Wireless Pneumatic Thermostat BACnet Gateway PICS

Document No. 910-00008-01 rev 05

Dec - 2010

BACnet Protocol Implementation Conformance Statement

Date: 12/2010
Vendor Name: Cypress Envirosystems
Product Name: Wireless Pneumatic Thermostat BACnet Gateway
Product Model Number: WPT-800-SBAC
Application Software Version: V19.3.0
Firmware Revision: All Revisions
BACnet Protocol Revision: 135-1995b (1)

1. Product Description:

The WPT system is a BACnet gateway for wireless pneumatic thermostats (WPT). The WPT devices allow Building Management Systems to interface to the WPT devices for purposes of monitoring and controlling HVAC zone temperature.

2. 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)

3. BACnet Interoperability Building Blocks Supported (BIBBs)(Annex K):

Required for Device Profile (B-SA)

   DS-RP-B
   DS-WP-B
   DM-DDB-B
   DM-DOB-B

Optionally supported BIBBs

   DS-RPM-B
   DM-TS-B
   DM-UTC-B
   DM-RD-B
   AE-N-I-B

4. Segmentation Capability:

☑ Able to transmit segmented messages   Window Size Configurable

☑ Able to receive segmented messagesWindow Size Configurable

5. Supported services

	Required	Optional	For Device profile B-SA
☐ Acknowledge Alarm			
☐ Add List Element			
☐ Atomic Read File			
☐ Atomic Write File			
☐ Authenticate			
☐ Confirmed COV Notification			
☑ Confirmed Event Notification		AE-N-I-B	
☐ Confirmed Private Transfer			
☐ Confirmed Text Message			
☐ Create Object			
☐ Delete Object			
☐ Device Communication control			
☐ Get Alarm Summary			
☐ Get Enrollment Summary			
☐ Get Event Information			
☑ I am	DM-DOB-B		
☑ I Have	DM-DOB-B		
☐ Life Safety Operation			
☑ Read Property	DS-RP-B		
☐ Read Property Conditional			
☑ Read Property Multiple		DS-RPM-B	
☐ Read Range			
☑ Reinitialize Device		DM-RD-B	
☐ Remove List Element			
☐ Request Key			
☐ Subscribe COV			
☐ Subscribe COV Property			
☑ Time Synchronization		DM-TS-B	
☐ Unconfirmed COV Notification			
☑ Unconfirmed Event Notification		AE-N-I-B	
☐ Unconfirmed Private Transfer			
☐ Unconfirmed Text Message			
☑ UTC Time Synchronization		DM-UTC-B	
☐ VT Close			
☐ VT Date			
☐ VT Open			
☑ Who Has	DM-DOB-B		
☑ Who Is	DM-DDB-B		
☑ Write Property	DS-WP-B		
☐ Write Property Multiple			

6. Standard Object Types Supported:

The following is the list of supported Object types.

☐ Accumulator
☑ Analog Input
☑ Analog Output
☐ Analog Value
☐ Averaging
☑ Binary Input
☑ Binary Output

☐ Binary Value
☐ Calendar
☐ Command
☑ Device
☐ Event Enrollment
☐ File
☐ Group
☐ Life Safety Point
☐ Life Safety Zone
☐ Loop
☐ Multistate Input
☐ Multistate Value
☑ Notification Class
☐ Program
☐ Pulse Converter
☐ Schedule
☐ Trend Log

Detailed list of supported objects

The following table lists all supported Objects and any optional properties that are supported.
All required properties are supported.

Object	Create Object Service	Delete Object Service	Optional Properties Supported	Writeable Properties	Proprietary Properties	Property Range Restriction
Device	No	No	Description Location numberOfAPDUretires Max_Segments_Accepted Local_Time Local_Date UTC_Offset Daylight_Savings_Status APDU_Segment_Tmeout		None	None
Analog Input 1 Current_Temp	No	No	Description minPresValue maxPresValue Reliability Resolution profileName	Present_Value 1	None	None
Analog Input 2 Branch Pressure	No	No	Description minPresValue maxPresValue Reliability Resolution profileName	Present_Value 1	None	None
Analog Input 3 Battery Level	No	No	Description minPresValue maxPresValue Reliability Resolution profileName	Present_Value 1	None	None
Analog Output 1* Setpoint	No	No	Description minPresValue maxPresValue Reliability Resolution profileName	Present_Value	None	None

