

# WIRELESS DLM BORDER ROUTER

LMBR-650



- Uses IPV6 Mesh to establish network communication with DLM Wireless network bridges (LMBC-650)
- Dual internal antennas with diversity provide robust signal strength and reliable communication
- Provides self forming mesh network for up to up to 50 LMBC-650 bridges and 250 total devices
- Single Ethernet port for LAN connectivity and management
- Supports BACnet integration, scheduling, and demand response
- 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 LMBC-650 bridges and 250 total devices, and provides network connectivity via wired Ethernet to a local area network (LAN). 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. Wireless communication uses AES 128-bit encryption.

## OPERATION

The LMBR-650 border router acts as a management and gateway device for IPV6 Mesh wireless network bridges. Each border router manages wireless nodes that have joined to its Personal Area Network ID (PanID). Management and troubleshooting of the border router is done using LMCS 5.11 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.

## APPLICATIONS

The LMBR-650 provides advanced sequences of operation including demand response, communication with other BACnet systems and the ability to update firmware in any DLM device via LMCS software. It's ideal for any installation with multiple spaces that require a networked lighting control system to meet code, with DLM software providing centralized management or energy monitoring.

## ADVANTAGES OF INCLUDING AN LMBR-650 IN AN INSTALLATION

- Supports Scheduling and Demand Response for DLM Wireless Networks
- Enables LMCS software for commissioning
  - Enables Batch Firmware Updating
- Enables Room to Room (and floor to floor) Scenes (without network groups)
- Enables BAS Integration via BACnet IP and Export Tables

PROJECT

LOCATION/  
TYPE

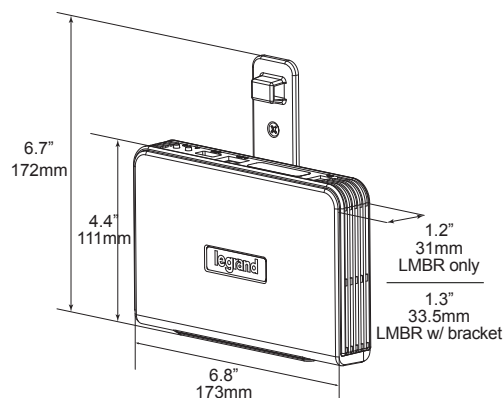
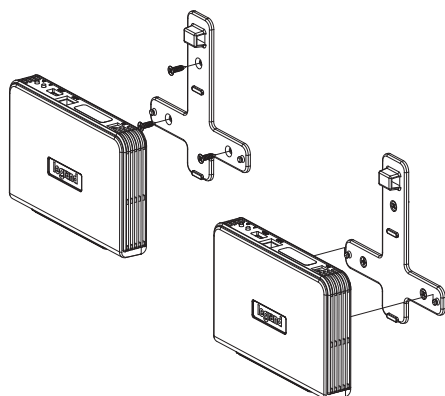
## FEATURES

- Compatible with Digital Light Management LMBC-650 wireless bridges
- Supports up to 50 LMBC-650 bridges and 250 total devices (recommended design is 40 bridges and 200 total devices)
- 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
- Self-forming wireless network with AES 128-bit encryption
- Included DLM 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 5.11 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
- 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: 13-24
  - 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: -Factory provisioned trusted hardware
- Wireless Encryption: AES 128-bit symmetric key
- Device Capacity: up to 50 LMBC-650 bridges and 250 total 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

