BACnet Protocol Implementation Conformance Statement (PICS)

Tstat7   Tstat8

Date: Aug 20, 2018
Vendor Name: TemcoControls.com
Product Name: Tstat8 , Tstat7
Product Model Num: Tstat8,Tstat8-H , Tstat8-H-OCC, Tstat8-H-ZIG, Tstat8-H-Wifi, Tstat8-H-C02
                         Tstat7, Tsat7-H, Tstat7-OCC
Application Software Ver: N/A
Firmware Revision: 6.8
BACnet Protocol Rev: 12

Product Description:

The Tstat8 series thermostats are designed to control heating and cooling air conditioning units in commercial, industrial and residential installations. Typical applications include the control of fan coil unit, damper, packaged terminal air conditioners and combination of heating and cooling equipment.

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)**

List all BACnet Interoperability Building Blocks Supported (Annex K):
BACnet B-ASC BIBBs Support

Required for B-ASC Profile	Function	Designation	Support
Data Sharing - Read Property - B	Read Objects	DS-RP-B	☑
Data Sharing - Write Property - B	Write Objects	DS-WP-B	☑
Device Management - Dynamic Device Binding – B	Whois/Iam	DM-DDB-B	☑
Device Management - Dynamic Object Binding - B	Whohas/Ihave	DM-DOB-B	☑
Device Communication Control - B	Silence a device	DM-DCC-B	☑
Not Required for B-ASC Profile	**Function**	**Designation**	**Support**
Data Sharing-ReadPropertyMultiple-B	Read Multi	DS-RPM-B	✓
Data Sharing-WritePropertyMultiple-B	Write Multi	DS-WPM-B	✖
Data Sharing-COV-B	Change of value	DS-COV-B	✖
Data Sharing-COVP-B	COVProperty	DS-COVP-B	✖
Device Management-TimeSynchronization-B	Time Sync	DM-TS-B	✓
Device Management-UTCTimeSynchronization-B	UTC Sync	DM-UTC-B	✓
Device Management-ReinitializeDevice-B	Reset	DM-RD-B	✓

Segmentation Capability:

✖	Able to transmit segmented messages	Windows Size	1
✖	Able to receive segmented messages	Window Size	1

Standard Object Types Supported:

The following is a list of the standard object types as defined by ASHRAE. The objects checked are currently supported by this product. See the next section in this document for the supported object type details.

Supported	Bacnet Obejct	Supported	Bacnet Obejct
✖	Accumulator	✖	File
✓	Analog Input	✖	Group
✓	Analog Output	✖	Life Safety Point
✓	Analog Value	✖	Life Safety Zone
✖	Averaging	✖	Loop
✖	Binary Input	✖	Multistate Input
✓	Binary Output	✖	Multistate Output
✖	Binary Value	✖	MultiState Value
✓	Calendar	✖	Notification Class
✖	Command	✖	Program
✓	Device	✖	Pulse Converter
✖	Event Enrollment	✓	Schedule
		✖	Trend Log

Standard Object Type Details

	Device		Binary Output	Analog Input	Analog Output	Analog Value	Sched	Calendar
Object Identifier	✓		✓	✓	✓	✓	✓	✓
Object Name	✓	8char	✓	✓	✓	✓	✓	✓
Object Type	✓		✓	✓	✓	✓	✓	✓
System Status								
Vendor Name	✓							
Vendor Identifier	✓							
Model Name	✓							
Firmware Revision	✓							
App Software Revision								
Location								
Description	✓	21char	✓	✓	✓	✓		
Protocol Version	✓							
Protocol Revision	✓							
Protocol Object Types Supported								
Services Supported								
Object List	✓							
Max APDU Length								
Segmentation Support								
Local Time	✓							
Local Date	✓							
APDU Timeout								
Number APDU Retries								
Max Masters	X							
Max Info Frames								
Device Address Binding								
Database Revision								
Present Value			✓	✓	✓	✓	X	X
Status Flags								
Event State								
Reliability								
Out-of-Service			✓	✓	✓	✓	✓	✓
Number of States								
State text								
Units				✓	✓	✓		
Priority Array			✓	X	✓	X	X	X
Relinquish Default			✓		✓			
Polarity			X					
Active Text								
Inactive Text								

Data Link Layer Options:

☒ BACnet IP, (Annex J)   **Note: Tsat8-Wifi option required for Bacnet IP**

☐ 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): Auto (default**), 1200, 9600, 19200, 38400, 76800**
☐ 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**:   Zigbee option uses Modbus over Zigbee**,

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

Notes: The Device ID is a non-volatile value that is chosen and configured by someone at the site where the BACnet product is installed. The Device ID is used for resolution of network layer addresses into application layer addresses, commonly referred to as "binding".

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**:**   None.

Bacnet object list

Variable	variable and Description
0	Buadrate 96 =9600 192=19200 384=38400 576=57600 1152=115200 unit:bps
1	Station Number
2	Protocol switch. 0 = MODBUS,1=MSTP.
3	Instance Number
4	Schedule enable/disable 1:enable 0:disable
5	Occupied/Home/Day setpoint
6	Unoccupied/Work/Night setpoint
7	Fan mode setting 0:unoccupied mode,1:user mode1,2:user mode2,3:user mode3,4:occupied mode
8	Firmware Version
9	Current Mode of Operation 0:coast mode 1:cool mode 2:heat mode
10	Temperature Unit 0:degree C 1:degree F
11	System Mode 0:auto 1:heat 2:cool, if set to 0, system will control by PID, if set to 1, system will be in heat only mode,and 2 will be cool only mode
12	spare
13	Override Timer Unit:minute
14	Pid loop2 occupied setpoint
15	Pid loop2 unoccupied setpoint
16	Output Manual/Auto, each bit indicate each output 0:auto 1:manual

AI	description
AI1	Analog input 1
AI2	Analog input 2
AI3	Analog input 3
AI4	Analog input 4
AI5	Analog input 5
AI6	Analog input 6
AI7	Analog input 7
AI8	Analog input 8
AI9	Internal temperature value
AI10	Humidity value
AI11	CO_2 value if it has CO_2 sensor present

DI	description
DI1	Digital output1 state 1: on 2:off
DI2	Digital output2 state 1: on 2:off
DI3	Digital output3 state 1: on 2:off
DI4	Digital output4 state 1: on 2:off
DI5	Digital output5 state 1: on 2:off

AO	description
AO1	Analog output1 value
AO2	Analog output2 value