper garantit que ses produits sont exempts de défauts de matériaux et de fabrication pour une période de cinq (5) ans. Wattstopper ne peut être tenu responsable de tout dommage consécutif causé par ou lié à l'utilisation ou à la performance de ce produit ou tout autre dommage indirect lié à la perte de propriété, de revenus, ou de profits, ou aux coûts d'enlèvement, d'installation ou de réinstallation.	Wattstopper garantiza que sus productos están libres de defectos en materiales y mano de obra por un período de cinco (5) años. No existen obligaciones ni responsabilidades por parte de Wattstopper por daños consecuentes que se deriven o estén relacionados con el uso o el rendimiento de este producto u otros daños indirectos con respecto a la pérdida de propiedad, renta o ganancias, o al costo de extracción, instalación o reinstalación.