Honeywell

BACnet MSTP FCU Controller

BACNET PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT (PICS)

Date: 14-Jan-2021
Vendor Name: Honeywell International Inc.
Product Name: BACnet MSTP FCU CONTROLLER
Product Model Numbers: CLMERL4N, CLMERL6N, CLMERL8N, CLMERS4N, CLMERS5N, CPO-RL4N, CPO-RL5N, CPO-RL6N, CPO-RL8N, CPO-RS3N, CPO-RS4N, CPO-RS5N, AL-RL4N, AL-RL6N, AL-RL8N, AL-RS4N, AL-RS5N, WEB-RL6N, WEB-RS5N
Applications Software Version: Beats MSTP FCU Application
Firmware Revision: 2.0.1.03
BACnet Protocol Revision: 1.14

Product Description:

The BACnet MSTP Compact VAV; a Variable Air Flow controller, provides flexible, freely programmable and demand-led control that delivers tangible benefits to reduce energy spends and drives new levels of functionality and efficiency in today's buildings. With scalable and freely programmable BACnet MS/TP-based VAV controllers, smart engineering & commissioning tools, and SYLK technology, multiple and flexible configurations can be achieved to address specific applications

BACnet Standardized Device Profile (Annex L):

☐ BACnet Operator Workstation (B-OWS)
☐ 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)

BACnet Interoperability Building Blocks Supported (Annex K):

Data Sharing:

DS-RP-A	Read Property-A
DS-RP-B	Read Property-B
DS-RPM-B	Read Property Multiple-B
DS-WP-A	Write Property-A
DS-WP-B	Write Property-B
DS-WPM-B	Write Property Multiple-B
DS-COV-A	Change of Value-A
DS-COV-B	Change of Value-B

Alarm and Event Management:

AE-N-I-B	Alarm & Event Notification Internal-B
AE-ACK-B	Alarm & Event Acknowledgement-B
AE-INFO-B	Alarm & Event Information-B

Scheduling:

SCHED-I-B	Scheduling Internal-B

Trending

Device Management

DM-DDB-A	Dynamic Device Binding-A
DM-DDB-B	Dynamic Device Binding-B
DM-DOB-B	Dynamic Object Binding-B
DM-DCC-B	Device Communication Control-B
DM-PT-A	Private Transfer-A
DM-PT-B	Private Transfer-B
DM-TS-B	Time Synchronization-B
DM-UTC-B	Universal Time Synchronization-B
DM-RD-B	Reinitialize Device-B
DM-LM-B	List Manipulation -B

Standard Object Types Supported:

Object Type	Dynamically creatable	Dynamically deletable
Analog Input		
Analog Output		
Analog Value		
Binary Input		
Binary Output		
Binary Value		

Calendar		
Device		
Multistate Output		
Multistate Value		
Notification Class		
Schedule		

General Limits

- Object_Name size = 40 characters
- Description size = 132 characters
- Password size for Device Communication Control = 20 characters

Analog Input

Property name	R=Required O=Optional P=Proprietary	Writable	Property ID, Range, Data Type; other remarks
Object_Identifier	R		
Object_Name	R		
Object_Type	R		0
Present_Value	R		
Description	O		
Status_Flags	R		
Event_State	R		
Reliability	O		Possible conditions are: 1. no_fault_detected 2. open_loop 3. shorted_loop OPEN_LOOP (for 2 - 10V inp.)
Out_Of_Service	R	writable	
Units	R		
COV_Increment	O	writable	
Time_Delay	O	writable	range of 0 to 86400s
Notification_Class	O	writable	range of 0 to 3
High_Limit	O	writable	
Low_Limit	O	writable	
Deadband	O	writable	
Limit_Enable	O	writable	
Event_Enable	O	writable	
Acked_Transitions	O		
Notify_Type	O	writable	
Event_Time_Stamps	O		
Event_Detection_Enable	O		
Property_List	R		

