

## BACnet Protocol Implementation Conformance Statement

### Product

<b>Date:</b>	3/10/2016	<b>Vendor Name:</b>	Magnum Energy Solutions
<b>Product Name:</b>	DALI Lighting Control	<b>Application Software V.:</b>	n/a
<b>Product Model Number:</b>	Mx-OPUS-MLD	<b>Firmware Revision:</b>	x.x.x.x
<b>Product Description:</b>	Fixture integrated	<b>BACnet Protocol Revision:</b>	n/a

### Vendor Information

Magnum Energy Solutions LLC 43 Villay Way #209 Hudson, OH 44236 USA <a href="http://www.magnumenergysolutions.com">www.magnumenergysolutions.com</a>
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### Product Description

Magnum's fixture integrated Mx-OPUS-MLD node, when connected to a Philips Xitanium SR driver or a DALI driver, enables any lighting manufacturer to deliver simple, fully connected fixtures. The small and sleek form factor includes a digital PIR and ambient light sensing for daylight harvesting applications as well as occupancy based ON/OFF control. Easy and seamless integration at the fixture level, Mx-OPUS-MLD eliminates the need for extra relays and control devices when paired with compatible LED drivers. This reduces the costs and complexity associated with creating an intelligent and individually addressable lighting scheme.
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### BACnet Standardized Device Profile (Annex L):

<input type="checkbox"/> BACnet Operator Workstation (B-OWS)	<input type="checkbox"/> BACnet Advanced Application Controller (B-AAC)
<input type="checkbox"/> BACnet Advanced Operator Workstation (B-AWS)	<input type="checkbox"/> BACnet Application Specific Controller (B-ASC)
<input type="checkbox"/> BACnet Operator Display (B-OD)	<input checked="" type="checkbox"/> BACnet Smart Sensor (B-SS)
<input type="checkbox"/> BACnet Building Controller (B-BC)	<input checked="" type="checkbox"/> BACnet Smart Actuator (B-SA)

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

DS-RP-B	Data Sharing, Read Property B
DS-RPM-B	Data Sharing, Read Property Multiple B
DS-WP-B	Data Sharing, Write Property B
DS-WPM-B	Data Sharing, Write Property Multiple B
DS-COV-B	Data Sharing, COV B
DS-COVP-B	Data Sharing, COVP N

**Segmentation Capability:**

<input checked="" type="checkbox"/> Able to transmit segmented messages	Window Size: 1515 bytes
<input checked="" type="checkbox"/> Able to receive segmented messages	Window Size: 1515 bytes

**Standard Object Types Supported (Sensor):**

<b>Object</b>	<b>Optional Properties Supported</b>	<b>Writeable Properties</b>	<b>Property Range Restrictions</b>
Binary Input Occupancy	Description Inactive Text Active Text	None	None
Binary Input Lamp failure	Description Inactive Text Active Text	None	None
Binary Input Channel status	Description Inactive Text Active Text	None	None
Binary Input Status of control gear	Description Inactive Text Active Text	None	None
Binary Input Lamp arc power	Description Inactive Text Active Text	None	None
Binary Input Query limit error	Description Inactive Text Active Text	None	None
Binary Input Reset state	Description Inactive Text Active Text	None	None
Binary Input Missing short address	Description Inactive Text Active Text	None	None
Binary Input Power failure	Description Inactive Text Active Text	None	None
Analog Input Illumination (linear)	Description	None	0 – 1023
Analog Input Dim value	Description	None	0 – 100
Analog Input Current Power Usage Watts	Description	None	0.0 – 6553.5
Analog Input Cumulative Power Usage kw/h	Description	None	0.0 – 62147483.647
Analog Output {HeartBeat}	Description	Present Value	none

Analog Input {RSSI}	Description	none	none
Binary Input {Signal}	Description Inactive Text Active Text Change State Time Change State Count Time State Count Reset	none	none
MultiStateInput {Manufacturer}	Description	none	EnOcean Manufacturer List

**Standard Object Types Supported (Actuator):**

Object	Optional Properties Supported	Writeable Properties	Property Range Restrictions
Binary Output Switching Command	Description Inactive Text Active Text	Present Value	none
Binary Output Store final value	Description Inactive Text Active Text	Present Value	none
Binary Output Dimming Range	Description Inactive Text Active Text	Present Value	none
Analog Output Ramping time	Description	Present Value	0 – 255
Analog Output Dimming value	Description	Present Value	0 – 255
MultiStateOutput {Msg.Selector}	Description	Present Value	Dimming
BinaryOutput {Sending}	Description Inactive Text Active Text	Present Value	None
MultiStateInput {Manufacturer}	Description	none	EnOcean Manufacturer List

**Data Link Layer Options:**

<input type="checkbox"/> BACnet IP, (Annex J)	<input type="checkbox"/> MS/TP slave (Clause 9)
<input type="checkbox"/> BACnet IP, (Annex J), Foreign Device	<input type="checkbox"/> Point-To-Point, EIA 232 (Clause 10)
<input type="checkbox"/> ISO 8802-3, Ethernet (Clause 7)	<input type="checkbox"/> Point-To-Point, modem
<input type="checkbox"/> ATA 878.1, 2.5 Mb. ARCNET (Clause 8)	<input type="checkbox"/> LonTalk, (Clause 11)
<input type="checkbox"/> ATA 878.1, EIA-485 ARCNET (Clause 8)	<input type="checkbox"/> BACnet/ZigBee (ANNEX O)
<input type="checkbox"/> MS/TP master (Clause 9)	<input checked="" type="checkbox"/> Other: EnOcean wireless

**Device Address Binding:**

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
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**Networking Options:**

<input type="checkbox"/> Router, Clause 6 - List all routing configurations, e.g., ARCNET-Ethernet, Ethernet-MS/TP, etc.	
<input type="checkbox"/> Annex H, BACnet Tunneling Router over IP	
<input type="checkbox"/> BACnet/IP Broadcast Management Device (BBMD)	
Does the BBMD support registrations by Foreign Devices?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Does the BBMD support network address translation?	<input type="checkbox"/> Yes <input type="checkbox"/> No

**Network Security Options:**

<input type="checkbox"/> Non-secure Device - is capable of operating without BACnet Network Security
<input type="checkbox"/> Secure Device - is capable of using BACnet Network Security (NS-SD BIBB)
<input type="checkbox"/> Multiple Application-Specific Keys:
<input type="checkbox"/> Supports encryption (NS-ED BIBB)
<input type="checkbox"/> Key Server (NS-KS BIBB)

**Character Sets Supported:**

<input checked="" type="checkbox"/> ISO 10646 (UTF-8)	<input type="checkbox"/> IBM™/Microsoft™ DBCS	<input type="checkbox"/> ISO 8859-1
<input type="checkbox"/> ISO 10646 (UCS-2)	<input type="checkbox"/> ISO 10646 (UCS-4)	<input type="checkbox"/> JIS X 0208