

# ALERTON® VLCA

## BACNET PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT

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**Date:** 05/15/2011

**Vendor Name:** Alerton

**Product Name:** VLCA

**Product Model Number:** VLCA-1688

**Applications Software Version:** 5.10

**Firmware Revision:** 5.00 **BACnet Protocol Revision:** 4

### Product Description:

The Alerton BACtalk VLCA controllers are high performance programmable logic controllers designed for control and monitoring of HVAC and industrial equipment. The VLCA has 16 universal inputs, 8 binary outputs, 8 analog outputs, and Hand/Off/Auto (HOA) switches on the outputs. The VLCA executes programs (DDC), hosts local automation features (Schedules, Trend logs, and alarms), and makes operational status and control data available as BACnet objects. All communications are via BACnet standard protocols.

### BACnet Standardized Device Profile (Annex L):

- BACnet Advanced Workstation (B-AWS)
- BACnet Operator Workstation (B-OWS)
- BACnet Operator Display (B-OD)
- BACnet Building Controller (B-BC)
- BACnet Advanced Application Controller (B-AAC)
- BACnet Application Specific Controller (B-ASC)
- BACnet Smart Sensor (B-SS)
- BACnet Smart Actuator (B-SA)

### List all BACnet Interoperability Building Blocks Supported (see Annex K):

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DS-RP-A,B	AE-N-I-B	SCHED-I-B	T-VMT-I-B	DM-DDB-A,B
DS-RPM-B	AE-ACK-B		T-ATR-B	DM-DOB-B
DS-WP-A,B	AE-INFO-B			DM-DCC-B
DS-WPM-B				DM-PT-A,B
DS-COV-B				DM-TS-B
				DM-UTC-B
				DM-RD-B
				DM-OCD-B

### Segmentation Capability:

- Able to transmit segmented messages Window Size \_\_\_\_\_
- Able to receive segmented messages Window Size \_\_\_\_\_

**Standard Object Types Supported:**

**Device**

Dynamically Creatable:	No	
Dynamically Deletable:	No	
Optional Properties Supported:	Location	
	Description	
	Local_Time	
	Local_Date	
	Daylight_Savings_Status	
	UTC_Offset	
	Max_Master	
	Max_Info_Frames	
	Active_COV_Subscription	
Writable Properties:	Object_Name	Limit: 60 characters
	Location	Limit: 60 characters
	Description	Limit: 60 characters
	APDU_Timeout	Range: 1000...60000
	Number_Of_APDU_Retries	Range: 0...16
	Proprietary 1115	Range: 0...1
	Proprietary 1116	Range: Valid BACnetCalendarEntry
	Proprietary 1117	Range: Valid Time
	Proprietary 1118	Range: Valid BACnetCalendarEntry
	Proprietary 1119	Range: Valid Time
Proprietary Properties:	aler-devinfo (512)	Datatype: Octet String Purpose: Diagnostics.
	aler-dst-mode (1115)	Datatype: Enumerated Purpose: DST mode.
	aler-dst-start-date (1116)	Datatype: BACnetCalendarEntry Purpose: DST start date.
	aler-dst-start-time (1117)	Datatype: Time Purpose: DST start time.
	aler-dst-end-date (1118)	Datatype: BACnetCalendarEntry Purpose: DST end date.
	aler-dst-end-time (1119)	Datatype: Time Purpose: DST end time.

**Analog Input**

Dynamically Creatable:	No	
Dynamically Deletable:	No	
Optional Properties Supported:	Description	
	COV_Increment	
Writable Properties:	Object_Name	Limit: 60 Characters
	Description	Limit: 60 Characters
	COV_Increment	Range: REAL
	Proprietary 1133	Range: Boolean
	Proprietary 1134	Range: Boolean
Proprietary Properties:	aler-name-written (1133)	Datatype: Boolean Purpose: User Change Status for Object_Name
	aler-descr-written (1134)	Datatype: Boolean Purpose: User Change Status for Description

**Analog Output**

Dynamically Creatable:	No	
Dynamically Deletable:	No	
Optional Properties Supported:	Description	
	COV_Increment	
Writable Properties:	Present_Value	Range: 0...102.4
	Object_Name	Limit: 60 Characters
	Description	Limit: 60 Characters
	COV_Increment	Range: REAL
	Proprietary 1133	Range: Boolean
	Proprietary 1134	Range: Boolean
Proprietary Properties:	aler-name-written (1133)	Datatype: Boolean Purpose: User Change Status for Object_Name
	aler-descr-written (1134)	Datatype: Boolean

		Purpose: User Change Status for Description
	aler-interface-value (1135)	Datatype: REAL Purpose: Show Physical Out Value
	aler-AO-hand-value (1136)	Datatype: REAL Purpose: Show HAO Hand Value

**Analog Value**

Dynamically Creatable:	No	
Dynamically Deletable:	No	
Optional Properties Supported:	Description	
	COV_Increment	
	Priority_Array	(AVs 250...299 ONLY)
	Relinquish_Default	(AVs 250...299 ONLY)
Writable Properties:	Present_Value	Range: REAL
	Object_Name	Limit: 60 Characters
	Description	Limit: 60 Characters
	COV_Increment	Range: REAL
	Relinquish_Default	Range: REAL
	Proprietary 1133	Range: Boolean
	Proprietary 1134	Range: Boolean
Proprietary Properties:	aler-name-written (1133)	Datatype: Boolean Purpose: User Change Status for Object_Name
	aler-descr-written (1134)	Datatype: Boolean Purpose: User Change Status for Description

**Binary Input**

Dynamically Creatable:	No	
Dynamically Deletable:	No	
Optional Properties Supported:	Description	
Writable Properties:	Object_Name	Limit: 60 Characters

Description  
 Proprietary 1133  
 Proprietary 1134  
 Limit: 60 Characters  
 Range: Boolean  
 Range: Boolean

Proprietary Properties: aler-name-written (1133) Datatype: Boolean  
 Purpose: User Change Status for Object\_Name  
 aler-descr-written (1134) Datatype: Boolean  
 Purpose: User Change Status for Description

**Binary Output**

Dynamically Creatable: No  
 Dynamically Deletable: No  
 Optional Properties Description  
 Supported:  
 Minimum\_On\_Time  
 Minimum\_Off\_Time

Writable Properties: Present\_Value Range: BACnetBinaryPV  
 Object\_Name Limit: 60 Characters  
 Description Limit: 60 Characters  
 Proprietary 1133 Range: Boolean  
 Proprietary 1134 Range: Boolean

Proprietary Properties: aler-name-written (1133) Datatype: Boolean  
 Purpose: User Change Status for Object\_Name  
 aler-descr-written (1134) Datatype: Boolean  
 Purpose: User Change Status for Description  
 aler-interface-value (1135) Datatype: Enumerated  
 Purpose: Show Physical Out Value

**Binary Value**

Dynamically Creatable: No  
 Dynamically Deletable: No  
 Optional Properties Description

Supported:	Priority_Array	(BVs 40, 250...299 ONLY)
	Relinquish_Default	(BVs 40, 250...299 ONLY)
Writable Properties:	Present_Value	Range: BACnetBinaryPV
	Object_Name	Limit: 60 Characters
	Description	Limit: 60 Characters
	Relinquish_Default	Range: BACnetBinaryPV
	Proprietary 1133	Range: Boolean
	Proprietary 1134	Range: Boolean
Proprietary Properties:	aler-name-written (1133)	Datatype: Boolean Purpose: User Change Status for Object_Name
	aler-descr-written (1134)	Datatype: Boolean Purpose: User Change Status for Description

**Multistate Value**

Dynamically Creatable:	No	
Dynamically Deletable:	No	
Optional Properties	Description	
Supported:	State_Text	
Writable Properties:	Present_Value	Limit: Preset Values
	Object_Name	Limit: 60 Characters
	Description	Limit: 60 Characters
	Proprietary 1133	Range: Boolean
	Proprietary 1134	Range: Boolean
Proprietary Properties:	aler-name-written (1133)	Datatype: Boolean Purpose: User Change Status for Object_Name
	aler-descr-written (1134)	Datatype: Boolean Purpose: User Change Status for Description

**Calendar**

Dynamically Creatable: Yes

Dynamically Deletable: Yes  
 Optional Properties Supported: Description

Writable Properties: Object\_Name Limit: 60 Characters  
 Description Limit: 60 Characters  
 Date\_List Range: Valid DateList

Proprietary Properties: n/a

**Event Enrollment**

Dynamically Creatable: Yes  
 Dynamically Deletable: Yes  
 Optional Properties Supported: Description

Writable Properties: Object\_Name Limit: 60 Characters  
 Description Limit: 60 Characters  
 Notify\_Type Range: Alarm|Event  
 Event\_Parameters Range: Valid Parameters for Event  
 Object\_Property\_Reference Range:  
 Event\_Enable BACnetEventTransitionBits  
 Notification\_Class Range: 0...4194303

Proprietary Properties: n/a

**File**

Dynamically Deletable: No Dynamically Creatable: N  
 Optional Properties Supported: Description

Writable Properties: Archive Range: Boolean

Proprietary Properties: n/a

**Notification Class**

Dynamically Creatable: Yes

		Dynamically Deletable:	Y
Optional Properties Supported:	Description		
Writable Properties:	Object_Name	Limit: 60 Characters	
	Description	Limit: 60 Characters	
	Priority	Range: Unsigned	
	Recipient_List	Range: Valid BACnet Recipient	
	ACK_Required	Range: BACnetEventTransitionBits	
Proprietary Properties:	n/a		
<b>Program</b>			
Dynamically Creatable:	No		
Dynamically Deletable:	No		
		Optional Properties Supported:	D
	Reson_for_Halt		
	Description_of_Halt		
	Program_Location		
	Instance_of		
Writable Properties:	Program_Change	Range: BACnetProgramRequest	
Proprietary Properties:	n/a		
<b>Schedule</b>			
Dynamically Creatable:	Yes		
Dynamically Deletable:	Yes		
Optional Properties Supported:	Description		
	Exception_Schedule		
Writable Properties:	Object_Name	Limit: 60 Characters	
	Description	Limit: 60 Characters	
	Effective_Period		
	Weekly_Schedule		
	Exception_Schedule		
	Schedule_Default		
	List_of_Object_Prop_Ref		



Priority\_for\_Writing Range: 1...16

Proprietary Properties: n/a

**Trend log**

Dynamically Creatable: Yes

Dynamically Deletable: Yes

Optional Properties

Supported: Description  
Start\_Time

Log\_Device\_Object\_Property

Log\_Interval

COV\_Resubscription\_Interval

Notification\_Threshold

Records\_Since\_Notification

Last\_Notify\_Record

Notification\_Class

Event\_Enable

ACKed\_Transitions

Notify\_Type

Event\_Time\_Stamps

Writable Properties: Object\_Name Limit: 60 Characters

Description Limit: 60 Characters

Log\_Enable

Start\_Time

Stop\_Time

Log\_Device\_Object\_Property

Log\_Interval Range: 100...8640000

COV\_Resubscription\_Interval Range: 1...86400

Stop\_When\_Full

Record\_Count

Notification\_Threshold Range: Unsigned

Notification\_Class Range: 0...4194303

Event\_Enable

Notify\_Type Limit: Alarm|Event

Proprietary Properties: n/a

**Data Link Layer Options:**

- BACnet IP, (Annex J)
- BACnet IP, (Annex J), Foreign Device
- ISO 8802-3, Ethernet (Clause 7)
- ANSI/ATA 878.1, 2.5 Mb. ARCNET (Clause 8)
- ANSI/ATA 878.1, EIA-485 ARCNET (Clause 8), baud rate(s) \_\_\_\_\_
- MS/TP master (Clause 9), baud rate(s): 9.6K, 19.2K, 38.4K, 76.8K, 115.2K
- MS/TP slave (Clause 9), baud rate(s): \_\_\_\_\_
- Point-To-Point, EIA 232 (Clause 10), baud rate(s): \_\_\_\_\_
- Point-To-Point, modem, (Clause 10), baud rate(s): \_\_\_\_\_
- LonTalk, (Clause 11), medium: \_\_\_\_\_
- Other: \_\_\_\_\_

**Device Address Binding:**

Is static device binding supported? (This is currently necessary for two-way communication with MS/TP slaves and certain other devices.)  Yes  No

**Networking Options:**

- Router, Clause 6 - List all routing configurations, e.g., ARCNET-Ethernet, Ethernet-MS/TP, etc.
  - BACnet IP to/from Ethernet
  - BACnet IP to/from MS/TP
  - Ethernet to/from MS/TP
- Annex H, BACnet Tunneling Router over IP
- BACnet/IP Broadcast Management Device (BBMD)
  - Does the BBMD support registrations by Foreign Devices?  Yes  No

**Character Sets Supported:**

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

- |   |  |                                     |
|---|--|-------------------------------------|
| <input checked="" type="checkbox"/> ANSI X3.4 | <input type="checkbox"/> IBM <sup>™</sup> /Microsoft <sup>™</sup> DBCS | <input type="checkbox"/> ISO 8859-1 |
| <input type="checkbox"/> ISO 10646 (UCS-2)    | <input type="checkbox"/> ISO 10646 (UCS-4)                             | <input type="checkbox"/> JIS C 6226 |

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

Not a gateway \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_