Rinnai BACnet Objects & Modbus Registers

The following BACnet Objects and Modbus Holding Registers are supported, where the indicated Object ID / Object Name / Modbus Register correspond to the first water heater. Additional water heaters are ranged accordingly:

- BACnet Object ID ranged 100 for heater 1, 200 for heater 2 etc
- BACnet Object Name takes format "HeaterNumber_ObjectName"
- Modbus Register ranged 40100 for heater 1, 40200 for heater 2 etc

Heater Type	Object ID	Object Name	Modbus Register	Modbus Scaling	Function
All	AI 100	1_FanSpeed	40102	x10	Fan Speed
All	AI 101	1_FanCurrent	40103	x10	Fan Current
All	AI 102	1_HotWaterOutletTemp	40104	x100	Output Hot Water TH1 temperature
All	AI 103	1_ColdWaterInletTemp	40105	x100	Input water temp
All	AI 104	1_WaterFlowRate	40106	x100	Water flow speed
All	AI 105	1_HeatExchangeTemp	40114	x100	Heat Exchange TH temperature
KM	AI 106	1_HotWaterOutletTemp2	40132	x100	Output hot water temperature
KB / N / Sensei	AI 106	1_AntiFreezeTemp1	40132	x100	Low Temp sensing TH1 input temp
KB / N / Sensei	AI 107	1_AntiFreezeTemp2	40133	x100	Low Temp sensing TH2 input temp
N / Sensei	AI 108	1_ExhaustTemp	40134	x100	Exhaust temp TH input temp
All	AV 101	1_TempSetControl	40108	x100	Current setpoint
All	AV 102	1_PowerConnectHours	40125	/6	Power-connect hours
All	AV 103	1_OperationHours	40126	x1	Water heat burning hours
All	AV 104	1_CombustionCyclesX100	40127	x1	Water heat burning times
All	AV 105	1_BypassServoPosition	40128	x1	Bypass servomotor step position
All	MSI 100	1_WaterFlowServoPosition	40129	x1	Water servomotor open/close limit state
All	MSV 100	1_HeaterCommsStatus	40100	x1	Heater comms status
All	MSV 101	1_TempSetPointer	40107	x1	Updateable setpoint
All	MSV 103	1_BurnerState	40110	x1	Burning state info
All	MSV 104	1_ErrorCode	40115	x1	Current Error
All	MSV 105	1_ErrorHistory1	40116	x1	Previous Error 1
All	MSV 106	1_ErrorHistory2	40117	x1	Previous Error 2
All	MSV 107	1_ErrorHistory3	40118	x1	Previous Error 3
All	MSV 108	1_ErrorHistory4	40119	x1	Previous Error 4
All	MSV 109	1_ErrorHistory5	40120	x1	Previous Error 5
All	MSV 110	1_ErrorHistory6	40121	x1	Previous Error 6
All	MSV 111	1_ErrorHistory7	40122	x1	Previous Error 7
All	MSV 112	1_ErrorHistory8	40123	x1	Previous Error 8
All	MSV 113	1_ErrorHistory9	40124	x1	Previous Error 9
All	MSV 114	1_BurnerClassification	40130	x1	Burning state classification
N / Sensei	MSV 115	1_Cascade	40135	x1	Heater cascade mode
All	MSV 116	1_HeaterOperationalStatus	40136	x1	Heater operational status
All	BV 100	1_UnitOnOff	40101	x1	Heater On/Off status
All	BV 101	1_TempSetUpdatePend	40131	x1	Setpoint waiting to be applied to heater when not burning
All	BV 102	1_ErrorClear	40109	x1	Reset and clear error

