

## EM-A-BAC-ET-120

Integrates a Lutron Centralized Lighting Control System with digital equipment that supports BACnet® communication over Ethernet

- Allows a BACnet® system to read status from a Centralized Lighting Control System processor.
- Allows a BACnet® system to read status from a Centralized Lighting Control System Processor in one of two modes:
  - Individual zone\* control of up to 512 zones.
  - Scene selection for up to 500 spaces.
- Uses BACnet® Ethernet protocol only.
- The system is limited to a maximum of 1024 BACnet® points.
- System status refresh rate is determined by the number of spaces or zones that are being monitored. The worst case delay is 5 minutes for a system with 1000 BACnet® points that need to be refreshed.

\* Lighting Zone Controllers, OMX-3600, SO-SVC, and CCOs cannot be controlled by zone control.



Job Name:	Model Numbers:
Job Number:	

## Specifications

### Regulatory Approvals

- UL listed
- cUL listed

### Power

**Operating voltage:**

120 V~ 50/60 Hz  
 Maximum current: 200 mA

Terminals: Use copper wire only. Wire range 14 to 10 AWG (1.5 to 4.0 mm<sup>2</sup>). Supply conductors minimum 167 °F (75 °C) Connections.

- One (1) RJ45 10BaseT jack for communication with the BACnet® client.
- One (1) RS485 jack for Centralized Lighting Control System Aux link.

**Zone Functions:**

- Set zone intensity
- Read zone intensity

**Space Functions:**

- Set scene in space
- Read last scene set in space

### System Communications and Capacity

- One EM-A-BAC-ET-120 Control Interface per Centralized Lighting Control System processor panel.

