ExactLogic BACnet Communicating Thermostat
EXL01642 Sequence Datasheet

Unit Heaters/Cabinet Unit Heaters/Infloor Heat

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DataSheet Rev 1.20.001/4.0
October 9, 2023

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Operating Sequence

Standard Occupied

During normal occupied operation the display will show the current room temperature. The first press of either right pair of keys will show the current room setpoint. Additional presses will adjust the setpoint up or down by 0.5 degrees. The thermostat keypad will time out after 5 seconds without a key press, and the display will switch back to displaying the room temperature.

The left pair of keys allows for the adjustment of the fan speed. The current mode is shown with the first key press; additional key presses will show the adjustment to the mode. AV-62 is used to select the number of fan speeds, and AV-63 will show what speed the fan is currently set to. The table below will illustrate what values of AV-62 and AV-63 correspond to the fan speed a desired fan speed selection.

AV-62	Mode
0	AUTO Only
1	AUTO-ON
2	OFF-AUTO-ON
3	OFF-1-2-AUTO
4	OFF-1-2-3-AUTO

AV-63	Fan Speed
0	OFF
1	Fan Speed 1
2	Fan Speed 2
3	Fan Speed 3
4	AUTO
5	ON

Internal/External Thermistor Control

The thermostat control sequence can use the internal thermistor, an external thermistor connected to AI-2, or an external network temperature written to AV-10. Setting BV-67 to OFF (default) the thermostat will use the internal thermistor. Setting BV-67 to ON the control sequence will use an external thermistor, either on AI-2 or AV-10. Setting BV-56 to OFF (default) will select the external temperature on AI-2. Setting BV-56 to ON will select the network temperature written to AV-10.

Also by setting BV-56 to ON, the thermostat can also be controlled by the lower temperature read from the internal thermistor or the external temperature selected by BV-56. Setting BV-55 to OFF (default), the thermostat will use the temperature selected by BV-67 for sequence control.

The current controlling temperature is located at AV-20. This value will be displayed on the LCD of the thermostat and should be used on any workstation displays.

Control Sequence – Digital Heat

The occupancy of the thermostat is controlled by BO-5. When active the thermostat will attempt to maintain its occupied setpoint. The deadband is controlled by the heating offset (default 1 degree). Should the room temperature get 1 degree below the current heating setpoint, the digital heat will turn on. The digital heating has a deenergized or energized output for heating. BO-1 is the deenergized output, and BO-2 is the energized output.

All outputs can be disabled by setting BV-66 ON, or by OSA Lockout. The OSA Lockout Setpoint is AV-49.

Note: Digital heat outputs have a 180 second ON/OFF anti-short cycle.

Control Sequence – Analog Heat

The occupancy of the thermostat is controlled by BO-5. When active the thermostat will attempt to maintain its occupied setpoint. The deadband is controlled by the heating offset (default 1 degree). The analog control signal is used to modulate two analog outputs. AO-0 is a 0-10V output, and AO-1 is a 10-0V output. There is also a PO/PC digital output on BO-3 and BO-4.

InFloor Select Mode
This mode is used for any infloor heating application. When the Infloor Select (BV-60) is ON, the high limit of the heating signal used to control the analog outputs and the PO/PC outputs, can be lowered below 100%. This is done by a PI controller using the HWS High Limit (AV-56) and the HWS Temperature (AI-4).

The InFloor Select Mode can also be used to control an infloor pump, on BO-0. BV-60 must be set to ON for use with an infloor pump. The infloor pump can be turned on by and OSA Enable or a Digital/Analog heating call. The Tstat Operating Mode (BV-61) set to ON will select the OSA Enable, OFF selects cycle with Digital/Analog Heating call.

Normal Mode
This mode is used for all other heating applications. This mode is selected by setting the Infloor Select (BV-60) OFF. The heating signal will modulate from 0-100% based on space temperature.

In the Normal Mode, BO-0 is used to control a fan. BV-60 must be set to OFF for use with a fan. The Tstat Operating Mode (BV-61) set to ON will select the fan to start based HWR/DAT Enable, OFF the fan will start based on the Digital/Analog Heating signal.

The analog outputs output voltage can be scaled using AV-40 through AV-43. This allows for 2-10V and 0-5V analog outputs.