Heater Type	Object ID	Object Name	R/W	Units SI	Units Imperial
All	AI 100	1_FanSpeed	R/O	Revs / min	Revs / min
All	AI 101	1_FanCurrent	R/O	mA	mA
All	AI 102	1_HotWaterOutletTemp	R/O	°C	°F
All	AI 103	1_ColdWaterInletTemp	R/O	°C	°F
All	AI 104	1_WaterFlowRate	R/O	L / m	US gal / min
All	AI 105	1_HeatExchangeTemp	R/O	°C	°F
KM	AI 106	1_HotWaterOutletTemp2	R/O	°C	°F
KB / N / Sensei	AI 106	1_AntiFreezeTemp1	R/O	°C	°F
KB / N / Sensei	AI 107	1_AntiFreezeTemp2	R/O	°C	°F
N / Sensei	AI 108	1_ExhaustTemp	R/O	°C	°F

Heater Type	Object ID	Object Name	R/W	Units SI	Units Imperial
All	AV 101	1_TempSetControl	R/O	°C	°F
All	AV 102	1_PowerConnectHours	R/O	Hours	Hours
All	AV 103	1_OperationHours	R/O	Hours	Hours
All	AV 104	1_CombustionCyclesX100	R/O	none	none
All	AV 105	1_BypassServoPosition	R/O	%	%

Heater Type	Object ID	Object Name	R/W	States
All	MSI 100	1_WaterFlowServoPosition	R/O	[1]Open, [2]Closed, [3]Transitional
All	MSV 100	1_HeaterStatus	R/O	[1]Initialising, [2]Comms OK, [3]Comms Fail
All	MSV 101	1_TempSetPointer	R/W	See table below

Value	KM States	KB States	N States	Sensei Range A	Sensei Range B
1	37 °C / 99 °F	37 °C / 99 °F	37 °C / 99 °F	37 °C / 98 °F	43 °C / 110 °F
2	38 °C / 100 °F	38 °C / 100 °F	38 °C / 100 °F	38 °C / 100 °F	46 °C / 115 °F
3	39 °C / 102 °F	39 °C / 102 °F	39 °C / 102 °F	39 °C / 102 °F	49 °C / 120 °F
4	40 °C / 104 °F	40 °C / 104 °F	40 °C / 104 °F	40 °C / 104 °F	52 °C / 125 °F
5	41 °C / 106 °F	41 °C / 106 °F	41 °C / 106 °F	41 °C / 106 °F	54 °C / 130 °F
6	42 °C / 108 °F	42 °C / 108 °F	42 °C / 108 °F	42 °C / 108 °F	57 °C / 135 °F
7	43 °C / 109 °F	43 °C / 109 °F	43 °C / 109 °F	43 °C / 110 °F	60 °C / 140 °F
8	44 °C / 111 °F	44 °C / 111 °F	44 °C / 111 °F	46 °C / 115 °F	63 °C / 145 °F
9	45 °C / 113 °F	45 °C / 113 °F	45 °C / 113 °F	49 °C / 120 °F	66 °C / 150 °F
10	46 °C / 115 °F	46 °C / 115 °F	46 °C / 115 °F	52 °C / 125 °F	68 °C / 155 °F
11	48 °C / 118 °F	48 °C / 118 °F	48 °C / 118 °F	54 °C / 130 °F	71 °C / 160 °F
12	50 °C / 122 °F	50 °C / 122 °F	50 °C / 122 °F	57 °C / 135 °F	74 °C / 165 °F
13	55 °C / 131 °F	55 °C / 131 °F	55 °C / 131 °F	60 °C / 140 °F	77 °C / 170 °F
14	60 °C / 140 °F	60 °C / 140 °F	60 °C / 140 °F	See Primary for Set Point	79 °C / 175 °F
15	65 °C / 149 °F	65 °C / 149 °F	65 °C / 149 °F		82 °C / 180 °F
16	75 °C / 167 °F	75 °C / 167 °F	75 °C / 167 °F		85 °C / 185 °F
17			See Primary for Set Point		See Primary for Set Point

Heater Type	Object ID	Object Name	R/W	States
All	MSV 103	1_BurnerState	R/O	See table below

