ExactLogic BACnet Communicating Thermostat
EXL01629 Sequence Datasheet

Fan Coil with 3-speed fan and modulating heating/cooling with Dehumidification

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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 or cooling signal 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. Continuous fan mode can be enabled with BV-52. The fan will stay at low speed even when there is no heating or cooling signal and speed up as the signal grows.

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.

Control Sequence – Heat / Cool

There are two operational modes that can be selected via BV-60. When BV-60 is INACTIVE the heating and cooling will be controlled by the space temperature. When BV-60 is ACTIVE the heating and cooling will be controlled by the discharge air temperature (AI-3).

Heating and cooling is achieved by modulating Analog outputs. A PI controller modulates the outputs to maintain setpoint.

Note: All digital outputs have a 120 second ON/OFF anti-short cycle.

Space Temperature Mode

When occupied, the thermostat will maintain its occupied setpoint. The deadband is controlled by the cooling/heating offset (default 1 degree). Should the room temperature drift below or above the heating and cooling setpoints, the analog heating and cooling outputs will modulate as needed via PI control. Heating is enabled by AV-38, and Cooling is enabled by AV-39. These setpoints are compared to the heating or cooling signal (AV-8 and AV-9) to determine the state of the outputs.

Discharge Temperature Mode

In this mode the thermostat will modulate the analog outputs to maintain the discharge air setpoint based on the current fan speed. Once the heating or cooling signal is above its respective stage 1 enable setpoint, the discharge air PI control will begin to modulate the analog outputs. The setpoints to control the discharge air for heating and cooling are AV-49 through AV-54.

The discharge air modulating signal can be limited by using the Heat Max/Min % and the Cool Max/Min %. The points are AV-55 through AV-58. The purpose of these points is to limit the heating and cooling. The Min and Max are defaulted to 0% and 100% respectively.

External Occupancy

BI-5 is used for an external sensor or switch to set the thermostat occupied. An ambient light or motion sensor or an external button or switch can set the thermostat occupied.

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.

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 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 night override by writing a value to AV-74 through BACnet. The value cannot 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 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.

Dehumidification

Dehumidification is enabled with BV-20. Either the internal or external or high of both humidity sensors can be the controlling humidity on AV-25. Stage one of dehumidification is enabled when the controlling humidity on AV-25 is above the dehumidification setpoint on AV-83. This stage of dehumidification enables the cooling on AO-1 100%. The heat then controls to maintain either DAT or Space temperature depending on the configuration with fan speed being selected accordingly. There is a manual enable for this stage on BV-12

The second stage of dehumidification is enabled via setpoint AV-40 which is created from an offset, AV-41, from stage ones setpoint. This stage enables BO-3 for the external dehumidification equipment. With BV-13 used to override it on. A final stage of dehumidification is enabled when the humidity rises above the offset, AV-41, again. This stage turns on BO-4.

AV-17 is the humidity alarm setpoint that turns on BV-18 when humidity rises above this setpoint. The alarm does not currently control anything in the sequence and is just a point used for displaying an alarm.

Unoccupied Dehumidification

During unoccupancy when humidity rises above AV-84 setpoint the low fan speed is enabled and the controlling heating setpoint goes from the unoccupied heating setpoint to the occupied heating setpoint to avoid overcooling.