All outputs can be disabled by setting BV-66 ON, or by Return Water Temp Lockout. The Return Water Temp Lockout Setpoint is AV-49.

Minimum Valve Position Mode
The Minimum Position Mode (BV-24), can be enabled using an OSA Enable Setpoint, (AV-47). Each analog output has its own minimum position and each can be individually enabled. This allows for the outputs to be used for multiple applications without having all the outputs commanded to the same position. The output enables are located at BV-52/53/54, and the minimum positions can be set at AV-36/37/38. If the OSA Temperature is above the Enable Setpoint and minimum position is enabled on the output, then the analog output will be commanded to its minimum position or the Current Heating Setpoint controlled PI signal whichever is higher.

Flush Valve Mode
The analog outputs can be commanded to 100% by setting BV-29 ACTIVE. The valves will be commanded 100% open until the Flush Command at BV-29 is set back INACTVE.

Fan Control

This thermostat has only one fan speed. This leaves mode 0 and 1 (AV-62) the only applicable fan speeds for this application. When the fan speed is in AUTO, the thermostat will turn on the fan based on the heating signal, HWR/DAT enable, or Digital/Analog Heating Status. The fan will also start with a Fan Operating Mode set to Continuous, via BV-69.

Standard Unoccupied

During unoccupied operation the thermostat will continue to display the room temperature. When in an unoccupied state pressing one of the right pair of keys will display a message indicating the thermostat is in night mode, preventing the setpoint from being adjusted. To adjust the room setpoint when unoccupied the thermostat must be set to night override.

Control Sequence

When the occupancy is in the unoccupied condition, the room will be controlled by the unoccupied heating setpoint. The fan and heating stage will operate the same as the occupied control sequence.

Night Override

Set the night override by pressing one of the left pair of keys. The display will switch to allow the user to set the night override time. Additional presses of the keys will adjust the time up or down by 0.5 hour increments. The night override can be increase by the keypad up to the override limit set at AV-73, the default is 5 hours. When the thermostat is in night override, the first press of one of the left pair of keys will display the override time remaining. Additional key presses will add/subtract 0.5 hours to the time that was remaining. When the timer reaches zero the thermostat will reenter unoccupied mode.

Once the thermostat has entered the night override mode, the right pair of keys can be used to adjust the room setpoint. The thermostat keypad will time out after 5 seconds without a key press, and the display will switch back to displaying the room temperature.

The thermostat can be set into a night override by writing a value to AV-74 from a Workstation. The value can not exceed the night override limit set at AV-73. If the night override time is set higher than the limit, the night override timer will be set the limit. The night override limit default is 5 hours.

If the thermostat is command occupied while in night override, the override timer will be cleared to zero and the thermostat will enter a normal occupied mode.

Control Sequence

When the thermostat is in the override mode, the room will be controlled by the occupied heating setpoint. The fan and heating stage will operate the same as the occupied control sequence.

Note: There is no fan control in the override mode. The fan will run in the AUTO mode.

Motion/Humidity Option Card

The Motion/Humidity Option Card can be used for Motion Only, Humidity Only, or Motion/Humidity together. In order to use the Motion Sensor (either stand alone or with Humidity), BV-64 must be set to ACTIVE. The Humidity Sensor can be enabled by setting AV-31 to 4. These settings will automatically provide the required voltage to power the sensors. The motion sensor status will show on BI-1.

When the motion sensor, senses motion, it puts the unit in occupied “Active” Mode by writing to the Scheduled Occupied Command BO-5 at priority array entry 11, this will remain active until it does not see any motion for the entire duration of the time delay (AV-81 Units=seconds), it will then return to an inactive state. When the internal occupancy sensor is enabled by setting BV-64 to ACTIVE, the occupied mode is controlled only by the occupancy sensor. The optimum start warmup point, BV-41, and optimum start cooldown point, BV-42, will set the unit to the occupied mode and then return to the unoccupied mode until motion is sensed.

Humidity value is shown on AI-1. The Humidity Sensor will automatically be scaled by setting AV-31 to 4.