Value	KM States	KB States	N / Sensei States
1	Stand-by	Stand-by	Initial
2	Extinguish	Extinguish	System Check
3	Fan ON	Fan ON	Standby
4	Pre-purge	Pre-purge	Burner Off
5	Safety circuit check 1	Circuit fail check 1	Post-purge
6	Safety circuit check 2	Pressure release	Fan ON
7	Safety circuit check 3	Circuit fail check 2	Pre-purge
8	Safety circuit check 4	Ignition ON	Circuit check
9	Pressure release	Pilot valve ON	Ignition
10	Ignition ON	POV ON	Ignition Pending
11	Pilot valve ON	Ignition failed	Ignition failed
12	POV ON	Ignite flame shift Large	Ignition shift
13	Ignition failed	Switch flame shift Large	High Fire
14	Ignite flame shift Large	High Fire	Low Fire
15	Switch flame shift Large	Ignite flame shift Medium-large	Switch prep
16	High Fire	Switch flame shift Medium-large	Purging
17	Ignite flame shift Large-small	Medium-large Burning	Other
18	Switch flame shift Large-small	Ignite flame shift Medium-small	
19	Large-small Burning	Switch flame shift Medium-small	
20	Ignite flame shift Medium-large	Medium-small Burning	
21	Switch flame shift Medium-large	Ignite flame shift Small	
22	Medium-large Burning	Low Fire	
23	Ignite flame shift Medium	Switch prep 1	
24	Switch flame shift Medium	Switch prep 2	
25	Medium Burning Ignite	Switch prep 3	
26	Ignite flame shift Medium-small	Switch prep 4	
27	Medium-small Burning	Switch prep 5	
28	Ignite flame shift Small	Switch prep 6	
29	Low Fire	Main valve OFF	
30	Switch prep 1	Compulsive exhaust	
31	Switch prep 2	Other	
32	Switch prep 3		
33	Switch prep 4		
34	Switch prep 5		
35	Switch prep 6		
36	Switch prep 7		
37	Switch prep 8		
38	Switch prep 9		
39	Switch prep A		
40	Switch prep B		
41	Switch prep C		
42	Switch prep D		
43	Switch prep E		
44	Switch prep F		
45	Other		

Heater Type	Object ID	Object Name	R/W	States
All	MSV 104	1_ErrorCode	R/O	[1] 00 No Error
All	MSV 105	1_ErrorHistory1	R/O	[2] -- No Error
All	MSV 106	1_ErrorHistory2	R/O	[3] 05 By-Pass Flow Control
All	MSV 107	1_ErrorHistory3	R/O	[4] 10 Air Supply or Exhaust Blockage / Condensate Trap
All	MSV 108	1_ErrorHistory4	R/O	[5] 11 No Ignition
All	MSV 109	1_ErrorHistory5	R/O	[6] 12 No Flame
All	MSV 110	1_ErrorHistory6	R/O	[7] 14 Heat Exchanger Overheat
All	MSV 111	1_ErrorHistory7	R/O	[8] 15 Venturi Control
All	MSV 112	1_ErrorHistory8	R/O	[9] 16 High Outgoing Temperature
All	MSV 113	1_ErrorHistory9	R/O	[10] 17 Venturi Blockage
				[11] 19 Electrical Grounding
				[12] 21 Data Transfer Error
				[13] 25 Condensate Pump (Accessory)
				[14] 32 Outgoing Thermistor
				[15] 33 Heat Exchanger Thermistor
				[16] 38 Exhaust Thermistor
				[17] 41 Freeze Protection Thermistor
				[18] 51 Inlet Thermistor
				[19] 52 Gas Valve
				[20] 54 High Exhaust Gas Temperature
				[21] 61 Combustion Fan
				[22] 63 Recirculation Low Flow
				[23] 65 Water Flow Control
				[24] 70 PC Board
				[25] 71 Solenoid Valve Circuit
				[26] 72 Flame Rod
				[27] SS Service Soon
				[28] SE Cascade Diagnostic Display
				[29] FF Maintenance Indicator
				[30] ?? Other
				[31] CF Communication Failure
All	MSV 114	1_BurnerClassification	R/O	[1] Initial
				[2] Extinguishing
				[3] Igniting
				[4] Burning
				[5] Flame Lost
				[6] Other
N / Sensei	MSV 115	1_Cascade	R/O	[1] None, [2] Primary, [3] Secondary
All	MSV 116	1_HeaterOperationalStatus	R/O	[1] Off
				[2] On (Ready)
				[3] On (Heating)
				[4] On (Standby)
				[5] On (Error)

