Date: 05/10/13
Vendor Name: Watt Stopper
Product Name: Lighting Management Room Controller
Product Model Number: LMCP8, LMCP24, LMCP48
Applications Software Version: 7.06 **Firmware Revision:** 7.06
BACnet Protocol Revision: 9

Product Description:

The LMCP panel provides a network connection for a panel and any of the WattStopper Digital Lighting Management (DLM) Local Network room level devices (Buttons, Room Controllers, Light Sensors, Occupancy Sensors, I/O).

BACnet Standardized Device Profile (Annex L)

	BACnet Operator Workstation (B-OWS)
	BACnet Building Controller (B-BC)
	BACnet Advanced Application Controller (B-AAC)
x	BACnet Application Specific Controller (B-ASC)
	BACnet Smart Sensor (B-SS)
	BACnet Smart Actuator (B-SA)

List all BACnet Interoperability Building Blocks supported (see Annex K in BACnet Addendum 135d):

DS-RP-B: Read Property
DS-WP-B: Write Property
DM-DDB-B: Dynamic Device Binding
DM-DOB-B: Dynamic Object Binding
DM-DCC-B: Device Communication Control
DS-RPM-B: ReadPropertyMultiple
DM-RD-B: Reinitialize Device
DS-COV-B: Data Sharing-COV-B (only for Binary Input and Binary Output objects)
DM-TS-A: Device Management-TimeSynchronization-A
DM-TS-B: Device Management-TimeSynchronization-B
DM-UTC-A: Device Management-UTCTimeSynchronization-A
DM-UTC-B: Device Management-UTCTimeSynchronization-B

Which of the following device binding methods does the product support? (check one or more)

	Send Who-Is, receive I-Am (BIBB DM-DDB-A)
x	Receive Who-Is, send I-Am (BIBB DM-DDB-B)
	Send Who-Has, receive I-Have (BIBB DM-DOB-A)
x	Receive Who-Has, send I-Have (BIBB DM-DOB-B)
	Manual configuration of recipient device's network number and MAC address
	None of the above

Standard Object Types Supported:

Analog Input Object Type

1. Dynamically creatable using BACnet's CreateObject service? No
2. Dynamically deletable using BACnet's DeleteObject service? No
3. List of optional properties supported:

Description
Reliability
Min_Pres_Value
Max_Pres_Value

4. List of all properties that are writable where not otherwise required by this standard

Description

5. List of proprietary properties:

Property Identifier	**Property Datatype**	**Meaning**
8600	Unsigned	Room device serial number

6. List of any property value range restrictions:

Property Identifier	**Restrictions**
Description	up to 16 characters, ANSI X34

List of object identifiers and their meaning in the device

Object Identifier	**Meaning**
Analog Input 1-48	LS-301 Photocell 1-48 light level in foot candles
Analog Input 4001-4048	LS-400 Light Sensor 1-48 light level in foot candles
Analog Input 5001-5048	LS-500 Light Sensor 1-48 light level in foot candles
Analog Input 6001-6048	LS0600 Light Sensor 1-48 light level (top sensor) in foot candles
Analog Input 6101-6148	LS0600 Light Sensor 1-48 light level (bottom sensor) in foot candles

Analog Output Object Type

1. Dynamically creatable using BACnet's CreateObject service? No
2. Dynamically deletable using BACnet's DeleteObject service? No
3. List of optional properties supported:

Description Reliability Min_Pres_Value Max_Pres_Value

4. List of all properties that are writable where not otherwise required by this standard

Description

5. List of proprietary properties:

Property Identifier	**Property Datatype**	**Meaning**
8600	Unsigned	Room device serial number
8605	Unsigned	Lighting Load Index for this room device
8608	Unsigned	Lighting Load Threshold

6. List of any property value range restrictions:

Property Identifier	**Restrictions**
Present_Value	0.0-100.0 percent, resolution = 1.0
Description	up to 16 characters, ANSI X34
8608	1.0 percent to 100.0 percent, resolution 1.0
List of object identifiers and their meaning in the device	
Object Identifier	**Meaning**
Analog Output 1-64	Lighting Load (relay or dimmer)

Analog Value Object Type

1. Dynamically creatable using BACnet's CreateObject service? No
2. Dynamically deletable using BACnet's DeleteObject service? No
3. List of optional properties supported:

Description
Reliability

4. List of all properties that are writable where not otherwise required by this standard

Present_Value
Description (for Analog Value 1-48 only)
COV Increment (for Analog Value 1-48 only)

5. List of proprietary properties:

Property Identifier	**Property Datatype**	**Meaning**
8600	Unsigned	Room device serial number

