

# WIRELESS IPV6 MESH BORDER ROUTER

## | LMBR-650



- Uses IPv6 Mesh to establish secure network communication with all DLM wireless devices
- Dual internal antennas with diversity provide robust signal strength and reliable communication
- Provides secure self forming mesh network for up to 50 DLM rooms / 400 devices
- Single Ethernet port for LAN connectivity and management
- Includes DLM Dashboard web-based software for BACnet integration, scheduling, and demand response support.
- Includes out-of-box wireless AES 128-bit encryption
- Trusted hardware chips prevent any non-DLM devices from being able to connect to the wireless lighting control network
- LMCS software easily commissions the border router and all devices on the mesh network



## Description

The wireless border router manages the creation and configuration of the IPv6 Mesh wireless network for up to 50 DLM rooms / 400 devices, and provides network connectivity via wired Ethernet to a local area network (LAN). LMBR-650 and LMRC-611MCC devices connect to the border router or to each other to establish mesh routing paths. The border router is quickly commissioned using LMCS Configuration Software and also provides live information about the health of the mesh network in the form of signal quality, device status, network status, and other real-time network information. Secure wireless communication using AES 128-bit encryption ensures the most advanced levels of security in the industry.

## Applications

The LMBR-650 is ideal for any installation with multiple spaces that require a networked lighting control system to meet code, centralize management or monitor energy use. Wireless offers added flexibility during initial install and over the life of the space.

## Operation

The LMBR-650 border router acts as a management and gateway device for IPv6 Mesh wireless network bridges and wireless room controllers. Each border router manages wireless nodes that have joined to its secure Personal Area Network ID (PanID). Management and troubleshooting of the border router is done using LMCS 4.7 and later. All border routers are LAN connected using an Ethernet cable back to a DLM network enclosure with a network controller for management and setup of schedules, groups, and demand response. Event settings are written to non-volatile memory. In a case of power failure, date and time are held current in unit for at least 14 days via internal battery.

## Advantages of Including an LMBR-650 in an Installation

- Enables use of DLM Dashboard software which replaces the Segment Manager (LMSM) functionality
  - Enables Demand Response
  - Enables Scheduling
- Enables LMCS software for commissioning
  - Enables Batch Firmware Updating (instead of single device at a time via App and BLE – lengthy 5 min per device)
- Enables Room to Room (and floor to floor) Scenes (without network groups)
- Enables BAS Integration via BACnet IP and Export Tables
- Enables LCAP Integration (replaces need for LMDI)

PROJECT		LOCATION/ TYPE	
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## Features

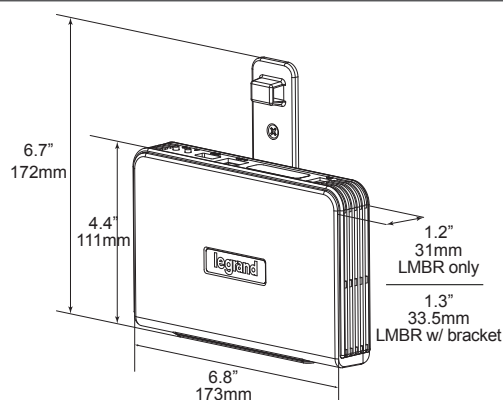
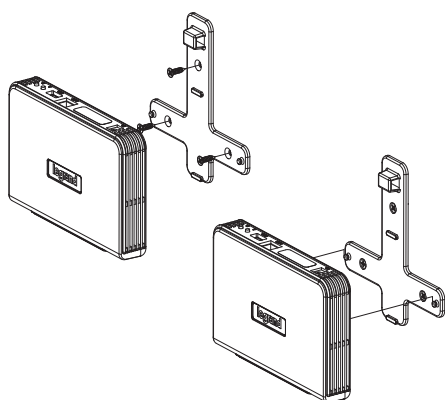
- Compatible with Digital Light Management LMBC-650 wireless bridges and LMRC-611MCC wireless room controllers
- Supports up to 50 wireless bridges or 400 total devices (recommended design is 40 bridges or 320 devices per border router)
- IPv6 Mesh wireless standard delivers reliable, long range, low latency wireless communication that is scalable for a single room or entire buildings with thousands of rooms
- Secure self forming wireless network with AES 128-bit encryption
- Included DLM Dashboard software enables creation and editing of schedules, setup of demand response, and system diagnostics
- LMBR-650 comes with a plenum rated LMPB-100 power booster, enabling the installer to power from the DLM IRB
- Compatible with RACCESS remote access services provided by Wattstopper
- Simple commissioning with LMCS 4.7 and newer
  - Set up PANs, Channels and other network parameters
  - View network health like signal quality and network health
  - View network bridge device status
  - Update firmware across the mesh network
- Compatible with DLM Dashboard software
  - BACnet communication for building management system integration
  - Setup and manage automated schedules for lights and color temperature (HCL)
  - Configure Demand Response options for code compliance