Heater Type	Object ID	Object Name	R/W	Inactive State	Active State
All	BV 100	1_UnitOnOff	R/W	Unit Off	Unit On
All	BV 101	1_TempSetUpdatePend	R/O	Update Ok	Update Pending
All	BV 102	1_ErrorClear	R/W	No	Yes

BACnet Protocol Implementation Conformance Statement

Date:	**2nd July 2020**
Vendor Name:	**Titan Products Ltd**
Product Name:	**NetMaster Rinnai**
Product Model Number:	**TP-NM-R/2000**
Application Software Version:	**Rinnai V1.9**
Firmware Revision:	**TP-NM-R/2000 V2.10**
BACnet Protocol Revision:	**14**

BACnet Interoperability Building Blocks Supported (Annex K):

DM-DDB-A/B	Device Management – Dynamic Device Binding – A/B
DM-TS-B	Device Management – TimeSynchronization – B
DM-OCD-B	Device Management – Object Creation and Deletion – B
DS-RP-A/B	Data Sharing – ReadProperty – A/B
DS-RPM-A/B	Data Sharing – ReadPropertyMultiple – A/B
DS-WP-A/B	Data Sharing – WriteProperty – A/B
DS-WPM-A/B	Data Sharing – WritePropertyMultiple – A/B
DS-COV-A/B	Data Sharing – COV – A/B
SCHED-I-B	Scheduling – Internal – B
SCHED-E-B	Scheduling – External – B
AE-N-I-B	Alarm and Event – Notification Internal – B
AE-N-E-B	Alarm and Event – Notification External – B
AE-ACK-B	Alarm and Event – ACK – B
AE-ASUM-B	Alarm and Event – Alarm Summary – B
AE-ESUM-B	Alarm and Event – Enrollment Summary – B
AE-INFO-B	Alarm and Event – Information – B
AE-CRL-B	Alarm and Event Management – Configurable Recipient Lists – B
T-VMT-I-B	Trending – Viewing and Modifying Trends Internal – B
T-VMT-E-B	Trending – Viewing and Modifying Trends External – B
T-ATR-B	Trending – Automated Trend Retrieval – B

Segmentation Capability:

☐ Segmented requests supported Window Size _____

☐ Segmented responses supported Window Size _____

Standard Object Types Supported:

Object Type	Dynamic Create	Property	Optional	Writable	Range Restriction
Device		Object_Identifier			
		Object_Name			
		Object_Type			
		System_Status			
		Vendor_Name			
		Vendor_Identifier			
		Model_Name			
		Firmware_Revision			
		Application_Software_Version			
		Location	✓	✓	max 100 characters
		Description	✓	✓	max 100 characters
		Protocol_Version			
		Protocol_Revision			
		Protocol_Services_Supported			
		Protocol_Object_Types_Supported			
		Object_List			
		Max_APDU_Length_Accepted			
		Segmentation_Supported			
		Local_Time	✓		
		Local_Date	✓		
		APDU_Timeout		✓	1000 to 100000ms
		Number_Of_APDU_Retries		✓	0 to 255
		Max_Masters	✓	✓	1 to 127
		Max_Info_Frames	✓	✓	1 to 255
		Device_Address_Binding			
		Database_Revision			
		Active_COV_Subscriptions	✓		
		Property_List			
Schedule	✓	Object_Identifier			
	✓	Object_Name			
		Object_Type			
	✓	Present_Value		✓	writable when Out_Of_Service
	✓	Description	✓	✓	max 100 characters
	✓	Effective_Period		✓	
	✓	Weekly_Schedule	✓	✓	
	✓	Exception_Schedule	✓	✓	
	✓	Schedule_Default		✓	
	✓	List_Of_Object_Property_References		✓	
	✓	Priority_For_Writing		✓	
		Status_Flags			
		Reliability			
	✓	Out_Of_Service		✓	
		Property_List			
	✓	(512) Polled_Update (Boolean value)	✓	✓	writes Present Value every minute
Calendar	✓	Object_Identifier			
	✓	Object_Name			
		Object_Type			
	✓	Description	✓	✓	max 100 characters
		Present_Value			
	✓	Date_List		✓	
		Property_List			

