Seresco BACnet Objects

This document covers all BACnet points for all Seresco products. The product lines are NE and NV series pool units and the OA make up air units.

'x' means point is supported. 'o' means an optional point. It will only show up in object list if unit has been configured using optional feature.

Device Object

Default Name: Seresco Dehumidifier
Default Instance: 150
Segmentation Not Supported
Max APDU Length: 1476

Analog Input Objects (Sensors)

All sensors are available as analog input objects. For each sensor the unit type is indicated. Temperature sensors supports both Celsius and Fahrenheit. Temperature unit type is configured from the local keypad.

All sensors can be controlled from the BACnet management system by setting the Out Of Service property to True. This will cause the sensor to no longer be updated by the physical sensor installed in the unit. The sensor value can now be updated from the management system.

The Seresco unit also comes with a fallback solution in case there is a break in the BACnet communication interface. In this case all BMS controlled sensors will fall back and read sensor data from the unit installed sensors. For this to work you have to set the heartbeat timer (AV 515) to a value greater than 0. See description of heartbeat timer.

Instance	Name	Unit	NE	NP	NV	NW	OA
0	Return Air Humidity	%	x	x	x	x	x
1	Return Air Temperature	C/F	x	x	x	x	x
2	Refrigerant High Pressure, Compressor 1	PSI	x	x			x
3	Refrigerant Low Pressure, Compressor 1	PSI	x	x			x
4	Refrigerant High Pressure, Compressor 2	PSI	o	o			
5	Refrigerant Low Pressure, Compressor 2	PSI	o	o			
6	Evaporator Temperature, Compressor 1	C/F	x	x			x
7	Evaporator Temperature, Compressor 2	C/F	o	o			
8	Supply Air Temperature	C/F	x	x	x	x	x
9	Suction Temperature, Compressor 1	C/F	x	x			x
10	Suction Temperature, Compressor 2	C/F	o	o			
12	Outdoor Air Temperature	C/F	x	x	x	x	x
13	Pool Water In Temperature	C/F	o	o			

14	Pool Water Out Temperature	C/F	o	o			
26	Discharge Temperature, Compressor 1	C/F	x	x			x
27	Discharge Temperature, Compressor 2	C/F	o	o			
30	Exhaust Air Temperature	C/F	o	o	x	x	
31	Reheat Temperature	C/F	o	o			
32	Pool 2 Water In Temperature	C/F	o	o			
33	Pool 2 Water Out Temperature	C/F	o	o			
34	Outdoor Air Humidity	%	o	o	o	x	x
35	Outdoor Air Dew Point	C/F	o	o	o	x	x
36	Superheat, Compressor 1	C/F	x	x			x
37	Superheat, Compressor 2	C/F	o	o			
40	Return Air Dew Point	C/F	o	o	o	x	o
41	Wall Temperature	C/F	o	o			
42	Unit Current	A	o	o	o	o	o

Analog Value Objects (Setpoints)

Temperature setpoints are configured in either Celsius or Fahrenheit depending on how the unit has been configured. The min and max range is listed for both Celsius and Fahrenheit.

Instance	Name	Unit	Min	Max	NE	NP	NV	NW	OA
0	Room Temperature Setpoint	F	55	95	x	x	x	x	x
		C	13	35					
1	Humidity Setpoint	%	35	85	x	x	x	x	x
2	Pool Temperature Setpoint	F	60	108	o	o			
		C	16	42					
3	Heat Recovery Setpoint	F	40	70	x	x	x	x	
		C	5	21					
4	Purge Setpoint	F	40	70	o	o	o	o	
		C	5	21					
5	Economizer Min OA Setpoint	F	40	90	o	o		o	
		C	5	32					
6	Pool 2 Temperature Setpoint	F	60	108	o	o			
		C	16	42					
7	Freezestat Setpoint	F	20	55	x	x	x	x	x
		C	-6	12					

9	Supply Air Dry Bulb Summer Setpoint	F C	50 10	95 35			x
10	Supply Air Dry Bulb Winter Setpoint	F C	50 10	95 35			x
11	Max Dew Point	F C	40 5	70 21			x
12	A/C Summer Only Setpoint	F C	40 5	70 21	x	x	
13	Humidity Floating Setpoint	F/C			x	x	

Heat Recovery Setpoint
The heat recovery pump will start when the outdoor air temperature drops below this setpoint. Pump will stop when outdoor air temperature rise above this setpoint plus a configurable dead band.

Purge Setpoint
If purge has been started and the return air temperature drops below this setpoint, purge will stop.

