BACnet Protocol Implementation Conformance Statement

Date: 26 Aug 2020
Vendor Name: Iwaki America
Product Name: W600 Controller
Product Model Number: W600 (with optional 191733-2-x Enhanced Ethernet board)
Application Software Version: 3.35 **Firmware Revision:** 13615 **BACnet Protocol Revision:** 1.17

Product Description:

The Walchem W600 is a water treatment process controller. W600 controllers can support BACnet when equipped with the optional 191733-2-x Enhanced Ethernet board.

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):

DS-RP-B Data Sharing – Read Property

- W600 supports reading of a single property at a time.

DS-RPM-B Data Sharing – Read Property Multiple

- W600 supports reading groups of properties with a single BACnet command.
- W600 does not support message segmentation, so it is possible to request more data than the W600 can fit into a reply message. In this case, W600 generates a *Segmentation Not Supported* response. Clients can then reissue smaller **ReadPropertyMultiple** requests or issue an equivalent series of **ReadProperty** requests (which will take longer).

DS-WP-B Data Sharing – Write Property

- W600 interprets the command to write a single property.
- W600 does not currently have any writable properties, so all requests generated failure responses.

DM-DDB-B Device Management – Device Dynamic Binding

- W600 responds to **Who-Is** requests with an **I-Am** packet.
- W600 supports the optional device instance range limits on the **Who-Is** request.
- W600 emits a single unsolicited **I-Am** message (1) at startup, (2) when the BACnet service restarts, and (3) whenever a change is made to the W600's BACnet Device ID.

DM-DOB-B Device Management – Dynamic Object Binding

- W600 responds to **Who-Has** requests with an **I-Have** packet.
- W600 supports both the **Who-Has** <*Object Identifier*> and **Who-Has** <*Object Name*> forms of this service, with optional device instance range limits.
- W600 supports both broadcast and unicast modes of this service.
- W600 does not emit unsolicited **I-Have** messages.

DM-DCC-B Device Management – Device Communication Control

- W600 allows BACnet clients to disable and reenable BACnet communication via the **DeviceCommunicationControl** service.
- Communication can be disabled either until reenabled, or with a timeout value.
- The **DeviceCommunicationControl** service's optional Password parameter is ignored if present.

Segmentation Capability:

- ☐ Able to transmit segmented messages
  Window Size _____
- ☐ Able to receive segmented messages
  Window Size _____

Standard Object Types Supported:

Device

W600 properties that apply to the device as a whole

Analog Input

A W600 Digital Input (other than DI State type) or Virtual Input

Analog Value

A W600 Analog Output or Pulse Relay

Binary Input

A W600 DI State input

Binary Value

A W600 Discrete Relay

Network Port

A W600 Ethernet connection

Properties supported by each Object Type:

Table 1. Supported properties

Property ID	Device	Analog Input	Analog Value	Binary Input	Binary Value	Network Port
Object_Identifier[1]	R[2]	R[2]	R[2]	R[2]	R[2]	R[2]
Object_Name	R[2]	R[2]	R[2]	R[2]	R[2]	R[2]
Object_Type	R[2]	R[2]	R[2]	R[2]	R[2]	R[2]

Property ID	Device	Analog Input	Analog Value	Binary Input	Binary Value	Network Port
Present_Value		R[2]	R[2]	R[2]	R[2]	
Description	R[2]	R[2]	R[2]	R[2]	R[2]	R[2]
Device_Type		R[2]		R[2]		
Status_Flags		R[2]	R[2]	R[2]	R[2]	R[2]
Event_State		R[2]	R[2]	R[2]	R[2]	
Reliability						R[2]
Out_Of_Service		R[2]	R[2]	R[2]		R[2]
Units		R[2]	R[2]			
Min_Pres_Value		R[2]				
Max_Pres_Value		R[2]				
Resolution		R[2]	R[2]			
Polarity				R[2]		
Inactive_Text				R[2]		
Active_Text				R[2]	R[2]	
Vendor_Name	R[2]					
Vendor_Identifier	R[2]					
Model_Name	R[2]					
Firmware_Revision	R[2]					
Application_Software_Revision	R[2]					
Location	R[2]					
Protocol_Version	R[2]					
Protocol_Revision	R[2]					
Protocol_Object_Types_Supported	R[2]					
Object_List	R[2]					
Local_Time	R[2]					
Local_Date	R[2]					
APDU_Timeout	R[2]					
Number_Of_APDU_Retries	R[2]					
Device_Address_Binding	R[2]					
Database_Revision	R[2]					
Serial_Number	R[2]					
Network_Type						R[2]
Network_Number						R[2]
Network_Number_Quality						R[2]
Changes_Pending						R[2]
MAC_Address						R[2]
APDU_Length						R[2]

Property ID	Device	Analog Input	Analog Value	Binary Input	Binary Value	Network Port
Link_Speed						R[2]
BACnet_IP_Mode						R[2]
BACnet_IP_Address						R[2]
BACnet_IP_UDP_Port						R[2]
BACnet_IP_Subnet_Mask						R[2]
BACnet_IP_Default_Gateway						R[2]
BACnet_IP_DNS_Server						R[2]
BACnet_IP_DHCP_Enable						R[2]

Notes:

1. **Object_Identifier** has a factory-assigned value for Device objects that can be changed by the operator.
   Object_Identifier values for other object types are assigned by the system and cannot be modified by the operator.
2. **R** indicates that the corresponding property is read-only via BACnet.

BACnet Options

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): _____
- ☐ 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, e.g., ARCNET-Ethernet, Ethernet-MS/TP, etc.

- ☐ 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

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)
    - ☐ Multiple Application-Specific Keys:
    - ☐ Supports encryption (NS-ED BIBB)
    - ☐ Key Server (NS-KS BIBB)

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 types of non-BACnet equipment/networks(s) that the gateway supports:

n/a