



T7600 Thermostat Series BACnet Protocol Implementation Conformance Statement



Date: June 22, 2005

Vendor Name: Viconics Electronics Inc.

Product Name: T7600 Thermostat Series

Product Model Number: T7600A1000B, T7600B1000B, T7605B1000B, T7600H1000B, T7652A1000B, T7652B1000B, T7656B1000B and T7652H1000B.

Product Description:

The T7600 series BACnet communicating single stage and multi-stage communicating thermostat has been specifically designed to control packaged and split HVAC equipment on a BACnet MS-TP® network.

MS/TP EIA-485 Characteristics

Parameter	Details
Media	Shielded, twisted pair
Characteristic Impedance	100-130 ohms
Distributed capacitance	Less than 100 pF per metre (30 pF per foot)
Maximum length per segment	1200 metres (4000 feet) Note: AWG 18 cable
Polarity	Polarity sensitive
Multi-drop	Daisy-chain (no T connections)
Terminations	120 ohms at each end of each segment
Network Bias Resistors	510 ohms per wire (max. of two sets per segment)
Maximum number of nodes per segment	32
Maximum number of nodes per network	255 *
Baud rate	9600, 19200, 38400, 76800
Default baud rate	9600

* BACnet MSTP supports only 128 nodes as masters.

Supported BACnet Services

The BACnet communicating thermostat meets all requirements for designation as an Application Specific Controller (B-ASC). The BACnet thermostat series supports the following BACnet Interoperability Building Blocks (BIBBs).

Application Service	Designation
Data Sharing – Read Property - B	DS-RP-B
Data Sharing – Read Property Multiple - B	DS-RPM-B
Data Sharing – Write Property - B	DS-WP-B
Device Management – Device Communication Control - B	DM-DCC-B
Device Management – Dynamic Device Binding - B	DM-DDB-B
Device Management – Dynamic Object Binding - B	DM-DOB-B

Note 1: The Thermostat does not support the full date therefore it cannot claim conformance to DM-TS-B. The local thermostat does not have the Local_Time or Local_Date properties.

Note 2: The thermostat does not support segmented requests or responses.

Object Table and Types Supported:

Object Name	Type and Instance	Object Property	Thermostat Parameter							
T7600	Device	Model_Name	Thermostat model number							
		Application_Software_Version	Thermostat version							
		Major_Version	N/A							
		MS/TP_Address	BACnet Address							
		MS/TP_Baud_Rate	N/A							
Object Name	Type and Instance	Object Property	T7600A1000B	T7600B1000B	T7605B1000B	T7600H1000B	T7652A1000B	T7652B1000B	T7656B1000B	T7652H1000B
Room Temperature	AV 7	Present_Value	√	√	√	√	√	√	√	√
Room Temp Override	BV 8	Present_Value	√	√	√	√	√	√	√	√
Outdoor Temperature	AV 9	Present_Value	√	√	√	√	√	√	√	√
Outdoor Temp Override	BV 10	Present_Value	√	√	√	√	√	√	√	√
System Mode	MSV 13	Present_Value	√	√	√	√	√	√	√	√
Fan Mode	MSV 14	Present_Value	√	√	√	√	√	√	√	√

Object Name	Type and Instance	Object Property	T7600A1000B	T7600B1000B	T7605B1000B	T7600H1000B	T7652A1000B	T7652B1000B	T7656B1000B	T7652H1000B
Control Output	Group	Present_Value	√	√	√	√	√	√	√	√
PI Heating Demand	AV 18	Present_Value	√	√	√	√	√	√	√	√
PI Cooling Demand	AV 19	Present_Value	√	√	√	√	√	√	√	√
Economizer Output	AV 20	Present_Value			√				√	
Supply Temperature	AI 15	Present_Value			√				√	
Controller Status	Group	Present_Value	√	√	√	√	√	√	√	√
AUX	BI 22	Present_Value					√	√	√	√
G Fan	BI 23	Present_Value	√	√	√	√	√	√	√	√
Y1 Cool	BI 24	Present_Value	√	√	√	√	√	√	√	√
Y2 Cool	BI 25	Present_Value		√	√	√		√	√	√
W1 Heat	BI 26	Present_Value	√	√	√	√	√	√	√	√
W2 Heat or Reversing Valve	BI 27	Present_Value		√	√	√		√	√	√
DI 1 Status	BI 29	Present_Value	√	√	√	√	√	√	√	√
DI 2 Status	BI 30	Present_Value	√	√	√	√	√	√	√	√
Controller Alarms	Group	Present_Value	√	√	√	√	√	√	√	√
Frost Alarm	BI 32	Present_Value	√	√	√	√	√	√	√	√
Clock Alarm	BI 33	Present_Value	√	√	√	√	√	√	√	√
Filter Alarm	BI 34	Present_Value	√	√	√	√	√	√	√	√
Service Alarm	BI 35	Present_Value	√	√	√	√	√	√	√	√

