ExactLogic BACnet Communicating Thermostat
EXL01813 Sequence Datasheet

Fan Coil 2-pipe heating and cooling

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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. Refer to the table below for the values of AV-62 (Fan Mode Status) and AV-63 (Fan Speed Status)

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

Fan Speeds

The thermostat is capable of controlling 3 stages of fan speeds. The user can select a constant fan speed or let the thermostat control the increasing or decreasing of the fan speeds. When a constant fan speed is selected, the thermostats will stay in that mode until changed by the user.

When the fan speed is in AUTO, the thermostat will increase or decrease that fan speed depending on the heating or cooling signal. There is an enable setpoint for each fan speed, LO is AV-46, MED is AV-47, HI is AV-48. When the Heating/Cooling Control Signal (AV-10) is above the fan speed setpoint the corresponding fan speed will turn on. The fan speed will decrease when the heating or cooling signal is 5% below its enable setpoint.

There is a 120 second minimum on timer and 90 second minimum off time short cycle delay on each fan speed.

Internal/External Thermistor Control

The thermostat control sequence can use the internal thermistor or an external thermistor connected to AI-2. Setting BV-67 to OFF (default) the thermostat will use the internal thermistor. Setting BV-67 to ON the control sequence will use the external thermistor.

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.

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Control Sequence – 2-Pipe Mode Heating/Cooling

The system can use the Supply Water Temperature at AI-3, or a network command at BV-26/27 to determine the mode the system is in and when to allow heating and cooling. BV-52 is used to select between Local and Network control of the mode selection. When Local is selected, the Cooling Mode setpoint is configured at AV-37 and the status is at BV-28. The Heating Mode setpoint is configured at AV-36 and the status is at BV-29. When Network is selected the Cooling Mode is set by the value written to BV-26, Heating Mode is set at BV-27. The Current Cooling and Heating Mode status' are found at BV-5 and 6.

Analog Heating and Cooling Mode

The analog output used for the 2-pipe system is AO-0, floating outputs at BO-3 and 4 can also be used. The Heating/Cooling Control Signal (AV-10) is used to provide the modulating signal to the outputs. The modulating output (AO-0) has an adjustable minimum setting (AV-38) to accommodate 2-10V actuators. The Valve Open Command is shared with the Digital Heat/Cool outputs. If floating control is used verify that BV-54 is set INACTIVE. The floating outputs can be disabled by writing an INACTIVE command at priority 8, if they are unused.

The outputs will be locked out if the Fan Status (BV-45) is INACTIVE.

A Flush Valve command (BV-11), will command the outputs to 100% open until the command is released.

Digital Heating and Cooling Mode

The Digital Heat/Cool output is shared with the floating Valve Open Command at BO-3. If digital valve control is used verify that BV-54 is set ACTIVE. When the Heating/Cooling Control Signal (AV-10) is greater than the enable setpoint (AV-45) the digital output will be commanded ON.

The outputs will be locked out if the Fan Status (BV-45) is INACTIVE.

A Flush Valve command (BV-11), will command the outputs to 100% open until the command is released.

Supply Valve Purge

When BV-52 is set to Local, a valve purge command is used if the water supply valve has not been commanded open for more than 2 hours. The analog and digital outputs will be commanded open for 2 minutes and the water supply temperature, AV-21, will be updated. This allows for the water to circulate through the system to keep the Cooling or Heating Mode status, BV-5/6 accurate, and prevent an inadvertent lockout of heating or cooling. A manual flush can be commanded by setting BV-52 ACTIVE.

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 in the unoccupied mode, the room will be controlled by the unoccupied cooling/heating setpoints. The fan and cooling/heating stages will operate the same as the occupied control sequence.

Vacancy

If a room is known to be vacant, vacant setpoints can be used to override the unoccupied setpoints. By setting BV-70, a room will be controlled by the vacant cooling/heating setpoints (AV-64/65).

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Night Overrride

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 increased 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 return to the unoccupied mode. In 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 to a night override by writing a value to AV-74 through BACnet. 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 to the limit. The night override limit default is 5 hours.

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

Control Sequence

When the thermostat is in the override mode, the room will be controlled by the occupied cooling/heating setpoints. The fan and cooling/heating stages 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.