Economizer Min OA Setpoint
The setpoint determines the lowest outdoor air temperature at which economizer mode is allowed to start.

Freezestat Setpoint
When outdoor air temperature drops below this setpoint, a freezestat alarm will be tripped.

Supply Air Dry Bulb Summer Setpoint
Supply air temperature at which unit will start cooling (A/C).

Supply Air Dry Bulb Winter Setpoint
Supply air temperature at which unit will start heating.

Humidity Floating Setpoint
This setpoint can not be changed. It is controlled by the wall temperature sensor and overrides the Humidity Setpoint when it drops below the Humdity Setpoint value.

Analog Value Objects (Analog Outputs)

Analog output controls used by the system. These are read-only points.

The values is listed as a percentage of full capacity (0-100) which translates into either a valve opening, fan speed or damper position.

Instance	Name	Unit	NE	NP	NV	NW	OA
256	Modulated Heat	%	x	x	x	x	x
257	Blower Speed	%				x	x
258	Head Pressure Control, Compressor 1	%	x	x			x
259	Head Pressure Control, Compressor 2	%					
260	Outdoor Air Damper 1	%	o	o	x		
261	Outdoor Air Damper 2	%			x		
262	Exhaust Fans	%			x		
264	Exhaust Fan 1	%	o	o			

Analog Value Objects (Options and Status points)

Miscellaneous configuration options and analog status points. Points with a min and max value can be changed.

Instance	Name	Unit	Min	Max	NE	NP	NV	NW	OA
512	Purge Interval	min	0	60	o	o	o	o	
513	Exhaust Level	%					x		
515	Heartbeat Timer	Sec	0	600	x	x	x	x	x
516	Reheat Level	%				x			x
517	Elapsed Purge Time	min			o	o	o	o	
518	Alarm Count				x	x	x	x	x
519	Alert Count				x	x	x	x	x

Purge Interval
This is a timer that is used when initiating a purge request. When purge starts, this timer starts. When timer expires, purge will automatically stop. The timer can be set to 0 which means that purge will run forever until purge is manually stopped.

Heartbeat Timer
The heartbeat timer is used when anyone of the sensors is controlled by the BACnet system (BV points 128-131 set to Active). If the timer is set to a value greater than 0, sensor control will roll back to unit installed sensors if there is no BACnet message received within configured time frame. Basically what this means is that sensors (AV 128-131) needs to be refreshed at least once within this time frame whether or not they have been changed.

Binary Value Objects (Control Status)

Instance	Name	NE	NP	NV	NW	OA
0	Blower Contactor	x	x	x	x	x
1	Compressor Contactor, Compressor 1	x	x			x
2	Reheat Valve, Compressor 1	x				
3	A/C Valve, Compressor 1	x				
4	Pump Down Valve, Compressor 1	x	x			x
5	Pool Heating Valve	o	o			
7	Compressor Contactor, Compressor 2	o	o			
8	Reheat Valve, Compressor 2	o				
9	A/C Valve, Compressor 2	o				
10	Pump Down Valve, Compressor 2	o	o			
11	Bypass Damper Adjust Open	x	x			
12	Bypass Damper Adjust Close	x	x			
13	Heat Recovery Pump	x	x	x	x	
14	Auxiliary Pool Heater	o	o			
17	Outdoor Air Condenser Fan 1	x	x			x
18	Outdoor Air Damper	x	x		x	x
19	Exhaust Fan 1				x	
20	Exhaust Fan 2				o	
21	Stage 1 Heat	x	x	x	x	x
22	Stage 2 Heat	x	x	x	x	x
33	Pool Heating Valve, Pool 2	o	o			
34	Auxiliary Pool Heater, Pool 2	o	o			
38	Compressor Cooler, Pre-cooler				x	x
39	Pump Down Valve, Pre-cooler					x
42	Exhaust Damper 1	x	x	x		
44	Exhaust Damper 2	o	o	x		
45	Return Air Damper			x		
46	Outdoor Air Condenser Fan 2	o	o			
47	Compressor Pump		x			

Binary Value Objects (Mode Status)

Instance	Name	NE	NP	NV	NW	OA
257	Service Mode	x	x	x	x	x
259	Purging	o	o	o	o	
260	Dehumidification Mode	x	x	x	x	x
261	A/C Mode	x	x	x	x	x
262	Heating Mode	x	x	x	x	x
263	Pool Heating Mode	o	o			
264	Compressor 1 Available	x	x			x
265	Compressor 2 Available	x	x			
266	Compressor Cooler Available					x

Compressors Available

Points BV 264-266 indicates if a compressor is available to be used by the compressor handler. This is not the same as point BV 515 which indicates if the compressor handler is enabled or not.

