ExactLogic BACnet Communicating Thermostat
EXL01613 Sequence Datasheet

AHU w/ Economizer, DX Cooling, and Modulating or Floating Heat

DataSheet Rev 1.12.301/4.2
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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

Internal/External Thermistor 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 - Fan

The fan is commanded ON by a request due to heating, cooling, or if used by a kitchen hood (BI-5). There is a fan status input at BI-3 that is required for this sequence to operate correctly.

The fan will be overridden off by a Unit Alarm, BV-20, or by a Unit Disable command at BV-66.

Control Sequence – Supply Temperature Reset

There are multiple modes that the Supply Temperature can command to.
> **Warmup Mode**
>> If the unit is commanded to be in a Warmup Mode (BV-41 = ACTIVE), The Supply Air Temperature SP (AV-3) will be set to the Warmup Setpoint (AV-52).
>
> **Manual Mode**
>> The Supply Air Temperature SP can be set to a manual setpoint. By setting BV-50 = INACTIVE, AV-3 will be set to the value of AV-51. AV-3 will not be able to change values until BV-50 is set to ACTIVE (Auto Mode).
>
> **Auto Mode**
>> Auto Mode is set by commanding BV-50 to ACTIVE. When in this mode there is always a 5 minute Startup delay. The Supply Air Temperature SP (AV-3) will be commanded to the value of AV-51

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whenever the Supply Fan Status (BI-3) changes from an INACTIVE state to ACTIVE for 5 minutes. After the 5 minutes, AV-3 will be set to the calculated setpoint determined by the heating/cooling signals.

Control Sequence – Economizer

The Economizer is commanded by AO-0. Under normal operation, it modulates to maintain a Mixed Air Temperature of 2 degrees below the Supply Air Setpoint (AV-3). The Economizer will be locked out if the Outside Air Temperature falls below the lockout setpoint (AV-40).

The lockout and modulating signal will be overridden if there is a call for make-up air on BI-5. The Economizer will be commanded to the position set by AV-46.

If the Mixed Air Temperature falls below the Low Limit set at AV-38, the Economizer will be commanded to the value set at AV-45. This will take priority over the make-up air position, the modulating position, or the lockout position.

Control Sequence – Heating/Cooling

Heating and cooling both have multiple output configurations. Heating has a modulating and PO-PC configuration. Cooling has a 1-stage and PO-PC configuration.

Heating

The modulating output for the heating valve is at AO-1. If there is a Low Limit Alarm (BV-21) the heating valve will be commanded to 100%. Under normal operation there are two modulating signals that will command the position of AO-1. If the Supply Fan Status (BI-3) is ACTIVE, the valve will modulate to maintain the Supply Air SP (AV-3). If the Supply Fan Status is INACTIVE, valve will modulate to maintain a mix air temperature setpoint set at AV-39.The Heating valve will be locked out if the Outside Air Temperature falls below the lockout setpoint set at AV-42.

The PO-PC outputs at BO-3/4 can be used to control fin tube radiation or a heating value in the unit. The mode is set be BV-52. If BV-52 is INACTIVE, the outputs are commanded from the modulating signal at AV-16. With BV-52 ACTIVE, the FTR sequence will command the outputs based off the heating signal (AV-8) using a 2:1 ratio. (ie 50% heating signal = 100% valve position) If the Outside Air Temperature falls below zero, the FTR is commanded to 50%. The position of the FTR or heating valve is found at AV-15.

Cooling

The 1-stage of cooling and PO-PC configurations share BO-1, BO-2 is only used to command the cooling valve closed in the PO-PC mode. The cooling output mode is selected by using BV-53.

Setting BV-53 ACTIVE selects BO-1 to be used in the 1-stage cooling mode. The output is commanded ACTIVE when the Cooling Signal (AV-9) is over 10% and the Supply Fan Status (BI-3) is also ACTIVE. There is a 120 second ON/OFF short cycle delay on BO01 in this mode.

Setting BV-53 INACTIVE selects BO-1 to be used in the PO-PC mode. The cooling valve position is commanded by the Cooling Signal (AV-9). The valve position is found at AV-17.

