MNB-70, MNB-300
MNB-V1, MNB-V2

BACnet Protocol Implementation Conformance Statement

Date: August 9, 2007
Vendor Name: TAC
Product Name: I/A Series® MicroNet™ BACnet™ Application Specific Controllers
Product Model Number: MNB-70, MNB-300, MNB-V1, MNB-V2
Applications Software Version: N/A
Firmware Revision: 1.41
BACnet Protocol Revision: 4

Product Description

The I/A Series MicroNet BACnet Application Specific Controllers are three to 15 point HVAC equipment controllers. The MNB-70 is designed for use with unit heat, cabinet heat, fan coil, small unit vent, heat pumps, and single or dual loop control strategies. The MNB-300 is a modular controller for use with air handler, unit vent, heat pump, and fan coil applications. The MNB-V1 and MNB-V2 are over-the-shaft mount VAV controllers incorporating an integral actuator, pressure transducer, controller, S-Link sensor support, and physical inputs and outputs.

MNB-70 – 3 universal inputs, 1 universal output, 3 triac outputs, S-Link sensor support

MNB-300 – 6 universal inputs, 3 universal outputs, 6 triac outputs, S-Link sensor support

MNB-V1 – 3 universal inputs, S-Link sensor support

MNB-V2 – 3 universal inputs, 1 universal output, 3 triac outputs, S-Link sensor support

BACnet Standardized Device Profile (Annex L)

☐ **BACnet Operator Workstation (B-OWS)**

☐ **BACnet Building Controller (B-BC)**

☐ **BACnet Advanced Application Controllers (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)

DS-RP-A	DS-RP-B	DS-RPM-B	DS-WP-B	DS-WPM-B	DS-COV-A
DS-COV-B	DM-DDB-B	DM-DOB-B	DM-DCC-B	DM-RD-B	

Segmentation Capability

☐ **Able to transmit segmented messages** **Window Size:** N/A

☐ **Able to receive segmented messages** **Window Size:** N/A

Standard Object Types Supported

Data Sharing Objects

Object Type[a]	Optional Properties		Writable Properties	Proprietary Properties				Property Range Restrictions		
				Property Name	ID	Datatype	Use	Property Name	Minimum Value	Maximum Value
Analog Input	Device_Type Reliability	COV_Increment Profile_Name	Present_Value Out_Of_Service COV_Increment	Range_Minimum	801	Real	Indicate the range of Present_Value as a function of Device_Type	Present_Value	Range_Minimum	Range_Maximum
				Range_Maximum	802	Real		COV_Increment	0	16,383
								all other numeric	-163.83	16,383
Analog Output	Device_Type Reliability	COV_Increment Profile_Name	Present_Value COV_Increment	Range_Minimum	801	Real	Indicate the range of Present_Value as a function of Device_Type	Present_Value	Range_Minimum	Range_Maximum
				Range_Maximum	802	Real		COV_Increment	0	16,383
								all other numeric	-163.83	16,383
Analog Value	Reliability Priority_Array[b] Relinquish_Default[b]	COV_Increment[b] Profile_Name	Present_Value[c] Out_Of_Service[c] Relinquish_Default[b] COV_Increment[c] COV_Lifetime[b] COV_Server_Device[b] COV_Server_Object[b] COV_Notify_Type[b] Proprietary_812[b]	Range_Minimum	801	Real	Indicate the range of Present_Value as a function of the HVAC application	Present_Value	Range_Minimum	Range_Maximum
				Range_Maximum	802	Real		COV_Increment	0	16,383
								COV_Lifetime	1	2000
				COV_Lifetime	805	Unsigned	COV Lifetime in minutes	COV_Server_Device	0	4194302
				COV_Server_Device	806	Unsigned	COV server device instance	all other numeric	-163.83	16,383
				COV_Server_Object	807	BACnetObjectIdentifier	COV server object ID			
				COV_Notify_Type	808	Boolean	COV notification type			
				Proprietary_809	809	Unsigned	COV diagnostic values			
				Proprietary_810	810	Unsigned				
				Proprietary_811	811	Unsigned				
				Proprietary_812	812	Unsigned				
Binary Input	Device_Type Reliability Inactive_Text	Active_Text Profile_Name	Present_Value Out_Of_Service	None				None		
Binary Output	Device_Type Reliability Inactive_Text	Active_Text Profile_Name	Present_Value	None				None		
Binary Value	Reliability Inactive_Text Active_Text	Profile_Name Priority_Array[b] Relinquish_Default[b]	Present_Value[c] Out_Of_Service[c] Relinquish_Default[b] COV_Lifetime[b] COV_Server_Device[b] COV_Server_Object[b] COV_Notify_Type[b] Proprietary_812[b]	COV_Lifetime	805	Unsigned	COV Lifetime in minutes	COV_Lifetime	1	2000
				COV_Server_Device	806	Unsigned	COV server device instance	COV_Server_Device	0	4194302
				COV_Server_Object	807	BACnetObjectIdentifier	COV server object ID			
				COV_Notify_Type	808	Boolean	COV notification type			
				Proprietary_809	809	Unsigned	COV diagnostic values			
				Proprietary_810	810	Unsigned				
				Proprietary_811	811	Unsigned				
				Proprietary_812	812	Unsigned				
File	Description Record_Count		Archive Record_Count[c]	None				None		
Multi-state Output	Reliability State_Text Profile_Name	Priority_Array[b] Relinquish_Default[b]	Present_Value	None				None		
Multi-state Value	Reliability State_Text	Profile_Name	Present_Value[c]	None				None		

a.Objects are not dynamically creatable or deletable.
b.Property does not exist in all instances of the object.
c.Property is not writable in all instances of the object.