Object Name	Type and Instance	Object Property	T7600A1000B	T7600B1000B	T7605B1000B	T7600H1000B	T7652A1000B	T7652B1000B	T7656B1000B	T7652H1000B
Temperature Setpoints	Group	Present_Value	√	√	√	√	√	√	√	√
Occupied Heat Setpoint	AV 37	Present_Value	√	√	√	√	√	√	√	√
Occupied Cool Setpoint	AV 38	Present_Value	√	√	√	√	√	√	√	√
Unoccupied Heat Setpoint	AV 39	Present_Value	√	√	√	√	√	√	√	√
Unoccupied Cool Setpoint	AV 40	Present_Value	√	√	√	√	√	√	√	√
Keypad Lockout	MSV 16	Present_Value	√	√	√	√	√	√	√	√
General Options 1	Group	Present_Value	√	√	√	√	√	√	√	√
Temperature Scale	BV 42	Present_Value	√	√	√	√	√	√	√	√
Heating Setpoint Limit	AV 43	Present_Value	√	√	√	√	√	√	√	√
Cooling Setpoint Limit	AV 44	Present_Value	√	√	√	√	√	√	√	√
Heating Lockout Temperature	AV 45	Present_Value	√	√	√	√	√	√	√	√
Cooling Lockout Temperature	AV 46	Present_Value	√	√	√	√	√	√	√	√
Deadband	AV 47	Present_Value	√	√	√	√	√	√	√	√
Heating CPH	MSV 48	Present_Value	√	√	√	√	√	√	√	√
Cooling CPH	MSV 49	Present_Value	√	√	√	√	√	√	√	√
Frost Protection	BV 50	Present_Value	√	√	√	√	√	√	√	√

Object Name	Type and Instance	Object Property	T7600A1000B	T7600B1000B	T7605B1000B	T7600H1000B	T7652A1000B	T7652B1000B	T7656B1000B	T7652H1000B
General Options 2	Group	Present_Value	√	√	√	√	√	√	√	√
Power-up Delay	AV 52	Present_Value	√	√	√	√	√	√	√	√
Temporary Occupancy Time	MSV 53	Present_Value	√	√	√	√	√	√	√	√
Fan Control	BV 54	Present_Value	√	√	√	√	√	√	√	√
Min. On/Off Time	MSV 55	Present_Value	√	√	√	√	√	√	√	√
Fan Purge Delay	BV 56	Present_Value	√	√	√	√	√	√	√	√
DI 1 Configuration	MSV 57	Present_Value	√	√	√	√	√	√	√	√
DI 2 Configuration	MSV 58	Present_Value	√	√	√	√	√	√	√	√
Program Options	Group	Present_Value					√	√	√	√
Aux Contact	BV 60	Present_Value					√	√	√	√
Progressive Recovery	BV 61	Present_Value					√	√	√	√
Event Display	MSV 62	Present_Value					√	√	√	√
Stages	Group	Present_Value		√	√	√		√	√	√
Heating Stages	MSV 64	Present_Value		√	√	√		√	√	√
Cooling Stages or Heat Pump Stages	MSV 65	Present_Value		√	√	√		√	√	√
Economizer	Group	Present_Value			√				√	
Economizer Changeover Setpoint	AV 68	Present_Value			√				√	
Economizer Minimum Position	AV 69	Present_Value			√				√	
Mechanical Cooling	BV 70	Present_Value			√				√	
Mixed Air Setpoint	AV 71	Present_Value			√				√	

Object Name	Type and Instance	Object Property	T7600A1000B	T7600B1000B	T7605B1000B	T7600H1000B	T7652A1000B	T7652B1000B	T7656B1000B	T7652H1000B
Heat Pump	Group	Present_Value				√				√
High Balance Point	AV 73	Present_Value				√				√
Low Balance Point	AV 74	Present_Value				√				√
Comfort Mode	BV 75	Present_Value				√				√
Reversing Valve	BV 76	Present_Value				√				√
Compressor Interlock	BV 77	Present_Value				√				√
Occupancy	MSV 11	Present_Value	√	√	√	√	√	√	√	√
Schedule	Schedule 1	Present_Value					√	√	√	√
		Weekly_Schedule	Occupancy Status							
			Monday							
			Tuesday							
			Wednesday							
			Thursday							
			Friday							
			Saturday							
			Sunday							

- The Weekly_Schedule property will contain all the schedules for the week.