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

Installation

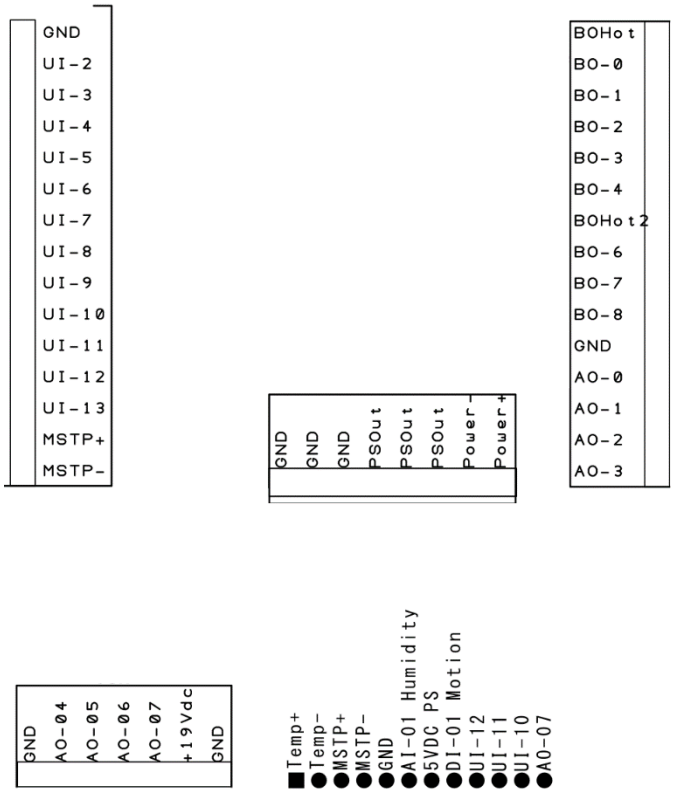

Fig. 4

*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/Label	Heat / Cool Mode
BO0	Fan Speed 1
BO1	Fan Speed 2
BO2	Fan Speed 3
BO3	External Dehumidification Stage 1
BO4	External Dehumidification Stage 2
AO0	Heating 0-10 Vdc 0-100%
AO1	Cooling 0-10 Vdc 0-100%

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	Discharge Air Temp	Optional discharge air sensor for sequence control	R	variable
AI-4	External humidity	Optional external humidity 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	Heat	0-10V output for control of heating	R/W	0.0
AO-1	Cool	0-10V output for control of cooling	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 Htg SP With Dehumidification	The heating setpoint that controls heating including dehumidification. If the room temperature goes below this setpoint the thermostat will enter heating mode.	R	72.0°F/60.0°F
AV-4	Current Htg SP	The heating setpoint that controls heating. If the room temperature goes below this setpoint the thermostat will enter heating mode.	R	72.0°F/60.0°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	80.0˚F/27˚C
AV-6	Occupied Heating SP	The setpoint used for heating during occupied mode or night dehumidification mode. This setpoint is calculated by AV-66 (Current SP) – AV-70 (Heating Offset)	R	72.0˚F/22.5˚C
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/23.5˚C
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	High Humid Sel(0)	Humidity value used to control when option to use the highest humidity of the sensors is chosen	W/R	0
AV-11	Analog Value 011			
AV-12	Analog Value 012			
AV-13	Analog Value 013			
AV-14	Min Ext DH SP	Minimum value allowed for the external dehumidification setpoint to be set to		
AV-15	Analog Value 015			
AV-16	Analog Value 016			
AV-17	Humidity Alarm SP	When the controlling humidity goes above this value the humidity alarm is enabled	W/R	70%rh
AV-18	DAT Kp	The current Kp used for discharge air PI Controller written to by AV-36	R	12
AV-19	DAT Ki	The current Ki used for discharge air PI Controller written to by AV-37	R	1
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	Discharge Air SP	Current Discharge Air setpoint	R	65.0˚F/18.0˚C
AV-22	DAT Lo Fan	Discharge Air setpoint for Lo Fan Speed. Dependent on heating or cooling mode.	R	65.0˚F/18.0˚C
AV-23	DAT Med Fan	Discharge Air setpoint for Med Fan Speed. Dependent on heating or cooling mode.	R	60.0˚F/15.0˚C
AV-24	DAT Hi Fan	Discharge Air setpoint for Hi Fan Speed. Dependent on heating or cooling mode.	R	55.0˚F/13.0˚C

