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BACnet® Protocol Implementation Conformance Statement (PICS)

Date: July 4, 2012

Vendor Name: Lutron Electronics Co., Inc.

Product Name: Quantum® BACnet® Integration

Applications Software Version: 2.0

Firmware Revision: 1.9

BACnet® Protocol Revision: 4

Vendor ID: 176

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Product Description

BACnet® IP is embedded in the Quantum® processor. There are two types of BACnet® devices available in Quantum®: subsystem devices and area devices. The subsystem devices are main BACnet® devices; typically, one main device per floor 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 devices and 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.

Quantum®	BACnet® PIC Statement for Quantum® Subsystem Main Devices using Quantum® Version 1.9	Software License

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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.**

Binary Value

1. Dynamically creatable using BACnet® CreateObject service? **No.**
2. Dynamically deletable using BACnet® DeleteObject service? **No.**
3. List of optional properties supported: Reliability, 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: Reliability, 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:

BACnet® IP

Device Address Binding:

Is static device binding supported? **No.**

Networking Options:

BACnet®/IP Annex J — non-BBMD functionality; the Quantum® processor is able to register as a foreign device. The Quantum® 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

Routing:

Routes packets between a physical LAN and one virtual LAN.

Object Name	Type	Instance	Read	Write	COV	Units	Min PV	Max PV	Inactive Text (0)	Active Text (1)	State Text (Multi-State)	Notes
{SystemName} {Instance}	DEVICE	{Base} + {System} + 1	X	—	—	—	—	—	—	—	—	The System Name is the logical name of one of the Quantum® system's subsystems that typically corresponds to a physical portion of the building such as a floor. The Instance is the same as the unique Device ID assigned to each subsystem.
Master Loadshed Enabled	BV	2	X	X	X	—	0	1	Disabled	Enabled	—	This value determines whether all of the areas in the Quantum® subsystem are being controlled via load shedding. When this value is set to Enabled, for all areas in the subsystem that have loadshed allowed, any dimmable lights in each area that are turned on will have their light level reduced by the percentage specified in the Loadshed Goal value. When Disabled, the lights will dim to their commanded level.
Master Hyperion™ Enabled	BV	3	X	X	—	—	0	1	Disabled	Enabled	—	When the Master Hyperion™ Enabled feature is set to Enabled, for all areas in the Quantum® subsystem that have Hyperion™ configured, the Hyperion™ feature will control the Lutron® Sivoia® QS roller shades and set their level automatically depending on the position of the sun. When the Master Hyperion™ feature is set to Disabled, in all areas of the subsystem, the shades will not be controlled automatically by the Hyperion™ feature.
{TimeclockName} Enabled	BV	1000 to 1999	X	X	—	—	0	1	Disabled	Enabled	—	For each timeclock created within the Quantum® system, there will be one instance from 1000 to 1999 that can Enable or Disable that timeclock for that particular subsystem. When Disabled, the timeclock will not affect the lights. When Enabled, the timeclock will affect the lights as programmed in the Quantum® system. Please note that if there are multiple subsystems in the Quantum® system, each timeclock will be represented in each subsystem's BACnet® device. To enable or disable the timeclock for all subsystems, each subsystem device will need to be commanded to do so.

BV = Binary-Value

{SystemName} is a text string defined in the Lutron® Quantum® system configuration software
{Instance} is a number defined in the Lutron® Quantum® system configuration software that is equal to the {Base} number + {System} number +1
{Base} is a 22-bit value set in the Lutron® Quantum® system configuration software (default 1760000)
{System} is an 8-bit value set in the Lutron® Quantum® system configuration software (0 to 127)
{TimeclockName} is a text string defined in the Lutron® Quantum® system configuration software

PV = Present-Value

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Job Name:	Model Numbers:
Job Number:	