Product specifications

Connect with:

# AMBR

Amatis Border Router

## PRODUCT OVERVIEW

The Amatis Controls Border Router (AMBR) is our wireless lighting control system communication gateway. AMBR communicates wirelessly with drivers, sensors, and controllers to form a robust mesh network.

Every Amatis device connects to AMBR via our 6LoWireless protocol. AMBR uses this wireless communication to configure each device automatically to create a secure 6LoWireless mesh network.

AMBR connects to the web using a secure, encrypted VPN connection. It also uploads real-time data from each device to our web-based user interface—the Amatis Energy Dashboard—via Ethernet or cellular network connections.

## FEATURES

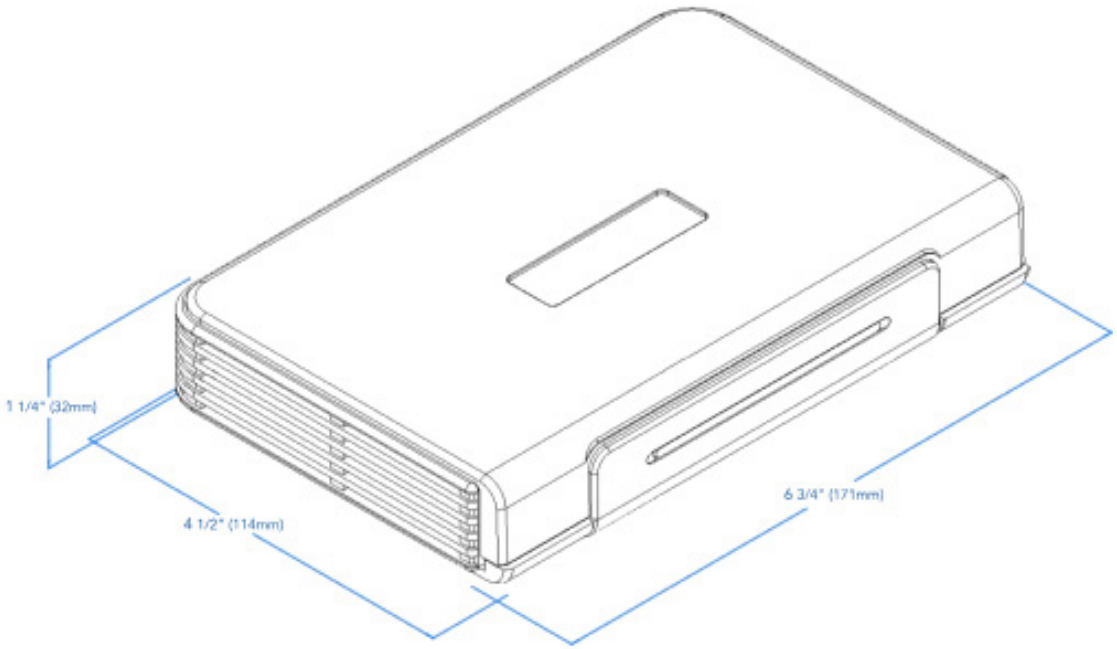
| | |
|---|---|
| GATEWAY CAPABILITIES | Manages the creation and configuration of Amatis 6LoWireless mesh networks |
| | Digitally communicates with all connected Amatis devices |
| | Assigns programming tasks to sensors, drivers, controllers and switches during commissioning |
| | Hosts up to 100 wireless devices |
| | Can be removed from the network once programming tasks are assigned, as devices are fault-tolerant |
| | Integrates with Building Automation Systems via standard BACnet/IP protocol |
| | Includes AES 128-bit encryption and secure VPN connection to the Internet |
| EASY, PLUG-AND-PLAY INSTALLATION | Included CAT5 ethernet cable, DC Power adapter, and wall-mount adapter makes for quick mounting and installation. |
| | LEDs indicate power and network connection status |
| SIMPLE, WIRELESS COMMISSIONING | Remotely configurable / upgradeable |
| | Amatis app easily commissions the AMBR and all devices on the mesh network |
| | Unique IPv6 address |
| | With Internet connection, uploads real-time data from all devices the Energy Dashboard |
| CODE COMPLIANCE | Complies with ASHRAE 90.1-2016 and CA Title 24 requirements |
| WARRANTY | 5-year limited warranty with uninterrupted connection of the Amatis Border Router device from a network |