Analog Output

Property name	R=Required O=Optional P=Proprietary	Writable	Property ID, Range, Data Type; other remarks
Object_Identifier	R		
Object_Name	R		
Object_Type	R		1
Present_Value	W	Writable	
Description	O		
Status_Flags	R		
Event_State	R		
Out_Of_Service	R	Writable	
Units	R		
Priority_Array	R		
Relinquish_Default	R	Writable	
COV_Increment	O	Writable	
Time_Delay	O	Writable	range of 0 to 86400s
Notification_Class	O	Writable	range of 0 to 3
High_Limit	O	writable	
Low_Limit	O	writable	
Deadband	O	writable	
Limit_Enable	O	writable	
Event_Enable	O	writable	
Acked_Transitions	O		
Notify_Type	O	writable	
Event_Time_Stamps	O		
Event_Detection_Enable	O		
Property_List	R		

Analog Value

Property name	R=Required O=Optional P=Proprietary	Writable	Property ID, Range, Data Type; other remarks
Object_Identifier	R		
Object_Name	R		
Object_Type	R		2
Present_Value	R	writable	
Description	O		
Status_Flags	R		
Event_State	R		
Reliability	O		Possible conditions are: 1. no_fault_detected 2. unreliable_other
Out_Of_Service	R	writable	
Units	R		
COV_Increment	O	writable	
Property_List	R		

Binary Input

Property name	R=Required O=Optional P=Proprietary	Writable	Property ID, Range, Data Type; other remarks
Object_Identifier	R		
Object_Name	R		
Object_Type	R		3
Present_Value	R		
Description	O		
Status_Flags	R		
Event_State	R		
Out_Of_Service	R	writable	
Polarity	R		
Inactive_Text	O		
Active_Text	O		
Change_Of_State_Time	O		
Change_Of_State_Count	O	writable	
Time_Of_State_Count_Reset	O		
Time_Delay	O	writable	range of 0 to 86400s
Notification_Class	O	writable	range of 0 to 3
Alarm_Value	O	writable	
Event_Enable	O	writable	
Acked_Transitions	O		
Notify_Type	O	writable	
Event_Time_Stamps	O		
Event_Detection_Enable	O		
Property_List	R		

Binary Output

Property name	R=Required O=Optional P=Proprietary	Writable	Property ID, Range, Data Type; other remarks
Object_Identifier	R		
Object_Name	R		
Object_Type	R		4
Present_Value	W	writable	
Description	O		
Status_Flags	R		
Event_State	R		
Out_Of_Service	R	writable	
Polarity	R		
Inative_Text	O		
Active_Text	O		
Change_Of_State_Time	O		
Change_Of_State_Count	O	writable	
Time_Of_State_Count_Reset	O		
Priority_Array	R		
Relinquish_Default	R	writable	
Time Delay	O	writable	(range of 0 to 86400s)
Notification Class	O	writable	range of 0 to 3
Feedback Value	O		If Feedback_Value is present
Event_Enable	O	writable	
Acked_Transitions	O		
Notify_Type	O	writable	
Event_Time_Stamps	O		
Event_Detection_Enable	O		
Property_List	R		

Binary Value

Property name	R=Required O=Optional P=Proprietary	Writable	Property ID, Range, Data Type; other remarks
Object_Identifier	R		
Object_Name	R		
Object_Type	R		5
Present_Value	R	writable	
Description	O		
Status_Flags	R		
Event_State	R		
Reliability	O		Possible conditions are: 1. no_fault_detected 2. unreliable_other
Out_Of_Service	R	writable	
Inactive_Text	O		
Active_Text	O		
Property_List	R		

Calendar

Property name	R=Required O=Optional P=Proprietary	Writable	Property ID, Range, Data Type; other remarks
Object_Identifier	R		
Object_Name	R		
Object_Type	R		6
Present_Value	R		
Description	O		
Date_List	R	writable	
Property_List	R		

Device

Property name	R=Required O=Optional P=Proprietary	Writable	Property ID, Range, Data Type; other remarks
Object_Identifier	R		
Object_Name	R	writable	
Object_Type	R		8
System_Status	R		
Vendor_Name	R		“Honeywell International Inc. “
Vendor_Identifier	R		17
Model_Name	R		
Firmware_Revision	R		
Application_Software_Version	R		
Location	O	writable	
Description	O	writable	
Protocol_Version	R		1
Protocol_Revision	R		14
Protocol_Services_Supported	R		
Protocol_Object_Types_Supported	R		
Object_List	R		
Max_APDU_Length_Accepted	R		
Segmentation_Supported	R		
Max_Segmenst_Accepted	O		
Local_Time	O	writable	
Local_Date	O	writable	
UTC_Offset	O	writable	
Daylight_Saving_Status	O		
APDU_Segment_Timeout	O		
APDU_Timeout	R		
Number_Of_APDU_Retries	R		
Max_Master	O	writable	
Max_Info_Frames	O	writable	
Device_Address_Binding	R		
Database_Revision	R		
Active_COV_Subscriptions	O		
Last_Restart_Reason	O		
Time_Of_Device_Restart	O		
Serial_Number	O		
Profile_Name	O		
Property_List	R		
Proprietary Property	R		1026 ; adtCharString ; 8 characters. Used for Bootloader Version