Disabling of the Splash, Setup Menu, or Field Service Mode

When the thermostat is installed in a public location there may be times when the setup of the thermostat will need to be disabled to prevent tenants from changing the configuration while still giving them access to change the setpoints and control after hours modes. The following points have been added to allow this:

BV-57 = Setting ACTIVE will disable the “EXACTLOGIC” splash display after key presses
BV-58 = Setting ACTIVE will disable access to the Setup Menu where the Network/MAC/Baud Rate/etc are set
BV-59 = Setting ACTIVE will disable access to the Field Service Mode where Time/Schedule/Setpoints/etc are set

Installation

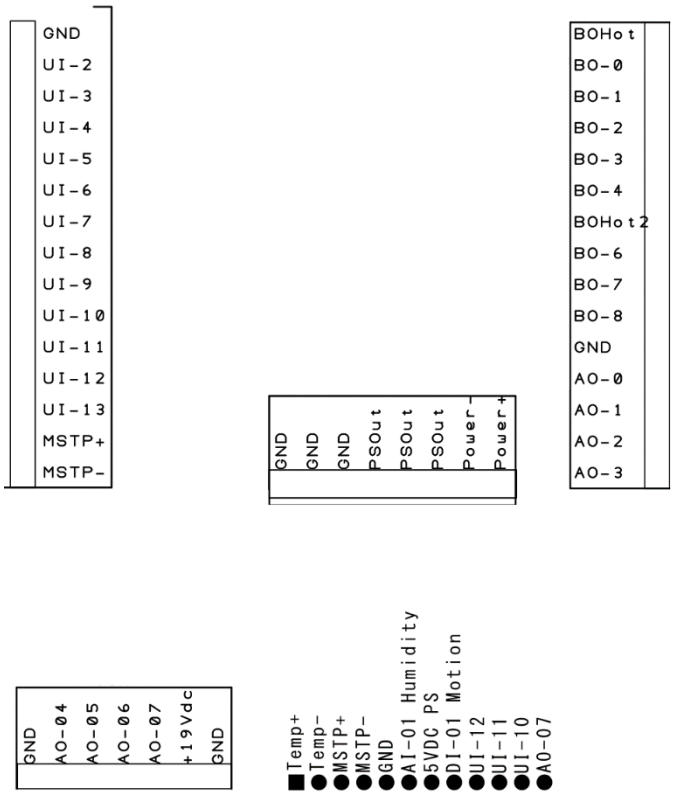

Fig. 4

*Note: Thermostat Common Relay point (BO Hot) usually 24VAC/DC or R

*Note: AI-2 through AI-5 and BI-2 through BI-5 are wired to UI-2 through UI-5. Each universal Input can only be used as an AI or a BI

GND ..... Neutral/Ground
UI-2..... Universal Input 2
UI-3..... Universal Input 3
UI-4..... Universal Input 4
UI-5..... Universal Input 5
UI-6..... Universal Input 6
UI-7..... Universal Input 7
UI-8..... Universal Input 8
UI-9..... Universal Input 9
UI-10 ..... Universal Input 10
UI-11 ..... Universal Input 11
UI-12 ..... Universal Input 12
UI-13 ..... Universal Input 13
MSTP + ... Network Line Positive
MSTP - ..... Network Line Negative

BO Hot ..... 24VAC/DC Input for Relays 1-5*
BO-0..... Relay 1 Output, 24VAC/DC
BO-1..... Relay 2 Output, 24VAC/DC
BO-2..... Relay 3 Output, 24VAC/DC
BO-3..... Relay 4 Output, 24VAC/DC
BO-4..... Relay 5 Output, 24VAC/DC
BO Hot 2 ..... 24VAC/DC Input for Relays 7-9*
BO-6..... Relay 7 Output, 24VAC/DC
BO-7..... Relay 8 Output, 24VAC/DC
BO-8..... Relay 9 Output, 24VAC/DC
GND ..... Neutral/Ground
AO-0..... Analog Output 0, 0-10V
AO-1..... Analog Output 1, 0-10V
AO-2..... Analog Output 2, 0-10V
AO-3..... Analog Output 3, 0-10V