## Specifications

- Input Voltage: 24VDC
- Current Consumption: 65mA
- Power Supply: either IRB powered using dedicated LMPB-100 (included) with DC barrel-to-RJ-45 connector cable, or optional 120VAC plug-in power supply
- Wireless Standard
  - IPv6 Mesh (6LoWPAN / 802.15.4 / 2.4GHz), range 100 ft.\*
  - Available Channels: 11–25
  - Built-in Antennas: Two IPv6 Mesh with diversity
  - Bandwidth: up to 156kbps
- Wired LAN Connection: RJ-45 10/100 Ethernet
  - Maximum LAN cable length: 328 ft. (100 m)
- Real-time clock with supercap battery back-up (up to 14 days)
- Device Security: Secure-factory provisioned trusted hardware with Legrand-private certificate chain and signed ECC keypair
- Wireless Encryption: AES 128-bit symmetric key, randomly generated per-PAN, shared via secure DTLS only
- Device Capacity: up to 50 LMBC-650 wireless bridges and 400 room devices (recommended design is 40 bridges per border router and 320 devices)
- Operating conditions: for indoor use only; 32–131°F (0–55°C); 5–95% RH, non-condensing
- The product meets the materials restrictions of RoHS
- UL and cUL listed (E101196)
- UL 2043 Plenum rated
- Five Year Warranty

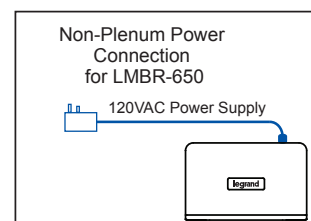
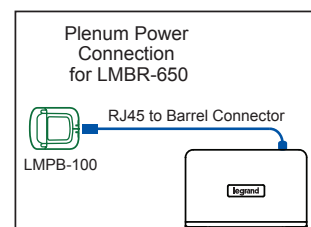
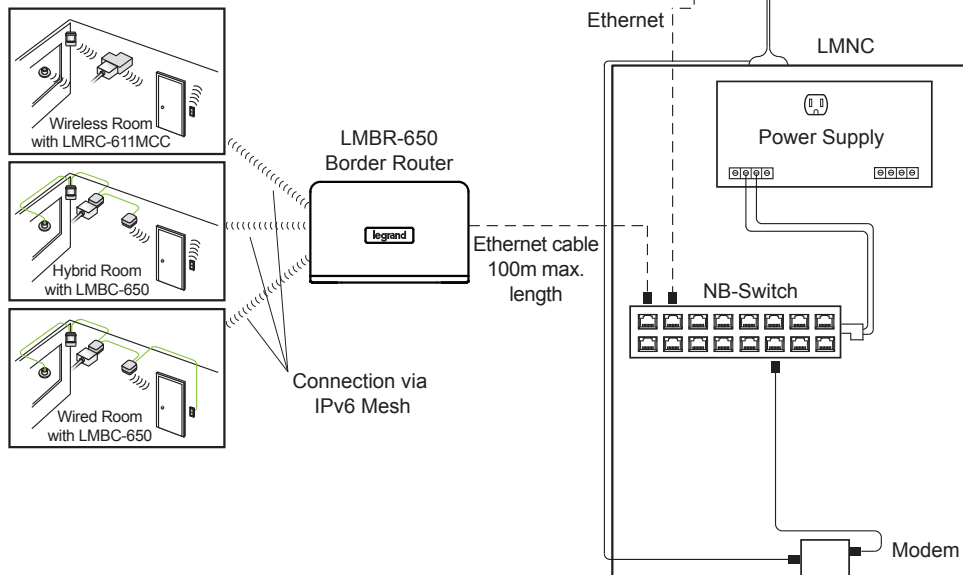
\*If LMBR-650 is mounted inside a metal enclosure, range reduced by up to 50%

## Mounting and Dimensions



## Typical Connections to DLM Local Networks and Segment Network

### DLM Rooms with LMBC-650 Wireless Bridge or LMRC-611MCC Room Controller



## Ordering Information

Catalog #	Description
<input type="checkbox"/> LMBR-650	Wireless IPv6 Mesh Border Router with BACnet

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