Both modes can be locked out if the Outside Air Temperature falls below the lockout setpoint set at AV-40. A Low Limit Alarm (BV-21) will also lockout the cooling outputs.

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.

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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).

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.

Vacancy

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

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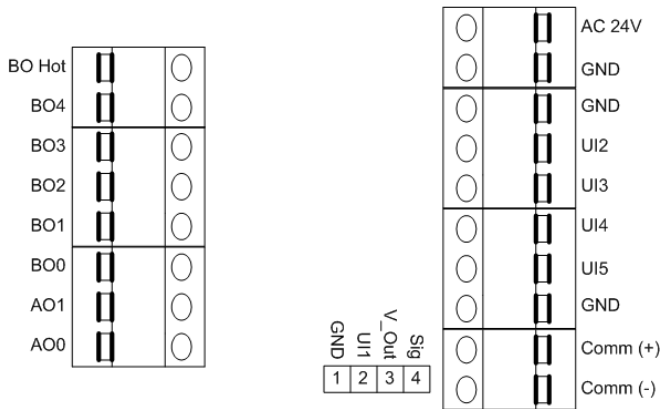
Motion/Humidity Option Card

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. Once the motion sensor does not sense motion, the delay at AV-81 is used to delay the ACTIVE to INACTIVE command to the Scheduled Occupied command at BO-5, priority array entry 10. 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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Installation

Fig. 4

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

AC 24V.......................................24VAC/DC Hot
GND .... Neutral/Ground
GND .... Neutral/Ground
UI2 .... Universal Input 2
UI3 .... Universal Input 3
UI4 .... Universal Input 4
UI5 .... Universal Input 5
GND .... Neutral/Ground
Comm (+) .... Network Positive Line
Comm (-) ....Network Negative Line
BO Hot ....Com, 24VAC Hot for relays*
BO4......................... Relay 5 Output, 24VAC/DC
BO3......................... Relay 4 Output, 24VAC/DC
BO2......................... Relay 3 Output, 24VAC/DC
BO1......................... Relay 2 Output, 24VAC/DC
BO0......................... Relay 1 Output, 24VAC/DC
AO1 .... Analog Output 1, 0-10V
AO0 .... Analog Output 0, 0-10V

1 .... Neutral/Ground
2 ....Universal Input 1
3 ....Analog Output 2
4 ....Reserved

Output Wiring

Output/Label

BO0	Fan
BO1	Cooling DX/ Valve Open
BO2	Cooling Valve Close
BO3	Radiation/Heating Valve Open
BO4	Radiation/Heating Valve Close
AO0	Economizer 0-10 Vdc 0-100%
AO1	Heating 0-10 Vdc 0-100%

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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	Mixed Air Temp	Mixed Air Temperature sensor input	R	variable
AI-3	Analog Input 03	Reading of the external input 3 in counts. 0-1024	R	variable
AI-4	Supply Air Temp	Supply Air Temperature sensor input	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	Economizer	0-10V output for control of the economizer	R/W	0.0
AO-1	Heating Valve	0-10V output for control of the heating valve	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. 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	Current Supply Air Temp SP	Current Supply Air Temperature Setpoint based from the reset schedule (AV47/48)	R	varies
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	Occupied 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	Occupied 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

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AV-8	Heating Signal	Current heating signal as a percent	R	0%
AV-9	Cooling Signal	Current cooling signal as a percent	R	0%
AV-10	Analog Value 010			
AV-11	Analog Value 011			
AV-12	Analog Value 012			
AV-13	Analog Value 013			
AV-14	Analog Value 014			
AV-15	FTR Position	Estimated position of the radiation valve	R	0%
AV-16	Heating Valve Position	Estimated position of the heating valve	R	0%
AV-17	Cooling Valve Position	Estimated position of the cooling valve	R	0%
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	Analog Value 021			
AV-22	Analog Value 022			
AV-23	Analog Value 023			
AV-24	Analog Value 024			
AV-25	Analog Value 025			
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. 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	Supply Air Low Limit SP	The lowest Supply Air Temperature allowed before triggering and alarm (BV-21)	R/W	45°F
AV-37	Mixed Air Low Limit SP	The lowest Mixed Air Temperature allowed before triggering an alarm (BV-24)	R/W	40°F
AV-38	Mixed Air Low SP	If the Mixed Air Temperature falls below this setpoint the Economizer is commanded to minimum position (AV-45)	R/W	45°F