AV-25	Controlling Humidity	Current humidity used for control based on configuration for internal humidity sensor, external humidity sensor or the highest of the two	R	variable
AV-26	Cooling Deviation	Number of degrees space temperature is off from current heating setpoint	R	variable
AV-27	Heating Deviation	Number of degrees space temperature is off from current cooling 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	1
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	DAT H/C Kp	Kp used for the discharge air PI Controller when there is positive fan status	R/W	12
AV-37	DAT H/C Ki	Ki used for the discharge air PI Controller when there is positive fan status	R/W	1.0
AV-38	Stage 1 Htg% Enable	The percentage of heating signal required to turn on the stage 1 heating digital output	R/W	3%
AV-39	Stage 1 Clg% Enable	The percentage of cooling signal required to turn on the stage 1 cooling digital output	R/W	3%
AV-40	Analog Value 040			
AV-41	ExtDehumid SP Offset	External Dehumidification Setpoint Offset for Stage 1 & 2. AV-83(dehumidification SP) + AV-41 = Stg1 SP AV-83 + AV-41+AV-41 = Stg2 SP	R/W	5%rh
AV-42	AO-0 Max Output	Used to scale the analog output. This is the maximum voltage the AO will output. (i.e. 0-5V valve or damper)	R/W	100(10V)
AV-43	AO-0 Min Output	Used to scale the analog output. This is the minimum voltage the AO will output. (i.e. 2-10V valve or damper)	R/W	0(0V)
AV-44	AO-1 Max Output	Used to scale the analog output. This is the maximum voltage the AO will output. (i.e. 0-5V valve or damper)	R/W	100(10V)
AV-45	AO-1 Min Output	Used to scale the analog output. This is the minimum voltage the AO will output. (i.e. 2-10V valve or damper)	R/W	0(0V)
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	10%

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	40%
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	70%
AV-49	DAT Heat SP, Lo Fan	The discharge air setpoint for low fan speed when in the heating mode	R/W	85.0˚F/30.0˚C
AV-50	DAT Cool SP, Lo Fan	The discharge air setpoint for low fan speed when in the cooling mode	R/W	65.0˚F/18.0˚C
AV-51	DAT Heat SP, Med Fan	The discharge air setpoint for medium fan speed when in the heating mode	R/W	90.0˚F/32.0˚C
AV-52	DAT Cool SP, Med Fan	The discharge air setpoint for medium fan speed when in the cooling mode	R/W	60.0˚F/15.0˚C
AV-53	DAT Heat SP, Hi Fan	The discharge air setpoint for high fan speed when in the heating mode	R/W	95.0˚F/35.0˚C
AV-54	DAT Cool SP, Hi Fan	The discharge air setpoint for high fan speed when in the cooling mode	R/W	55.0˚F/13.0˚C
AV-55	Max Heating %	The maximum heating signal the analog heating output will control too. Useful when a space is over heating	R/W	100%
AV-56	Min Heating %	The minimum heating signal the analog heating output will control too.	R/W	0%
AV -57	Max Cooling %	The maximum cooling signal the analog cooling output will control too. Useful when a space is over cooling	R/W	100%
AV-58	Min Cooling %	The minimum cooling signal the analog cooling output will control too.	R/W	0%
AV-59	Average 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/2.5˚C
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	4
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	R	4

		5 = ON		
AV-64	Vacant Cooling SP	Used in Hotel Mode. When a room is known vacant, the setpoint can be set below the unoccupied setpoint.	R/W	85
AV-65	Vacant Heating SP	Used in Hotel Mode. When a room is known vacant, the setpoint can be set below the unoccupied setpoint.	R/W	65
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	Clg Offset	The offset from Room Setpoint used to calculate the Occupied Cooling SP	R/W	1.0˚F/0.5˚C
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	Unoccupied Clg SP	The cooling setpoint used when the thermostat is unoccupied.	R/W	80.0˚F/27.0˚C
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 after-hours 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 after-hours 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	Dehumidification Mode SP	Setpoint that enables stage dehumidification mode or the FCU	R/W	60%rh
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	Reserved	This point is reserved for internal thermostat use and its value cannot be changed	R	0
AV-83	Reserved	This point is reserved for internal thermostat use and its value cannot be changed	R	0
AV-84	Night Dehumidification SP	Setpoint that enables the night dehumidification mode	R/W	65%rh
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	