The 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

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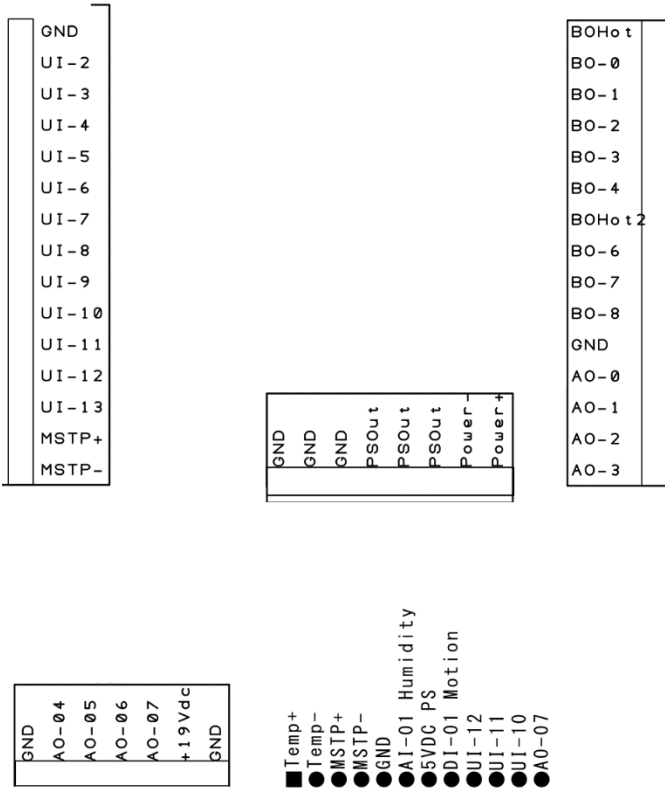1-866-714-0522 | www.exactlogic.com

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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

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Output/Label	Heat / Cool Mode
BO0	Low Fan command
BO1	Med Fan Command
BO2	Hi Fan Command
BO3	Heat/Cool / Valve Open Command
BO4	Valve Close Command
AO0	Heat/Cool Command
AO1	

Input Wiring

Output/Label	Heat / Cool Mode
UI-0	Internal Thermistor
UI-1	Internal Humidity/Motion
UI-2	External Room Thermistor
UI-3	Water Supply Temperature
UI-4	
UI-5	Occupancy Relay

Reserved BACnet Points

The following are points reserved by the thermostat for operation.

Analog Inputs

Instance	Object Name	Description	Read/Write	Default
AI-0	Room Temp	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	Water Supply Temp	2-pipe system water temperature	R	variable
AI-4	Analog Input 04	Reading of the external input 4 in counts. 0-1024	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/Cool Command	0-10V output for control of heating and cooling	R/W	0.0
AO-1	Analog Output 1	0-10V output	R/W	0.0
AO-2	Analog Output 2	Variable 0-14VDC, 150mA output	R/W	0.0

Analog Values

Instance	Object Name	Description	Read/Write	Default
AV-0	Mode of Operation	The mode that the thermostat is currently in.	R	2

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		0 = Heat Mode 1 = Cool Mode 2 = Idle 3 = Afterhours 4 = Unoccupied Idle 5 = Unoccupied Heat Mode 6 = Unoccupied Cool Mode		
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	The setpoint that controls cooling. If the room temperature goes above this setpoint the thermostat will enter cooling mode.	R	60.0˚F
AV-6	Heating SP	The setpoint used for heating during occupied mode. This setpoint is calculated by AV-66 (Current SP) – AV-70 (Heating Offset)	R	72.0˚F
AV-7	Cooling SP	The setpoint used for cooling during occupied mode. This setpoint is calculated by AV-66 (Current SP) + AV-69 (Cooling Offset)	R	74.0˚F
AV-8	Heat Signal (%)	Current heating signal as a percent	R	0%
AV-9	Cool Signal (%)	Current cooling signal as a percent	R	0%
AV-10	Heat/Cool Control Signal	Control Signal used to command the outputs for heat and cooling	R	0%
AV-11	Analog Value 011			
AV-12	Analog Value 012			
AV-13	Analog Value 013			
AV-14	Analog Value 014			
AV-15	Analog H/C Request	Requested control signal of the modulating or floating output controls	R	0%
AV-16	Analog Value 016			
AV-17	Analog Value 017			
AV-18	Analog Value 018			
AV-19	Analog Value 019			
AV-20	Room Temp	Selected from either AI-0 or AI-2. 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	variable
AV-21	Water Temp	Current temperature of the supply water	R	variable
AV-22	Analog Value 022			
AV-23	Analog Value 023			
AV-24	Analog Value 024			
AV-25	Valve % Open	Current position of the heating/cooling valve	R	0%
AV-26	Cooling Deviation	Number of degrees that the room temperature is away from the cooling setpoint	R	variable
AV-27	Heating Deviation	Number of degrees that the room temperature is away from the heating setpoint	R	variable
AV-28	Deviation from SP	Number of degrees that the room temperature is away from the room setpoint	R	variable
AV-29	Zone Scan	Numerical representation of the thermostats mode. 100 = full heat, -100 = full cool	R	0
AV-30	AI-0 Setup	Parameter used to set the input type.	R	1