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Tag	Name	Description	Access	Default
AV-39	Off Mode Mixed Air SP	When the supply fan is off, this setpoint maintains a Mixed Air Temperature to prevent freezing. The heating valve is modulated to maintain this setpoint.	R/W	55°F
AV-40	OSA Temperature Economizer Lockout SP	When the Outside Air Temperature is above this setpoint, the Economizer is locked out	R/W	70°F
AV-41	Analog Value 041			
AV-42	OSA Temp HW Valve Lockout SP	When the Outside Air Temperature is above this setpoint, heating is locked out	R/W	65°F
AV-43	Supply Air Deviation DB	Amount the Supply Air Temperature is allowed to be from SP (+/-) before triggering an alarm (BV-23)	R/W	10°F
AV-44	Htg Valve Minimum Position	Minimum position allowed for the Modulating/ PO-PC Heating Valve	R/W	0%
AV-45	OSA Damper Minimum Position	Minimum position of the Economizer when the Mixed Air Temperature falls below SP (AV-38)	R/W	10%
AV-46	Make-up Air Position	Minimum position for the Economizer when using BI-5 with a Kitchen Hood	R/W	10%
AV-47	Supply Air Low SP	The low setpoint for the Supply Air Temperature SP reset schedule	R/W	55°F
AV-48	Supply Air High SP	The high setpoint for the Supply Air Temperature SP reset schedule	R/W	100°F
AV-49	Cooling Valve Deadband	Maximum percentage difference between the current damper position and the cooling signal before the damper will adjust its position.	R/W	5%
AV-50	Cooling Valve Motor Time	Amount of time to drive the valve full open/close	R/W	90 sec
AV-51	Supply Air SP Manual/Startup	The Supply Air Temperature SP when the unit is in Startup or the reset schedule is in Manual (BV-50)	R/W	75°F
AV-52	Supply Air SP Warmup	The Supply Air Temperature when the unit is in Warmup Mode	R/W	85°F
AV-53	Radiation/Htg Valve Deadband	Maximum percentage difference between the current damper position and the heating signal before the damper will adjust its position.	R/W	5%
AV-54	Radiation/Htg Valve Motor Time	Amount of time to drive the valve full open/close	R/W	90 sec
AV-55	Filter Alarm SP	Maximum runtime for the filter before triggering an alarm (BV-25).	R/W	3000 hrs
AV-56	Filter Runtime	The number of runtime hours on the filter. Set to zero (0) after changing filter.	R/W	0 hrs
AV -57	Supply Fan Runtime	The number of runtime hours on the fan.	R/W	0 hrs
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	Calibration Offset	The calibration offset for the internal thermistor.	R	variable
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

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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	OFF
AV-76	Reserved	This point is reserved for internal thermostat use and its value cannot be changed	R	OFF
AV-77	Reserved	This point is reserved for internal thermostat use and its value cannot be changed	R	OFF
AV-78	Reserved	This point is reserved for internal thermostat use and its value cannot be changed	R	OFF
AV-79	Reserved	This point is reserved for internal thermostat use and its value cannot be changed	R	OFF
AV-80	Reserved	This point is reserved for internal thermostat use and its value cannot be changed	R	OFF
AV-81	Motion OFF Delay	This is the delay used to transition that Occupied Command from ACTIVE to INACTIVE after no motion is detected from the sensor	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	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 Input	Status of the Motion Sensor	R	OFF
BI-2	Binary Input 02		R	
BI-3	Supply Fan Status	Status of the Supply Fan sensor	R	OFF
BI-4	Binary Input 04		R	
BI-5	Kitchen Hood Status	Status of the Kitchen Hood sensor used for make-up air	R	OFF