## MOUNTING AND DIMENSIONS

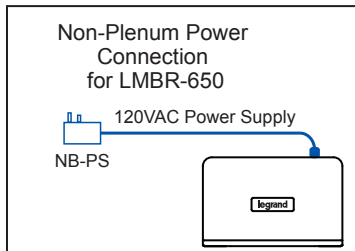
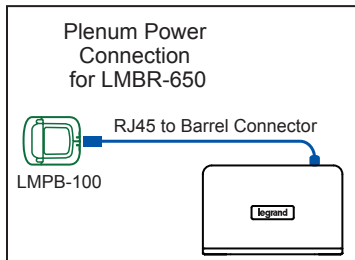
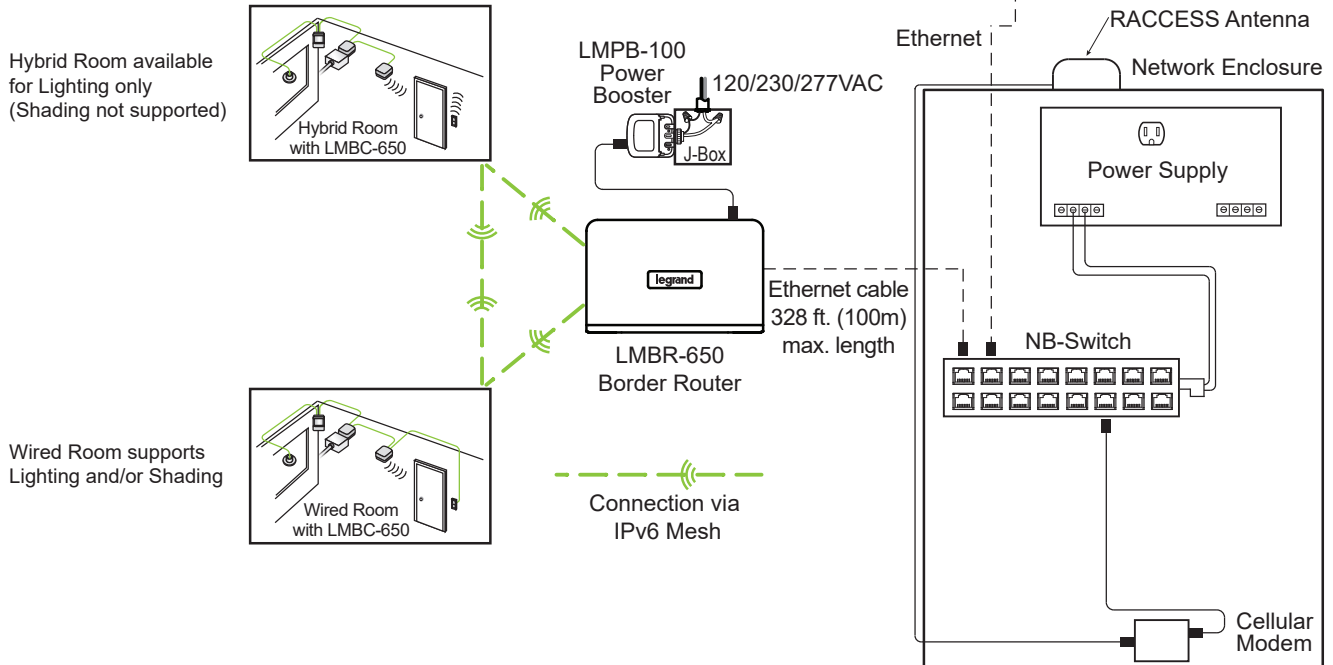


Wattstopper recommends mounting to a vertical surface, using the included T-shaped bracket, for optimum efficiency of wireless transmission/reception. 10' minimum and 100' maximum between LMBR-650 and LMRC-611MCC or LMBC-650.

A single LMBR-650 or a secondary LMBR-650 in a multi-LMBR network should **not** be installed in an enclosure. A primary LMBR-650 can be installed in a network enclosure, since it will communicate via Ethernet cable.

## TYPICAL CONNECTIONS TO DLM LOCAL NETWORKS AND SEGMENT NETWORK

## DLM Rooms with LMBC-650 wireless bridge



## ORDERING INFORMATION

Catalog #	Description
<input type="checkbox"/> LMBR-650	Wireless IPv6 Mesh Border Router with LMPB-100 Power Booster
<input type="checkbox"/> NB-PS	Plug In 120VAC power supply for NB-Router, NB-Switch, and LMBR-650