Multistate Output

Property name	R=Required O=Optional P=Proprietary	Writable	Property ID, Range, Data Type; other remarks
Object_Identifier	R		
Object_Name	R		
Object_Type	R		14
Present_Value	W	writable	
Description	O		
Status_Flags	R		
Event_State	R		
Out_Of_Service	R	writable	
Number_Of_States	R		
State_Text	O		
Priority_Array	R		
Relinquish_Default	R	Writable	
Property_List	R		

Multistate Value

Property name	R=Required O=Optional P=Proprietary	Writable	Property ID, Range, Data Type; other remarks
Object_Identifier	R		
Object_Name	R		
Object_Type	R		19
Present_Value	R	writable	
Description	O		
Status_Flags	R		
Event_State	R		
Reliability	O		Possible conditions are: 1. no_fault_detected 2. unreliable_other
Out_OF_Service	R	writable	
Number_Of_States	R		
State_Text	O		
Property_List	R		

Notification Class

Property name	R=Required O=Optional P=Proprietary	Writable	Property ID, Range, Data Type; other remarks
Object_Identifier	R		
Object_Name	R		
Object_Type	R		15
Description	O		
Notification_Class	R		
Priority	R	writable	
Ack_Required	R	writable	
Recipient_List	R	writable	
Property_List	R		

Schedule

Property name	R=Required O=Optional P=Proprietary	Writable	Property ID, Range, Data Type; other remarks
Object_Identifier	R		
Object_Name	R		
Object_Type	R		17
Present_Value	R	writable	
Description	O		
Effective_Period	R	writable	
Weekly_Schedule	O	writable	
Exception_Schedule	O	writable	
Schedule_Default	R	writable	
List_Of_Object_Property_References	R		
Priority_For_Writing	R	writable	
Status_Flags	R		
Reliability	R		Possible conditions are: 1. no_fault_detected 2. configuration_error
Out_Of_Service	R	writable	
Property_List	R		

Proprietary Objects Supported:

Object Type	Object Type ID
DDC Command Object	512
Output Reference	513
Input Reference	514

DDC Command Object

Property name	R=Required O=Optional P=Proprietary	Writable	Property ID, Range, Data Type; other remarks
Object_Identifier	R		
Object_Name	R		
Object_Type	R		512
Present Value	O		
DDC_Command	P		1024

Input Reference

Property name	R=Required O=Optional P=Proprietary	Writable	Property ID, Range, Data Type; other remarks
Object_Identifier	R		
Object_Name	R		
Object_Type	R		514
Description	O		
Present_Value			85 Any May be Boolean Unsigned Real
Reliability			103 Possible unreliable conditions are: UNRELIABLE_OTHER, COMMUNICATION_FAILURE
Status_Flags			111
Units			117
Property List	R		

Output Reference

Property name	R=Required O=Optional P=Proprietary	Writable	Property ID, Range, Data Type; other remarks
Object_Identifier	R		
Object_Name	R		
Object_Type	R		513
Description	O		
Present_Value			85 Any May be Boolean Unsigned Real
Priority_For_Writing			
Reliability			103 Possible unreliable conditions are: UNRELIABLE_OTHER, COMMUNICATION_FAILURE
Status_Flags			111
Property List	R		

Segmentation Capability:

☑ Segmented requests supported Window Size 4
☑ Segmented responses supported Window Size 4

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, RS-485 ARCNET (Clause 8), baud rate(s) _____
☑ MS/TP master (Clause 9), baud rate(s): 9600, 19200, 38400, 57600, 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: _____
☐ Other: _____

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

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

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

Honeywell

Manufactured for and on behalf of the Environmental and Combustion Controls Division of Honeywell Technologies Sàrl, Rolle, Z.A. La Pièce 16, Switzerland by its Authorized Representative

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