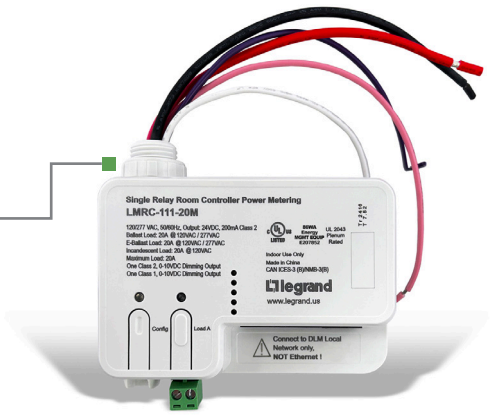
ON/OFF/0-10 VOLT DIMMING ROOM CONTROLLER

LMRC-111-20M

Plenum-rated controllers with line voltage relay and 0–10 volt dimming output

Knockout mounting for easy installation; Class 1 and/or Class 2 connection for 0–10V wiring

Advanced real time metering of voltage and current (+/- 2% accuracy)



Plug n' Go™ automatic configuration for quick installation and maximum energy efficiency

Supports energy saving manual-on, partial-on and dimming control strategies

Over-current protection: relay closes to prevent device damage in an over-current situation.

Store 16 scene preset levels for each load

DESCRIPTION

LMRC-111-20M room controllers include one relay capable of switching a 20 amp load, a high-efficiency intelligent switching power supply and both Class 1 and Class 2 0-10 volt outputs for control of dimmable loads including compatible LED drivers or electronic ballasts. Room Controllers are the foundation of a Digital Lighting Management (DLM) system, and allow integration of occupancy sensors, daylighting controls and switches for energy-efficient control.

OPERATION

LMRC-111-20M room controllers operate on one 120 or 277 volt, feed and provide Class 2 power to sensors and switches via the DLM local network. Once powered up, Plug n' Go automatically configures system components for the most energy-efficient operation. The room controllers then dim or switch lighting or motor loads in response to input from the communicating devices. When a dimming input is received, the relay switches on when the dimmed level rises above zero, and off when it reaches zero, to coordinate control of power and the 0-10 volt signal to the load. They also monitor the current draw of the total connected load. Each room controller stores up to 16 scene preset levels for each dimmed output. Room controllers include circuitry to open their 0-10V signal on loss of power, so any separately powered ballast or driver connected to those 0-10V wires will go to full brightness.

PLUG N' GO AUTOMATIC CONFIGURATION

DLM room controllers manage Plug n' Go automatic system configuration, which establishes functionality based on the installed components. When room controllers are connected only to occupancy sensors, the system defaults to automatic on/off operation. If a wall switch is added to a system with one load, the load defaults to manual-on/automatic-off operation. At system startup, default dimming parameters are established including: levels for scene presets 1-4; fade times; and fade and ramp rates. Dimming and system parameters may be customized using Push n' Learn.

APPLICATIONS

LMRC-111-20M room controllers are ideal for single zone on/off or dimming control applications including private offices, open offices, conference rooms and classrooms. Metering enables facility managers to track building power usage for lighting or other loads. A network bridge, either wireless or wired (LMBC-650 or LMBC-300), is required to expose DLM local network power measurement readings to a segment manager or LMBR-650 Border Router, so they can be shared with a BAS.

FEATURES

- Push n' Learn™ functionality for personalization without the need for tools or a PC
- Digital Lighting Management components plug together on a free-topology Cat 5e DLM local network eliminating wiring errors
- On/Off/Dim local override button for each load
- LED indicates status of load
- 0-10V signal opens on loss of LMRC power
- Instantaneous current and voltage measurement of total connected load
- 3 RJ45 ports; molded cable tie ring for strain relief
- Zero-crossing circuitry for reliability and increased product life
- UL 2043 plenum rated
- This product meets the materials restrictions of RoHS
- BAA/BABA-compliant model available