GND ..... Neutral/Ground
GND ..... Neutral/Ground
GND ..... Neutral/Ground
PSOut..... 24VAC/DC Hot
PSOut..... 24VAC/DC Hot
PSOut..... 24VAC/DC Hot
Power - ..... Neutral/Ground
Power + ... 24VAC/DC Hot

GND ..... Neutral/Ground
AO-04..... Analog Output 4, 0-10V
AO-05..... Analog Output 5, 0-10V
AO-06..... Analog Output 6, 0-10V
AO-07..... Analog Output 7, 0-10V
+19Vdc ..... 19V DC
GND ..... Neutral/Ground

Output Wiring

Output	Function
BO0	Fan
BO1	DeEnergized Valve Command
BO2	Energized Valve Command
BO3	Floating Valve Open
BO4	Floating Valve Close
AO0	Heating 0-10 Vdc 0-100%
AO1	Heating 10-0 Vdc 0-100%

Input Wiring

Output	Function
UI2	External Space Temp
UI3	HW Return/DAT
UI4	HW Supply Temp
UI5	External Occupancy

Reserved BACnet Points

The following are points reserved by the thermostat for operation.

Analog Inputs

Instance	Object Name	Description	Read/Write	Default
AI-0	Internal Thermistor	Reading of the internal thermistor in counts. 0-1024	R	variable
AI-1	Humidity	Reading from the Humidity sensor add-on card	R	variable
AI-2	Ext. Room Temp	Optional external room temperature input	R	variable
AI-3	Return/DAT	Return/Discharge Air Temperature sensor input	R	variable
AI-4	HWS Temp	Hot Water Supply Temperature sensor	R	variable
AI-5	Analog Input 05	Reading of the external input 5 in counts. 0-1024	R	variable

Analog Outputs

Instance	Object Name	Description	Read/Write	Default
AO-0	Heat 0-10V (0-100%)	0-10V output for control of heating	R/W	0.0
AO-1	Heat 10-0V (0-100%)	10-0V output for control of heating	R/W	10.0
AO-2	Analog Output 2	Variable 0-14VDC, 150mA output	R/W	0.0

Instance	Object Name	Description	Read/Write	Default
AV-0	Mode of Operation	The mode that the thermostat is currently in. 0 = Heat Mode 1 = Cool Mode 2 = Idle 3 = Afterhours 4 = Unoccupied Idle 5 = Unoccupied Heat Mode 6 = Unoccupied Cool Mode	R	4
AV-1	Analog Value 001			
AV-2	Analog Value 002			
AV-3	Analog Value 003			
AV-4	Current Htg SP	The setpoint that controls heating. If the room temperature goes below this setpoint the thermostat will enter heating mode.	R	80.0˚F
AV-5	Current Clg SP	This point is reserved for internal thermostat use and its value cannot be changed	R	65.0°F
AV-6	Heating SP	The setpoint used for heating during occupied time. This setpoint is calculated by AV-66 (Current SP) – AV-70 (Heating Offset)	R	72.0˚F
AV-7	Cooling SP	This point is reserved for internal thermostat use and its value cannot be changed	R	0.0°F
AV-8	Heat Signal	Current heating signal as a percent	R	0%
AV-9	Reserved	This point is reserved for internal thermostat use and its value cannot be changed	R	0
AV-10	Network Temperature	Temperature used for control that is written from a different network device	R/W	0˚F
AV-11	Analog Value 011			
AV-12	Analog Value 012			
AV-13	Analog Value 013			
AV-14	Analog Value 014			
AV-15	0-10V Output Control Signal	Control signal used to command AO-0's position	R	0%
AV-16	10-0V Output Control Signal	Control signal used to command AO-1's position	R	0%
AV-17	Floating Output Control Signal	Control signal used to command the floating output position (BO-3/4)	R	0%
AV-18	Analog Value 018			
AV-19	Room Temp Hi	The higher temperature, network or internal thermistor	R	varies
AV-20	Room Temp	Selected from either AI-2 or AI-0. BV-67 is used for selection. This is the value displayed on the LCD of the thermostat and should be used to display the temperature on any workstation display.	R	varies
AV-21	Analog Value 021			
AV-22	Analog Value 022			
AV-23	Analog Value 023			
AV-24	Analog Value 024			
AV-25	Floating Valve Position	The percentage that the PO/PC valve is open.	R	0.0%
AV-26	Htg Signal Hi Limit	When in the Infloor Mode, this is the high limit of the heating signal.	R	100%