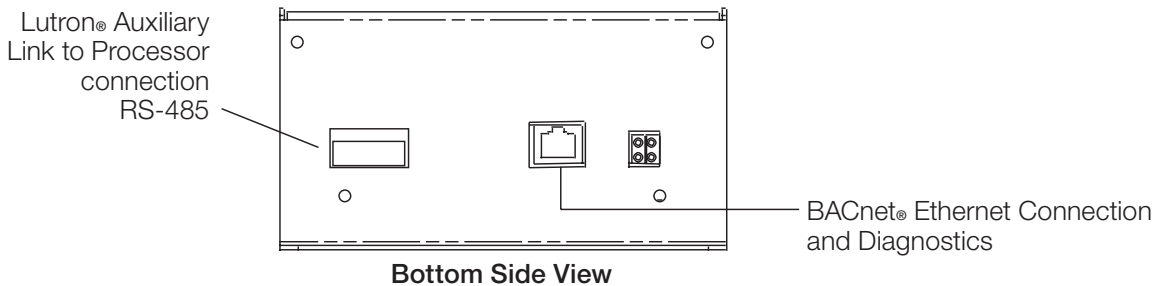
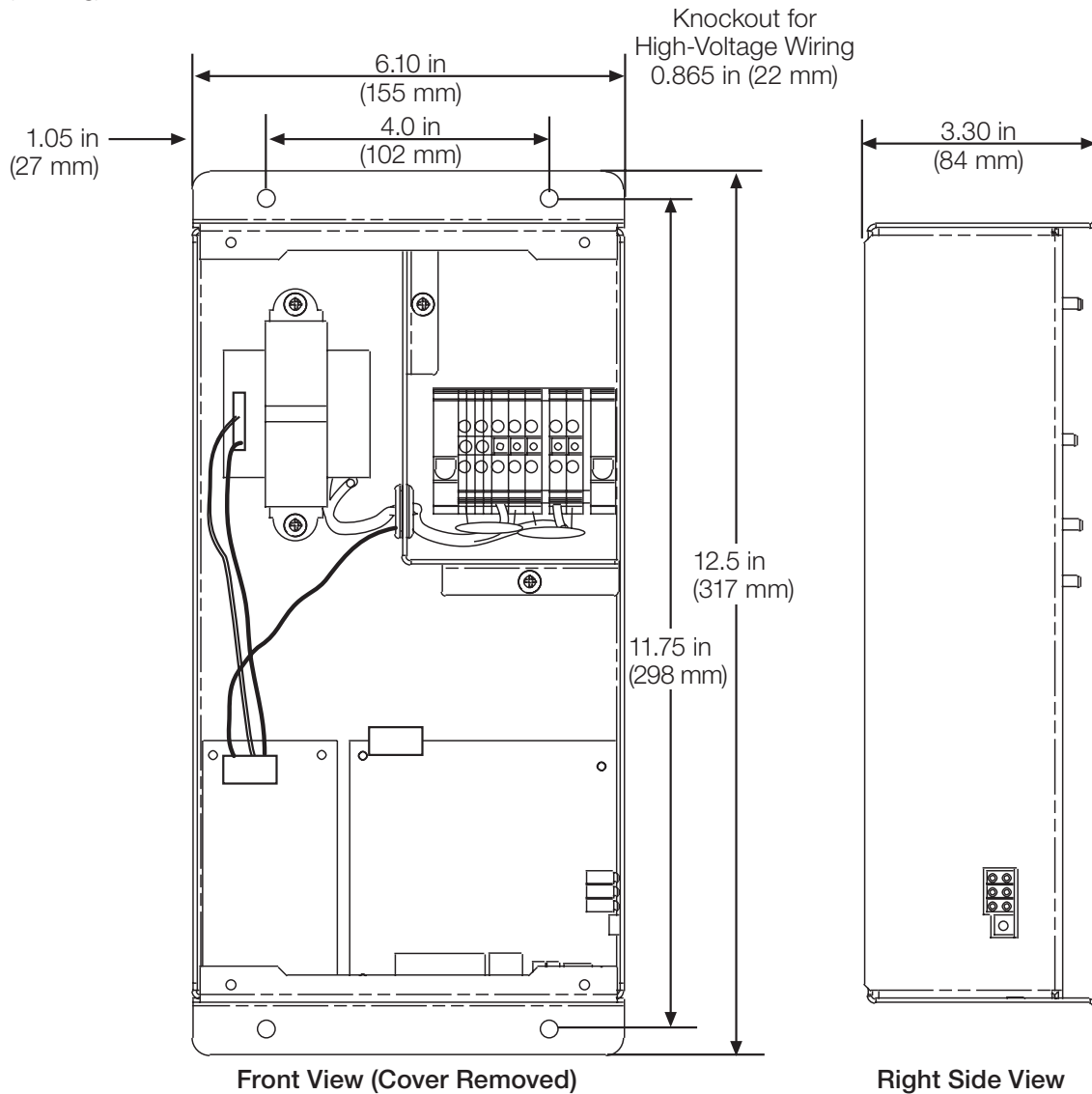
### Environment

- 32 °F to 104 °F (0 °C to 40 °C) operating temperature
- Maximum 90% relative humidity (non-condensing)

<p><b>Job Name:</b></p> <p><b>Job Number:</b></p>	<p><b>Model Numbers:</b></p>
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### Dimensions and Weight

