

# Protocol Implementation Conformance Statement

## BACnet to wireless wiSCAPE Gateway

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| --- | --- |
| Vendor Name: | Hubbell Control Solutions |
| Model Name: | WIR-GATEWAY3 |
| Application Software Version: | 3.1.2 |
| BACnet Protocol Revision: | 16 |
| Date: | 2020-07-13 |
| Description: | 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.  Can be used for:   * lamp levels control and feedback * metering values from the node * “alarm” notification from the node * scenario * setpoint * generic timer * turn lamp ON / OFF * enable/disable some functions in the node   The BACnet object list and the matching wiSCAPE commands can be configured with the wiSCAPE Express application. |
|  |  |

## Standardized Device Profile (Annex L)

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

## 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 |

## Segmentation Capability

|  |  |
| --- | --- |
| Able to transmit segmented messages |  |
| Able to receive segmented messages |  |

## 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 |

(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 |