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		0 = counts 1 = temperature 2 = 4-20mA 3 = 0-5V 4 = 0-10V 5 = pulse		
AV-31	AI-1 Setup	See AV-30	R	0
AV-32	AI-2 Setup	See AV-30	R	0
AV-33	AI-3 Setup	See AV-30	R	0
AV-34	AI-4 Setup	See AV-30	R	0
AV-35	AI-5 Setup	See AV-30	R	0
AV-36	Heat Mode Enable SP	This setpoint is used to determine if the supply water temperature is high enough to allow heating. The Ht/Cl Mode Source (BV-52) must be set to Local	R/W	90.0°F
AV-37	Cool Mode Enable SP	This setpoint is used to determine if the supply water temperature is low enough to allow cooling. The Ht/Cl Mode Source (BV-52) must be set to Local	R/W	60.0°F
AV-38	Modulating Output Min	The minimum value used by the modulating output (0-10V set to 0, 2-10V set to 20)	R/W	0V
AV-39	Analog Value 039			
AV-40	Analog Value 040			
AV-41	Analog Value 041			
AV-42	Analog Value 042			
AV-43	Analog Value 043			
AV-44	Analog Value 044			
AV-45	Heat/Cool Signal SP	Setpoint used to determine when to command the digital heating or cooling output	R/W	10
AV-46	Lo Fan Enable SP	To start low fan speed the heating or cooling signal needs to be high than this setpoint	R/W	5%
AV-47	Med Fan Enable SP	To start medium fan speed the heating or cooling signal needs to be high than this setpoint	R/W	35%
AV-48	Hi Fan Enable SP	To start high fan speed the heating or cooling signal needs to be high than this setpoint	R/W	65%
AV-49	Valve Deadband	The deadband used to determine when to open or close the valve	R/W	5%
AV-50	Valve Motor Time	The amount of time to open the valve from 0% open to 100% open	R/W	90 sec
AV-51	Analog Value 051			
AV-52	Analog Value 052			
AV-53	Analog Value 053			
AV-54	Analog Value 054			
AV-55	Analog Value 055			
AV-56	Analog Value 056			
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	Avg 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	Calibration Offset	The calibration offset for the internal thermistor.	R	variable

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AV-61	Space Alarm Offset	This offset +/- the Current Cooling/Heating SP is used to determine if the space is too warm/cold, and set an alarm if necessary.	R/W	5.0˚F
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	0
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	4
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
AV-67	Occupied SP Hi Limit	The maximum occupied room setpoint allowed.	R/W	85.0˚F
AV-68	Occupied SP Lo Limit	The minimum occupied room setpoint allowed	R/W	55.0˚F
AV-69	Clg Offset	The offset from Room Setpoint used to calculate the Occupied Cooling SP	R/W	1.0˚F
AV-70	Htg Offset	The offset from Room Setpoint used to calculate the Occupied Heating SP	R/W	1.0˚F
AV-71	Unoccupied Clg SP	The cooling setpoint used when the thermostat is unoccupied.	R/W	80.0˚F
AV-72	Unoccupied Htg SP	The heating setpoint used when the thermostat is unoccupied.	R/W	60.0˚F
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

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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	Water Supply 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	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	

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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	Opt. Occupied Relay	Optional occupancy relay input	R	

Binary Outputs

Instance	Object Name	Description	Read/Write	Default
BO-0	Fan Speed Lo	Digital output for fan speed 1	R/W	OFF
BO-1	Fan Speed Med	Digital output for fan speed 2	R/W	OFF
BO-2	Fan Speed Hi	Digital output for fan speed 3	R/W	OFF
BO-3	Ht/Cl / Valve Open	Digital heating or cooling command, or heating or cooling valve open command	R/W	OFF
BO-4	Valve Close	Heating or cooling valve close command	R/W	OFF
BO-5	Scheduled Occupied	Logical point only. Used for scheduling purposes. INACTIVE is unoccupied.	R/W	ON

