BACnet Protocol Implementation Conformance Statement (PICS)

Date: 02/16/2024
Vendor Name: Automation Components, Inc. (ACI)
Product Name: BN Series
Product Model Number:
BN2110-R2, BN2120-R2, BN2130-R2, BN2120-D, BN2130-D, BN2110-O, BN2120-O, BN2130-O, BN2110-x_1-PB, BN2110-SP, BN2120-SP, BN2130-SP
Where x_1 is D-4, D-6, D-8, D-12, D-18, INW-2.5, INW-4, INW-6, S, S10, A-8, A-12, A-24, A-50, FA-8, FA-12, FA-24, FA-50, RA-12, RA-18, RA-24, RA-36, RA-48

Application Software Version: 1 **Firmware Revision: 02.03.002.90** **BACnet Protocol Revision: 14**

Product Description:

ACI BACnet/Modbus single or dual point temp/RH sensors for room, duct, or outside air applications.

BACnet Standardized Device Profiles Supported (Annex L):
BACnet Application Specific Controller (B-ASC)

BACnet Interoperability Building Blocks (BIBBs) Supported (Annex K):
DS-RP-B, DS-WP-B, DS-RPM-B, DM-DDB-B, DM-DOB-B, DM-DCC-B

Segmentation Capability:

None

Standard Object Types Supported:
This device does not support any Dynamically Created or Deleted Objects.

Object Type	Optional Properties	Non-Standard Writeable Properties
Device	Location Description Serial_Number	Object_Identifier Object_Name: 32 characters max Location: 64 characters max Description: 64 characters max APDU_Timeout: (100..60000) Number_Of_APDU_Retires: (0..10) Max_Master
Analog Input	Update_Interval Min_Pres_Value Max_Pres_Value Resolution	Out_Of_Service Units: (62..64)
Analog Value	Description Min_Pres_Value Max_Pres_Value Resolution	Present_Value

Data Link Layer Options:
MS/TP master (Clause 9), baud rate(s): 9600, 19200, 38400, 57600, 76800, 115200

Device Address Binding:
Not supported

Networking Options:

None

Character Sets Supported:

Indicating support for multiple character sets does not imply that they can all be supported simultaneously.
ISO 10646 (UTF-8)

Gateway Options:

Not Applicable

Network Security Options:

Non-secure Device - is capable of operating without BACnet Network Security

Device Object Property List

Property	Property data type	Comment/Default value	Read/Write
Object_Identifier	BACnetObjectIdentifier	Default = 1035000 + DIP Switch Address	RW
Object_Name	CharacterString	Default = (Model_Name)_(DIP Switch Address)	RW
Object_Type	BACnetObjectType	device (8)	R
System_Status	BACnetDeviceStatus	operational (0)	R
Vendor_Name	CharacterString	Automation Components, Inc.	R
Vendor_Identifier	Unsigned16	1035	R
Model_Name	CharacterString	Varies based on Model	R
Firmware_Revision	CharacterString	02.03.002.90	R
Application_Software_Version	CharacterString	1	R
Location	CharacterString	Default = “2305 Pleasant View Rd, Middleton, WI 53562”	RW
Description	CharacterString	Default Varies based on Model	RW
Protocol_Version	Unsigned	1	R
Protocol_Revision	Unsigned	14	R
Protocol_Services_Supported	BACnetServicesSupported	Matches Supported BIBBs above	R
Protocol_Object_Types_Supported	BAnetObjectTypesSupported	Matches Supported Objects above	R
Object_List	BACnetARRAY[N] of BACnetObjectIdentifier	Varies based on Model	R
Max_APDU_Length_Accepted	Unsigned	480	R
Segmentation_Supported	BACnetSegmentation	no-segmentation (3)	R
APDU_Timeout	Unsigned	Default = 6000, Range 100 to 60,000	RW
Number_Of_APDU_Retries	Unsigned	Default = 3, Range 0 to 10	RW
Max_Master	Unsigned(0..127)	Default = 127	RW
Max_Info_Frames	Unsigned	1	R
Devices_Address_Binding	BACnetLIST of BACnetAddressBinding	Empty List	R
Database_Revision	Unsigned	Incremented on changes to Object_Identifier and Object_Name	R
Serial_Number	CharacterString	8-Digit Serial Number	R
Property_List	BACnetARRAY[N] of BACnetPropertyIdentifier	List of all the other properties of this object	R

Analog Input 0 Object Property List

This Object is only present if model has a temperature sensor.