Binary Outputs

Instance	Object Name	Description	Read/Write	Default
BO-0	Fan	Output for Fan Control	R/W	OFF
BO-1	Cooling DX/Open	Output for Cooling Stage 1 or OPEN command for cooling valve	R/W	OFF
BO-2	Cooling Close	CLOSE command for cooling valve	R/W	OFF
BO-3	Radiation/Htg Open	OPEN command for radiation or heating valve	R/W	OFF
BO-4	Radiation/Htg Close	CLOSE command for radiation or heating 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	H/C Mode	Sequence point to show analog heating or cooling. OFF = Cooling ON = Heat	R	OFF
BV-2	Binary Value 002			
BV-3	Binary Value 003			
BV-4	Binary Value 004			
BV-5	Binary Value 005			
BV-6	Fan Request - Heat	Fan request due to a heating command	R	OFF
BV-7	Fan Request - Cool	Fan request due to a cooling command	R	OFF
BV-8	Fan Request - DX	Fan request due to DX command	R	OFF
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	Binary Value 011			
BV-12	Binary Value 012			
BV-13	Binary Value 013			
BV-14	Supply Fan Status	Current status of the supply fan	R	OFF

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BV-15	5 Minute Startup Delay	This delay commands the Supply Air SP to the Manual/Startup SP (AV-51) for 5 minutes after the supply fan starts	R	OFF
BV-16	Binary Value 016			
BV-17	DX Cooling Request	The DX Cooling output has been request to turn ON	R	OFF
BV-18	Cooling Open Request	The Cooling Valve output has been requested to OPEN	R	OFF
BV-19	Binary Value 019			
BV-20	Unit Alarm	An alarm on BV-21 to 35 or BV-28 to 29 has been triggered	R	OFF
BV-21	Low Limit Alarm	The Supply Air Temperature is too low	R	OFF
BV-22	Supply Fan Alarm	The Supply Fan has been commanded on, but has not started	R	OFF
BV-23	Supply Deviation Alarm	The Supply Air Temperature (AI-4) is +/- AV-43 degrees from the current Supply Air SP (AV-3)	R	OFF
BV-24	Low Mixed Air Temp Alarm	The Mixed Air Temperature is too low	R	OFF
BV-25	Filter Alarm	The filter runtime is over the setpoint hours	R	OFF
BV-26	Too Warm Status	Status of the Too Warm Alarm before checking the Space Alarm Delay	R	OFF
BV-27	Too Cool Status	Status of the Too Warm Alarm before checking the Space Alarm Delay	R	OFF
BV-28	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-29	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-30	Unit Alarm Reset	Reset the status of BV-20	R/W	OFF
BV-31	Low Limit Alarm Reset	Reset the low Supply Air Temperature alarm status	R/W	OFF
BV-32	Supply Fan Alarm Reset	Reset the Supply Fan alarm status	R/W	OFF
BV-33	Binary Value 033			
BV-34	Binary Value 034			
BV-35	Binary Value 035			
BV-36	Binary Value 036			
BV-37	Economizer Enable	Indicated whether the Economizer has been locked out due to Outside Air Temperate (OFF = Locked Out)	R	ON
BV-38	Heating Enable	Indicated whether heating has been locked out due to Outside Air Temperate (OFF = Locked Out)	R	ON
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	Warmup Command	A Warmup command has been sent to the thermostat. When ON the thermostat will switch to occupied settings.	R/W	OFF

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BV-42	Cooldown Command	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 descriptor changes are sent to the thermostats LCD, this point will auto reset to OFF.	R/W	OFF
BV-50	Supply Air Temperature SP Mode	OFF = Manual Setpoint ON = Auto calculated setpoint	R/W	ON
BV-51	Binary Value 051			
BV-52	Radiation Enabled	OFF = BO-3/4 used for Heating Valve sequence ON = BO-3/4 used for Radiation sequence	R/W	OFF
BV-53	Cooling Output Select	OFF = BO-1 used for Cooling Valve sequence ON = BO-1 used for DX sequence	R/W	OFF
BV-54	Binary Value 054			
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	Disable Unit	When ON this point will disable and lockout all analog and binary outputs.	R/W	OFF
BV-67	Binary Value 067			
BV-68	Backlight Off/On	When ON the LCD backlight will remain on	R/W	OFF
BV-69	Binary Value 069			
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	Binary Value 074			
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 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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