AV-27	Analog Value 027			
AV-28	Analog Value 028			
AV-29	Analog Value 029			
AV-30	AI-0 Setup	Parameter used to set the input type. 0 = counts 1 = temperature 2 = 4-20mA 3 = 0-5V 4 = 0-10V 5 = pulse	R/W	1
AV-31	AI-1 Setup	See AV-30	R/W	0
AV-32	AI-2 Setup	See AV-30	R/W	0
AV-33	AI-3 Setup	See AV-30	R/W	0
AV-34	AI-4 Setup	See AV-30	R/W	0
AV-35	AI-5 Setup	See AV-30	R/W	0
AV-36	AO-0 Minimum Position	The minimum position that output AO-0 will be commanded when enabled by BV-24 and BV-52	R/W	20%
AV-37	AO-1 Minimum Position	The minimum position that output AO-1 will be commanded when enabled by BV-24 and BV-53	R/W	20%
AV-38	Floating Valve Minimum Position	The minimum position that the floating output will be commanded when enabled by BV-24 and BV-54	R/W	20%
AV-39	Analog Value 039			
AV-40	AO-0 Max Voltage	Maximum voltage outputted on AO-0	R/W	100%
AV-41	AO-0 Min Voltage	Minimum voltage outputted on AO-0	R/W	0%
AV-42	AO-1 Max Voltage	Maximum voltage outputted on AO-1	R/W	100%
AV-43	AO-1 Min Voltage	Minimum voltage outputted on AO-1	R/W	0%
AV-44	OSA Temp Enable	Outside Air Temp enable setpoint used to turn the infloor pump on.	R/W	50˚F
AV-45	HWR/DAT Enable	Hot Water Return/Discharge Air Temp enable setpoint used to turn the fan on. This is only used in Normal Mode.	R/W	50˚F
AV-46	Analog Value 046			
AV-47	Minimum Position OSA Enable SP	Sets a minimum position for analog outputs when the OSA Temp is less than this setpoint.	R/W	40˚F
AV-48	Analog Value 048			
AV-49	Return Water Temp Lockout SP	Lockout all heating outputs when the Return Water Temp is less than is setpoint.	R/W	75˚F
AV-50	Heating Kp	Proportional Constant for the heating PI calculation	R/W	12
AV-51	Heating Ki	Integral Constant for the heating PI calculation	R/W	1
AV-52	Valve Deadband	The deadband used to determine when to open or close the valve	R/W	10%
AV-53	Valve Motor Time	The amount of time to open the valve from 0% open to 100% open	R/W	90 sec
AV-54	HWS Kp	Proportional Constant for the hot water supply PI calculation	R/W	1
AV-55	HWS Ki	Integral Constant for the hot water supply PI calculation	R/W	1
AV-56	HWS Hi Limit	High limit setpoint for the hot water supply PI control. This is only used in the Infloor Select Mode.	R/W	120˚F
AV -57	Analog Value 057			
AV-58	Reserved	This point is reserved for internal thermostat use and its value cannot be changed	R	1.6