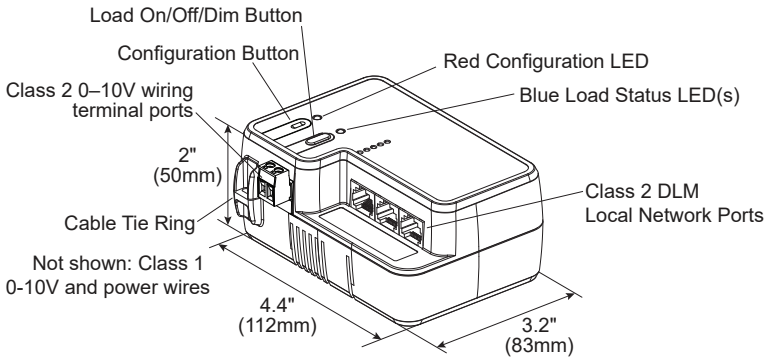
PROJECT		LOCATION/ TYPE	

SPECIFICATIONS

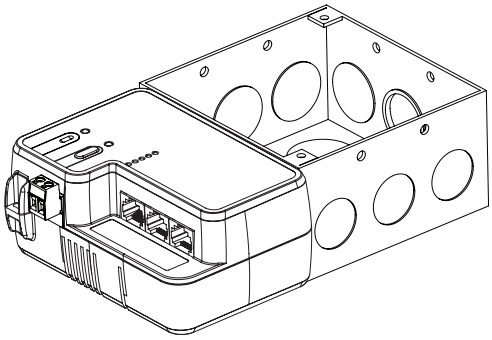
- Voltage: 120/277VAC; 50/60Hz
- Relay rated for up to: Incandescent 20A @ 120VAC, Ballast 20A @ 120VAC, E-ballast 20A @ 120/277VAC
- Galvanically isolated Class 1 pigtails and Class 2 terminals for 0-10VDC signal; sinks up to 50mA (Class 1/Class 2) for control of compatible ballasts/drivers (25 if each source is 2mA)
- DLM local network parameters:
  - Maximum current: 800mA
  - Maximum cable (Cat5e): 150' per intelligent device on local DLM network, up to 1,000' max.
  - Up to 64 loads
  - Communicating Device Limitation:
    When all power supplies are 10X-Series: 24 Devices.
    When other power supplies are present: 48 Devices.
  - Maximum of (5) 10X-Series power supplies (LMRC-10X, LMPL-101, LMPB-100) per local network.
- Class 2 output to DLM local network: 24VDC, intelligently provides 200mA across 3 RJ45 ports
- Compatible with LMCS Software v5.10 or later and DLM Configuration Tool (LMCT-100-2)
- Operating conditions: for indoor use only; @120/277V: 32-131°F (0-55°C); 5-95% RH, non-condensing
- UL and cUL listed (E207852), Complementary Listed to Emergency Lighting Equipment (UL924)
- FCC part 15 compliant
- Five year warranty

CONTROLS & MOUNTING

Controls and Dimensions



Mounting

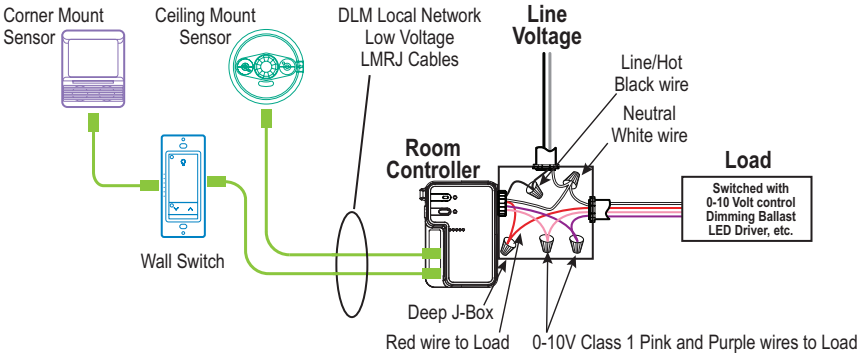


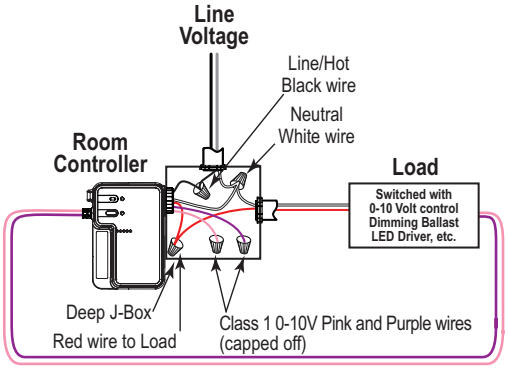
Mount to 1/2" KO on a deep J-box

Note: Can be installed an Electrical box to meet Chicago Plenum (CCEA) guidelines