Device Object

Object Type	Optional Properties	Writable Properties	Proprietary Properties					
			Property Name	ID	Datatype	Access	Use	Property Range Restrictions
Device	Location Max_Master Max_Info_Frames Active_COV_ Subscriptions	Location[a] APDU_Timeout Number_Of_ APDU_Retries Max_Master Max_Info_Frames	UID_Number	900	Octet String	Read only	Device serial number	8 octets
			UID_Wink	901	Unsigned	Read/write	Flashes an LED for the number of seconds written to confirm the identity of a device.	0-255
			AutoBaud_Timeout	920	Unsigned	Read/write	Controls baud rate selection at startup.	0-10,000
			Lurk_Timeout	921	Unsigned	Read/write	Used to synchronize baud rate changeover.	0-10,000
			Lurk_Mode	922	Unsigned	Read/write	Used to synchronize baud rate changeover.	0-5
			Default_Baud_Rate	924	Unsigned	Read/write	Controls baud rate selection at startup.	0-4
			Prorietary_Object_ID	940	BACnetObjectIdentifier	Read/write	Used to set the instance number of the device object.	N/A
			Proprietary_Object_Name	941	Character String	Read/write	Used to set the Object_Name of the device object.	20 characters max.
			Active_Baud_Rate	950	Unsigned	Read only	Active baud rate indication enumeration	0-4
			Start_Up_Delay	951	Unsigned	Read/write	Controls physical output startup delay	0-16,383
			Hide_Background_Objects	952	Unsigned	Read/write	A value of >0 disables I/O point configuration objects and removes them from the object list.	0-255
			Comm_Req_StartUp_Delay	955	Unsigned	Read/write	Controls communication startup delay.	0-1000
			AO_CAL	960	Octet string	Read only	Analog output calibration values	8 octets
			Low_Range_Pressure_Cal[b]	961	Unsigned	Read only	Pressure transducer calibration value	N/A
			High_Range_Pressure_Cal[b]	962	U nsigned	Read only	Pressure transducer calibration value	N/A
			Diagnostics	999	Unsigned	Read only	I/A series diagnostics bit flags	0-65,535
			Flow_Balance_Mode[b]	1000	Unsigned	Read/write	Flow balance mode	0-6
			Flow_Balance_RatedFlowAt1inWC[b]	1001	Unsigned	Read/write	Rated box flow at 1 inWC	0-16,383
			Flow_Balance_MaxFlowSP[b]	1002	Unsigned	Read/write	Maximum flow setpoint	0-16,383
			Flow_Balance_MinFlowSP[b]	1003	Unsigned	Read/write	Minimum flow setpoint	0-16,383
			Flow_Balance_MaxFlowCal[b]	1004	Unsigned	Read/write	Measured flow at maximum flow setpoint	0-16,383
			Flow_Balance_MinFlowCal[b]	1005	Unsigned	Read/write	Measured flow at minimum flow setpoint	0-16,383
			Flow_Balance_ReheatSP[b]	1006	Unsigned	Read/write	Reheat flow setpoint	0-16,383
			Flow_Balance_ReheatCal[b]	1007	Unsigned	Read/write	Measured flow at reheat flow setpoint	0-16,383
			Flow_BalanceTimeStamp_Date[b]	1008	Date	Read/write	Date flow balance operation performed	N/A
			Flow_BalanceTimeStamp_Time[b]	1009	Time	Read/write	Time flow balance operation performed	N/A
			DIP_Switch	1201	Unsigned	Read only	MS/TP DIP switch setting	0-255
			Bootloader_ Version	1300	Character String	Read only	Bootloader version string	13 characters
			Channel_Signature	1301	Octet string	Read/write	Sales channel identifier	15 octets

a.Limited to a maximum of 20 characters.
b.Not supported in MNB-70 or MNB-300.

Data Link Layer Options

☐ **BACnet IP, (Annex J)**

☐ **Able to register as a Foreign Device**

☐ **ISO 8802-3, Ethernet (Clause 7)**

☐ **ANSI/ATA 878.1, 2.5 Mb. ARCNET (Clause 8)**

☐ **ANSI/ATA 878.1, RS-485 ARCNET (Clause 8), baud rate(s):** _____

■ **MS/TP master (Clause 9), baud rate(s):** 9.6k, 19.2k, 38.4k, 76.8k bps

☐ **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., Ethernet-MS/TP, etc.:** None

☐ **Annex H.3, BACnet Tunneling Router over UDP/IP**

☐ **BACnet/IP Broadcast Management Device (BBMD)**

Does the BBMD support registrations by Foreign Devices? ☐ Yes ☐ No ■ N/A

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 (ICS-4)	☐ JIS C 6226

Non-BACnet Equipment and Network(s) Supported

If this product is a communication gateway, describe the non-BACnet equipment and network(s) that the gateway supports:

None.

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