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ASHRAE's BACnet® Protocol Implementation Conformance Statement (PICS)

Date: February 7, 2018
Vendor Name: Lutron Electronics Co., Inc.
Product Name: myRoom BACnet Integration
Applications Software Version: 2.0
Firmware Revision: 9.5 to 11.5
BACnet Protocol Revision: 4
Vendor ID: 176

Product Description

BACnet IP is embedded in the myRoom processor. There are two types of BACnet devices available in myRoom: subsystem devices and area devices. The subsystem devices are main BACnet devices; typically, one main device per guestroom of the building. The area devices are virtual BACnet devices of the subsystem device, typically one per room of the building. It is normal to have multiple subsystem main devices and area virtual devices in a project.

BACnet Interoperability Building Blocks Supported (Annex K):

K.1.2 BIBB	Data Sharing	ReadProperty-B (DS-RP-B)
K.1.4 BIBB	Data Sharing	ReadPropertyMultiple-B (DS-RPM-B)
K.1.8 BIBB	Data Sharing	WriteProperty-B (DS-WP-B)
K.1.10 BIBB	Data Sharing	WritePropertyMultiple-B (DS-WPM-B)
K.1.12 BIBB	Data Sharing	COV-B (DS-COV-B)
K.5.2 BIBB	Device Management	DynamicDeviceBinding-B (DM-DDB-B)
K.5.4 BIBB	Device Management	DynamicObjectBinding-B (DM-DOB-B)
K.5.6 BIBB	Device Management	DeviceCommunicationControl-B (DM-DCC-B)

BACnet Standardized Device Profile (Annex L):

BACnet Application Specific Controller (B-ASC)

Segmentation Capability:

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

Non-Standard Application Services:

Non-standard application services are not supported.

Job Name:	Model Numbers:	
Job Number:		

Standard Object Types Supported:

Device

1. Dynamically creatable using BACnet CreateObject service? No.
2. Dynamically deletable using BACnet DeleteObject service? No.
3. List of optional properties supported: Active_COV_Subscriptions, Description, Location, Profile_Name.
4. List of all properties that are writable where not otherwise required by this standard: None.
5. List of proprietary properties: None.
6. List of any property value range restrictions: None.

Analog Value

1. Dynamically creatable using BACnet CreateObject service? No.
2. Dynamically deletable using BACnet DeleteObject service? No.
3. List of optional properties supported: COV_Increment (See Table for objects that support this property).
4. List of all properties that are writable where not otherwise required by this standard: None.
5. List of proprietary properties: None.
6. List of any property value range restrictions: See Table.

Binary Value

1. Dynamically creatable using BACnet CreateObject service? No.
2. Dynamically deletable using BACnet DeleteObject service? No.
3. List of optional properties supported: Active_Text, Inactive_Text.
4. List of all properties that are writable where not otherwise required by this standard: None.
5. List of proprietary properties: None.
6. List of any property value range restrictions: See Table.

Multi-State Value

1. Dynamically creatable using BACnet CreateObject service? No.
2. Dynamically deletable using BACnet DeleteObject service? No.
3. List of optional properties supported: State_Text.
4. List of all properties that are writable where not otherwise required by this standard: None.
5. List of proprietary properties: None.
6. List of any property value range restrictions: See Table.

Data Link Layer Options:

Other: These devices are virtual devices and are represented by a six octet address equal to the 48-bit device instance of the virtual device.

Device Address Binding:

Is static device binding supported? No.

Networking Options:

BACnet/IP Annex J — non-BBMD functionality; the myRoom processor is able to register as a foreign device. The myRoom processor is able to initiate original-broadcast-NPDU.

Character Sets Supported:

Indicating support for multiple character sets does not imply that they can all be supported simultaneously.

- ANSI X3.4.

BACnet Routing:

The myRoom processor is a BACnet router. All of the virtual area devices are routed through the main subsystem device.

