ANNEX A - PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT (NORMATIVE)

(This annex is part of this standard and is required for its use.)

BACnet Protocol Implementation Conformance Statement

Date: _____
Vendor Name: Bock Water Heaters
Product Name: Carlin EZTemp
Product Model Number: 51110A7
Application Software Version: __02_45___ Firmware Revision: _5.0.1.0_ BACnet Protocol Revision: __19_____
Product Description: Electric Water Heater Control

BACnet Standardized Device Profiles Supported (Annex L):

☑ BACnet Smart Actuator (B-SA)

BACnet Interoperability Building Blocks Supported (Annex K):
☑DS-RP-B (Data Sharing – ReadProperty-B)
☑DS-RPM-B (Data Sharing – ReadPropertyMultiple-B)
☑DS-WP-B (Data Sharing – WriteProperty-B)
☑DM-DDB-B (Device Management – DynamicDeviceBinding-B)
☑DM-DOB-B (Device Management – DynamicObjectBinding-B)
☑DM-RD-B (Device Management – ReinitializeDevice-B)

Segmentation Capability:

☐Able to transmit segmented messages
☐Able to receive segmented messages

Standard Object Types Supported:

BACnet Conf Code:
R: Required
O: Optional

Implementation:
R/W: Read/Write
R: Read Only

See object list at the end of this document.

BACnet Data Link Layer Options:

☑ MS/TP master (Clause 9)
☑ Master ☐ Slave
☐ Non-isolated transceiver ☐ Isolated transceiver
☐ Local 47K ohms bias resistors ☐ None ☐ Other: _____
Transceiver unit loading: ☐ 1 ☐ ½ ☐ ¼ ☐ ⅛
Data rates: ☑ 9600 ☐ 19200 ☑ 38400 ☐ 57600 ☐ 76800 ☐ 115200

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

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

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: _____
_____

Object List

Device Object			
Property	**BACnet Conf Code**	**Implementation**	**Notes / Values**
Object_Identifier	R	R/W	
Object_Name	R	R/W	
Object_Type	R	R	DEVICE
System_Status	R	R	OPERATIONAL
Vendor_Name	R	R	Bock Water Heaters
Vendor_Identifier	R	R	1461
Model_Name	R	R	
Firmware_Revision	R	R	
Application_Software_Version	R	R	
Protocol_Version	R	R	1
Protocol_Revision	R	R	19
Protocol_Services_Supported	R	R	
Protocol_Object_Types_Supported	R	R	
Object_List	R	R	
Max_APDU_Length_Accepted	R	R	
Segmentation_Supported	R	R	NO-SEGMENTATION
APDU_Timeout	R	R	
Number_Of_APDU_Retries	R	R	
Max_Master	O	R	
Max_Info_Frames	O	R	
Device_Address_Binding	R	R	
Database_Revision	R	R	
Property_List	R	R	

Analog Input Object – Temperature Sensor 1			
Property	**BACnet Conf Code**	**Implementation**	**Notes / Values**
Object_Identifier	R	R	Analog-Input, 4
Object_Name	R	R	Temp Sensor 1
Object_Type	R	R	ANALOG-INPUT
Present_Value	R	R	
Status_Flags	R	R	
Event_State	R	R	
Reliability	O	R	
Out_Of_Service	R	R	
Units	R	R	DEGREES-FAHRENHEIT
Property_List	R	R	

Analog Input Object – Temperature Sensor 2			
Property	**BACnet Conf Code**	**Implementation**	**Notes / Values**
Object_Identifier	R	R	Analog-Input, 5
Object_Name	R	R	Temp Sensor 2
Object_Type	R	R	ANALOG-INPUT
Present_Value	R	R	
Status_Flags	R	R	
Event_State	R	R	
Reliability	O	R	
Out_Of_Service	R	R	
Units	R	R	DEGREES-FAHRENHEIT
Property_List	R	R	

Analog Input Object – Outdoor Temperature Sensor			
Property	**BACnet Conf Code**	**Implementation**	**Notes / Values**
Object_Identifier	R	R	Analog-Input, 6
Object_Name	R	R	Outdoor Temp Sensor
Object_Type	R	R	ANALOG-INPUT
Present_Value	R	R	
Status_Flags	R	R	
Event_State	R	R	
Reliability	O	R	
Out_Of_Service	R	R	
Units	R	R	DEGREES-FAHRENHEIT
Property_List	R	R	

Multi-state Input – Control Status			
Property	**BACnet Conf Code**	**Implementation**	**Notes / Values**
Object_Identifier	R	R	MultiState-Input, 1
Object_Name	R	R	Control Status
Object_Type	R	R	MULTISTATE-INPUT
Present_Value	R	R	
Status_Flags	R	R	
Event_State	R	R	
Out_Of_Service	R	R	
Number_Of_States	R	R	10
State_Text	O	R	HEAT_OFF, HEAT_ON_REQ_1, HEAT_ON_REQ_2, HEAT_ON_REQ_3, HEAT_ON_1, HEAT_ON_2, HEAT_ON_3, HEAT_OFF_REQ_1, HEAT_OFF_REQ_2, HEAT_OFF_REQ_3
Property_List	R	R	