6. List of any property value range restrictions:

Property Identifier	**Restrictions**
Analog Value 1-48 Present_Value	0.0 to 65535.0 watts, resolution = 1.0
Analog Value 1-48 COV_Increment	1.0 to 254.0 watts, resolution = 1.0
Analog Value 101-148 Present_Value	0.0 to 30.0 minutes (31.0=Automode) , resolution = 1.0
Analog Value 201-248 Present_Value	0.0 to 100.0 percent, resolution = 1.0
Analog Value 301-348 Present_Value	0.0 to 100.0 percent, resolution = 1.0
Analog Value 401-448 Present_Value	0.0 to 400.0 volts, resolution = 1.0
Analog Value 501-548 Present_Value	0.0 to 25.5 amps, resolution = 0.1
Analog Value 601-664 Present_Value	0.0 to 100.0 percent, resolution = 1.0
Analog Value 901 Present_Value	0.0 to 127.0 (255.0=ZeroConfig), resolution = 1.0
Analog Value 902 Present_Value	9600, 19200, 38400, 57600, 76800, 115200
Analog Value 903 Present_Value	0.0 to 65535.0 square feet, resolution = 1.0
Analog Value 907-910 Present_Value	0.0 to 250000.0 watts, resolution = 1.0
Analog Value 911 Present_Value	0.0 to 254.0 minutes, resolution = 1.0
Analog Value 4101-4148 Present_Value	1.0 to 100.0 seconds, resolution = 1.0
Analog Value 4201-4248 Present_Value	1.0 to 255.0 foot candles, resolution = 1.0
Analog Value 4301-4348 Present_Value	1.0 to 255.0 foot candles, resolution = 1.0
Analog Value 4401-4448 Present_Value	3 to 30 minutes , resolution = 1.0
Analog Value 4501-4548 Present_Value	1.0 to 3000.0 footcandles, resolution = 0.1
Analog Value 4601-4648 Present_Value	or 1.5 to 6000.0 footcandles, resolution = 0.1
Analog Value 5101-5148, 5201-5248, 5301-5348	1.0 to 200.0 footcandles, resolution = 1.0
Analog Value 6101-6148	0.000 to 65.535 footcandles, resolution = 0.001
Description	up to 16 characters, ANSI X34

List of object identifiers and their meaning in the device

Object Identifier	**Meaning**
Analog Value 1-48	Power Consumption of Room Device in Watts
Analog Value 101-148	Occupancy Sensor Time Delay in Minutes
Analog Value 201-248	Occupancy Sensor PIR Sensitivity in Percent
Analog Value 301-348	Occupancy Sensor Ultrasonic Sensitivity in Percent
Analog Value 401-448	Voltage in Room Device in Volts
Analog Value 501-548	Current in Room Device in Amps
Analog Value 601-664	Load Shed Value 0% to 100%, 100%=disabled

Analog Value 901	BACnet MS/TP MAC Address 0-127
Analog Value 902	BACnet MS/TP Baud Rate
Analog Value 903	Room Size in Square Feet
Analog Value 904	Room Watts
Analog Value 905	Room Watts per Square Foot
Analog Value 906	Room Watts for Plug Loads
Analog Value 907	Room Watts Target OpenADR Medium
Analog Value 908	Room Watts Target OpenADR High
Analog Value 909	Room Watts Target OpenADR Special
Analog Value 910	Room Watts OpenADR Threshold for increasing wattage
Analog Value 911	Room Refresh Interval Minutes
Analog Value 999	MS/TP peer count and status
Analog Value 4101-4148	Daylight Sensor Fade Rate Up
Analog Value 4201-4248	Daylight Sensor Day Setpoint
Analog Value 4301-4348	Daylight Sensor Night
Analog Value 4401-4448	Off Setpoint Delay
Analog Value 4501-4548	On Setpoint
Analog Value 4601-4648	Off Setpoint
Analog Value 5101-5148, 5201-5248, 5301-5348	Dimming Setpoint for LS-500 Zone 1, 2, and 3.
Analog Value 6101-6148	Dimming Setpoint for LS-600

Binary Input Object Type

1. Dynamically creatable using BACnet's CreateObject service? No
2. Dynamically deletable using BACnet's DeleteObject service? No
3. List of optional properties supported:

Description
Reliability

4. List of all properties that are writable where not otherwise required by this standard

Present_Value
Description
10103 (for Binary Input 101-4808 only)
10709 (for Binary Input 101-4808 only)
10103 (for Binary Input 101-4808 only)

5. List of proprietary properties:

Property Identifier	**Property Datatype**	**Meaning**
8600	Unsigned	Room device serial number
10702	Unsigned	Button Mode
10708	Unsigned	Button Momentary Mode
10709	Unsigned	Button Event Priority
10103	Unsigned	Button Group Number