Analog Output 2** Unoccupied Setpoint	No	No	Description minPresValue maxPresValue Reliability Resolution profileName	Present_Value	None	None
Analog Output 3*** Setpoint_CoolAbove	No	No	Description minPresValue maxPresValue Reliability Resolution profileName	Present_Value	None	None
Analog Output 4*** Setpoint_HeatBelow	No	No	Description minPresValue maxPresValue Reliability Resolution profileName	Present_Value	None	None
Analog Output 5*** Unoccupied_Setpoint_CoolAbove	No	No	Description minPresValue maxPresValue Reliability Resolution profileName	Present_Value	None	None
Analog Output 6*** Unoccupied_Setpoint_HeatBelow	No	No	Description minPresValue maxPresValue Reliability Resolution profileName	Present_Value	None	None
Binary Input 1 Occ_Override	No	No	description inactiveText activeText reliability profile name	Present_Value 1	None	None
Binary Output 1**** Occ_State	No	No	Description inactiveText activeText minimumOffTime minimumOnTime Reliability changeOfStateTime changeOfStateCount timeOfStateCountReset elapsedActiveTime timeOfActiveTimeReset timeDelay notificationClass feedbackValue eventEnable ackedTransitions notifyType eventTimeStamps profileName	Present_Value	None	None

* Supported on all Conventional WPTs (non-Deadband)
** Only supported on REV 28 or newer Conventional WPTs
*** Only supported on Deadband WPTs
**** Only supported on REV 28 or newer Conventional WPTs and all Deadband WPTs
 (1) Writeable when Out of Service is true

7. 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: _____

8. 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

9. 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

10. 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)

11. Character Sets Supported:

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

☑ ANSI X3.4   ☐ 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:

This device is a gateway to Cypress Envirosystems proprietary wireless pneumatic network

12. Revision History

Revision	Date	Changes
1	11/12/10	Initial release
2	11/17/10	Updated object properties to support
3	11/29/10	- Added service subscribeCOV as it was required for DS-COV-B - Add service reinitializeDevice. This service is not needed but removing it causes other issues and will be removed for phase 3 - Add BIBB DM-RD-B to cover support for service reinitializeDevice and will be removed for Phase3 - Remove BIBB DS-WPM-B as we don't support and is not really needed - Add AE-N-I-B to cover support for services confirmedEventNotification and unconfirmedEventNotification. These are proposed to be removed for Phase3 - Added support for notification-class object for phase 2 only. - Updated the properties to match SW
4	12/6/10	Update section 7 objects notes regarding which objects are supported by each of the product variants
5	12/9/10	- Removed Suscribe COV Property - Remove BBIB DS-COV-B - Remove three services related to DS-COV-B - Remove properties COV increment from all objects

13. Addendum

Services Bit-Field

acknowledgeAlarm	0	0
confirmedCOVNotification	1	0
ConfimedEventNotification	2	1
getAlarmSummary	3	0
GetEnrollmentSummary	4	0
subscribeCOV	5	0
atomicReadFile	6	0
atomicWriteFile	7	0
addListElement	8	0
removeListElement	9	0
createObject	10	0
deleteObject	11	0
readProperty	12	1
readPropertyConditional	13	0
readPropertyMultiple	14	1
writeproperty	15	1
writePropertyMultiple	16	0
deviceCommunicationControl	17	0
confirmedPrivateTransfer	18	0
confirmedtextMessage	19	0
reinitializeDevice	20	1
vtOpen	21	0
vtClose	22	0
vtData	23	0
authenticate	24	0
requestKey	25	0
i-Am	26	1
i-Have	27	1
unconfirmedCOVNotification	28	0
unconfirmedEventNotification	29	1
unconfirmedPrivateTransfer	30	0
unconfirmedTextMessage	31	0
timeSynchronization	32	1
who-Has	33	1
who-Is	34	1
readRange	35	0
utcTimeSynchronization	36	1
lifeSafetyOperation	37	0
subscribeCOVProperty	38	0
getEventInformation	39	0

Objects Bit-Field

Analog-input	0	1
Analot-output	1	1
Analog-value	2	0
Binary-input	3	1
Binary-output	4	1
Binary-value	5	0
Calendar	6	0
Command	7	0
Device	8	1
Event-enrollment	9	0
File	10	0
Group	11	0
Loop	12	0
Multi-state-input	13	0
Multi-state-output	14	0
Notification-class	15	1
Program	16	0
Schedule	17	0
Averaging	18	0
Multi-state-value	19	0
Trend-log	20	0
Life-safety-point	21	0
Life-safety-zone	22	0
Accumulator	23	0
Pulse-converter	24	0
Event-log	25	0
>>>reserved<<<	26	0
Trend-log-multiple	27	0
Load-control	28	0
Structured-view	29	0
Access-door	30	0

Cypress Envirosystems

198 Champion Court

San Jose, CA-95134, US

info@cypressenvirosystems.com

Phone: +1(408)943-2800