

# Lighting Controls

## Protocol Implementation Conformance Statement

### BACnet to wireless wiSCAPE Gateway

Vendor Name:	Current
Model Name:	WIR-GATEWAY3
Application Software Version:	3.1.2
BACnet Protocol Revision:	16
Date:	2020-07-13
Description:	<p>The wiSCAPE GW3 gateway can be installed as part of the Building Management System using the BACnet protocol. It will translate BACnet values to some DP1 wireless commands.</p> <p>Can be used for:</p> <ul style="list-style-type: none"><li>- lamp levels control and feedback</li><li>- metering values from the node</li><li>- “alarm” notification from the node</li><li>- scenario</li><li>- setpoint</li><li>- generic timer</li><li>- turn lamp ON / OFF</li><li>- enable/disable some functions in the node</li></ul> <p>The BACnet object list and the matching wiSCAPE commands can be configured with the wiSCAPE Express application.</p>

## Standardized Device Profile (Annex L)

BACnet Cross-Domain Advanced Operator Workstation	B-XAWS	<input type="checkbox"/>
BACnet Advanced Operator Workstation	B-AWS	<input type="checkbox"/>
BACnet Operator Workstation	B-OWS	<input type="checkbox"/>
BACnet Operator Display	B-OD	<input type="checkbox"/>
BACnet Advanced Life Safety Workstation	B-ALSW	<input type="checkbox"/>
BACnet Life Safety Workstation	B-LSWS	<input type="checkbox"/>
BACnet Life Safety Annunciator Panel	B-LSAP	<input type="checkbox"/>
BACnet Advanced Access Control Workstation	B-AACWS	<input type="checkbox"/>
BACnet Access Control Workstation	B-ACWS	<input type="checkbox"/>
BACnet Access Control Security Display	B-ACSD	<input type="checkbox"/>
BACnet Building Controller	B-BC	<input type="checkbox"/>
BACnet Advanced Application Controller	B-AAC	<input type="checkbox"/>
BACnet Application Specific Controller	B-ASC	<input type="checkbox"/>
BACnet Smart Actuator	B-SA	<input checked="" type="checkbox"/>
BACnet Smart Sensor	B-SS	<input type="checkbox"/>
BACnet Advanced Life Safety Controller	B-ALSC	<input type="checkbox"/>
BACnet Life Safety Controller	B-LSC	<input type="checkbox"/>
BACnet Advanced Access Control Controller	B-AACC	<input type="checkbox"/>
BACnet Access Control Controller	B-ACC	<input type="checkbox"/>
BACnet Router	B-RTR	<input type="checkbox"/>
BACnet Gateway	B-GW	<input type="checkbox"/>
BACnet Broadcast Management Device	B-BBMD	<input type="checkbox"/>
BACnet Access Control Door Controller	B-ACDC	<input type="checkbox"/>
BACnet Access Control Credential Reader	B-ACCR	<input type="checkbox"/>
BACnet General	B-GENERAL	<input type="checkbox"/>

## Interoperability Building Blocks (Annex K)

### Data Sharing

ReadProperty-B	DS-RP-B
WriteProperty-B	DS-WP-B
ReadPropertyMultiple-B	DS-RPM-B

### Device and Network Management

Dynamic Device Binding-B	DM-DDB-B
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## Segmentation Capability

Able to transmit segmented messages	<input checked="" type="checkbox"/>
Able to receive segmented messages	<input checked="" type="checkbox"/>

## Object Types Supported

Binary Value	Object_Identifier Object_Name Object_Type Present_Value (W) Status_Flags Event_State Out_Of_Service Polarity	Description Active_Text Inactive_Text Reliability
Analog Value	Object_Identifier Object_Name Object_Type Present_Value (W) Status_Flags Event_State Out_Of_Service Units	Description Reliability
Analog Input	Object_Identifier Object_Name Object_Type Present_Value Status_Flags Event_State Out_Of_Service Units	Description Reliability
Binary Ouput	Object_Identifier Object_Name Object_Type Present_Value (W) Status_Flags Event_State Out_Of_Service Polarity Priority_Array Relinquish_Default	

Device	Object_Identifier Object_Name Object_Type System_Status Vendor_Name Vendor_Identifier Model_Name Firmware_Revision Application_Software_Version Protocol_Version Protocol_Revision Protocol_Services_Supported Protocol_Object_Types_Supported Object_List Max_APDU_Length_Accepted Segmentation_Supported APDU_Timeout (W) Number_Of_APDU_Retries (W) Device_Address_Binding Database_Revision	Max_Segments_Accepted Local_Time Local_Date
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(W) = Writable property

### Data Link Layer Options

- BACnet IP, (Annex J)
- BACnet IP, (Annex J), Foreign Device
- BACnet IP, (Annex J), Network Address Translation (NAT Traversal)
- BACnet IPv6, (Annex U)
- BACnet/ZigBee (Annex O)
- Ethernet, ISO 8802-3 (Clause 7)
- MS/TP slave (Clause 9)

### Device Address Binding

- Is static device binding supported?

### Networking Options

- Router
- Annex H, BACnet Tunneling

### Character Sets

- ANSI X3.4 (UTF-8)
- IBM/Microsoft DBCS
- JIS X 0208
- ISO 10646 (UCS-2)
- ISO 10646 (UCS-4)
- ISO 8859-1

## BACnet objects list

The BACnet object list is variable and the id are created using wiSCAPE Express. The recommended practice is to create BACnet objects controlling large group of wiSCAPE wireless devices. This is how you prevent wireless communication delays and prevent visual delay caused by multiple single device commands.

## Analog Values

Analog values are used by writing 0-100% to control lamp levels. Analog values can be used to change lamp level to a group of devices. It can also be used to read and write the lamp level of a particular lamp, for which the present value is updated periodically to the latest lamp levels.

## Binary Values

Binary values will trigger wireless commands. It could be used control various scenario, setpoint, generic timer, turn ON, turn OFF and even enable or disable some features. See wiSCAPE Express for full list of commands. Binary values can be used to control a group of devices. It can also be used to turn ON or OFF a particular lamp, for which the present value is updated periodically to the latest lamp status (ON/OFF).

## Analog Input

Analog input is used to read the different metering of a lamp. The present value is updated periodically to latest value. List of available metering: voltage, current, power, power factor, lamp burn time, active consumption and apparent consumption.

## Binary Output

There is one binary output per physical lamp. Activating the object through its present value will reset the reliability of all the objects of the lamp (lamp level and metering) to NO\_FAULT\_DETECTED.

## Reliability

Analog value, binary value and analog input objects will have a reliability property. Objects that are related to a singular lamp (ie. not a group) have their reliability updated periodically.

NO_FAULT_DETECTED	No error detected
COMMUNICATION_FAILURE	No communication to sensor
UNDER_RANGE	Value is under expected range
OVER_RANGE	Value is over expected range
SHORTED_LOOP	Power overload
OPEN_LOOP	Last gasp
CONFIGURATION_ERROR	Bad settings for sensor
NO_SENSOR	Hardware fault on sensor