## TECHNICAL SPECIFICATIONS

| | | |
|---|---|---|
| COMMUNICATION | Wireless transmit range* | Up to 200 feet to nearest mesh connected device |
| | Communication protocol | Embedded 6LoWireless |
| | Encryption | AES 128-bit |
| | Mechanism | Dual internal antennas provide robust signal strength and dependable communication |
| MECHANICAL | Dimensions | 6 ¾″ (171mm) w<br>4½′ (144mm) h<br>¼″ (32mm) d |
| | Color | White with black faceplate |
| | Finish | High gloss |
| | Enclosure | Type 2, Plenum Rated |
| | External outputs | Single Ethernet port for LAN connectivity and management |
| ENVIRONMENTAL | Installation environment | Commercial, Indoor/Covered |
| | Temperature range | 32-131°F (0-55°C); 5-95% RH, non-condensing |
| GENERAL | Standards / Ratings | FCC, UL-certified wall supply<br>Device contributes to Amatis system compliance with ASHRAE 90.1-2016 and CA Title 24 requirements |

*Based on clear line of sight. Interior obstructions may limit range.

### Dimensioned isometric




## NETWORK FIREWALL REQUIREMENTS

TCP 443 outbound to mqtt.amatiscontrols.com
UDP 1195 outbound to vpn.amatiscontrols.com
TCP 3306 outbound to sql.amatiscontrols.com
TCP 443 outbound to api.amatiscontrols.com
TCP 443 outbound to dash.amatiscontrols.com

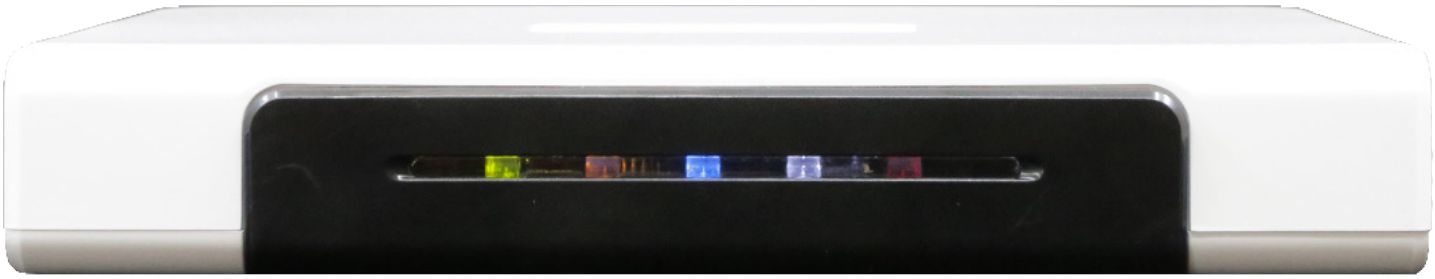
## EXTERNAL INPUTS

Button “A”:
Press and hold this button for 2 seconds to hard reset the AMBR. This functionality is the same as unplugging and plugging in the AMBR. Note: Do not press this button repeatedly upon AMBR startup.

Button “B”:
Allows user to select between DHCP (selected by default) and Static IP address or to reset their AMBR.
To adjust the following settings, first press the “B” button for 3 seconds. The white LED will begin to blink, indicating the AMBR is ready to receive the next inputs.

Press the “B” button...
One time to configure AMBR to DHCP. Blue LED will illuminate
Two times to configure the AMBR to Static IP. Orange LED will illuminate
Three times to exit configuration mode. Green LED will illuminate.
Press and hold “B” button for 3 seconds to commit to selection.

The USB connection is disabled to the end user.
More information can be found in the AMBR manual at amatiscontrols.com.



## LIGHT REFERENCE INDICATOR TABLE

| LED | Flashing | Solid | Off |
|---|---|---|---|
| Green | AMBR Starting up | AMBR Start up SUCCESS | AMBR Start up ERROR |
| Orange | | Off Line data logging | Offline logging ERROR |
| Blue | Data logging and configuration enabled SUCCESS | Data logging enabled SUCCESS | Internet connection ERROR |
| White | 6loWPAN SUCCESS | | Normal Operation |
| Red | | Power connection SUCCESS | Power connection ERROR |

Note: Actual performance may vary as a result of end-user environment and application.
Specifications subject to change without notice.