Load Parameter (for each dimmed output)	Default Setting	Available Options
High trim	85%	1-100%
Low trim	0%	0-99%
Preset On Level	50%	0-100%
Preset level: Scenes 1-16	1: 100%, 2: 75%, 3: 50%, 4: 25%, 5-16: 100%	All: 0-100%
Preset fade time	2 seconds	0 seconds – 18 hours
Lamp burn in time	0	0, 12 or 100 hours

SAMPLE CONNECTION DIAGRAM WITH CLASS 1 & CLASS 2 DIMMING CONTROL WIRING





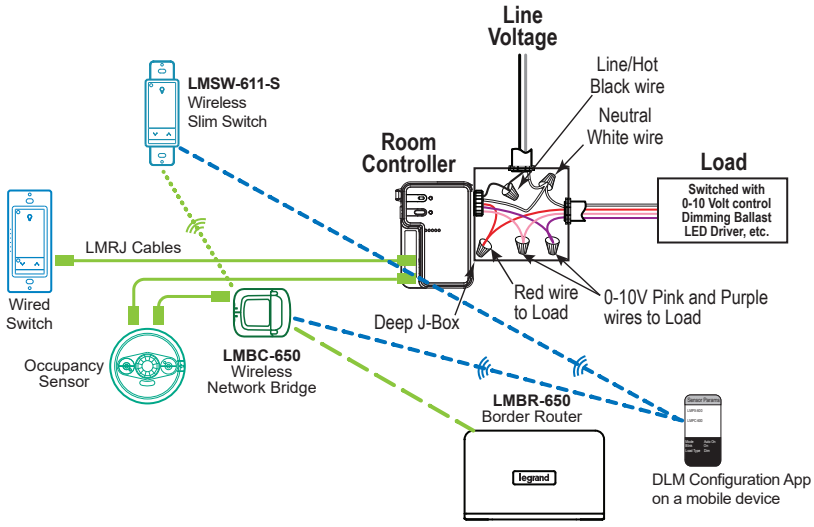
0-10V Class 2 Dimming control wires

Wire Color	Function
Black	Line In
White	Neutral
Red	Load Switched Hot
Purple	Load 0-10V (+)
Pink	Load 0-10V (–)

NOTE: Per UL, starting in 2021, the 0-10V negative dimming wire color has been changed from gray to pink.

Plug DLM local network components together in any configuration using Cat 5e cables with RJ45 connectors.

SAMPLE CONNECTION DIAGRAM FOR A HYBRID ROOM WITH WIRED AND WIRELESS DEVICES



IPv6 Wireless communication between DLM Room devices over 6LoWPAN

IPv6 Mesh

Bluetooth wireless technology communication for **mobile App support**

Note: For a single (non-networked) hybrid room, the LMBR-650 is not required.

Note: The DLM Config App can only connect with the LMBC-650 to update firmware or pair devices. You need an LMBR-650 and LMCS to commission a Hybrid room. For a single room, without an LMBR-650, LMCS can connect to the LMBC-650 via the LMCI.

ORDERING INFORMATION

Catalog #		Description	Voltage	Total Rating	Class 2 Outputs
☐	LMRC-111-20M	1 Relay Room Controller, 0-10V dimming	120/277VAC	20A ballast, E-ballast or incandescent	24VDC, 200mA and 0-10VDC (0-10VDC signal also provided as Class 1)
☐	LMRC-111-20M-U	1 Relay Room Controller, 0-10V dimming, BAA/TAA compliant*			
☐	LMCT-100-2	Digital Wireless Configuration Tool			

*Product is compliant with the Buy American Act and Build America, Buy America Act