Multi-state Input – Control Error Code			
Property	**BACnet Conf Code**	**Implementation**	**Notes / Values**
Object_Identifier	R	R	MultiState-Input, 2
Object_Name	R	R	Control Error Code
Object_Type	R	R	MULTISTATE-INPUT
Present_Value	R	R	
Status_Flags	R	R	
Event_State	R	R	
Out_Of_Service	R	R	
Number_Of_States	R	R	12
State_Text	O	R	None, Safety relay fail on, Output 1 relay fail on, Output 2 relay fail on, Output 3 relay fail on, Safety relay fail off, Output 1 relay fail off, Output 2 relay fail off, Output 3 relay fail off,

			Temperature Sensor 1 open, Temperature Sensor 2 open, Outdoor Temperature Sensor open
Property_List	R	R	

Multi-state Input – Safety Relay			
Property	**BACnet Conf Code**	**Implementation**	**Notes / Values**
Object_Identifier	R	R	MultiState-Input, 7
Object_Name	R	R	Safety Relay
Object_Type	R	R	MULTISTATE-INPUT
Present_Value	R	R	
Status_Flags	R	R	
Event_State	R	R	
Out_Of_Service	R	R	
Number_Of_States	R	R	2
State_Text	O	R	Relay Off, Relay On
Property_List	R	R	

Multi-state Input – Output1 Relay			
Property	**BACnet Conf Code**	**Implementation**	**Notes / Values**
Object_Identifier	R	R	MultiState-Input, 8
Object_Name	R	R	Output1 Relay
Object_Type	R	R	MULTISTATE-INPUT
Present_Value	R	R	
Status_Flags	R	R	
Event_State	R	R	
Out_Of_Service	R	R	
Number_Of_States	R	R	2
State_Text	O	R	Same as Safety Relay
Property_List	R	R	

Multi-state Input – Output2 Relay			
Property	**BACnet Conf Code**	**Implementation**	**Notes / Values**
Object_Identifier	R	R	MultiState-Input, 9
Object_Name	R	R	Output2 Relay
Object_Type	R	R	MULTISTATE-INPUT
Present_Value	R	R	
Status_Flags	R	R	
Event_State	R	R	
Out_Of_Service	R	R	
Number_Of_States	R	R	2
State_Text	O	R	Same as Safety Relay
Property_List	R	R	

Multi-state Input – Output3 Relay			
Property	**BACnet Conf Code**	**Implementation**	**Notes / Values**
Object_Identifier	R	R	MultiState-Input, 10
Object_Name	R	R	Output3 Relay
Object_Type	R	R	MULTISTATE-INPUT
Present_Value	R	R	
Status_Flags	R	R	
Event_State	R	R	

Out_Of_Service	R	R	
Number_Of_States	R	R	2
State_Text	O	R	Same as Safety Relay
Property_List	R	R	

Multi-state Input – Operating Mode			
Property	**BACnet Conf Code**	**Implementation**	**Notes / Values**
Object_Identifier	R	R	MultiState-Input, 11
Object_Name	R	R	Operating Mode
Object_Type	R	R	MULTISTATE-INPUT
Present_Value	R	R	
Status_Flags	R	R	
Event_State	R	R	
Out_Of_Service	R	R	
Number_Of_States	R	R	10
State_Text	O	R	Version display mode, Soft lockout mode, Lockout mode, Latchup mode, Normal mode, Display mode, Setting mode, Diagnostic start mode, Diagnostic mode, Modbus mode
Property_List	R	R	

Multi-state Input – 1st Error Code in History			
Property	**BACnet Conf Code**	**Implementation**	**Notes / Values**
Object_Identifier	R	R	MultiState-Input, 13
Object_Name	R	R	Error 1 code
Object_Type	R	R	MULTISTATE-INPUT
Present_Value	R	R	
Status_Flags	R	R	
Event_State	R	R	
Out_Of_Service	R	R	
Number_Of_States	R	R	12
State_Text	O	R	Same as Control Error Code
Property_List	R	R	

Multi-state Input – 2nd Error Code in History			
Property	**BACnet Conf Code**	**Implementation**	**Notes / Values**
Object_Identifier	R	R	MultiState-Input, 16
Object_Name	R	R	Error 2 code
Object_Type	R	R	MULTISTATE-INPUT
Present_Value	R	R	
Status_Flags	R	R	
Event_State	R	R	
Out_Of_Service	R	R	
Number_Of_States	R	R	12
State_Text	O	R	Same as Control Error Code
Property_List	R	R	