Object Type	Dynamic Create	Property	Optional	Writable	Range Restriction
Notification	✓	Object_Identifier			
Class	✓	Object_Name			
		Object_Type			
	✓	Description	✓	✓	max 100 characters
		Notification_Class			
	✓	Priority		✓	
	✓	Ack_Required		✓	
	✓	Recipient_List		✓	
		Property_List			
Event	✓	Object_Identifier			
Enrollment	✓	Object_Name			
		Object_Type			
	✓	Description	✓	✓	max 100 characters
		Event_Type			
	✓	Notify_Type		✓	
	✓	Event_Parameters		✓	
	✓	Object_Property_Reference		✓	
		Event_State			
	✓	Event_Enable		✓	
		Acked_Transitions			
	✓	Notification_Class		✓	
		Event_Time_Stamps			
	✓	Event_Detection_Enable		✓	
		Status_Flags			
		Reliability			
		Fault_Type	✓		
	✓	Fault_Parameters	✓	✓	
		Property_List			
	✓	(513) Email_Transition_Enabled (BACnetEventTransitionBits)	✓	✓	
Trend Log	✓	Object_Identifier			
	✓	Object_Name			
		Object_Type			
	✓	Description	✓	✓	max 100 characters
	✓	Enable		✓	
	✓	Start_Time	✓	✓	
	✓	Stop_Time	✓	✓	
	✓	Log_DeviceObjectProperty	✓	✓	
	✓	Log_Interval	✓	✓	
	✓	COV_Resubscription_Interval	✓	✓	min 60 seconds
	✓	Client_COV_Increment	✓	✓	
	✓	Stop_When_Full		✓	
	✓	Buffer_Size		✓	max combined 100000 records
		Log_Buffer			
		Record_Count		✓	0
		Total_Record_Count			
	✓	Logging_Type		✓	Polling / COV
		Status_Flags			
		Reliability	✓		
	✓	Notification_Threshold	✓	✓	
		Records_Since_Notification	✓		
		Last_Notify_Record	✓		
		Event_State			
	✓	Notification_Class	✓	✓	
	✓	Event_Enable	✓	✓	
		Acked_Transitions	✓		

Object Type	Dynamic Create	Property	Optional	Writable	Range Restriction
	✓	Notify_Type	✓	✓	
		Event_Time_Stamps	✓		
	✓	Event_Detection_Enable	✓	✓	
		Property_List			
Analog		Object_Identifier			
Input		Object_Name			
		Object_Type			
		Present_Value		✓	writable when Out_Of_Service
		Description	✓	✓	max 100 characters
		Status_Flags			
		Event_State			
		Reliability	✓		
		Out_Of_Service		✓	
		Units			
		Min_Pres_Value	✓	✓	
		Max_Pres_Value	✓	✓	
		Resolution	✓		
		COV_Increment	✓	✓	
		Time_Delay	✓	✓	
		Notification_Class	✓	✓	
		High_Limit	✓	✓	
		Low_Limit	✓	✓	
		Deadband	✓	✓	
		Limit_Enable	✓	✓	
		Event_Enable	✓	✓	
		Acked_Transitions	✓		
		Notify_Type	✓	✓	
		Event_Time_Stamps	✓		
		Event_Detection_Enable	✓	✓	
		Property_List			
		(513) Email_Transition_Enabled (BACnetEventTransitionBits)	✓	✓	
Analog		Object_Identifier			
Value		Object_Name			
		Object_Type			
		Present_Value		✓	Instance dependent and ranged between Min/Max_Pres_Value
		Description	✓	✓	max 100 characters
		Status_Flags			
		Event_State			
		Reliability	✓		
		Out_Of_Service		✓	
		Units			
		Min_Pres_Value	✓	✓	
		Max_Pres_Value	✓	✓	
		Resolution	✓		
		Priority_Array (if commandable)	✓		
		Relinquish_Default (if commandable)	✓		
		COV_Increment	✓	✓	
		Time_Delay	✓	✓	
		Notification_Class	✓	✓	
		High_Limit	✓	✓	
		Low_Limit	✓	✓	
		Deadband	✓	✓	
		Limit_Enable	✓	✓	