If a specific compressor is not available, any point related to this compressor should be considered not showing reliable data.

Binary Value Objects (Commands)

These points are used to control the unit. To be able to use a point, it has to be enabled from the unit itself.

Instance	Name	NE	NP	NV	NW	OA
512	Blower Enabled	o	o	o	o	o
513	Purge	o	o	o	o	
515	Compressors Enabled	o	o			o
516	Occupied	o	o	o	o	o
518	Space Heater	o	o	o	o	o
519	A/C Enabled	o	o			
520	Pool 1 Heater	o	o			
521	Pool 2 Heater	o	o			
522	Emergency Heat	o	o			
523	Blower Override					o

524	A/C Override	o	o	o	o	o
525	Heat Override	o	o	o	o	o
526	Spectator Mode	o	o	o		

Blower
With this object you can start and stop the main blower. Stopping the main blower will cause all other components to stop as well. Only exception is for pool units where the auxiliary pool heater will still be engaged on a demand for pool heating even when blower is stopped.

Purge
Use this object to start and stop purge. If the purge interval is set to something higher than 0, then there is no need to turn off purge. Purge will stop by itself when timer expires. You can use AV 517 to see elapsed purge time.

Compressors Enabled
Use this object to enable/disable all compressors.

Occupied
Unit comes with a built-in scheduler that control when unit will be in occupied versus unoccupied mode. With this object you can control this from the BACnet system.

Space Heater
Use this object to disable the space heater.

Pool 1 Heater / Pool 2 Heater
These two objects are used to enable/disable pool heaters. For instance, they can be used to disable a pool before starting a backwash to avoid any waterflow alarms.

Emergency Heat
Use this object when space heater is not in service and you want to start compressor on a heating demand. There is no need to disable space heater when using this object since space heater will be disabled when activating this object.

Blower Override
This object is use on units that supports blower running at two speeds. Activating this object will make the blower run at max speed.

A/C Override / Heating Override
These two objects can be used to take over the room temperature control. When object is set to active, it will cause unit to increase or decrease supply air temperature and thereby increase heating or cooling. When set to inactive, setpoint will not be changed and unit

will maintain supply air at setpoint.

These objects will override internal control the first time object is set to active. Unit will not go back to internal control until after a system restart.

Binary Value Objects (Alarms)

Instance	Name	NE	NP	NV	NW	OA
768	Blower Overload	x	x	x	x	x
769	No Airflow	x	x	x	x	x
770	Firestat Alarm	x	x	x	x	x
771	Freezestat Alarm	x	x	x	x	x
772	Dirty Filter	o	o	o	o	o
773	Pool 1 Water Flow Fault	o	o			
774	Compressor 1 High Pressure	x	x			x
775	Compressor 1 Low Pressure	x	x			x
776	Compressor 1 Oil Fault	x	x			x
777	Compressor 1 High Discharge Temp	x	x			x
778	Compressor 2 High Pressure	o	o			
779	Compressor 2 Low Pressure	o	o			
780	Compressor 2 Oil Fault	o	o			
781	Compressor 2 High Discharge Temp	o	o			
792	Voltage Fault	x	x	x	x	x
793	Purge Alarm	o	o	o	o	
794	Outdoor Air Condenser 1 Overload	x	x			x
795	Outdoor Air Condenser 2 Overload	o	o			
797	Compressor 1 Low Superheat	x	x			x
798	Compressor 2 Low Superheat	o	o			
801	Bad Battery	x	x	x	x	x

802	Exhaust Fan 1 Overload	x	x	x	x	
803	Pool 2 Water Flow Fault	o	o			
804	Compressor 1 Pressure Fault	x	x			x
805	Compressor 2 Pressure Fault	o	o			
809	Compressor Pump Fault		x			
810	Freezestat 2 Alarm	x	x	x	x	x
811	Compressor Cooler Fault					x
812	Exhaust Fan 2 Overload	o	o	x	o	
813	Compressor 1 High Suction Temp	x	x			x
814	Compressor 2 High Suction Temp	o	o			

Rebooting Unit

The Seresco unit also supports a BACnet message called Reinitialize Device. If this message has been implemented in the management system you will be able to reboot the unit over BACnet.

The only state supported is Warm Start. A password is also required. Password is Seresco254.