6. List of any property value range restrictions:

Property Identifier	**Restrictions**
10702	Unsigned value 0 to 255
10708	Unsigned value 0 to 3
10709	unsigned value 0 to 31. Set to 29 for button toggle action.
10103	unsigned value 0 to 65535.
Description	up to 16 characters, ANSI X34
List of object identifiers and their meaning in the device	
Object Identifier	**Meaning**
Binary Input 1-48	Occupancy Sensor 1-48 occupancy status, Active=occupied
Binary Input 101-4808	Switch 1-48 Button 1-8 status, Active=button lighted

Binary Output Object Type

1. Dynamically creatable using BACnet's CreateObject service? No
2. Dynamically deletable using BACnet's DeleteObject service? No
3. List of optional properties supported:

Description Active_Text Inactive_Text Reliability

4. List of all properties that are writable where not otherwise required by this standard

Description

5. List of proprietary properties:

Property Identifier	**Property Datatype**	**Meaning**
8600	Unsigned	Room device serial number
8605	Unsigned	Lighting Load Index for this room device

6. List of any property value range restrictions:

Property Identifier	**Restrictions**
Description	up to 16 characters, ANSI X34

List of object identifiers and their meaning in the device

Object Identifier	**Meaning**
Binary Output 1-64	Lighting Load (relay)

Binary Value Object Type

1. Dynamically creatable using BACnet's CreateObject service? No
2. Dynamically deletable using BACnet's DeleteObject service? No
3. List of optional properties supported:

Description Active_Text Inactive_Text Reliability

4. List of all properties that are writable where not otherwise required by this standard

Present_Value Description (only for Binary Value 101-148 and 201-299) 10503 (only for Binary Value 101-148) 13402 (only for Binary Value 201-299)

5. List of proprietary properties:

Property Identifier	**Property Datatype**	**Meaning**
10503 (only for Binary Value 101-148)	Unsigned	KeyLock Mode
8600	Unsigned	Room device serial number
13402	Unsigned	Group number of channel

6. List of any property value range restrictions:

Property Identifier	**Restrictions**
10503	0=disabled, 1=enabled
Description	up to 16 characters, ANSI X34

List of object identifiers and their meaning in the device

Object Identifier	**Meaning**
Binary Value 1	Room Schedule Normal or After Hours, Active=After Hours
Binary Value 2	Switch Lock Control, Active=Lock
Binary Value 3	Room Occupancy, Active=Occupied
Binary Value 4	Room Force all loads On at Priority 1, Active=On, Inactive=Relinquish at 1 and On at Priority 8.
Binary Value 5	Room Force all loads Off at Priority 2, Active=Off, Inactive=Relinquish
Binary Value 101-148	Switch 1-48 Lock Status, Active=Locked
Binary Value 201-299	Channel for normal and after hours control

Multi-State Value Object Type

1. Dynamically creatable using BACnet's CreateObject service? No
2. Dynamically deletable using BACnet's DeleteObject service? No
3. List of optional properties supported:

Description State_Text Reliability

4. List of all properties that are writable where not otherwise required by this standard

Present_Value Description

5. List of proprietary properties:

Property Identifier	**Property Datatype**	**Meaning**
8600	Unsigned	Room device serial number

6. List of any property value range restrictions:

Property Identifier	**Restrictions**
Present_Value (only for Multi-State Value 1)	Number of States = 17
Present_Value (only for Multi-State Value 2)	Number of States = 3
Present_Value (only for Multi-State Value 3)	Number of States = 4
Present _Value (only for Multi-State Value 4001-4048)	Number of States = 4
Present _Value (only for Multi-State Value 4101-4148)	Number of States = 4
Description (only for Multi-State Value 1, 2, 3, 4)	32 characters max
Description (only for Multi-State Value 4001-4048, 4101-4148)	up to 16 characters, ANSI X34, shared (i.e. 4001 is same Description as 4101)
List of object identifiers and their meaning in the device	
Object Identifier	**Meaning**
Multi-state Value 1	Room Scene Identifier 1-16, 17=none
Multi-State Value 2	Shed Control: 1=shed inactive, 2=shed permit overrides, 3=shed prohibit overrides
Multi-State Value 3	Automated Demand Response: 1=idle, 2=medium, 3=high, 4=special
Multi-State Value 4	Automated Demand Response Mode: 1=shed inactive, 2=shed permit overrides, 3=shed prohibit overrides
Multi-State Value 4001-4048	Daylight Sensor Mode 1=On/Off, 2=Bi-Level, 3=Tri-Level, 4=Dimming
Multi-State Value 4101-4148	Daylight Set Point Off 1=1.25x, 2=1.5x, 3=1.75, 4=2.0x

