PARAGON CONTROLS INCORPORATED

Rev 6 6/14/2021

MTSE Unit BACnet Protocol Implementation Conformance Statement

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

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

Segmentation Capability:
NONE

Standard Object Types Supported:
Analog Input
Analog Value
Binary Input
Binary Value
Multistate Input
Multistate Value
CharacterString Value

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

Device Address Binding:
NO

Networking Options:
NONE

Character Sets Supported:
ISO 10646 (UTF-8), ANSI 3.4

Supported Services:

ReadProperty	Execute
ReadPropertyMultiple	Execute
WriteProperty	Execute
WritePropertyMultiple	Execute
DeviceCommunicationControl	Execute
Who-Is	Execute
I-Am	Initiate
Who-Has	Execute
I-Have	Initiate

Gateway:
This product does not support gateway functionality for any types of non-BACnet equipment/network(s).

Object	Object Name (max 32 Char)	Create Object Service	Delete Object Service	Optional Properties Supported	Writeable Properties	Property Data Type	Data Value Description (State Text)
DEVICE		No	No	• Object Name • Description • Location • Object Identifier • APDU Timeout • Max Info Frames • Max Master	• Object Name • Location		
Analog Input-1	System 1 Total Flow	No	No	• Description • Eng Units	R	REAL	
Analog Input-2	System 2 Total Flow	No	No	• Description • Eng Units	R	REAL	
Analog Input-3	System 3 Total Flow	No	No	• Description • Eng Units	R	REAL	
Analog Input-4	Sub System Flow	No	No	• Description • Eng Units	R	REAL	
Analog Input-5	System 1 Temperature	No	No	• Description • Eng Units	R/W	REAL	Min = -99 Max = 9,999
	***Note: Only Write Access when Multi State Value-6 is set to Network**						
Analog Input-6	System 2 Temperature	No	No	• Description • Eng Units	R/W	REAL	Min = -99 Max = 9,999
	***Note: Only Write Access when Multi State Value-7 is set to Network**						
Analog Input-7	System 3 Temperature	No	No	• Description • Eng Units	R/W	REAL	Min = -99 Max = 9,999
	***Note: Only Write Access when Multi State Value-8 is set to Network**						
Analog Input-8	Sub System Temperature	No	No	• Description • Eng Units	R/W	REAL	Min = -99 Max = 9,999
Analog Value-1	System 1 Operating Range	No	No	• Description • Eng Units	R/W	REAL	Min = 0 Max = Varies
Analog Value-2	System 2 Operating Range	No	No	• Description • Eng Units	R/W	REAL	Min = 0 Max = Varies
Analog Value-3	System 3 Operating Range	No	No	• Description • Eng Units	R/W	REAL	Min = 0 Max = Varies
Analog Value-4	Sub System Operating Range	No	No	• Description • Eng Units	R/W	REAL	Min = 0 Max = Varies
Analog Value-5	System 1 High Alarm Value	No	No	• Description • Eng Units	R/W	REAL	Min = 0 Max = Varies
Analog Value-6	System 2 High Alarm Value	No	No	• Description • Eng Units	R/W	REAL	Min = 0 Max = Varies
Analog Value-7	System 3 High Alarm Value	No	No	• Description • Eng Units	R/W	REAL	Min = 0 Max = Varies
Analog Value-8	Sub System High Alarm Value	No	No	• Description • Eng Units	R/W	REAL	Min = 0 Max = Varies
Analog Value-9	System 1 Low Alarm Value	No	No	• Description • Eng Units	R/W	REAL	Min = 0 Max = Varies
Analog Value-10	System 2 Low Alarm Value	No	No	• Description • Eng Units	R/W	REAL	Min = 0 Max = Varies
Analog Value-11	System 3 Low Alarm Value	No	No	• Description • Eng Units	R/W	REAL	Min = 0 Max = Varies
Analog Value-12	Sub System Low Alarm Value	No	No	• Description • Eng Units	R/W	REAL	Min = 0 Max = Varies
Analog Value-13	Controller 1 Output	No	No	• Description • Eng Units	R/W	REAL	Min = 0 Max = 100
Analog Value-14	Controller 2 Output	No	No	• Description • Eng Units	R/W	REAL	Min = 0 Max = 100
Analog Value-15	Controller 3 Output	No	No	• Description • Eng Units	R/W	REAL	Min = 0 Max = 100
Analog Value-16	Controller 4 Output	No	No	• Description • Eng Units	R/W	REAL	Min = 0 Max = 100
Binary Input-1	Digital Input 1	No	No	• Description	R	ENUMERATED	
Binary Input-2	Digital Input 2	No	No	• Description	R	ENUMERATED	