AV-59	Pseudo Ave Time Base	Factor used to average the room temperature. A small number will allow the room temperature to change faster over time. A large number will cause the room temperature to change slower over time.	R	100
AV-60	Cal Offset	The calibration offset for the internal thermistor.	R	variable
AV-61	Reserved	This point is reserved for internal thermostat use and its value cannot be changed	R	5.0/2.5
AV-62	# of Fan Speeds	Select the number of fan speeds for a multispeed fan. 0 = Auto Only 1 = AUTO - ON 2 = Off - AUTO - ON 3 = Off-1-2-AUTO 4 = Off-1-2-3-AUTO	R/W	1
AV-63	Current Fan Speed	The fan speed the thermostat is currently running. 0 = OFF 1 = Fan Speed 1 2 = Fan Speed 2 3 = Fan Speed 3 4 = AUTO 5 = ON	R	1
AV-64	Vacant Clg SP	Used in Hotel Mode. When a room is known vacant, the setpoint can be set below the unoccupied setpoint.	R/W	85.0˚F
AV-65	Vacant Htg SP	Used in Hotel Mode. When a room is known vacant, the setpoint can be set below the unoccupied setpoint.	R/W	55.0˚F
AV-66	Room Setpoint	The occupied room setpoint	R/W	73.0˚F/23.0˚C
AV-67	Occupied Sp Hi Limit	The maximum occupied room setpoint allowed.	R/W	85.0˚F/30.0˚C
AV-68	Occupied Sp Lo Limit	The minimum occupied room setpoint allowed	R/W	55.0˚F/13.0˚C
AV-69	Reserved	This point is reserved for internal thermostat use and its value cannot be changed	R	1.0/0.5
AV-70	Htg Offset	The offset from Room Setpoint used to calculate the Occupied Heating SP	R/W	1.0˚F/0.5˚C
AV-71	Reserved	This point is reserved for internal thermostat use and its value cannot be changed	R	80.0/27.0
AV-72	Unoccupied Htg SP	The heating setpoint used when the thermostat is unoccupied.	R/W	60.0˚F/16.0˚C
AV-73	After Hours Limit	The maximum hours the thermostat is allowed to run during afterhours time. Setting this will set the thermostat to occupied operation. (0-99.9 hrs)	R/W	5.0 hrs
AV-74	After Hours Timer	The current amount of afterhours time left.	R	0.0 hrs
AV-75	Reserved	This point is reserved for internal thermostat use and its value cannot be changed	R	0
AV-76	Reserved	This point is reserved for internal thermostat use and its value cannot be changed	R	0
AV-77	Reserved	This point is reserved for internal thermostat use and its value cannot be changed	R	0
AV-78	Reserved	This point is reserved for internal thermostat use and its value cannot be changed	R	0

AV-79	Reserved	This point is reserved for internal thermostat use and its value cannot be changed	R	0
AV-80	Reserved	This point is reserved for internal thermostat use and its value cannot be changed	R	0
AV-81	Motion OFF Delay	The amount of time to delay the ON->OFF transition of the motion sensor occupied command after no motion is detected	R/W	900 sec
AV-82	Analog Value 082			
AV-83	Analog Value 083			
AV-84	Analog Value 084			
AV-100	Analog Value 100	Internal thermistor display descriptor. . The present value is automatically transferred. The AV description holds the descriptor to display.	R	variable
AV-101	Analog Value 101	Display descriptor. Transfer the value to display to the present value. The AV description holds the descriptor to display.	R/W	
AV-102	Analog Value 102	Display descriptor. Transfer the value to display to the present value. The AV description holds the descriptor to display	R/W	
AV-103	Analog Value 103	HWR/DAT display descriptor. Transfer the value to display to the present value. The AV description holds the descriptor to display	R/W	
AV-104	Analog Value 104	HWS Temp display descriptor. Transfer the value to display to the present value. The AV description holds the descriptor to display	R/W	
AV-105	Analog Value 105	Display descriptor. Transfer the value to display to the present value. The AV description holds the descriptor to display	R/W	
AV-106	Analog Value 106	Display descriptor. Transfer the value to display to the present value. The AV description holds the descriptor to display	R/W	
AV-107	Analog Value 107	Display descriptor. Transfer the value to display to the present value. The AV description holds the descriptor to display	R/W	
AV-108	Analog Value 108	Display descriptor. Transfer the value to display to the present value. The AV description holds the descriptor to display	R/W	
AV-109	Analog Value 109	Display descriptor. Transfer the value to display to the present value. The AV description holds the descriptor to display	R/W	
AV-110	Analog Value 110	Display descriptor. Transfer the value to display to the present value. The AV description holds the descriptor to display	R/W	
AV-111	Analog Value 111	Display descriptor. Transfer the value to display to the present value. The AV description holds the descriptor to display	R/W	
AV-112	Analog Value 112	Outside Air Display descriptor. Transfer the value to display to the present value. The AV description holds the descriptor to display	R/W	

Binary Inputs

Instance	Object Name	Description	Read/Write	Default
BI-0	Binary Input 00		R	
BI-1	Motion	Motion sensor status from the add-on card	R	
BI-2	Binary Input 02		R	
BI-3	Binary Input 03		R	
BI-4	Binary Input 04		R	
BI-5	Occupied Relay	Optional occupied relay	R	