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	External Dehumidification Stg-1	Digital output for stage 1external Dehumidification	R/W	OFF
BO-4	External Dehumidification Stg-2	Digital output for stage 2 external Dehumidification	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 Room Sensor	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	Bad Discharge Sensor	Alarm for a bad discharge air sensor	R	OFF
BV-6	Binary Value 006			
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	Ext Dehum Overide-2	Overrides the external-2 dehumidification mode on	R/W	OFF
BV-12	Dehumidification Override	Override the dehumidification mode on	R/W	OFF
BV-13	Ext Dehum Overide-1	Overrides the external-1 dehumidification mode on	R/W	OFF
BV-14	Fan Status	One of the fan speeds is active	R	OFF
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	Humidity Alarm	Point for showing the humidity alarm	R	OFF
BV-19	Startup delay	Startup delay	R	OFF
BV-20	Dehumidification Mode	Status point for dehumidification mode	R	OFF

BV-21	Night Dehumidification Status	Status point night dehumidification mode	R	OFF
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-90) – Space Alarm Offset (AV-82) for at least 7200 seconds.	R	OFF
BV-25	Space To Cool Alarm	The space temperature has been above the Room Set point (AV-90) + Space Alarm Offset (AV-82) for at least 7200 seconds.	R	OFF
BV-26	Heat Stage 1 Request	Status of stage 1 heating request	R	OFF
BV-27	Ext Dehum Status-1	Status point for external-1 dehumidification mode	R	OFF
BV-28	Cool Stage 1 Request	Status of stage 1 cooling request	R	OFF
BV-29	Ext Dehum Status-2	Status point for external-2 dehumidification mode	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	Dehumidification ON	Point that indicates dehumidification mode or night dehumidification mode are on	R	OFF
BV-35	Binary Value 035			
BV-36	Heat Fan Interlock	Used in discharge air mode to interlock the analog heating output with fan status.	R	OFF
BV-37	Cool Fan Interlock	Used in discharge air mode to interlock the analog cooling output with fan status.	R	OFF
BV-38	DAT Mode Interlock	Used to pass the discharge air modulation signal or the room temperature modulation signal to the analog output.	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 after hour's mode. When ON the thermostat will switch to occupied settings.	R	OFF
BV-45	Reserved	Reserved for thermostat use only. Do not write to this point.	R	
BV-46	DeHumid Enable	Dehumidification Enabled When ON	R	ON
BV-47	Sel Hum(1)/Ext H(0)	Select humidity for control, internal sensor(1) or external sensor(0)		
BV-48	Net Humid Sel (0)	Select controlling humidity to be the high(1) of sensors or sensor chosen with BV-47		
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 zone occupancy OFF = BI-5 is not used for occupancy	R/W	OFF
BV-52	Fan continuous	Turns on continuous fan mode	R/W	ON
BV-53	Binary Value 053		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	Discharge Air Mode	Used to select if the thermostat will control space to setpoint based off discharge air. ON = Discharge Air Mode OFF = Room Temperature Mode	R/W	OFF
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-1 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	Binary Value 069			
BV-70	Room Vacant Status	When ON the thermostat will run on Vacant Heating/Cooling setpoints, AV-88/AV-89.	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 072		R/W	OFF
BV-74	Hotel Mode	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 Humidity Descriptor	R/W	OFF
BV-103	Binary Value 103	Enable DAT Descriptor	R/W	OFF
BV-104	Binary Value 104	Enable External Humidity Descriptor	R/W	OFF
BV-105	Binary Value 105	Enable external Room Sensor Descriptor	R/W	OFF
BV-106	Binary Value 106	Enable Dehumidification Status 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