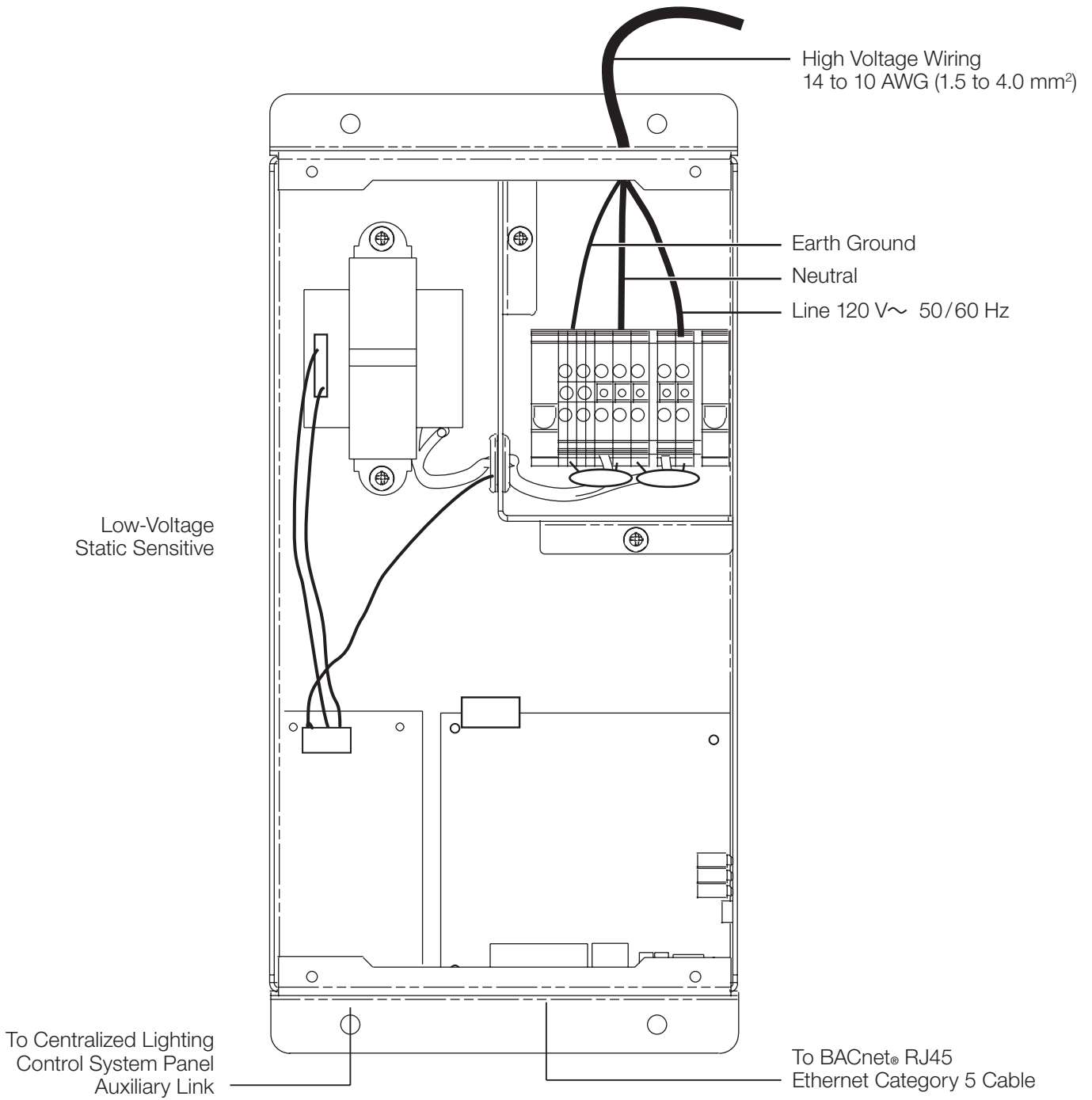
- All dimensions are shown as inches (millimeters).
- Leave at least 6 in (152 mm) clearance on the bottom and right hand side of the enclosure to access the plug-in ports, the programming button and the status/operation LEDs.
- 6.5 lbs (2.95 kg)



Job Name:	Model Numbers:
Job Number:	

### Wiring

Power should be wired to the terminal blocks in the unit through the knockout at the top of the can. Use copper wire only. Wire range 14 to 10 AWG (1.5 to 4.0 mm<sup>2</sup>). Supply conductors rated minimum 167 °F (75 °C). Torque terminals to 5 in-lbs (0.7 N•m). **Do not touch exposed circuitry on low-voltage side.**