Multi-state Input – 3rd Error Code in History			
Property	**BACnet Conf Code**	**Implementation**	**Notes / Values**
Object_Identifier	R	R	MultiState-Input, 19
Object_Name	R	R	Error3 code
Object_Type	R	R	MULTISTATE-INPUT
Present_Value	R	R	
Status_Flags	R	R	
Event_State	R	R	
Out_Of_Service	R	R	
Number_Of_States	R	R	12
State_Text	O	R	Same as Control Error Code
Property_List	R	R	

Multi-state Value – Enable / Disable			
Property	**BACnet Conf Code**	**Implementation**	**Notes / Values**
Object_Identifier	R	R	MultiState-Value, 12
Object_Name	R	R	Enable Mode
Object_Type	R	R	MULTISTATE-VALUE
Present_Value	R	R/W	
Status_Flags	R	R	
Event_State	R	R	
Out_Of_Service	R	R	
Number_Of_States	R	R	2
State_Text	O	R	Enabled, Disabled
Property_List	R	R	

Integer Value – Setpoint			
Property	**BACnet Conf Code**	**Implementation**	**Notes / Values**
Object_Identifier	R	R	Integer-Value, 3
Object_Name	R	R	Set Point
Object_Type	R	R	INTEGER-VALUE
Present_Value	R	R/W	Valid Range 100 - 182
Status_Flags	R	R	
Property_List	R	R	
Units	R	R	DEGREES-FAHRENHEIT

Integer Value – Error code #1 file number			
Property	**BACnet Conf Code**	**Implementation**	**Notes / Values**
Object_Identifier	R	R	Integer-Value, 14
Object_Name	R	R	Error 1 File Number
Object_Type	R	R	INTEGER-VALUE
Present_Value	R	R	
Status_Flags	R	R	
Property_List	R	R	
Units	R	R	NO-UNITS

Integer Value – Error code #1 line number			
Property	**BACnet Conf Code**	**Implementation**	**Notes / Values**
Object_Identifier	R	R	Integer-Value, 15
Object_Name	R	R	Error 1 Line Number
Object_Type	R	R	INTEGER-VALUE
Present_Value	R	R	
Status_Flags	R	R	

Property_List	R	R	
Units	R	R	NO-UNITS

Integer Value – Error code #2 file number			
Property	**BACnet Conf Code**	**Implementation**	**Notes / Values**
Object_Identifier	R	R	Integer-Value, 17
Object_Name	R	R	Error 2 File Number
Object_Type	R	R	INTEGER-VALUE
Present_Value	R	R	
Status_Flags	R	R	
Property_List	R	R	
Units	R	R	NO-UNITS

Integer Value – Error code #2 file number			
Property	**BACnet Conf Code**	**Implementation**	**Notes / Values**
Object_Identifier	R	R	Integer-Value, 18
Object_Name	R	R	Error 2 File Number
Object_Type	R	R	INTEGER-VALUE
Present_Value	R	R	
Status_Flags	R	R	
Property_List	R	R	
Units	R	R	NO-UNITS

Integer Value – Error code #3 file number			
Property	**BACnet Conf Code**	**Implementation**	**Notes / Values**
Object_Identifier	R	R	Integer-Value, 20
Object_Name	R	R	Error 3 File Number
Object_Type	R	R	INTEGER-VALUE
Present_Value	R	R	
Status_Flags	R	R	
Property_List	R	R	
Units	R	R	NO-UNITS

Integer Value – Error code #3 file number			
Property	**BACnet Conf Code**	**Implementation**	**Notes / Values**
Object_Identifier	R	R	Integer-Value, 21
Object_Name	R	R	Error 3 Line Number
Object_Type	R	R	INTEGER-VALUE
Present_Value	R	R	
Status_Flags	R	R	
Property_List	R	R	
Units	R	R	NO-UNITS

Network Port – MSTP			
Property	**BACnet Conf Code**	**Implementation**	**Notes / Values**
Object_Identifier	R	R	Network-Port, 22
Object_Name	R	R	MSTP
Object_Type	R	R	NETWORK-PORT
Status_Flags	R	R	
Reliability	R	R	
Out_Of_Service	R	R	
Network_Type	R	R	MSTP
Protocol_Level	R	R	BACNET-APPLICATION
Reference_Port	O	R	4194303

Network_Number	O	R	0
Network_Number_Quality	O	R	UNKNOWN
Changes_Pending	R	R	
MAC_Address	O	R/W	
APDU_Length	O	R	480
Link_Speed	R	R/W	Valid values: 9600, 38400
Link_Speeds	O	R	{9600, 38400}
Max_Master	O	R/W	
Max_Info_Frames	O	R/W	
Property_List	R	R	