Binary Outputs

Instance	Object Name	Description	Read/Write	Default
BO-0	Fan	Output for Fan Control	R/W	OFF
BO-1	DeEnergized Valve Command	Output is commanded INACTIVE for Heat	R/W	ON
BO-2	Energized Valve Command	Output is commanded ACTIVE for Heat	R/W	OFF
BO-3	Floating Valve Open	Open command for a PO/PC valve	R/W	OFF
BO-4	Floating Valve Close	Close command for a PO/PC valve	R/W	OFF
BO-5	Scheduled Occupied	Logical point only. Used for scheduling purposes. INACTIVE is unoccupied.	R/W	OFF

Binary Values

Instance	Object Name	Description	Read/Write	Default
BV-0	Bad Sensor Alarm	Alarm for a bad internal thermistor	R	OFF
BV-1	Binary Value 001			
BV-2	Binary Value 002			
BV-3	Binary Value 003			
BV-4	Binary Value 004			
BV-5	Binary Value 005			
BV-6	Binary Value 006			
BV-7	Binary Value 007			
BV-8	Binary Value 008			
BV-9	Binary Value 009			
BV-10	Program Status	Used to determine if the sequence was loaded correctly on a BACnet Restore or power up.	R	OFF
BV-11	Binary Value 011			
BV-12	Binary Value 012			
BV-13	Binary Value 013			
BV-14	Binary Value 014			
BV-15	Binary Value 015			
BV-16	Binary Value 016			
BV-17	Binary Value 017			
BV-18	Binary Value 018			
BV-19	Binary Value 019			
BV-20	Binary Value 020			
BV-21	Binary Value 021			

BV-22	Binary Value 022			
BV-23	Binary Value 023			
BV-24	Minimum Position Enabled	When the OSA Temperature, AV-112, is below the enable setpoint, AV-47, the minimum position will be enabled	R	OFF
BV-25	Digital Heat Status	Digital Heat is active when point is ON	R	OFF
BV-26	Analog Heat Status	Analog Heat is active when point is ON	R	OFF
BV-27	OSA Enable Status	OSA fan control is enabled when point is ON	R	OFF
BV-28	RW/DAT Enable Status	RAT/DAT fan control is enabled when point is ON	R	OFF
BV-29	Flush Valve	When commanded ACTIVE, the analog valve outputs will be commanded to 100% open until the point is commanded back to INACTIVE.	R/W	OFF
BV-30	Heat Disabled	All outputs will be commanded INACTIVE by Unit Disable (BV-66) or OSA Lockout (BV-38)	R	OFF
BV-31	Binary Value 031			
BV-32	Binary Value 032			
BV-33	Binary Value 033			
BV-34	Binary Value 034			
BV-35	Binary Value 035			
BV-36	Binary Value 036			
BV-37	Binary Value 037			
BV-38	Heat Lockout	OSA Lockout status	R	OFF
BV-39	Binary Value 039			
BV-40	Occupied Status	The status of this point switches the thermostats occupancy settings. ON when the thermostat is in Occupied Setpoint Mode or After Hours Mode.	R	OFF
BV-41	Opt. Start Warmup	A Warmup command has been sent to the thermostat. When ON the thermostat will switch to occupied settings.	R/W	OFF
BV-42	Opt. Start Cooldown	A Cooldown command has been sent to the thermostat. When ON the thermostat will switch to occupied settings.	R/W	OFF
BV-43	Occ Set point Mode	The thermostat has been commanded occupied via BO-5, or a Warmup/Cooldown command has been sent via BV-41/BV-42.	R	OFF
BV-44	After Hours Status	The thermostat has been set to afterhours mode. When ON the thermostat will switch to occupied settings.	R	OFF
BV-45	Reserved	This point is reserved for internal thermostat use and its value cannot be changed	R	OFF
BV-46	Binary Value 046			
BV-47	Binary Value 047			
BV-48	Binary Value 048			
BV-49	Update Descriptors	When ON any descriptor change will be sent the thermostats LCD, this point will auto reset to OFF.	R/W	OFF
BV-50				
BV-51	BI-5 for Occupancy	ON = BI will be used to indicate zone occupancy OFF = BI is not used for occupancy	R/W	OFF