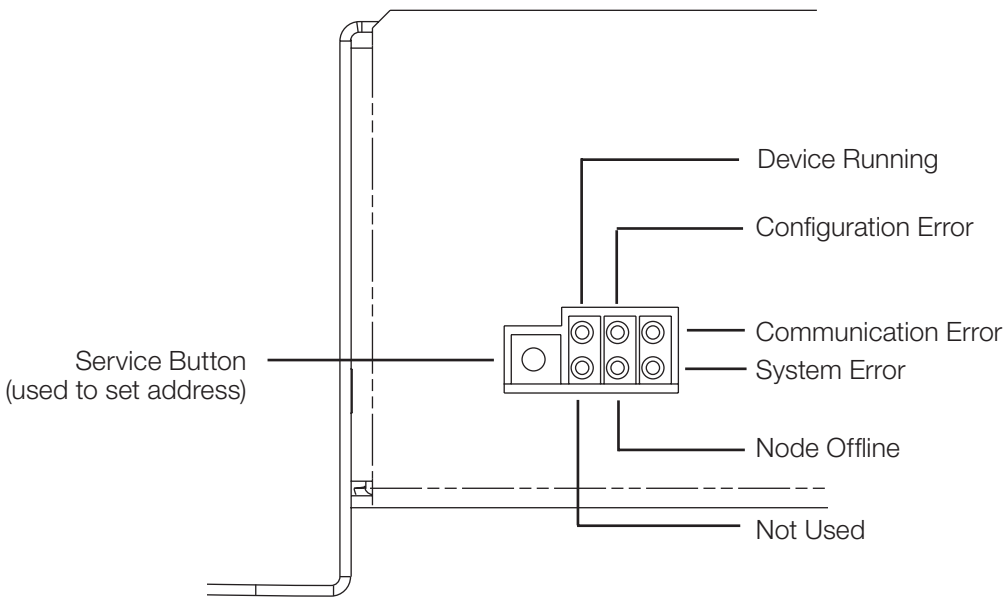
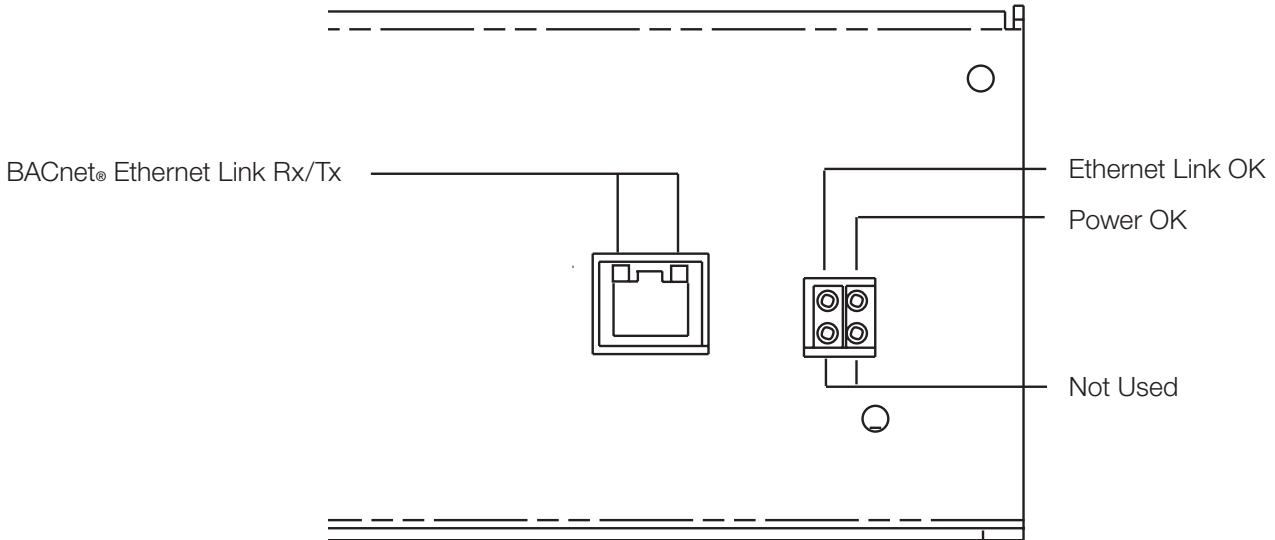


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### Operation and Status

#### Power & Communication Status

The device provides power and communication status information using the LEDs visible on the BOTTOM SIDE of the enclosure.