Property	Property data type	Comment/Default value	Read/Write
Object_Identifier	BACnetObjectIdentifier	0	R
Object_Name	CharacterString	"Temperature Sensor"	R
Object_Type	BACnetObjectType	Analog Input (0)	R
Present_Value	REAL	Current Temperaure from Sensor	RC(Conditional)
Status_Flags	BACnetStatusFlags	Reflects current object status	R
Event_State	BACnetEventState	normal (0)	R
Out_Of_Service	BOOLEAN	Default = FALSE	RW
Update_Interval	Unsigned	400, 4 seconds	R
Units	BACnetEngineeringUnits	Default = degrees-fahrenheit (64)	RW
Min_Pres_Value	REAL	Varies based on Units, Limit of reliable range of present value	R
Max_Pres_Value	REAL	Varies based on Units, Limit of reliable range of present value	R
Resolution	REAL	0.1	R
Property_List	BACnetARRAY[N] of BACnetPropertyIdentifier	List of all the other properties of this object	R

Analog Input 1 Object Property List

This Object is only present if model has a RH sensor.

Property	Property data type	Comment/Default value	Read/Write
Object_Identifier	BACnetObjectIdentifier	1	R
Object_Name	CharacterString	"RH Sensor"	R
Object_Type	BACnetObjectType	Analog Input (0)	R
Present_Value	REAL	Current Temperaure from Sensor	RC(Conditional)
Status_Flags	BACnetStatusFlags	Reflects current object status	R
Event_State	BACnetEventState	normal (0)	R
Out_Of_Service	BOOLEAN	Default = FALSE	RW
Update_Interval	Unsigned	400, 4 seconds	R
Units	BACnetEngineeringUnits	percent-relative-humidity (29)	R
Min_Pres_Value	REAL	0.0	R
Max_Pres_Value	REAL	100.0	R
Resolution	REAL	0.1	R
Property_List	BACnetARRAY[N] of BACnetPropertyIdentifier	List of all the other properties of this object	R

Analog Value 0 Object Property List

This Object is only present if model has a temperature sensor.

Property	Property data type	Comment/Default value	Read/Write
Object_Identifier	BACnetObjectIdentifier	0	R
Object_Name	CharacterString	“Temperature Calibration Offset”	R
Object_Type	BACnetObjectType	Analog Value (2)	R
Present_Value	REAL	Default = 0.0	RW
Description	CharacterString	“Temperature Calibration Offset”	R
Status_Flags	BACnetStatusFlags	Reflects current object status	R
Event_State	BACnetEventState	normal (0)	R
Out_Of_Service	BOOLEAN	Default = FALSE	R
Units	BACnetEngineeringUnits	Delta-degrees-fahrenheit (120) or deltra-degrees-kelvin (121) depending on AI-0 Units	R
Min_Pres_Value	REAL	-9.0 if Fahrenheit, -5.0 if Celsius or Kelvin	R
Max_Pres_Value	REAL	9.0 if Fahrenheit, 5.0 if Celsius or Kelvin	R
Resolution	REAL	0.1	R
Property_List	BACnetARRAY[N] of BACnetPropertyIdentifier	List of all the other properties of this object	R

Analog Value 1 Object Property List

This Object is only present if model has a RH sensor.

Property	Property data type	Comment/Default value	Read/Write
Object_Identifier	BACnetObjectIdentifier	1	R
Object_Name	CharacterString	“RH Calibration Offset”	R
Object_Type	BACnetObjectType	Analog Value (2)	R
Present_Value	REAL	Default = 0.0	RW
Description	CharacterString	“RH Calibration Offset”	R
Status_Flags	BACnetStatusFlags	Reflects current object status	R
Event_State	BACnetEventState	normal (0)	R
Out_Of_Service	BOOLEAN	Default = FALSE	R
Units	BACnetEngineeringUnits	percent-relative-humidity (29)	R
Min_Pres_Value	REAL	-10.0	R
Max_Pres_Value	REAL	10.0	R
Resolution	REAL	0.1	R
Property_List	BACnetARRAY[N] of BACnetPropertyIdentifier	List of all the other properties of this object	R