Job Name:	Model Numbers:	
Job Number:		

Object Name	Type	Instance	Read	Write	COV	Units	Min PV	Max PV	Inactive Text (0)	Active Text (1)	State Text (Multi-State)
{AreaName} {Instance}	DEVICE	{Base} + {System} + 1	X	—	—	—	—	—	—	—	—
	Notes: The Area Name is the logical name that typically corresponds to a physical location in a building. The Instance is the same as the unique Device ID assigned to each area.										
Lighting Level	AV	2	X	X	X	%	0	100	—	—	—
	Notes: The intensity level of all lighting fixtures in the area. The lighting level will be an analog value between 0% and 100%. If the lighting fixtures in the area are at different light levels, this value will be set to the level of the highest intensity in that area. Does not include RF zones.										
Lighting State	BV	3	X	X	X	—	0	1	Off	On	—
	Notes: The lighting state will be ON if any of the lighting fixtures in the area are in the On state; if all lighting fixtures are off, the lighting state will be set to OFF.										
Lighting Scene	MSV	4	X	X	X	—	1	Number of scenes defined for this area	—	—	{SceneName}
	Notes: The lighting preset to which the lighting fixtures in that area are currently set. If the value is set to 1, the Off Scene will be selected, which will turn all lights to OFF. All other scenes are defined within the Lutron system configuration software. If lights are currently not set to a valid lighting scene, then the value will be set to an unknown preset level.										
Daylighting Enabled (not available)	BV	5	X	X	X	—	0	1	Disabled	Enabled	—
Daylighting Level (not available)	AV	6	X	X	X	%	0	100	—	—	—
Disable Occupancy	BV	7	X	X	X	—	0	1	False	True	—
	Notes: When set to True, the area will go to the Occupied level and the occupancy sensors will no longer affect the lights in the area.										
Occupancy State	MSV	8	X	—	X	—	1	4	—	—	1 = Unoccupied 2 = Occupied 3 = Inactive (not available) 4 = Unknown
	Notes: A read-only property that indicates the occupancy of a guestroom area. Occupied means that at least one sensor in the area is indicating Occupancy. Unoccupied means that all of the sensors in the area are indicating Unoccupied. Unknown means that not all of the sensors in the area have reported their status.										
Unoccupied Level	AV	9	X	X	X	—	0	216	—	—	—
	Notes: The light level to which the lights in the area will be set when an area transitions to Unoccupied. Values: 0 = Off 1–100 = Light Level Percentage 101 = Unaffected 102 = Daylighting (not available) 200 = Off Scene 201–216 = Scene 1 through 16 (0 = default)										

AV = Analog Value, BV = Binary Value, MSV = Multi-State Value
{AreaName} is a text string defined in the Lutron myRoom system configuration software
{Instance} is a number defined in the Lutron myRoom system configuration software that is equal to the {Base} number + {System} number +1
{Base} is a 22-bit value set in the Lutron myRoom system configuration software (default 1760000)
{System} is an 8-bit value set in the Lutron myRoom system configuration software (0 to 127)
{SceneName} is a text string of the name of each scene that is defined in the Lutron myRoom system configuration software
PV = Present Value

Job Name:

Job Number:

Model Numbers:

Object Name	Type	Instance	Read	Write	COV	Units	Min PV	Max PV	Inactive Text (0)	Active Text (1)	State Text (Multi-State)
Occupied Level	AV	10	X	X	X	—	0	216	—	—	—
	Notes: The light level to which the lights in the area will be set when an area transitions to Occupied or when Occupancy is disabled. Values: 0 = Off 1–100 = Light Level Percentage 101 = Unaffected 102 = Daylighting (not available) 200 = Off Scene 201–216 = Scene 1 through 16 (100 = default)										
Additional Occupied Timeout	AV	11	X	X	X	min	0	300	—	—	—
	Notes: After all sensors in the area indicate Unoccupied, the value displayed will be the number of additional minutes that the system will wait before changing the lights to the Unoccupied level. Note: the sensor also has a built-in timeout. To learn how to check the sensor see the Lutron Occupancy Vacancy Sensors on www.lutron.com										
Loadshed Allowed (not available)	BV	12	X	X	X	—	0	1	No	Yes	—
Loadshed Goal (not available)	AV	13	X	X	X	—	0	90	—	—	—
Occupancy Mode	MSV	14	X	X	X	—	1	4	—	—	1 = Inactive 2 = Automatic ON and Automatic OFF 3 = Manual ON and Automatic OFF 4 = Not Applicable
	Notes: Determines the way that the occupancy sensors control the lights. When set to Inactive, the Occupancy Mode will not control the lights in the area. When set to Automatic ON and Automatic OFF, the sensors will turn lights to their occupied level when occupied and to their unoccupied level when unoccupied. When set to Manual ON and Automatic OFF, the sensors will set lights to the unoccupied level only when an area changes to Unoccupied. Not Applicable means that the area is not controlled by occupancy.										
Number of Lamp Failures	AV	15	X	—	X	—	0	none	—	—	—
	Notes: For all digitally-controlled EcoSystem or DALI® fluorescent ballasts and LED drivers controlled by a DIN power module, the number of ballasts with lamp failures in the area will be displayed. If the value is 0, there are no lamp failures for the area.										
Number of Devices Not Responding	AV	16	X	—	X	—	0	none	—	—	—
	Notes: For any QS device, EcoSystem or DALI® digital fluorescent ballast or LED drivers controlled by a DIN power module, the number of devices that are programmed into the system but are not responding will be displayed. If the value is 0, there are no device failures for the area.										
Hyperion Enabled (not available)	BV	17	X	X	X	—	0	1	Disabled	Enabled	—
Total Lighting Power	AV	18	X	—	X	watts	0	none	—	—	—
	Notes: A calculated value that indicates the total instantaneous power consumption for all of the lighting loads in the area.										
Maximum Lighting Power	AV	19	X	—	X	watts	0	none	—	—	—
	Notes: The maximum connected lighting load of the area. This value is the maximum value that Total Power can achieve. Maximum Power minus Total Power equals the power being saved. Typically, this value does not change.										

AV = Analog Value, BV = Binary Value, MSV = Multi-State Value
PV = Present Value

Object Name	Type	Instance	Read	Write	COV	Units	Min PV	Max PV	Inactive Text (0)	Active Text (1)	State Text (Multi-State)
Roof-Mount Cloudy Day Sensor: Area Status (not available)	BV	20	X	X	X	—	0	1	Dark	Sunny	—
Radio Window Sensor Dark Override State (not available)	MSV	21	X	X*	X	—	1	3	—	—	1 = Disabled 2 = Enabled 3 = Mixed
Light Level Discrepancy (not available)	BV	22	X	—	X	—	0	1	False	True	—
Number of Wireless Input Device Failures	AV	23	X	—	X	—	none	—	—	—	—
	Notes: If a wireless input (e.g., occupancy sensor) that is connected to the system is no longer communicating with the Lutron system, the device output will be greater than 0. The value will be equal to the number of failures in the area. This could be because of battery failure, the device being out of range of the QSM, or device failure. If the value equals 0, all wireless inputs in the area are reporting properly.										
Radio Window Sensor Bright Override State (not available)	MSV	24	X	X*	X	—	1	3	—	—	1 = Disabled 2 = Enabled 3 = Mixed
Number of Loads with Lamps Nearing End of Life (not available)	AV	25	X	—	X	—	0	none	—	—	—
{ZoneName} Level	AV	1000 to 1099	X	X	X	%	0	100	—	—	—
	Notes: The light level intensity of a specific zone of lighting within an area. The light level will be an analog value between 0% and 100%. There can be multiple lighting zones defined within each area. Each lighting fixture in the area will be assigned to one, and only one, lighting zone. Each will have a unique instance ID from 1000 to 1999. RF zone controls are not included.										
{ShadeGroupName} Level	AV	2000 to 2999	X	X	X	%	0	100	—	—	—
	Notes: The shade level of a specific shade group of Lutron Sivoia QS shades within an area. The shade level will be an analog value between 0% and 100%. 100% equals fully open; 0% equals fully closed. There can be multiple shade groups within each area; each group will have a unique instance ID from 2000 to 2999.										
{ShadeGroupName} Preset	MSV	3000 to 3999	X	X	X	—	1	34	—	—	{PresetName}
	Notes: Displays to which shade preset the shade motors of each shade group in an area are currently set. The values correspond to: 1 = Open; 2–30 = User programmable presets; 31 = Closed; 32–33 = Not used 34 = Undefined (Shade levels do not match any presets)										
{ShadeGroupName} Radio Window Sensor Shade Group Status (not available)	MSV	4000 to 4099	X	—	X	—	1	3	—	—	1 = Unknown 2 = Sunny 3 = Dark

