

BACnet Protocol Implementation Conformance Statement

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Vendor Name: Iwaki America

Product Name: W900 Controller

Product Model Number: W900

Application Software Version: 3.37 **Firmware Revision:** 13986 **BACnet Protocol Revision:** 1.17

Product Description:

The Walchem W900 is a water treatment process controller.

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

- W900 supports reading of a single property at a time.

DS-RPM-B Data Sharing – Read Property Multiple

- W900 supports reading groups of properties with a single BACnet command.
- W900 does not support message segmentation, so it is possible to request more data than the W900 can fit into a reply message. In this case, W900 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

- W900 interprets the command to write a single property.
- W900 does not currently have any writable properties, so all requests generated failure responses.

DM-DDB-B Device Management – Device Dynamic Binding

- W900 responds to **Who-Is** requests with an **I-Am** packet.
- W900 supports the optional device instance range limits on the **Who-Is** request.
- W900 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 W900's BACnet Device ID.

DM-DOB-B Device Management – Dynamic Object Binding

- W900 responds to **Who-Has** requests with an **I-Have** packet.
- W900 supports both the **Who-Has** <Object Identifier> and **Who-Has** <Object Name> forms of this service, with optional device instance range limits.
- W900 supports both broadcast and unicast modes of this service.
- W900 does not emit unsolicited **I-Have** messages.

DM-DCC-B Device Management – Device Communication Control

- W900 allows BACnet clients to disable and reenale 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

W900 properties that apply to the device as a whole

Analog Input

A W900 AI Flowmeter, Digital Input (other than DI State type), or Virtual Input

Analog Value

A W900 Analog Output, Pulse Relay, or Analog Control Output

Binary Input

A W900 DI State input

Binary Value

A W900 Discrete Relay or Discrete Control Output

Network Port

A W900 network connection (Ethernet or WiFi)

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