BACnet Protocol Implementation Conformance Statement

Product

Date:	4/20/2016	**Vendor Name:**	Magnum Energy Solutions
Product Name:	MD15	**Application Software V.:**	n/a
Product Model Number:	Mx-MD15	**Firmware Revision:**	x.x.x.x
Product Description:	Small Valve Actuator	**BACnet Protocol Revision:**	n/a

Vendor Information

Magnum Energy Solutions LLC 43 Villay Way #209 Hudson, OH 44236 USA www.magnumenergysolutions.com

Product Description

The product combination of the MD15 small actuator with the RZ, RWZ zone valves is the innovative solution for energy efficient control of room and zone temperature. It is fit for both heating and cooling. The motor actuator's high control accuracy, the sophisticated coupling between motor actuator and zone control valve, and the optimal construction of the valve all offer the best conditions for energy efficiency and comfort. The MD15 small actuator can be simply and seamlessly integrated in Kieback&Peter's room automation and zone control systems.

BACnet Standardized Device Profile (Annex L):

☐ BACnet Operator Workstation (B-OWS)	☐ BACnet Advanced Application Controller (B-AAC)
☐ BACnet Advanced Operator Workstation (B-AWS)	☐ BACnet Application Specific Controller (B-ASC)
☐ BACnet Operator Display (B-OD)	☒ BACnet Smart Sensor (B-SS)
☐ BACnet Building Controller (B-BC)	☒ 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:

☒ Able to transmit segmented messages	Window Size: 1515 bytes
☒ Able to receive segmented messages	Window Size: 1515 bytes

Standard Object Types Supported (Sensor, PP mode):

Object	Optional Properties Supported	Writeable Properties	Property Range Restrictions
Analog Input Valve position	Description	None	0 – 100%
Binary Input Mechanical status	Description Inactive Text Active Text	None	Mechanical OK, Mechanical blockage
Binary Input Window status	Description Inactive Text Active Text	None	Window closed, Window open
Binary Input Temperature sensor status	Description Inactive Text Active Text	None	Temp. sensor error, Temp. sensor OK
Binary Input Battery status	Description Inactive Text Active Text	None	Battery 20%, Battery OK
Binary Input Operational status	Description Inactive Text Active Text	None	Non-operational: battery empty, Operational
Analog Input Temperature	Description	None	0 – 40°C 32 – 104°F
MultiStateInput {Manufacturer}	Description	None	List of Manufacturer
Binary Input {Signal}	Description Inactive Text Active Text	None	Invalid, Valid
Analog Input {RSSI}	Description	None	0 – 255
Analog Output {HeartBeat}	Description	Present Value	0 – 1000

Standard Object Types Supported (Sensor, control mode):

Object	Optional Properties Supported	Writeable Properties	Property Range Restrictions
Analog Input Current value	Description	None	0 – 100%

Binary Input Service	Description Inactive Text Active Text	None	Off, On
Binary Input Energy Input Enabled	Description Inactive Text Active Text	None	False, True
Binary Input Energy storage sufficiently charged	Description Inactive Text Active Text	None	False, True
Binary Input Battery capacity; change battery next days	Description Inactive Text Active Text	None	False, True
Binary Input Contact, cover open	Description Inactive Text Active Text	None	False, True
Binary Input Failure temp sensor, out of range	Description Inactive Text Active Text	None	False, True
Binary Input Detection, window open	Description Inactive Text Active Text	None	False, True
Binary Input Actuator obstructed	Description Inactive Text Active Text	None	False, True
Analog Input Temperature	Description	None	0 – 40°C 32 – 104°F
MultiStateInput {Manufacturer}	Description	None	List of Manufacturer
Binary Input {Signal}	Description Inactive Text Active Text	None	Invalid, Valid
Analog Input {RSSI}	Description	None	0 – 255
Analog Output {HeartBeat}	Description	Present Value	0 – 1000
Analog Input Battery voltage	Description	None	0 – 5 V
Analog Input Software version Dolphin	Description	None	0 – 65535
Analog Input Distance counter	Description	None	0 – 16777215
Analog Input Set FlyWheelTimer	Description	None	0 – 16777215
Analog Input Distance total with last battery	Description	None	0 – 16777215
Analog Input Message #1	Description	None	0 – 15
Analog Input Message #2	Description	None	0 – 15

Analog Input ReSync count	Description	None	0 – 255
Analog Input Signal Strength	Description	None	0 – 255 db
Analog Input Battery Change count	Description	None	0 – 255
Binary Input Position interpolation	Description Inactive Text Active Text	None	Off, On
Binary Input Learn ping	Description Inactive Text Active Text	None	Off, On
Binary Input Valve protection	Description Inactive Text Active Text	None	Off, On
Binary Input Send depression	Description Inactive Text Active Text	None	Off, On
Binary Input Window-open detection	Description Inactive Text Active Text	None	Off, On
Binary Input Automatic summer mode detection	Description Inactive Text Active Text	None	Off, On
Binary Input Configuration auto-send	Description Inactive Text Active Text	None	Off, On
Analog Input Actual FlyWheelTimer counter	Description	None	0 – 16777215
Analog Input Total lift	Description	None	0 – 255
Analog Input Tn-Value	Description	None	0 – 255
Analog Input Xp-Value	Description	None	0 – 255
Analog Input ATmega SW version	Description	None	0 – 255

Standard Object Types Supported (Actuator):

Object	**Optional Properties Supported**	**Writeable Properties**	**Property Range Restrictions**
Analog Output Valve position or Temperature set point	Description	Present Value	0 – 40°C 32 – 104°F 0 – 100%
Analog Output Temperature from RCU	Description	Present Value	0 – 40°C 32 – 104°F

Binary Output Run init sequence	Description Inactive Text Active Text	Present Value	False, True
Binary Output Lift set	Description Inactive Text Active Text	Present Value	False, True
Binary Output Valve open sequence	Description Inactive Text Active Text	Present Value	False, True
Binary Output Lift set	Description Inactive Text Active Text	Present Value	False, True
Binary Output Valve open/maintenance	Description Inactive Text Active Text	Present Value	False, True
Binary Output Valve closed	Description Inactive Text Active Text	Present Value	False, True
Binary Output Summer bit, reduction of energy consumption	Description Inactive Text Active Text	Present Value	False, True
Binary Output Set point selection	Description Inactive Text Active Text	Present Value	False, True
Binary Output Set point selection	Description Inactive Text Active Text	Present Value	Valve position, Temp. set point
Binary Output Set point inverse	Description Inactive Text Active Text	Present Value	False, True
Binary Output Select function	Description Inactive Text Active Text	Present Value	RCU, Service on
MultiStateInput {Manufacturer}	Description	Present Value	List of Manufacturer

Data Link Layer Options:

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

Device Address Binding:

☐ Yes	☒ No

Networking Options:

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

Network Security Options:

☐ Non-secure Device - is capable of operating without BACnet Network Security
☐ Secure Device - is capable of using BACnet Network Security (NS-SD BIBB) ☐ Multiple Application-Specific Keys: ☐ Supports encryption (NS-ED BIBB) ☐ Key Server (NS-KS BIBB)

Character Sets Supported:

☒ ISO 10646 (UTF-8)	☐ IBM™/Microsoft™ DBCS	☐ ISO 8859-1
☐ ISO 10646 (UCS-2)	☐ ISO 10646 (UCS-4)	☐ JIS X 0208