**Quick Start Guide**

**LMRC-111/112**

**Digital Lighting Management (DLM)**

**Single/Dual Relay w/0-10V Dimming Room Controller**

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**Placement Example**

**Specifications**

Input Voltage ......................................................... 120/277VAC, 50/60Hz
Load Requirements ............................................ Not to exceed 10A total

- Relay rated for up to:
  - Incandescent .............................................. 10A @ 120VAC
  - Ballast .................................................... 10A @ 120/277VAC
  - E-ballast .................................................... 10A @ 120/277VAC

Output to DLM Local Network ......................... up to 150mA @ 24VDC
Class 1 & 2 Dimming Output, 0-10V sinks up to 50mA per channel

**DLM Local Network Characteristics when using LMRC-111/112:**

- Provides low voltage power over Cat 5e cable (LMRJ); max current 800mA.
- Supports up to 64 load addresses, 48 communicating devices including up to 4 LMRC-10x series and/or LMPL-101 controllers. Free topology up to 1,000’ max.
- Metering capability in LMRC-111-M and LMRC-112-M provides power monitoring within 2% of the true value.
- Power monitoring capability when used with LMSM Segment Manager.

**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)

**UL 2043 Plenum Rated, ROHS Compliant**

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**Mounting, Wiring, and Connecting to a DLM Network**

The LMRC-111/112 room controller can be mounted external to any junction box with 1/2” knockouts, placing it in the plenum space.

All line voltage wiring is #16 AWG. Each relay is rated for up to 10A; total load for LMRC-112 not to exceed 10A. Specified load types can connect to any load relay. Do not connect different load types to the same 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.

Connect the 0-10V control wires to the 0-10V terminals that match the load relay output connection.

Class 1 is preferred in new installations when the violet and grey 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 grey 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 units are galvanically isolated.

The LMRC-111/112 communicates to all other DLM devices connected to the DLM Local Network. Connections shown are for example only. The low voltage LMRJ cables can connect to any DLM device with an open RJ45 receptacle.
PLUG N' GO OPERATION (PNG)

Plug n' Go supports the most energy efficient control strategy. For example, if at least two loads, one switch and one occupancy sensor are connected to the DLM local network, the system operates load A as Automatic ON, Automatic OFF and load B as Manual-On, Automatic-Off.

See DLM device Quick Start Guides to determine how each device affects the PNG operation of the LMRC-111/112.

Load Control Arbitration

To take full advantage of automatic PnG configuration, review these simple rules about load control arbitration.

After the room controllers are connected to the DLM Local Network and powered up they automatically negotiate to determine which controller becomes the Master and which load numbers are assigned to each relay on the DLM Local Network.

The Master is the controller with the most load relays and the highest serial number.

Load A ON/OFF/Dim button

Blue LED ON when load is ON.
Load button:
Press & release for ON/OFF.
Press & hold to Dim.

Example: In a DLM local network with only LMRC-112 room controllers, the LMRC-112 with the highest serial number is the Master, carrying Load 1. The next highest serial number would have Load 2, and so forth.
**Troubleshooting**

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<th>Condition</th>
<th>Recommendation</th>
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| **LEDs on a switch or sensor don’t light** | 1. Check to see that the device is connected to the DLM Local Network.  
2. Check for 24VDC input to the device: Plug in a different DLM device at the device location. If the device does not power up, 24VDC is not present.  
   • Check the high voltage connections to the room controller and/or plug load controller(s).  
   • If high voltage connections are good and high voltage is present, recheck DLM Local Network connections between the device and the room controller(s). |
| **The wrong lights and plug loads are controlled** | Configure the switch buttons and sensors to control the desired loads using the Push n’ Learn adjustment procedure. |
| **LEDs turn ON and OFF but load doesn’t switch** | 1. Make sure the DLM local network is not in PnL.  
2. Check load connections to room controllers and/or plug load controllers. |
| **Lamps do not dim, or lamps drop out at low dim levels** | 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.  
2. Check wiring per ballast manufacturer’s instructions. |

**UNIT ADJUSTMENT - PUSH N’ LEARN (PNL)**

**Load Selection Procedure**

A configuration button (Config) allows access to Wattstopper’s patented Push n’ Learn™ technology to change binding relationships between sensors, switches and loads.

**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-111/112 begins to blink. When you release the button, the red LEDs on other communicating devices connected to the DLM Local Network begin to blink. They continue to blink until you exit PnL mode.

All loads in the room turn OFF immediately after entering PnL, then one load will turn ON. This is Load #1, which is bound to switch button #1 and occupancy sensors as part of the Plug n’ Go factory default setting. All switch buttons and sensors that are bound to this load have their blue LED solid ON.

**Step 2 Load selection**

Press and release the Config button to step through the loads connected to the DLM Local Network. As each load turns ON note the devices (switch buttons and sensors) that are showing a bright solid blue LED. These devices are currently bound to the load that is ON. The blue LED on the room controller or plug load controller connected to the load is also lit.

- To unbind a switch or dimmer button from a load, press the switch button while its blue LED is ON bright. The blue LED goes dim to indicate the button no longer controls the load that is currently ON.
- To unbind an occupancy sensor, press the up (↑) or down (↓) adjustment button while its blue LED is ON. The blue LED turns OFF to indicate the sensor no longer controls the load that is currently ON.

Pressing the switch button or sensor up (↑) or down (↓) again while the load is ON rebinds the load to the button or sensor and the blue LED illuminates brightly.

**Step 3 Exit Push n’ Learn**

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