

BACnet Protocol Implementation Conformance Statement (PICS)

Date: March 5, 2026

Vendor Name: Aleo Lighting + Controls

Vendor ID: 1489

Product Name: AleoBlue BACnet GW

Product Model Number: Minew G1-E

Application Software Version: 1.1

Firmware Revision: 1.3.8

Product Description:

The AleoBlue BACnet Gateway integrates Bluetooth® NLC lighting systems, commissioned with AleoBlue Commissioning tools, into Building Management Systems (BMS). It can support up to 200 nodes and up to 100 groups per area in the lighting system.

Data shared by the AleoBlue BACnet Gateway:

- **Group Health Status:** Aggregates health status from all devices, assessing connectivity and fault states hourly.
- **Group Occupancy Status:** Combines occupancy data from sensors, updating it based on the latest sensor status to reflect activity in the zone.
- **Group Energy Use:** Aggregates energy consumption across all devices in a zone, with updates every 15 minutes for precise energy monitoring.
- **Group Scene Recall:** Supports recall of four predefined scenes for lighting adjustments, enhancing room-level control directly from BMS.
- **Group Ambient Light Level:** Reports the average ambient light level across all devices in the group.
- **Group LightOn Status:** Indicates whether any device light in the group is currently on.
- **Group Light Level Set:** Allows real-time adjustment of light levels across the group for custom light level settings.
- **Group Light Level Status:** Indicates the highest light level from all devices in the group.
- **Device Health Status:** Indicates the health status of each individual device in the group, facilitating specific device troubleshooting.

BACnet Standardized Device Profile (Annex L):

BACnet Application Specific Controller (B-ASC)

BACnet Interoperability Building Blocks Supported (Annex K):

BIBB Group	BIBB	Service*
Data Sharing	ReadProperty-B	ReadProperty (EX)
	ReadPropertyMultiple-B	ReadPropertyMultiple (EX)
	WriteProperty-B	WriteProperty (EX)
	WritePropertyMultiple-B	WritePropertyMultiple (EX)
	ChangeOfValue-B	SubscribeCOV (EX) ConfirmedCOVNotification (IN) UnconfirmedCOVNotification (IN)
Device Management	DynamicDeviceBinding-B	Who-Is (EX) I-Am (IN)
	DynamicObjectBinding-B	Who-Has (EX) I-Have (IN)
	DeviceCommunicationControl-B	DeviceCommunicationControl (EX)**
	ReinitializeDevice-B	ReinitializeDevice (EX)**
	Time Synchronization-B	TimeSynchronization (EX)
	UTC Time Synchronization-B	UTCTimeSynchronization (EX)
Network Management	Foreign-Device Registration-A	-

* EX – execute, IN – initiate

** Password protected

Segmentation Capability

Segmented requests supported? No. Window Size: n/a

Segmented responses supported? No. Window Size: n/a

Standard Object Types Supported

Object Type	Dynamically creatable using the CreateObject service	Dynamically deletable using the DeleteObject service	List of the optional properties supported	List of all properties that are writable where not otherwise required by this standard	List of all properties that are conditionally writable where not otherwise required by this standard	List of proprietary properties	List of any property range restrictions
Device	No	No	- Description - Location - serial-number - property-list	None	None	None	None
Network Port	No	No	- Description - ip-dns-server - ip-dhcp-enable - property-list	None	None	None	- network-number-quality: UNKNOWN or CONFIGURED - bacnet-ip-mode: NORMAL or FOREIGN
Analog Input	No	No	- Description - Reliability	None	None	None	See 'Objects' table
Binary Input	No	No	- Description - Inactive_Text - Active_Text - Reliability	None	None	None	None
Multi-State Input	No	No	- Description - Reliability - State_Text	None	None	None	See 'Objects' table
Analog Output	No	No	- Description - Min_Pres_Value - Max_Pres_Value	None	None	None	None
Multi-State Output	No	No	- Description - Reliability - State_Text	None	None	None	See 'Objects' table
Structured View	No	No	- Description - Subordinate_Node_Types - Subordinate_Relationships	None	None	None	None