Binary Values

Instance	Object Name	Description	Read/Write	Default
BV-0	Bad Sensor Alarm	Alarm for a bad internal thermistor	R	OFF
BV-1	H/C Demand	Sequence point to show analog heating or cooling request based off room temperature. OFF = Cooling ON = Heat	R	OFF
BV-2	Binary Value 002			
BV-3	Binary Value 003			
BV-4	Binary Value 004			
BV-5	Cool Mode	The supply water temperature is suitable for cooling	R	OFF
BV-6	Heat Mode	The supply water temperature is suitable for heating	R	OFF
BV-7	Binary Value 007			
BV-8	Binary Value 008			
BV-9	Space Alarm Delay	Delay used to prevent a space alarm after receiving an occupied command. The delay is 7200 sec	R	OFF
BV-10	Program Status	Used to determine if the sequence was loaded correctly on a BACnet Restore or power up.	R	OFF
BV-11	Flush Valve Command	If the supply water valve has not been opened within 2 hours, open the valve to refresh the water temperature. Only used when the Ht/Cl Mode Source (BV-52) is set to Local.	R	OFF
BV-12	Binary Value 012			
BV-13	Binary Value 013			
BV-14	Binary Value 014			

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BV-15	Lo Fan Request	Request to turn on fan speed 1	R	OFF
BV-16	Med Fan Request	Request to turn on fan speed 2	R	OFF
BV-17	Hi Fan Request	Request to turn on fan speed 3	R	OFF
BV-18	Binary Value 018			
BV-19	Binary Value 019			
BV-20	Binary Value 020			
BV-21	Binary Value 021			
BV-22	Too Warm Status	Status of the Too Warm Alarm before checking the Space Alarm Delay	R	OFF
BV-23	Too Cool Status	Status of the Too Warm Alarm before checking the Space Alarm Delay	R	OFF
BV-24	Space To Warm Alarm	The space temperature has been below the Room Set point (AV-66) – Space Alarm Offset (AV-61) for at least 7200 seconds.	R	OFF
BV-25	Space To Cool Alarm	The space temperature has been above the Room Set point (AV-66) + Space Alarm Offset (AV-61) for at least 7200 seconds.	R	OFF
BV-26	Network Cool Mode	Network command to indicate supply water is for cooling mode	R/W	OFF
BV-27	Network Heat Mode	Network command to indicate supply water is for cooling mode	R/W	OFF
BV-28	Local Cool Mode	ON when the supply water temperature (AV-21) is below the cooling mode enable setpoint (AV-37). Only used when the Ht/Cl Mode Source (BV-52) is set to Local.	R	OFF
BV-29	Local Heat Mode	On when the supply water temperature (AV-21) is above the heating mode enable setpoint (AV-36). Only used when the Ht/Cl Mode Source (BV-52) is set to Local.	R	OFF
BV-30	Fan Speed in AUTO	Used to determine if the thermostat is set for fan speed AUTO	R	ON
BV-31	User Fan Speed Lo	Used to determine if the user has put the thermostat in low fan speed from the keypad.	R	OFF
BV-32	User Fan Speed Med	Used to determine if the user has put the thermostat in medium fan speed from the keypad.	R	OFF
BV-33	User Fan Speed Hi	Used to determine if the user has put the thermostat in high fan speed from the keypad.	R	OFF
BV-34	Digital H/C Request	Heating or cooling request	R	OFF
BV-35	Binary Value 035			
BV-36	Binary Value 036			
BV-37	Binary Value 037			
BV-38	Binary Value 038			
BV-39	Binary Value 039			
BV-40	Occupied Status	The status of this point switches the thermostats occupancy settings. When ON, 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

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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	Fan Status	One of the fan speeds is active	R	OFF
BV-46	Valve Open Request	Valve Open command request, it will only command BO-3 if BV 54 is INACTIVE	R	OFF
BV-47	Binary Value 047			
BV-48	Binary Value 048			
BV-49	Update Descriptors	When ON descriptor changes are sent to the thermostats LCD, this point will auto reset to OFF.	R/W	OFF
BV-50	Binary Value 050			
BV-51	BI for Occupancy	ON = BI-5 will be used to indicate occupancy OFF = BI-5 is not used for occupancy	R/W	OFF
BV-52	H/C Mode Source	ON = Heat/Cool Mode determined by **Network** command OFF = Heat/Cool Mode determined by the **Local** water supply temperature	R/W	OFF
BV-53	Enable Flush	Manual valve flush request	R/W	OFF
BV-54	Output Setup	ON = BO-3 is used for digital heat/cool control OFF = BO-3 is used for Valve Open command	R/W	OFF
BV-55	Binary Value 055			
BV-56	Binary Value 056			
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	Binary Value 060			
BV-61	Binary Value 061			
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	Binary Value 066			
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	Reserved	This point is reserved for internal thermostat use and its value cannot be changed	R	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

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BV-72	Binary Value 072			
BV-73	Binary Value 073			
BV-74	Reserved	This point is reserved for internal thermostat 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 Water Supply display descriptor	R/W	OFF
BV-104	Binary Value 104	Enable 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

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