

BACnet Interface for Enlighted Systems–PICS

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BACNET INTERFACE FOR ENLIGHTED SYSTEMS - PICS

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Overview

The Enlighted Lighting BACnet/IP interface enables BACnet/IP based integration between the Enlighted lighting control network and any BACnet® compatible Building Management System (BMS). The Lighting BACnet/IP software installed in the Enlighted Manage provides seamless integration between the Enlighted network and BMS system via BACnet.

BACnet/eIP Protocol Implementation Conformance Statement (Annex A)

Date	4/29/2021
Vendor Name	Enlighted Inc.
Product Name	BACnet Interface for Enlighted Systems
Model Name	BIES-01
BACnet Device Profile	B-ASC, B-RTR
Product Codes	NB-BS-01 (Base License: BACnet SW and EM points) NB-GP-01 (Group Points License: Area Group points) NG-SP-01 (Individual Points License: Fixture & Plugload points)
Firmware Revision:	1.1
BACnet Protocol Version	1
BACnet Protocol Revision:	14
Product Description	Lighting and HVAC Monitoring and Management Systems.

BACnet Standardized Device Profile (Annex L)

BACnet Operator Workstation (B-OWS)		BACnet Advanced Application Controller (B-AAC)
BACnet Advanced Operator Workstation (B-AWS)	X	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/IP Interoperability Building Blocks Supported (Annex K)

DS-RP-B Data Sharing – Read Property B	DM-DDB-B Device Management – Dynamic Device Binding B
DS-WS-B Data Sharing – Write Property B	DM-DOB-B Device Management – Dynamic Object Binding B
DS-RPM-B Data Sharing – Read Property Multiple-B	DM-DCC-B Device Management – Device Communication Control B

Segmentation Capability

Able to transmit segmented messages	Window Size
Able to receive segmented message	Window Size

Standard Object Types Supported

Object Type Supported	Can be Created Dynamically	Can be Deleted Dynamically
Analog Input	No	No
Analog Value	No	No
Analog Output	No	No
Device	No	No
Binary Input	No	No
Binary Value	No	No

Optional Properties Supported

Device Object: Description

All Other Objects: Description

Data Link Layer Options

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

Device Address Binding

Is static device binding supported? (This is necessary for two-way communication with MS/TP slaves and certain other devices.): **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

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

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

If this product is a communication gateway, describe the types of non-BACnet equipment/networks(s) that the gateway supports: **NA**

Enlighted Lighting – BACnet/IP Object Mapping

Enlighted BACnet Lighting exposes the following Enlighted Lighting objects over BACnet/IP. After the module is installed in Energy Manager, the lighting objects can be monitored and controlled via BACnet/IP interface.

Lighting BACnet/IP Object	Object Description	Unit	Access	BACnet/IP Object Type	Device ID
Group Points (Manage) - The physical/virtual Manage system which includes all sensors, areas, and groups.					
Manage Energy Consumption – Lighting	Total energy consumption of all lights	Watt-Hour (15 minutes)	Read/CoV	Analog Input	Derived from EM Base ID*
Manage Energy Consumption – plugload	Total energy consumption of all plugloads	Watt-Hour (15 minutes)	Read/CoV	Analog Input	
Manage DR Level	Sensitivity to respond to a DR event. 1: High 2: Medium 3: Low 4: Special	N/A	Write	Analog Value	
Manage DR Duration	Duration of schedule DR event	Minutes (must be a whole number)	Write	Analog Value	
Manage Emergency Status	In an Emergency, lights are turned on or off in the building 0: Off – Lights switch to Auto mode light levels based on their fixture profile 1: On – Lights set to a maximum level of 100%	Binary	Write	Boolean Value	
Gateway Outage Count	Count of gateways not currently communicating on the system	Count	Read/CoV	Analog Input	

Group Points (Area) - Area is a group of devices on a floor					
Area Energy Consumption – Lighting	Total energy consumption in the area	Watt-Hour (15 minutes)	Read/CoV	Analog Input	Derived from Area Base ID*
Area Energy Consumption – Plugload	Total energy consumption of the plugload	Watt-Hour (15 minutes)	Read/CoV	Analog Input	
Area Occupancy Status	State of occupancy 0: Unoccupied in an area 1: Occupied	Binary	Read/CoV	Binary Input	
Area Emergency Status – On/off	In an Emergency, lights are turned on or off in the area 0: Off – Lights in the area switch to Auto light levels based on their fixture light profile 1: On – Lights in the area are set to a maximum level of 100%	N/A	Write	Boolean Value	
Area Lighting Control	Controls light levels for 'x' minutes 0: Lights off 1-99: Dim Level 100: Lights full-on, set to 100% 101: Auto – Normal light levels for a commissioned fixture based on its profile. Note: Profile <i>Ramp-up</i> time affects override be it API/BACnet.	Percent (must be a whole number)	Write	Analog Value	
Area Override	Activates Holiday override profile as	N/A	Write	Analog Value	

	configured in Manage, for 'AreaManualOverrideDuration' minutes.				
Group Points (Switch) - Switch Group is a group of devices on a floor that are controlled together by one or more switches/ERCs.					
Switch Group Scene	Triggers a given scene override for 1 hour	N/A	Write	Analog Value	Derived from Switch Base ID*

*EM Base ID is the BACnet base address used by the devices on the floor. Area Base ID is BACnet base address used by the devices in the area.

Lighting BACnet/IPObject	Object Description	Unit	Access	BACnet/IP Object Type	Instance ID
Individual Points (Fixtures)					
Fixture Energy Consumed	Energy consumed by the fixture	Watt-Hour (15 minutes)	Read/CoV	Analog Input	Derived from Sensor ID
Fixture Dim Level	Light output level 0: Lights Off 100%: Lights Full-on	Percent (must be a whole number)	Read/Write/CoV	Analog Value	
Fixture Temperature	Air temperature value at the sensor	Fahrenheit	Read/CoV	Analog Input	
Individual Points (Plugloads)					
Plugload Energy Consumed	Energy consumed by the managed and unmanaged plugload	Watt-Hour (15 minutes)	Read/CoV	Analog Input	Derived from Sensor ID
Plugload On/Off	State of the plugload 0: Plugload Off 1: Plugload On	Binary	Read/Write/CoV	Binary Value	

Note: The BACnet IP polls the Manage every five minutes to obtain data for all points.



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