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Job Number:	

## BACnet® Protocol Implementation Conformance Statement (PICS)

**Date:** 31 May 2011

**Vendor Name:** Lutron Electronics Co., Inc.

**Product Name:** Centralized Lighting Control System BACnet® Integrator

**Product Model Number:** EM-A-BAC-IP-120, EM-A-BAC-ET-120

**Applications Software Version:** V6.06p (E)    **Firmware Revision:** V5.22fA (K)    **BACnet® Protocol Revision:** V2.01 bL

### Product Description:

Both the EM-A-BAC-IP-120 and EM-A-BAC-ET-120 are gateway interfaces between a BACnet® Building Automation System and the Lutron® GRAFIK Centralized Lighting Control System. The BACnet® gateway exports a single BACnet® device with objects that retrieve the status and perform actions through the Centralized Lighting Control System. The BACnet® gateway can interface with either the zones or the spaces defined in a GRAFIK Centralized Lighting Control System. Both zone control and space control are not possible through the same device. If configured to interface with zones on the GRAFIK Centralized Lighting Control System, the interface is able to retrieve the relay status and current intensity and set a desired intensity for each zone in the system. If configured to interface with spaces on the GRAFIK Centralized Lighting Control System, the interface is able to retrieve the last scene set in the space. The space is controlled by selecting a desired scene. A processor can only move one EM-A-BAC-IP-120 or EM-A-BAC-ET-120 gateway interface.

### BACnet® Interoperability Building Blocks Supported (Annex K):

K.1.1 BIBB - Data Sharing - ReadProperty-B	(DS-RP-B)
K.1.3 BIBB - Data Sharing - ReadPropertyMultiple-A	(DS-RPM-A)
K.1.4 BIBB - Data Sharing - ReadPropertyMultiple-B	(DS-RPM-B)
K.1.8 BIBB - Data Sharing - WriteProperty-B	(DS-WP-B)
K.1.9 BIBB - Data Sharing - ReadPropertyMultiple-A	(DS-WPM-A)
K.1.10 BIBB - Data Sharing - ReadPropertyMultiple-B	(DS-WPM-B)
K.5.2 BIBB - Device Management - Dynamic Device Binding-B	(DM-DDB-B)

### BACnet® Standardized Device Profile (Annex L):

- BACnet® Smart Sensor (B-SS)
- BACnet® Smart Actuator (B-SA)

### Segmentation Capability:

Segmented requests supported?	No	Window Size	n/a
Segmented responses supported?	No	Window Size	n/a

### Non-Standard Application Services:

The EM-A-BAC-IP-120 does not support non-standard application services.

### Standard Object Types Supported:

- Device
- Analog Input/Output
- Binary Input/Output
- Multistate Output
- Binary Variable
- Analog Variable

### Data Link Layer Options:

BACnet® Ethernet, (Annex J)

### Device Address Binding:

Is static device binding supported? No

### If this product is a communication gateway, describe the types of non-BACnet® equipment/network(s) that the gateway supports:

Both the EM-A-BAC-IP-120 and EM-A-BAC-ET-120 are gateway interfaces between a BACnet® protocol and the Lutron Centralized Lighting Control System communication protocol.

<b>Job Name:</b>	<b>Model Numbers:</b>
<b>Job Number:</b>	

## BACnet® Objects

The following tables list the BACnet® objects available through this interface. Refer to the User Guide for a complete description of each object listed below. The names of the objects are configurable.

### Space Machine Interface\*

Analog Input[1..512]	Last system scene selected
Analog Output[1..512]	Desired scene for space
Binary Input[1..512]	Reserved for expansion***
Binary Output[1..512]	Reserved for expansion***
Multistate Output[1..512]	Reserved for expansion***
Analog Output[513..1024]	Reserved for expansion***
Binary Value[1..512]	Reserved for expansion***
Analog Value[1..512]	Reserved for expansion***

### Zone Machine Interface\*\*

Analog Input[1..512]	Current zone intensity (%)
Analog Output[1..512]	Desired zone intensit (%)
Binary Input[1..512]	Reserved for expansion***
Binary Output[1..512]	Reserved for expansion***
Multistate Output[1..512]	Reserved for expansion***
Analog Output[513..1024]	Reserved for expansion***
Binary Value[1..512]	Reserved for expansion***
Analog Value[1..512]	Reserved for expansion***

\* BACnet® object ID 1 corresponds to System Space 0, object ID 2 corresponds to System Space 1 and so on.

\*\* BACnet® object ID 1 corresponds to System Zone 0, object ID 2 corresponds to System Zone 1 and so on.

\*\*\* These objects are reserved by Lutron for future modifications and customization of the system.

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