BV-52	AO-0 use Minimum Position	ON = Output AO-0 should use minimum position if enabled by OSA, BV-24	R/W	OFF
BV-53	AO-1 use Minimum Position	ON = Output AO-1 should use minimum position if enabled by OSA, BV-24	R/W	OFF
BV-54	Floating Output use Minimum Position	ON = The floating outputs should use minimum position if enabled by OSA, BV-24	R/W	OFF
BV-55	Temperature Control Mode	OFF = Use the temperature selected by BV-67 for control ON = Use the lower temperature of the internal thermistor on AI-0 or the external temperature selected by BV-56 for control	R/W	OFF
BV-56	Ext Temp Local/Remote	OFF = External Temperature is from AI-2 ON = External Temperature is from AV-10	R/W	OFF
BV-57	Disable Splash	When ACTIVE, the “EXACTLOGIC” splash will not show after key presses	R/W	OFF
BV-58	Disable Setup Menu	When ACTIVE, there will be no access to the Setup Menu where the Network/MAC/Baud Rate is set	R/W	OFF
BV-59	Disable FSM Menu	When ACTIVE, there will be not access to the Field Service Mode where the Time/Schedule/Point Access is set	R/W	OFF
BV-60	Infloor Select Mode	When ON, The tstat is set for Infloor Mode. When OFF, the tstat is set for Normal Mode.	R/W	OFF
BV-61	Stat Operating Mode	**Infloor Mode (BV-60 ON)** When ON, the Infloor Pump will run based on OSA Enable. When OFF, the Infloor Pump will run based on Digital/Analog Heating Status. **Normal Mode (BV-60 OFF)** When ON, the Fan will run based off HWR/DAT Enable. When OFF, the fan will run based on Digital/Analog Heat Status.	R/W	OFF
BV-62	Binary Value 062			
BV-63	Binary Value 063			
BV-64	Enable Motion	When ACTIVE, the power to the Motion add-on card is set to the proper voltage	R/W	OFF
BV-65	Binary Value 065			
BV-66	Disable Unit	When ON this point will disable and lockout all analog and binary outputs.	R/W	OFF
BV-67	Room Temp Select	When OFF, the internal thermistor is selected for the control sequence. When ON, an external thermistor attached to AI-2 is selected for control of the sequence	R/W	OFF
BV-68	Backlight Off/On	When ON the LCD backlight will remain on	R/W	OFF
BV-69	Fan Op Mode	Controls if the fan will cycle or run continuously. OFF = Cycle, ON = Continuous, BV-40 must also be ON.	R/W	OFF
BV-70	Room Vacant Status	When ON the thermostat will run on Vacant Heating/Cooling setpoints, AV-64/AV-65.	R/W	OFF

BV-71	C/F	Sets the thermostat to display temperatures in Celsius or Fahrenheit. This point is set through the setup menu. ON = F, OFF = C	R	ON
BV-72	Binary Value 072			
BV-73	Binary Value 073			
BV-74	Hotel Mode	This point is reserved for internal zone damper use and its value cannot be changed	R	OFF
BV-100	Binary Value 100	Enable internal thermistor descriptor	R/W	ON
BV-101	Binary Value 101	Enable descriptor	R/W	OFF
BV-102	Binary Value 102	Enable descriptor	R/W	OFF
BV-103	Binary Value 103	Enable HWR/DAT descriptor	R/W	OFF
BV-104	Binary Value 104	Enable HWS Temp descriptor	R/W	OFF
BV-105	Binary Value 105	Enable descriptor	R/W	OFF
BV-106	Binary Value 106	Enable descriptor	R/W	OFF
BV-107	Binary Value 107	Enable descriptor	R/W	OFF
BV-108	Binary Value 108	Enable descriptor	R/W	OFF
BV-109	Binary Value 109	Enable descriptor	R/W	OFF
BV-110	Binary Value 110	Enable descriptor	R/W	OFF
BV-111	Binary Value 111	Enable descriptor	R/W	OFF
BV-112	Binary Value 112	Enable outside air descriptor	R/W	OFF