Object Type	Dynamic Create	Property	Optional	Writable	Range Restriction
		Event_Enable	✓	✓	
		Acked_Transitions	✓		
		Notify_Type	✓	✓	
		Event_Time_Stamps	✓		
		Event_Detection_Enable	✓	✓	
		Property_List			
		(513) Email_Transition_Enabled (BACnetEventTransitionBits)	✓	✓	
Analog		Object_Identifier			
Output		Object_Name			
		Object_Type			
		Present_Value		✓	ranged between Min/Max_Pres_Value
		Description	✓	✓	max 100 characters
		Status_Flags			
		Event_State			
		Reliability	✓		
		Out_Of_Service		✓	
		Units			
		Min_Pres_Value	✓	✓	
		Max_Pres_Value	✓	✓	
		Resolution	✓		
		Priority_Array			
		Relinquish_Default			
		COV_Increment	✓	✓	
		Time_Delay	✓	✓	
		Notification_Class	✓	✓	
		High_Limit	✓	✓	
		Low_Limit	✓	✓	
		Deadband	✓	✓	
		Limit_Enable	✓	✓	
		Event_Enable	✓	✓	
		Acked_Transitions	✓		
		Notify_Type	✓	✓	
		Event_Time_Stamps	✓		
		Event_Detection_Enable	✓	✓	
		Property_List			
		(513) Email_Transition_Enabled (BACnetEventTransitionBits)	✓	✓	
Binary		Object_Identifier			
Input		Object_Name			
		Object_Type			
		Present_Value		✓	writable when Out_Of_Service
		Description	✓	✓	max 100 characters
		Status_Flags			
		Event_State			
		Reliability	✓		
		Out_Of_Service		✓	
		Polarity			
		Inactive_Text	✓		
		Active_Text	✓		
		Change_Of_State_Time	✓		
		Change_Of_State_Count	✓	✓	0
		Time_Of_State_Count_Reset	✓		
		Elapsed_Active_Time	✓	✓	0
		Time_Of_Active_Time_Reset	✓		

Object Type	Dynamic Create	Property	Optional	Writable	Range Restriction
		Time_Delay	✓	✓	
		Notification_Class	✓	✓	
		Alarm_Value	✓	✓	
		Event_Enable	✓	✓	
		Acked_Transitions	✓		
		Notify_Type	✓	✓	
		Event_Time_Stamps	✓		
		Event_Detection_Enable	✓	✓	
		Property_List			
		(513) Email_Transition_Enabled (BACnetEventTransitionBits)	✓	✓	
Binary		Object_Identifier			
Value		Object_Name			
		Object_Type			
		Present_Value		✓	Instance dependent
		Description	✓	✓	max 100 characters
		Status_Flags			
		Event_State			
		Reliability	✓		
		Out_Of_Service		✓	
		Inactive_Text	✓		
		Active_Text	✓		
		Change_Of_State_Time	✓		
		Change_Of_State_Count	✓	✓	0
		Time_Of_State_Count_Reset	✓		
		Elapsed_Active_Time	✓	✓	0
		Time_Of_Active_Time_Reset	✓		
		Priority_Array (if commandable)	✓		
		Relinquish_Default (if commandable)	✓		
		Time_Delay	✓	✓	
		Notification_Class	✓	✓	
		Alarm_Value	✓	✓	
		Event_Enable	✓	✓	
		Acked_Transitions	✓		
		Notify_Type	✓	✓	
		Event_Time_Stamps	✓		
		Event_Detection_Enable	✓	✓	
		Property_List			
		(513) Email_Transition_Enabled (BACnetEventTransitionBits)	✓	✓	
Binary		Object_Identifier			
Output		Object_Name			
		Object_Type			
		Present_Value		✓	
		Description	✓	✓	max 100 characters
		Status_Flags			
		Event_State			
		Reliability	✓		
		Out_Of_Service		✓	
		Polarity			
		Inactive_Text	✓		
		Active_Text	✓		
		Change_Of_State_Time	✓		
		Change_Of_State_Count	✓	✓	0
		Time_Of_State_Count_Reset	✓		
		Elapsed_Active_Time	✓	✓	0
		Time_Of_Active_Time_Reset	✓		