Binary Value-1	System 1 Alarm Enable	No	No	• Description	R/W	ENUMERATED	1: Off 2: On
Binary Value-2	System 2 Alarm Enable	No	No	• Description	R/W	ENUMERATED	1: Off 2: On
Binary Value-3	System 3 Alarm Enable	No	No	• Description	R/W	ENUMERATED	1: Off 2: On
Binary Value-4	Sub System Alarm Enable	No	No	• Description	R/W	ENUMERATED	1: Off 2: On
Binary Value-5	Digital Output 1	No	No	• Description	R/W	ENUMERATED	
Binary Value-6	Digital Output 2	No	No	• Description	R/W	ENUMERATED	
Multi State Value-1	System 1 Engineering Units	No	No	• Description	R/W	UNSIGNED	See **Table 2.**
	Note: Unit Selection Dependent on Multi State Value-9						
Multi State Value-2	System 2 Engineering Units	No	No	• Description	R/W	UNSIGNED	See **Table 2.**
	Note: Unit Selection Dependent on Multi State Value-10						
Multi State Value-3	System 3 Engineering Units	No	No	• Description	R/W	UNSIGNED	See **Table 2.**
	Note: Unit Selection Dependent on Multi State Value-11						
Multi State Value-4	Temperature Engineering Units	No	No	• Description	R/W	UNSIGNED	1: F° 2: C°
Multi State Value-5	System 1 Temperature Source	No	No	• Description	R/W	UNSIGNED	1: Fixed 2: Analog 3: Network
Multi State Value-6	System 2 Temperature Source	No	No	• Description	R/W	UNSIGNED	1: Fixed 2: Analog 3: Network
Multi State Value-7	System 3 Temperature Source	No	No	• Description	R/W	UNSIGNED	1: Fixed 2: Analog 3: Network
Multi State Value-8	Sub System Temperature Source	No	No	• Description	R/W	UNSIGNED	1: Fixed 2: Analog 3: Network
Multi State Value-9	System 1 Process Type	No	No	• Description	R/W	UNSIGNED	1: Standard Flow 2: Actual Flow 3: Standard Velocity 4: Actual Velocity 5: Pressure
Multi State Value-10	System 2 Process Type	No	No	• Description	R/W	UNSIGNED	1: Standard Flow 2: Actual Flow 3: Standard Velocity 4: Actual Velocity 5: Pressure
Multi State Value-11	System 3 Process Type	No	No	• Description	R/W	UNSIGNED	1: Standard Flow 2: Actual Flow 3: Standard Velocity 4: Actual Velocity 5: Pressure
CharacterString Value-1	System 1 Tag	No	No	• Description	R	STRING	
CharacterString Value-2	System 2 Tag	No	No	• Description	R	STRING	
CharacterString Value-3	System 3 Tag	No	No	• Description	R	STRING	
CharacterString Value-4	Sub System Tag	No	No	• Description	R	STRING	
Analog Input-21	System 1 Sensor 1 Flow	No	No	• Description • Eng Units	R	REAL	
Analog Input-22	System 1 Sensor 1 Pressure	No	No	• Description • Eng Units	R	REAL	
Multi State Input-11	System 1 Sensor 1 Status	No	No	• Description	R	UNSIGNED	1 = Normal 2 = Alarm 3 = Failure

Analog Input-23	System 1 Sensor 2 Flow	No	No	• Description • Eng Units	R	REAL	
Analog Input-24	System 1 Sensor 2 Pressure	No	No	• Description • Eng Units	R	REAL	
Multi State Input-12	System 1 Sensor 2 Status	No	No	• Description	R	UNSIGNED	1 = Normal 2 = Alarm 3 = Failure
/..							
../							
Analog Input-39	Sub System Sensor 1 Flow	No	No	• Description • Eng Units	R	REAL	
Analog Input-40	Sub System Sensor 1 Pressure	No	No	• Description • Eng Units	R	REAL	
Multi State Input-20	Sub System Sensor 1 Status	No	No	• Description	R	UNSIGNED	1 = Normal 2 = Alarm 3 = Failure

Note:
Sensors # assignment is as follows:
The Analog Input and Multi State Input objects numbers are assigned based on the System # and the Sensor # within that system. Order of Systems is as follows: **System 1**, **System 2**, **System 3**, **Sub System**, **Differential Pressure**. Sub System follows the last System in use.

Analog Input-xx	System x Sensor xx Flow
Analog Input-xx	System x Sensor xx Pressure
Multi State Input-xx	System x Sensor xx Status

TABLE 2 – MSV1, MSV2 and MSV3 Engineering Units State_Text List

Multi State Value-9, 10, 11	1. Standard Flow Units	2. Actual Flow Units	3. Standard Velocity Units	4, Actual Velocity Units	5. Pressure Units
Engineering Units	SCFM	ACFM	SFPM	AFPM	In. W.C.
	SCFH	L/S	Sm/s	Am/s	Pa
	SL/S	Am^3/S			kPa
	Sm^3/S	Am^3/M			mm W.C.
	Sm^3/M	Am^3/HR			
	Sm^3/HR				