* Mixed is a read-only state.

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{ZoneName} is a text string defined in the Lutron system configuration software

{ShadeGroupName} is a text string defined in the Lutron system configuration software

{PresetName} is a text string defined in the Lutron system configuration software

PV = Present Value

Job Name:	Model Numbers:	
Job Number:		

Object Name	Type	Instance	Read	Write	COV	Units	Min PV	Max PV	Inactive Text (0)	Active Text (1)	State Text (Multi-State)
{3-WireMotorZone Name}	MSV	5000 to 5099	X	X	X	—	1	3	—	—	1 = Stop 2 = Open 3 = Close
	Notes: Displays the current state of a 3-wire motor output within a specific area. If the value is set to 1, the output will be in the Stopped state (both relays open). If the value is set to 2, the output will be Opening (open relay active). If the value is set to 3, the output will be Closing (close relay active).										
Light Sensor Value (not available)	AV	6000 to 6999	X	—	X	fc	0	—	—	—	—
{PartitionWall Name} State (not available)	MSV	7000 to 7099	X	X	X	—	1	3	—	—	1 = Unknown 2 = Closed 3 = Open
{HVACZoneName} Temperature Celsius	AV	7100	X	—	X	Degrees Celsius	0	100	—	—	—
	Notes: The temperature currently measured in the HVAC zone of this area. Temperature caps at the limit of the range, in degrees Celsius.										
{HVACZoneName} Heat Setpoint Celsius	AV	7101	X	X	X	Degrees Celsius	0	100	—	—	—
	Note: Zone heat setpoint of the HVAC unit, in degrees Celsius.										
{HVACZoneName} Cool Setpoint Celsius	AV	7102	X	X	X	Degrees Celsius	0	100	—	—	—
	Note: Zone cool setpoint of the HVAC unit, in degrees Celsius.										
{HVACZoneName} Temperature Fahrenheit	AV	7103	X	—	X	Degrees Fahrenheit	32	212	—	—	—
	Notes: The temperature currently measured in the HVAC zone of this area. Temperature caps at the limit of the range, in degrees Fahrenheit.										
{HVACZoneName} Heat Setpoint Fahrenheit	AV	7104	X	X	X	Degrees Fahrenheit	32	212	—	—	—
	Note: Zone heat setpoint of the HVAC unit, in degrees Fahrenheit.										
{HVACZoneName} Cool Setpoint Fahrenheit	AV	7105	X	X	X	Degrees Fahrenheit	32	212	—	—	—
	Note: Zone cool setpoint of the HVAC unit, in degrees Fahrenheit.										
{HVACZoneName} Operating Mode	MSV	7106	X	X	X	—	1	8	—	—	1 = Off/Protect 2 = Heat 3 = Cool 4 = Auto 5 = Emergency Heat 6 = Reserved 7 = Fan 8 = Dry
	Notes: The operating mode currently commanded in the HVAC zone. See **Operating State** for actual reported stage information.										