Object Type	Dynamic Create	Property	Optional	Writable	Range Restriction
		PriorityArray			
		RelinquishDefault			
		Time_Delay	✓	✓	
		Notification_Class	✓	✓	
		FeedbackValue	✓		
		Event_Enable	✓	✓	
		Acked_Transitions	✓		
		Notify_Type	✓	✓	
		Event_Time_Stamps	✓		
		Event_Detection_Enable	✓	✓	
		Property_List			
		(513) Email_Transition_Enabled (BACnetEventTransitionBits)	✓	✓	
Multi State		Object_Identifier			
Input		Object_Name			
		Object_Type			
		Present_Value		✓	writable when Out_Of_Service
		Description	✓	✓	max 100 characters
		Status_Flags			
		Event_State			
		Reliability	✓		
		Out_Of_Service		✓	
		Number_Of_States			
		State_Text	✓		
		Time_Delay	✓	✓	
		Notification_Class	✓	✓	
		Alarm_Values	✓	✓	
		Fault_Values	✓	✓	
		Event_Enable	✓	✓	
		Acked_Transitions	✓		
		Notify_Type	✓	✓	
		Event_Time_Stamps	✓		
		Event_Detection_Enable	✓	✓	
		Property_List			
		(513) Email_Transition_Enabled (BACnetEventTransitionBits)	✓	✓	
Multi State		Object_Identifier			
Value		Object_Name			
		Object_Type			
		Present_Value		✓	Instance dependent
		Description	✓	✓	max 100 characters
		Status_Flags			
		Event_State			
		Reliability	✓		
		Out_Of_Service		✓	
		Number_Of_States			
		State_Text	✓		
		Priority_Array (if commandable)	✓		
		Relinquish_Default (if commandable)	✓		
		Time_Delay	✓	✓	
		Notification_Class	✓	✓	
		Alarm_Values	✓	✓	
		Fault_Values	✓	✓	
		Event_Enable	✓	✓	
		Acked_Transitions	✓		
		Notify_Type	✓	✓	

Object Type	Dynamic Create	Property	Optional	Writable	Range Restriction
		Event_Time_Stamps	✓		
		Event_Detection_Enable	✓	✓	
		Property_List			
		(513) Email_Transition_Enabled (BACnetEventTransitionBits)	✓	✓	
Multi State		Object_Identifier			
Output		Object_Name			
		Object_Type			
		Present_Value		✓	
		Description	✓	✓	max 100 characters
		Status_Flags			
		Event_State			
		Reliability	✓		
		Out_Of_Service		✓	
		Number_Of_States			
		State_Text	✓		
		PriorityArray			
		RelinquishDefault			
		Time_Delay	✓	✓	
		Notification_Class	✓	✓	
		FeedbackValue	✓		
		Event_Enable	✓	✓	
		Acked_Transitions	✓		
		Notify_Type	✓	✓	
		Event_Time_Stamps	✓		
		Event_Detection_Enable	✓	✓	
		Property_List			
		(513) Email_Transition_Enabled (BACnetEventTransitionBits)	✓	✓	

Data Link Layer Options:

■ BACnet IP, (Annex J)
☐ BACnet IP, (Annex J), BACnet Broadcast Management Device (BBMD)
☐ 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): 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:

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:
☐ Annex H, BACnet Tunneling Router over IP

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