Objects

Object Name	Type	Instance	Read	Write	COV	Values	Units	Aggregation	Properties supported
Device	Device	0	✓	✗	✗	-	-	-	-
	ⓘ Represents the AleoBlue BACnet Gateway as a BACnet device. Required by the BACnet standard and used for discovery, identification, and basic device management.								
Network Port	Network Port	1	✓	✗	✗	-	-	-	-
	ⓘ Represents the BACnet/IP network interface of the gateway, including IP addressing mode (DHCP or static) and BACnet/IP communication parameters.								
Gateway Status	Structured View	50	✓	✗	✗	-	-	-	-
	ⓘ A logical container for gateway-related diagnostic and status information.								
UART TX	Analog Input	51	✓	✗	✓	-	-	-	-
	ⓘ Counts the number of messages transmitted from the BACnet application to the Bluetooth radio.								
UART RX	Analog Input	52	✓	✗	✓	-	-	-	-
	ⓘ Counts the number of messages received by the BACnet application from the Bluetooth radio.								

Object Name	Type	Instance	Read	Write	COV	Values	Units	Aggregation	Properties supported
MESH TX	Analog Input	53	✓	✗	✓	-	-	-	-
	① Counts the number of Bluetooth Mesh messages transmitted by the radio.								
MESH RX	Analog Input	54	✓	✗	✓	-	-	-	-
	① Counts the number of Bluetooth Mesh messages received by the radio.								
Firmware status	Analog Input	55	✓	✗	✓	-	-	-	-
	Status of the firmware: 1. Firmware unprovisioned 2. Firmware unprovisioned in attention state 3. Firmware provisioned not in a mesh range (no MESH RX activity) 4. Firmware provisioned in a mesh range (MESH RX activity) 5. Firmware provisioned in attention state in a mesh range (MESH RX activity)								
Group Light Level Status	Structured View	90	✓	✗	✗	-	-	-	-
Group Ambient Light Level	Structured View	91	✓	✗	✗	-	-	-	-
Group LightOn Status	Structured View	92	✓	✗	✗	-	-	-	-
Group Light Level Set	Structured View	93	✓	✗	✗	-	-	-	-
Group Scene Recall	Structured View	94	✓	✗	✗	-	-	-	-
Group Occupancy Status	Structured View	95	✓	✗	✗	-	-	-	-
Group Energy Use	Structured View	96	✓	✗	✗	-	-	-	-
Group Health Status	Structured View	97	✓	✗	✗	-	-	-	-
Area Name	Structured View	98	✓	✗	✗	-	-	-	-
	① Represents the Area controlled by the gateway and contains Mesh Topology Information for zones.								
Project Name	Structured View	99	✓	✗	✗	-	-	-	-
	① Represents the Project containing the Area and is the top-level entry point to the lighting topology exposed by the gateway.								
Group Health Status	Multi-State Input	100-199	✓	✗	✓	1, 2, 3, 4, 5	-	-	state-text: 1. No-Fault 2. Member Fault 3. Lost & No-Fault 4. Lost & Fault 5. All Lost
	① The Group Health Status is an aggregation of the health information from each node in the group (Health Fault Server Model). A Health Current Status message is considered No-Fault if the FaultArray field is empty, and Fault if it is not empty (see 'States'). A new value is computed upon receiving a new and valid Health Current Status message using the information from the message received before the last computation. States: 1. Connectivity to all group members; all group members are No-Fault 2. Connectivity to all group members; at least one group member is Fault 3. Connectivity to at least one group member is lost (but not to all); all connected group members are No-Fault 4. Connectivity to at least one group member is lost (but not to all); at least one connected group member is Fault 5. Connectivity to all group members is lost or has not yet started – default state after power-up								
Group Occupancy Status	Binary Input	200-299	✓	✗	✓	0, 1	-	OR	● active-text: Occupied ● inactive-text: Unoccupied
	① The Group Occupancy Status is an aggregation of the occupancy information (a Sensor Status message with the Presence Detected Property ID) from each node in the group. A new value is computed upon receiving a new and valid message, using the data from that message and the most recent data from other group members.								

Object Name	Type	Instance	Read	Write	COV	Values	Units	Aggregation	Properties supported
Group Energy Use	Analog Input	300-399	✓	✗	✓	-	Wh	Sum	-
	① Group Energy Use is an aggregation of energy data (a Precise Total Device Energy Use from Sensor Status messages) from each active node. A new value is computed every 15 minutes based on the information from the messages received after the last computation. Only the last message from a group member is used for computation (the most recent one). The values 'value is not known' (0xFFFFFFFF) and 'value is not valid' (0xFFFFFFFFE) are ignored.								
Group Scene Recall	Multi-State Output	400-499	✓	✓	✗	1, 2, 3, 4	-	-	state-text: 1. Scene Recall 0 2. Scene Recall 1 3. Scene Recall 2 4. Scene Recall 3
	① Each time the Multi-State Output is written, a series of mesh messages of Scene Recall Unacknowledged is sent to an address represented by a group (the mapping between the BACnet Object ID and the mesh group address is defined in the configuration). When mesh messages are in progress for a group, new writes to Multi-State Output are queued. If a value is already queued, it is replaced by the new one, making this a single-element queue.								
Group Ambient Light Level	Analog Input	500-599	✓	✗	✓	-	lx	Average	-
	① The Group Ambient Light Level is an aggregation of the Ambient Light information (a Sensor Status message containing Present Ambient Light Level Property ID) from each node in the group. A new value is computed upon receiving a new and valid message using the information from the message received before the last computation. Only the last message from a group member is used for computation (the most recent one). The value 'value is not known' (0xFFFFFFFF) is ignored.								
Group LightOn Status	Binary Input	600-699	✓	✗	✓	0, 1	-	OR	● active-text: On ● inactive-text : Off
	① The Group LightOn Status is an aggregation of each node's LightOn Status from the Light Lightness Status message: 'off' if zero, 'on' if greater than zero. A new value is computed upon receiving a new and valid Light Lightness Status message using the information from the message received before the last computation. Only the last message from a group member is used for computation (the most recent one).								
Group Light Level Set	Analog Output	700-799	✓	✓	✗	0-100	%	-	-
	① Each time the Analog Output is written, the series of mesh messages of Light Lightness Linear Set Unacknowledged are sent to an address represented by a group (the mapping between the BACnet Object ID and the mesh group address is defined in the configuration). When mesh messages are in progress for a group, new writes to Multi-State Output are queued. If a value is already queued, it is replaced by the new one, making this a single-element queue.								
Group Light Level Status	Analog Input	800-899	✓	✗	✓	-	%	Max.	-
	① The Group Light Level Status is an aggregation of each node's Light Level Status from the Light Lightness Status message. A new value is computed as a maximum from all known lightness statuses of the nodes in the group upon receiving a new and valid message using the data from that message along with the most recent data from other group members.								
Zone Name	Structured View	1400-1499	✓	✗	✗	-	-	-	-
	① Each Zone Name object represents a single zone in the BACnet structural hierarchy.								
Device Health Status	Multi-State Input	1500-1699	✓	✗	✓	1, 2, 3, 4	-	-	state-text: 1. No-Fault 2. Light Source error 3. Control Gear error 4. System error
	① The Device Health Status is the health information from a node in the group (Health Fault Server Model). A Health Current Status message is considered No-Fault if the FaultArray field is empty, and Fault if it is not empty (see 'States'). A new value is computed upon receiving a new and valid Health Current Status message. States: 1. No-Fault 2. Light Source error. When either DIAA Vendor specific fault 0x81 or AleoBlue Vendor specific fault 0x82 is present in the FaultArray. The array can also include other errors from the 'System' or 'Control Gear' error categories. 3. Control Gear error. When at least one of the following is present in the FaultArray: DIAA Vendor specific faults 0x80, 0x85, 0x86, 0x87, 0x88; AleoBlue Vendor specific faults 0x81, 0x87, 0x88; or Bluetooth assigned fault 0x2F. The array can also include other errors from the 'System' error category, but none from the 'Light Source' error category. 4. System error. Any other AleoBlue Vendor specific faults, DIAA Vendor specific faults, or Bluetooth assigned faults. The fault array can include multiple errors, but none from the 'Light Source' or 'Control gear' error categories.								

BACnet Data Link Layer Options

BACnet/IP (Annex J)

Device Address Binding



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Is static device binding supported? No.

Networking Options

BACnet/IP (Annex J) – non-BBMD functionality

Character Sets Supported

ISO 10646 (UTF-8)