AV = Analog Value, MSV = Multi-State Value
fc = foot candles
{3-WireMotorZoneName} is a text string defined in the Lutron system configuration software
{PartitionWallName} is a text string defined in the Lutron system configuration software
{HVACZoneName} is a text string defined in the Lutron system configuration software. Only one HVAC zone per Area Virtual Device is supported.
PV = Present Value

Object Name	Type	Instance	Read	Write	COV	Units	Min PV	Max PV	Inactive Text (0)	Active Text (1)	State Text (Multi-State)
{HVACZoneName} Operating State	MSV	7107	X	—	X	—	1	10	—	—	1 = None, Heat Last 2 = Heat 1 3 = Heat 1+2 4 = Heat 1+2+3 5 = Heat 3 6 = None, Cool Last 7 = Cool 1 8 = Cool 1+2 9 = Off 10 = Emergency Heat 11 = Dry
	Notes: The stage information currently reported for the HVAC zone and its unit. See **Operating Mode** for commanded mode.										
{HVACZoneName} Fan Mode	MSV	7108	X	X	X	—	1	8	—	—	1 = Auto 2 = On 3 = Cycler 4 = No Fan 5 = High 6 = Medium 7 = Low 8 = Top
	Notes: The fan operating mode currently commanded in the HVAC zone. See **Fan State** for actual reported stage information.										
{HVACZoneName} Fan State	MSV	7109	X	—	X	—	1	5	—	—	1 = Unknown 2 = Off 3 = High/On 4 = Medium 5 = Low
	Notes: The speed information currently reported for the HVAC fan zone and its fan unit. See **Fan Mode** for commanded mode.										
{HVACZoneName} Eco Mode (not available)	BV	7110	X	X	X	—	0	1	Disabled	Enabled	—
{HVACZoneName} HVAC Schedules (not available)	MSV	7112	X	X	X	—	1	3	—	—	1 = Disabled 2 = Enabled 3 = Permanent Hold 4 = Temporary Hold
{HVACZoneName} HVAC Power	AV	7113	X	—	X	watts	0	none	—	—	—
	Notes: A read-only, calculated value which indicates the instantaneous power consumption of this HVAC zone in watts.										

AV = Analog Value, BV = Binary Value, MSV = Multi-State Value
{HVACZoneName} is a text string defined in the Lutron myRoom system configuration software. Only one HVAC zone per Area Virtual Device is supported.
{KeypadName} is a text string defined in the Lutron myRoom system configuration software
PV = Present Value

Job Name:	Model Numbers:	
Job Number:		

Object Name	Type	Instance	Read	Write	COV	Units	Min PV	Max PV	Inactive Text (0)	Active Text (1)	State Text (Multi-State)
{HVACZoneName} Single Setpoint Celsius	AV	7114	X	X	X	Degrees Celsius	0	100	—	—	—
	Note: Zone heat setpoint of the HVAC unit, in degrees Celsius.										
{HVACZoneName} Single Setpoint Fahrenheit	AV	7115	X	X	X	Degrees Fahrenheit	32	212	—	—	—
	Note: Zone heat setpoint of the HVAC unit, in degrees Celsius.										
{HVACZoneName} Negative Drift Celsius	AV	7116	X	X	X	Degrees Celsius	0	8	—	—	—
{HVACZoneName} Positive Drift Celsius	AV	7117	X	X	X	Degrees Celsius	0	8	—	—	—
{HVACZoneName} Negative Drift Fahrenheit	AV	7118	X	X	X	Degrees Fahrenheit	0	15	—	—	—
{HVACZoneName} Positive Drift Fahrenheit	AV	7119	X	X	X	Degrees Fahrenheit	0	15	—	—	—

{KeypadName} State	BV	8000 to 8999	X	X	X	—	0	1	Disabled	Enabled	—
	Notes: When set to Enabled, the selected keypad will work as programmed. When set to Disabled, the selected keypad will have no effect on the system.										

AV = Analog Value, BV = Binary Value, MSV = Multi-State Value
{HVACZoneName} is a text string defined in the Lutron myRoom system configuration software. Only one HVAC zone per Area Virtual Device is supported.
{KeypadName} is a text string defined in the Lutron myRoom system configuration software
PV = Present Value

Job Name:

Job Number:

Model Numbers: