

BACnet Protocol Implementation Conformance Statement

Date: February 3, 2017
Vendor Name: Azbil Corporation
Vendor ID: 85
Product Name: BACnet Controller for General-purpose Building Applications
Product Model Number: WJ-1101W0000
BACnet Firmware Version: 1.0.3
BACnet Protocol Revision: Revision 14 (135-2012)

Product Description

This product (Model WJ-1101W0000) is a BACnet controller that controls facility equipment such as building air conditioning equipment and plumbing equipment. This product uses I/Os that have been built for the instrumentation along with control application programs to realize optimal control. Furthermore, it has high expandability, including the ability to add I/O modules for BACnet controllers (Model RJ-11__W____) and control application programs, allowing it to adapt to operation changes and renovation work.

BACnet Standardized Device Profile (Annex L)

- BACnet Operator Workstation (B-OWS)
- BACnet Advanced Operator Workstation (B-AWS)
- 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)

BACnet Interoperability Building Blocks supported (Annex K)

BIBBs			Support
Data Sharing	DS-RP-A	ReadProperty-A	✓
	DS-RP-B	ReadProperty-B	✓
	DS-RPM-A	ReadPropertyMultipule-A	✓
	DS-RPM-B	ReadPropertyMultipule-B	✓
	DS-WP-A	WriteProperty-A	✓
	DS-WP-B	WriteProperty-B	✓
	DS-WPM-A	WritePropertyMultipule-A	✓
	DS-WPM-B	WritePropertyMultipule-B	✓
	DS-COV-A	COV-A	✓
	DS-COV-B	COV-B	✓
	DS-COVU-B	COVU-B	✓
Alarm & Event	AE-N-I-B	Notification Internal-B	✓
	AE-ACK-B	ACK-B	✓
	AE-ASUM-B	Alarm Summary-B	✓
	AE-ESUM-B	Enrolment Summary-B	✓
	AE-INFO-B	Information-B	✓
Scheduling	SCHED-I-B	Scheduling-Internal-B	✓
	SCHED-E-B	Scheduling-External-B	✓
Trending	T-VMT-I-B	Viewing and Modifying Trends Internal-B	✓
	T-ATR-B	Automated Trend Retrieval-B	✓
Device & Network Management	DM-DDB-A	Dynamic Device Binding-A	✓
	DM-DDB-B	Dynamic Device Binding-B	✓
	DM-DOB-B	Dynamic Object Binding-B	✓
	DM-DCC-B	DeviceCommunicationControl-B	✓
	DM-TS-B	TimeSynchronization-B	✓
	DM-UTC-B	UTC TimeSynchronization-B	✓
	DM-RD-B	ReinitializeDevice-B	✓
	DM-BR-B	Backup and Restore-B	✓
	DM-R-B	Restart-B	✓
	DM-LM-B	List Manipulation-B	✓

Segmentation Capability

- Able to transmit segmented messages Window Size 3
- Able to receive segmented messages Window Size 3

Standard Object Types Supported

■ Accumulator

Dynamically Creatable: No

Dynamically Deletable: No

Properties Name	Required	Optional	Writable	Notes
Object_Identifier	✓			
Object_Name	✓			
Object_Type	✓			
Present_Value	✓		✓	This property is writable only when Out_Of_Service is true.
Status_Flags	✓			
Event_State	✓			
Reliability		✓	✓	This property is writable only when Out_Of_Service is true.
Out_Of_Service	✓		✓	
Scale	✓			
Units	✓			
Prescale		✓		
Max_Pres_Value	✓			
Value_Change_Time		✓		
Value_Before_Change		✓		
Value_Set		✓	✓	
Pulse_Rate		✓	✓	This property is writable only when Out_Of_Service is true.
High_Limit		✓	✓	
Low_Limit		✓	✓	
Limit_Monitoring_Interval		✓	✓	
Notification_Class		✓	✓	
Time_Delay		✓	✓	
Limit_Enable		✓	✓	
Event_Enable		✓	✓	
Acked_Transitions		✓		
Notify_Type		✓	✓	
Event_Time_Stamps		✓		
Event_Detection_Enable		✓		
Event_Algorithm_Inhibit_Ref		✓	✓	
Event_Algorithm_Inhibit		✓		
Time_Delay_Normal		✓	✓	
Reliability_Evaluation_Inhibit		✓		

Properties Name	Required	Optional	Writable	Notes
Property_List	✓			
Profile_Name		✓		

■ Analog Input

Dynamically Creatable: No

Dynamically Deletable: No

Properties Name	Required	Optional	Writable	Notes
Object_Identifier	✓			
Object_Name	✓			
Object_Type	✓			
Present_Value	✓		✓	This property is writable only when Out_Of_Service is true.
Status_Flags	✓			
Event_State	✓			
Reliability		✓	✓	This property is writable only when Out_Of_Service is true.
Out_Of_Service	✓		✓	
Units	✓		✓	
Min_Pres_Value		✓	✓	
Max_Pres_Value		✓	✓	
Resolution		✓		
COV_Increment		✓	✓	
Time_Delay		✓	✓	
Notification_Class		✓	✓	
High_Limit		✓	✓	
Low_Limit		✓	✓	
Deadband		✓	✓	
Limit_Enable		✓	✓	
Event_Enable		✓	✓	
Acked_Transitions		✓		
Notify_Type		✓	✓	
Event_Time_Stamps		✓		
Event_Detection_Enable		✓		
Event_Algorithm_Inhibit_Ref		✓	✓	

Properties Name	Required	Optional	Writable	Notes
Event_Algorithm_Inhibit		✓		
Time_Delay_Normal		✓	✓	
Reliability_Evaluation_Inhibit		✓		
Property_List	✓			
Profile_Name		✓		

■ Analog Output

Dynamically Creatable: No
Dynamically Deletable: No

Properties Name	Required	Optional	Writable	Notes
Object_Identifier	✓			
Object_Name	✓			
Object_Type	✓			
Present_Value	✓		✓	
Status_Flags	✓			
Event_State	✓			
Reliability		✓	✓	This property is writable only when Out_Of_Service is true.
Out_Of_Service	✓		✓	
Units	✓		✓	
Min_Pres_Value		✓	✓	
Max_Pres_Value		✓	✓	
Resolution		✓		
Priority_Array	✓			
Relinquish_Default	✓		✓	
COV_Increment		✓	✓	
Time_Delay		✓	✓	
Notification_Class		✓	✓	
High_Limit		✓	✓	
Low_Limit		✓	✓	
Deadband		✓	✓	
Limit_Enable		✓	✓	
Event_Enable		✓	✓	

Properties Name	Required	Optional	Writable	Notes
Acked_Transitions		✓		
Notify_Type		✓	✓	
Event_Time_Stamps		✓		
Event_Detection_Enable		✓		
Event_Algorithm_Inhibit		✓		
Time_Delay_Normal		✓	✓	
Event_Algorithm_Inhibit_Ref		✓	✓	
Reliability_Evaluation_Inhibit		✓		
Property_List	✓			
Profile_Name		✓		

■ Analog Value

Dynamically Creatable: No
Dynamically Deletable: No

Properties Name	Required	Optional	Writable	Notes
Object_Identifier	✓			
Object_Name	✓			
Object_Type	✓			
Present_Value	✓		✓	
Status_Flags	✓			
Event_State	✓			
Reliability		✓	✓	This property is writable only when Out_Of_Service is true.
Out_Of_Service	✓		✓	
Units	✓		✓	
Priority_Array		✓		
Relinquish_Default		✓	✓	
COV_Increment		✓	✓	
Time_Delay		✓	✓	
Notification_Class		✓	✓	
High_Limit		✓	✓	
Low_Limit		✓	✓	
Deadband		✓	✓	

Properties Name	Required	Optional	Writable	Notes
Limit_Enable		✓	✓	
Event_Enable		✓	✓	
Acked_Transitions		✓		
Notify_Type		✓	✓	
Event_Time_Stamps		✓		
Event_Detection_Enable		✓		
Event_Algorithm_Inhibit_Ref		✓	✓	
Event_Algorithm_Inhibit		✓		
Time_Delay_Normal		✓	✓	
Reliability_Evaluation_Inhibit		✓		
Min_Pres_Value		✓	✓	
Max_Pres_Value		✓	✓	
Resolution		✓		
Property_List	✓			
Profile_Name		✓		

■ Binary Input

Dynamically Creatable: No
Dynamically Deletable: No

Properties Name	Required	Optional	Writable	Notes
Object_Identifier	✓			
Object_Name	✓			
Object_Type	✓			
Present_Value	✓		✓	This property is writable only when Out_Of_Service is true.
Status_Flags	✓			
Event_State	✓			
Reliability		✓	✓	This property is writable only when Out_Of_Service is true.
Out_Of_Service	✓		✓	
Polarity	✓			
Change_Of_State_Time		✓		
Change_Of_State_Count		✓	✓	
Time_Of_State_Count_Reset		✓		

Properties Name	Required	Optional	Writable	Notes
Elapsed_Active_Time		✓	✓	
Time_Of_Active_Time_Reset		✓		
Time_Delay		✓	✓	
Notification_Class		✓	✓	
Alarm_Value		✓	✓	
Event_Enable		✓	✓	
Acked_Transitions		✓		
Notify_Type		✓	✓	
Event_Time_Stamps		✓		
Event_Detection_Enable		✓		
Event_Algorithm_Inhibit_Ref		✓	✓	
Event_Algorithm_Inhibit		✓		
Time_Delay_Normal		✓	✓	
Reliability_Evaluation_Inhibit		✓		
Property_List	✓			
Profile_Name		✓		

■ Binary Output

Dynamically Creatable: No

Dynamically Deletable: No

Properties Name	Required	Optional	Writable	Notes
Object_Identifier	✓			
Object_Name	✓			
Object_Type	✓			
Present_Value	✓		✓	
Status_Flags	✓			
Event_State	✓			
Reliability		✓	✓	This property is writable only when Out_Of_Service is true.
Out_Of_Service	✓		✓	
Polarity	✓			
Change_Of_State_Time		✓		
Change_Of_State_Count		✓	✓	

Properties Name	Required	Optional	Writable	Notes
Time_Of_State_Count_Reset		✓		
Elapsed_Active_Time		✓	✓	
Time_Of_Active_Time_Reset		✓		
Minimum_Off_Time		✓	✓	
Minimum_On_Time		✓	✓	
Priority_Array	✓			
Relinquish_Default	✓		✓	
Time_Delay		✓	✓	
Notification_Class		✓	✓	
Feedback_Value		✓		
Event_Enable		✓	✓	
Acked_Transitions		✓		
Notify_Type		✓	✓	
Event_Time_Stamps		✓		
Event_Detection_Enable		✓		
Event_Algorithm_Inhibit_Ref		✓	✓	
Event_Algorithm_Inhibit		✓		
Time_Delay_Normal		✓	✓	
Reliability_Evaluation_Inhibit		✓		
Property_List	✓			
Profile_Name		✓		

■ Binary Value

Dynamically Creatable: No
Dynamically Deletable: No

Properties Name	Required	Optional	Writable	Notes
Object_Identifier	✓			
Object_Name	✓			
Object_Type	✓			
Present_Value	✓		✓	
Status_Flags	✓			
Event_State	✓			
Reliability		✓	✓	This property is writable only when Out_Of_Service is

Properties Name	Required	Optional	Writable	Notes
				true.
Out_Of_Service	✓		✓	
Change_Of_State_Time		✓		
Change_Of_State_Count		✓	✓	
Time_Of_State_Count_Reset		✓		
Elapsed_Active_Time		✓	✓	
Time_Of_Active_Time_Reset		✓		
Priority_Array		✓		
Relinquish_Default		✓	✓	
Time_Delay		✓	✓	
Notification_Class		✓	✓	
Alarm_Value		✓	✓	
Event_Enable		✓	✓	
Acked_Transitions		✓		
Notify_Type		✓	✓	
Event_Time_Stamps		✓		
Event_Detection_Enable		✓		
Event_Algorithm_Inhibit		✓		
Time_Delay_Normal		✓	✓	
Event_Algorithm_Inhibit_Ref		✓	✓	
Reliability_Evaluation_Inhibit		✓		
Property_List	✓			
Profile_Name		✓		

■ Calendar

Dynamically Creatable: No

Dynamically Deletable: No

Properties Name	Required	Optional	Writable	Notes
Object_Identifier	✓			
Object_Name	✓			
Object_Type	✓			
Present_Value	✓			
Date_List	✓		✓	

Properties Name	Required	Optional	Writable	Notes
Property_List	✓			
Profile_Name		✓		

■ Device

Dynamically Creatable: No

Dynamically Deletable: No

Properties Name	Required	Optional	Writable	Notes
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	✓			
Max_Segments_Accepted		✓		
Local_Time		✓		
Local_Date		✓		
UTC_Offset		✓		
Daylight_Savings_Status		✓		
APDU_Segment_Timeout		✓		
APDU_Timeout	✓			
Number_of_APDU_Retries	✓			
Max_Master		✓		
Max_Info_Frames		✓		

Properties Name	Required	Optional	Writable	Notes
Device_Address_Binding	✓			
Database_Revision	✓			
Configuration_Files		✓		
Last_Restore_Time		✓		
Backup_Failure_Timeout		✓	✓	
Backup_And_Restore_State		✓		
Active_COV_Subscriptions		✓		
Last_Restart_Reason		✓		
Time_Of_Device_Restart		✓		
Restart_Notification_Recipients		✓	✓	
Serial_Number		✓		
Property_List	✓			
Profile_Name		✓		

■ File

Dynamically Creatable: No
Dynamically Deletable: No

Properties Name	Required	Optional	Writable	Notes
Object_Identifier	✓			
Object_Name	✓			
Object_Type	✓			
File_Type	✓			
File_Size	✓			
Modification_Date	✓			
Archive	✓		✓	
Read_Only	✓			
File_Access_Method	✓			
Property_List	✓			
Profile_Name		✓		

■ Multi-state Input

Dynamically Creatable: No

Dynamically Deletable: No

Properties Name	Required	Optional	Writable	Notes
Object_Identifier	✓			
Object_Name	✓			
Object_Type	✓			
Present_Value	✓		✓	This property is writable only when Out_Of_Service is true.
Status_Flags	✓			
Event_State	✓			
Reliability		✓	✓	This property is writable only when Out_Of_Service is true.
Out_Of_Service	✓		✓	
Number_Of_States	✓			
Time_Delay		✓	✓	
Notification_Class		✓	✓	
Alarm_Values		✓	✓	
Fault_Values		✓	✓	
Event_Enable		✓	✓	
Acked_Transitions		✓		
Notify_Type		✓	✓	
Event_Time_Stamps		✓		
Event_Detection_Enable		✓		
Event_Algorithm_Inhibit_Ref		✓	✓	
Event_Algorithm_Inhibit		✓		
Time_Delay_Normal		✓	✓	
Reliability_Evaluation_Inhibit		✓		
Property_List	✓			
Profile_Name		✓		

■ Multi-state Output

Dynamically Creatable: No

Dynamically Deletable: No

Properties Name	Required	Optional	Writable	Notes
Object_Identifier	✓			
Object_Name	✓			
Object_Type	✓			
Present_Value	✓		✓	
Status_Flags	✓			
Event_State	✓			
Reliability		✓	✓	This property is writable only when Out_Of_Service is true.
Out_Of_Service	✓		✓	
Number_Of_States	✓			
Priority_Array	✓			
Relinquish_Default	✓		✓	
Time_Delay		✓	✓	
Notification_Class		✓	✓	
Feedback_Value		✓		
Event_Enable		✓	✓	
Acked_Transitions		✓		
Notify_Type		✓	✓	
Event_Time_Stamps		✓		
Event_Detection_Enable		✓		
Event_Algorithm_Inhibit		✓		
Time_Delay_Normal		✓	✓	
Event_Algorithm_Inhibit_Ref		✓	✓	
Reliability_Evaluation_Inhibit		✓		
Property_List	✓			
Profile_Name		✓		

■ Multi-state Value

Dynamically Creatable: No

Dynamically Deletable: No

Properties Name	Required	Optional	Writable	Notes
Object_Identifier	✓			
Object_Name	✓			
Object_Type	✓			
Present_Value	✓		✓	
Status_Flags	✓			
Event_State	✓			
Reliability		✓	✓	This property is writable only when Out_Of_Service is true.
Out_Of_Service	✓		✓	
Number_Of_States	✓			
Priority_Array		✓		
Relinquish_Default		✓	✓	
Time_Delay		✓	✓	
Notification_Class		✓	✓	
Alarm_Values		✓	✓	
Fault_Values		✓	✓	
Event_Enable		✓	✓	
Acked_Transitions		✓		
Notify_Type		✓	✓	
Event_Time_Stamps		✓		
Event_Detection_Enable		✓		
Event_Algorithm_Inhibit_Ref		✓	✓	
Event_Algorithm_Inhibit		✓		
Time_Delay_Normal		✓	✓	
Reliability_Evaluation_Inhibit		✓		
Property_List	✓			
Profile_Name		✓		

■ Notification Class

Dynamically Creatable: No

Dynamically Deletable: No

Properties Name	Required	Optional	Writable	Notes
Object_Identifier	✓			
Object_Name	✓			
Object_Type	✓			
Notification_Class	✓			
Priority	✓		✓	
Ack_Required	✓		✓	
Recipient_List	✓		✓	
Property_List	✓			
Profile_Name		✓		

■ Schedule

Dynamically Creatable: No

Dynamically Deletable: No

Properties Name	Required	Optional	Writable	Notes
Object_Identifier	✓			
Object_Name	✓			
Object_Type	✓			
Present_Value	✓		✓	This property is writable when Out_Of_Service is true.
Effective_Period	✓		✓	
Weekly_Schedule		✓	✓	
Exception_Schedule		✓	✓	
Schedule_Default	✓		✓	
List_Of_Object_Property_Reference	✓		✓	
Priority_For_Writing	✓		✓	
Status_Flags	✓			
Reliability	✓			
Out_Of_Service	✓		✓	
Property_List	✓			
Profile_Name		✓		

■ TrendLog

Dynamically Creatable: No

Dynamically Deletable: No

Properties Name	Required	Optional	Writable	Notes
Object_Identifier	✓			
Object_Name	✓			
Object_Type	✓			
Enable	✓		✓	
Start_Time		✓	✓	
Stop_Time		✓	✓	
Log_DeviceObjectProperty		✓	✓	
Log_Interval		✓	✓	
Stop_When_Full	✓		✓	
Buffer_Size	✓			
Log_Buffer	✓			
Record_Count	✓		✓	Only zero is available to write
Total_Record_Count	✓			
Logging_Type	✓		✓	
Align_Intervals		✓	✓	
Interval_Offset		✓	✓	
Trigger		✓	✓	
Status_Flags	✓			
Reliability		✓		
Notification_Threshold		✓	✓	
Records_Since_Notification		✓		
Last_Notify_Record		✓		
Event_State	✓			
Notification_Class		✓	✓	
Event_Enable		✓	✓	
Acked_Transitions		✓		
Notify_Type		✓	✓	
Event_Time_Stamps		✓		
Event_Detection_Enable		✓		
Property_List	✓			
Profile_Name		✓		

Data Link Layer Options

- BACnet IP, (Annex J)
- BACnet IP, (Annex J), Foreign Device
- ISO 8802-3, Ethernet (Clause 7)
- ATA 878.1, 2.5 Mb. ARCNET (Clause 8)
- ATA 878.1, EIA-485 ARCNET (Clause 8), baud rate(s) _____
- MS/TP master (Clause 9), baud rate(s): 9600, 19200, 38400(default), 76800
- 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: _____
- BACnet/Zigbee (Annex O): _____
- 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, IP-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
 - Does the BBMD support network address translation? Yes No

Character Sets Supported:

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

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

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

Not Applicable

Network Security Options:

- Non-secure Device – is capable of operating without BACnet Network Security
- Secure Device – is capable of using BACnet Network Security (NS-SD BIBB)

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