BACnet® Protocol Implementation Conformance Statement

Trellix

Vendor Name: Signify

Product Name: Trellix BACnet Interface

BACnet Firmware Revision: 1.0.5.2960

BACnet Application Software Version: 9.0.0

BACnet Protocol Revision: ANSI / ASHRAE standard 135-2204 BACnet® revision 19

Overview

Trellix's BACnet/IP interface is hosted on the Trellix Core platforms (Pro, Enterprise and Virtual). The interface allows for the exchange of data between the Wavelinx Pro connected lighting control system and building automation systems. It allows for individual management of all devices connected to the Wavelinx Pro system.

BACnet Standardized Device Profile (Annex L)

BACnet Application Specific Controller (B-ASC)

BACnet® Interoperability Building Blocks Supported (Annex K)

K.1.2 BIBB	Data Sharing Read	Property-B	(DS-RP-B)
K.1.4 BIBB	Data Sharing Read	Property Multiple-B	(DS-RPM-B)
K.1.8 BIBB	Data Sharing Write	Property-B	(DS-WP-B)
K.1.10 BIBB	Data Sharing Write	PropertyMultiple-B	(DS-WPM-B)
K.1.12 BIBB	Data Sharing	Change Of Value-B	(DS-COV-B)
K.5.2 BIBB	Device Management	Dynamic Device Binding-B	(DM-DDB-B)
K.5.4 BIBB	Device Management	Dynamic Object Building-B	(DM-DOB-B)
K.5.6 BIBB	Device Management	Device Communication Control-B	(DM-DDC-B)
K.5.16 BIBB	Device Management-Reinitialize	Device-B	(DM-RD-B)
K.5.41 BIBB	Gateway-Embedded Objects-B	(GW-EO-B)	(DM-DDC-B)

Segmentation Capability

Segmented requests supported? Yes **Window Size:** n/a

Segmented responses supported? Yes **Window Size:** n/a

BACnet Standard Application Services Supported

ReadProperty	Execute
ReadPropertyMultiple	Execute
WriteProperty	Execute
WritePropertyMultiple	Execute
DeviceCommunicationControl	Execute
ReinitializeDevice	Execute
Who-Has	Execute
I-Have	Initiate
I-Am	Initiate
SubscribeCOV	Execute
ConfirmedCOVNotification	Initiate
UnconfirmedCOVNotification	Initiate
Who-Is	Execute

COOPER Lighting Solutions

Standard Object Types Supported

Analog Input

1. Dynamically creatable using the BACnet CreateObject service? No.
2. Dynamically deletable using BACnet DeleteObject service? No.
3. List of optional properties supported: See Table for objects that support this property.
4. List of all properties that are writable where not otherwise required by this standard: None.
5. List of proprietary properties: None.
6. List of any property value range restrictions: See Table.

Analog Value

1. Dynamically creatable using the BACnet CreateObject service? No.
2. Dynamically deletable using BACnet DeleteObject service? No.
3. List of optional properties supported: See Table for objects that support this property.
4. List of all properties that are writable where not otherwise required by this standard: None.
5. List of proprietary properties: None.
6. List of any property value range restrictions: See Table.

Binary Input

1. Dynamically creatable using the BACnet CreateObject service? No.
2. Dynamically deletable using BACnet DeleteObject service? No.
3. List of optional properties supported: See Table for objects that support this property.
4. List of all properties that are writable where not otherwise required by this standard: None.
5. List of proprietary properties: None.
6. List of any property value range restrictions: See Table.

Binary Value

1. Dynamically creatable using BACnet CreateObject service? No.
2. Dynamically deletable using BACnet DeleteObject service? No.
3. List of optional properties supported: See Table for objects that support this property.
4. List of all properties that are writable where not otherwise required by this standard: None.
5. List of proprietary properties: None.
6. List of any property value range restrictions: See Table.

Data Link Layer Options

BACnet® IP (Annex J)

Device Address Binding

Is static device binding supported? No

Networking Options

Router, Clause 6 – Not supported

BACnet Tunneling Router over IP – Not supported

BACnet/IP Broadcast Management Device (BBMD) – Not supported

Network Security Options:

Non-secure Device is capable of operating without BACnet Network Security – Yes

Secure Device is capable of using BACnet Network Security (NS-SD BIBB) – No

Character Sets Supported:

ANSI X3.4

Special Functionality

Maximum APDU size in octets: 1476

Character Sets Supported

Device (System)

Object Name	Description	Wired/ Wireless	Type	Read/ Write	Units	Min PV	Max PV

Trellix_(MAC ID)	The system name is fixed to TRX. The Device object has the following properties:
	• system-status: operational
	• vendor-name: Signify
	• vendor-identifier: 801
	• model-name: TRX
	• firmware-revision: 1.0.5.2960
	• application-software-version:
	  • 9.0.0
	  • protocol-version: 1
	  • protocol-revision: 19
	  • protocol-services-supported: R, RM, W, WP, DCC, RD, DDB, DOB
	  • protocol-object-types-supported: Device, AI, AV, BI, BV, Network Port
	• object-list: List of objects exposes by the system
	• max-apdu-length-accepted: 1476
	• segmentation-supported: No-segmentation
	• apdu-timeout: 3000 (writable)
	• number-of-APDU-retries: 3
	• description:
	  • local-time
	  • utc-offset
	  • local-date
	  • daylight-savings-status
	  • location
		Wired and Wireless	Device	R	-	-	-

Trellix_DR	Allows a third party system to send demand response command to the WaveLinx Pro system: • 0: cancel demand response • 1: initiate demand response) The command is sent to all areas. The Demand Response reduction is defined for each area via the WaveLinx Pro mobile application and Trellix.	Wireless only	AV	R/W	-	0	1
Trellix_OD	Allows third-party system to define the override duration for high priority override commands. All high priority override commands will use the over-ride duration.	Wireless only	AV	R/W	min	5	480

Building

Object Name	Description	Wired/ Wireless	Type	Read/ Write	Reliability	Units	Min PV	Max PV
{Building Public ID}_ {BuildingName}_LVL	The light level of all lighting fixtures in the building. Notes [1], [5]	Wired and Wireless	AV	R/W	No fault: 0	%	0	100
{Building Public ID}_ {BuildingName}_LOV	Override the light level of all lighting fixtures in the building. To immediately cancel an override, write -1 to the object. Notes [1], [2], [4]	Wireless Only	AV	R/W	No fault: 0	%	-1	100

Floor

Object Name	Description	Wired/ Wirelesss	Type	Read/ Write	Reliability	Units	Min PV	Max PV
{Floor Public ID}_ {FloorName}_LVL	Light level of all lighting fixtures within the designated floor. Notes [1], [5]	Wired and Wireless	AV	R/W	No fault: 0	%	0	100
{Floor Public ID}_ {FloorName}_LOV	Override the lights of the floor to a specific level. To immediately cancel an override, write -1 to the object. Notes [1], [2], [4]	Wireless Only	AV	R/W	No fault: 0	%	-1	100

Area

Object Name	Description	Wired/ Wireless	Type	Read/ Write	Reliability	Units	Min PV	Max PV
{Area Public ID}_ {AreaName}_SCN	Select/read the scene in the area. The lighting fixtures in the area will be set to the same or different light levels based on the pre-configured scene. Note [5]	Wired and Wireless	AV	R/W	No fault: 0 Unreliable-other: 7 (WAC unreachable) Communication-failure: 12 (WAC unreachable)	-	1	16
{Area Public ID}_ {AreaName}_LVL	Set/read the light level of all lighting fixtures in the area. Note [5]	Wired and Wireless	AV	R/W	No fault: 0 Unreliable-other: 7 (WAC unreachable) Communication-failure: 12 (WAC unreachable)	%	0	100
{Area Public ID}_ {AreaName}_LOV	Override the lights of the area to a specific level. To immediately cancel an override, write -1 to the object. Notes [4], [5]	Wireless Only	AV	R/W	No fault: 0 Unreliable-other: 7 (WAC unreachable) Communication-failure: 12 (WAC unreachable)	%	-1	100
{Area Public ID}_ {AreaName}_OCC	The occupancy state of the area. Occupied (value = 1): at least one sensor in the area is indicating occupancy. Unoccupied (value = 0): all the sensors in the area are indicating unoccupied. Note: The physical occupancy of the space is being shared.	Wireless Only	BV	R	No fault: 0 Unreliable-other: 7 (WAC unreachable)	-	0	1
{Area Public ID}_ {AreaName}_NRG	Prior 15 minutes aggregated energy usage. Value of all (measured and/or calculated) lighting and receptacle loads in the area.	Wireless Only	AV	R	No fault: 0 Unreliable-other: 7 (WAC unreachable)	KWH	0	Infinite

Zone

Object Name	Description	Wired/ Wireless	Type	Read/ Write	Reliability	Units	Min PV	Max PV
{Zone Public ID}_ {ZoneName}_LVL	Set/read the light level of all lighting fixtures in the zone. Note [5]	Wired and Wireless	AV	R/W	No fault: 0 Unreliable-other: 7 (WAC unreachable)	%	0	Max value set for the zone. Default 90
{Zone Public ID}_ {ZoneName}_LOV	Override the lights of the area to a specific level. To immediately cancel an override, write -1 to the object. Notes [1], [2], [4], [5]	Wireless Only	AV	R/W	No fault: 0 Unreliable-other: 7 (WAC unreachable)	%	0	Max value set for the zone. Default 90

Device (occupancy sensor, driver, ballast, daylight sensor)

Object Name	Description	Wired/ Wireless	Type	Read/ Write	Reliability	Units	Min PV	Max PV
{Device Public ID}_ {Device Name}_LOV	Override the present light fixture. To immediately cancel an override, write -1 to the object. Notes [4], [5]	Wireless Only	AV	R/W	No fault: 0 Unreliable-other: 7 (device state is bad) Communication-failure: 12 (device state unknown or WAC unreachable)	%	-1	100
{Device Public ID}_ {Device Name}_DLT	The actual reading from the daylight sensor.	Wireless Only	AV	R	No fault: 0 Unreliable-other: 7 (device state is bad) Communication-failure: 12 (device state unknown or WAC unreachable)	Lux	0	50,000
{Device Public ID}_ {Device Name}_STS	The status of a wallstation. Communicating (1) Not communicating (0) Note: This object only applies to wallstations. Reliability variable must be read for STS.	Wireless Only	BV	R	No fault: 0 Unreliable-other: 7 (device state is bad) Communication-failure: 12 (device state unknown or WAC unreachable)	-	-	-
{Device Public ID}_ {Device Name}_OCC	The occupancy state of the occupancy sensor. Occupied (value = 1): the sensor is indicating occupancy. Unoccupied (value = 0): the sensor is indicating vacancy.	Wireless Only	BV	R	No fault: 0 Unreliable-other: 7 (device state is bad) Communication-failure: 12 (device state unknown or WAC unreachable)	-	0	1
{Occupancy Set Public ID}_ {Occupancy Set Name}_OCC	The occupancy state of the occupancy set. Occupied (value = 1): at least one sensor in the area is indicating occupancy. Unoccupied (value = 0): all the sensors in the area are indicating vacancy.	Wireless Only	BV	R	No fault: 0 Unreliable-other: 7 (WAC unreachable)	-	0	1
{Occupancy Set Public ID}_ {Occupancy Set Name}_ENB	Enable/disable the occupancy set, where 0 is disabled and 1 is enabled. Disabling an occupancy set will keep the associated lights on indefinitely.	Wireless Only	BV	R/W	No fault: 0 Unreliable-other: 7 (WAC unreachable)	-	0	1
{Daylight Set Public ID}_ {Daylight Set Name}_ ENB	Enable/Disable the daylight set, where 0 is disabled and 1 is enabled. Disabling the daylight set will inhibit the associated lights from dimming due to daylight.	Wireless Only	BV	R/W	No fault: 0 Unreliable-other: 7 (WAC unreachable)	-	0	1

NOTES:
[1] All objects support Change of Value, COV, except where noted.
[2] AV = Analog Value, BV = Binary Value
[3] Object Names limited to 32 characters
[4] Override duration is determined by the value of the object Trellix_OD
[5] Applies to both switched and dimmed lighting fixtures. If a non-zero level is written, switched lighting fixtures will turn on and dimmed lighting fixtures will go to that level.

version **Trellix 9.x**