Device Object Type

1. Dynamically creatable using BACnet's CreateObject service? No
2. Dynamically deletable using BACnet's DeleteObject service? No
3. List of optional properties supported:

Description, Location
Max_Master, Max_Info_Frames
Local_Time, UTC_Offset, Local_Date, Daylight_Savings_Status
Time_Synchronization_Recipients, Time_Synchronization_Interval, Align_Intervals, Interval_Offset

4. List of all properties that are writable where not otherwise required by this standard

Object_Name, Object_Identifier, Location, Description, APDU_Timeout, Number_of_APDU_Retries,
Max_Master, Max_Info_Frame
Time_Synchronization_Interval, Align_Intervals, Interval_Offset
8600, 8603, 13001, 13004, 13005, 13006, 13008, 13009, 13213, 20000, 20100, 14204, 14206, 14207

5. List of proprietary properties:

Property Identifier	**Property Datatype**	**Meaning**
8600	Unsign	Room device serial number for this module
8601	REAL	module DC supply voltage (24 volts nominal)
8602	BACnetARRAY of Sequence of Unsigned	Room device serial number, device type, device class, interface version, and feature version for each component attached
8603	Unsigned	Simulate Room objects
8604	Unsigned	Serial number of Room Controller with BACnet Bridge
8609	Unsigned	BACnet MS/TP Zero Configuration MAC Address
20000	CharacterString	equivalent to Object_Name property
20100	CharacterString	equivalent to Description property
20201	Unsigned	Room Device Type
20202	Unsigned	Room Device Class
20203	Unsigned	Date Code (year)
20204	Unsigned	Date Code (week)
20205	Unsigned	Hardware Version
20206	Unsigned	Firmware Interface Version
20207	Unsigned	Firmware Application Version
20208	Unsigned	Room Lock Level
13001	Unsigned	BACnet Device Instance Number
13004	Unsigned	BACnet MS/TP MAC Address (stored)
13005	Unsigned	BACnet MS/TP Baud Rate
13006	Unsigned	equivalent to Max_Master
13007	Unsigned	BACnet MS/TP MAC Address (actual)
13008	Unsigned	Reliability device check minutes
13009	Unsigned	Room square feet
13213	Unsigned	Automated Demand Response Interval seconds
14204	Unsigned	Time_Synchronization_Interval,
14206	Boolean	Align_Intervals
14207	Unsigned	Interval_Offset

6. List of any property value range restrictions:

Property Identifier	**Restrictions**
Object_Name, 20000	32 characters max
Location	32 characters max
Description, 20100	32 characters max
Max_Master, 13006	01/01/27
Max_Info_Frames	1
8600	0-4294967295
8603	0-255
13001	0-4194303
13004	0-127

13005	9600, 19200, 38400, 57600, 76800, 115200
13008	0-255 minutes
13009	0-65535 square feet
13213	0-254 seconds
14204	0-65534 minutes
14206	Boolean
14207	0-65534 minutes

Data Link Layer Options (check all that are supported):

	BACnet IP, (Annex J)	
	BACnet IP, (Annex J), Foreign Device	
	ISO 8802-3, Ethernet (Clause 7)	
	ANSI/ATA 878.1, 2.5 Mb. ARCNET (Clause 8)	
	ANSI/ATA 878.1, RS-485 ARCNET (Clause 8), baud rate(s):	
X	MS/TP master (Clause 9), baud rate(s):	9600, 19200, 38400, 57600, 76800, 115200
	MS/TP slave (Clause 9), baud rate(s):	
X	MS/TP (Clause 9), transceiver unit load and isolation	1/4 unit load, isolated
	Point-To-Point, EIA 232 (Clause 10), baud rate(s):	
	Point-To-Point, modem, (Clause 10), baud rate(s):	
	LonTalk, (Clause 11), medium:	
	Other:	

Networking Options (check all that are supported):

	Router, Clause 6 - List all routing configurations (e.g. ARCNET-Ethernet, Ethernet-MS/TP, etc.):
	Annex H.3, BACnet Tunneling Router over UDP/IP
	BACnet/IP Broadcast Management Device (BBMD)
	BBMD supports registrations by Foreign Devices

Segmentation Capability (check all that apply):

		Window Size
	Segmented requests supported	
	Segmented responses supported	

Character Sets Supported (check all that apply):
Indicating support for multiple character sets does not imply that they can all be supported simultaneously.

x	ANSI X3.4
	IBM™/Microsoft™ DBCS
	ISO 8859-1
	ISO 10646 (UCS-2)
	ISO 10646 (ICS-4)
	JIS C 6226

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

Include any addition information about the product's BACnet capabilities relevant to interoperability:
