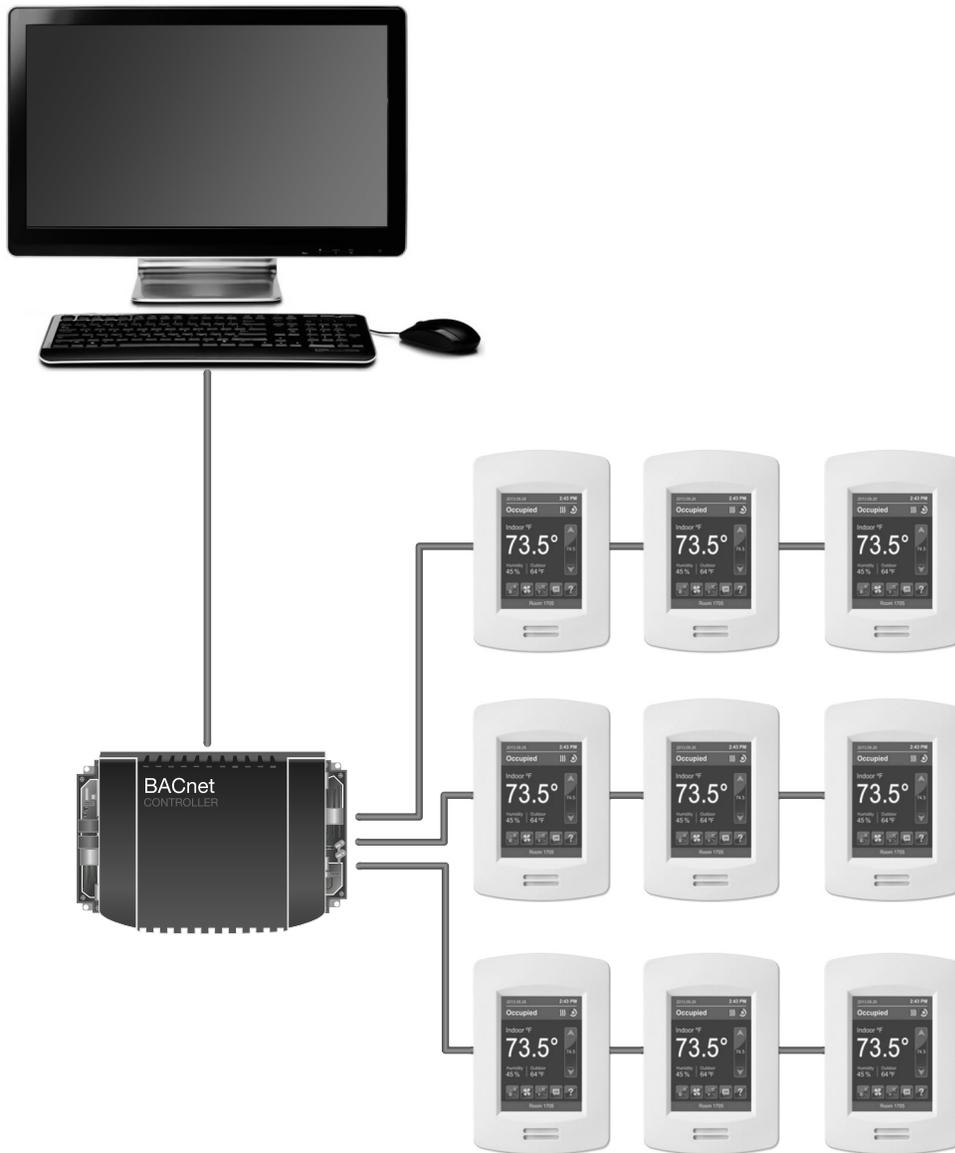


# VT8000 Room Controllers

## VT8650 BACnet Integration Guide

Roof Top Unit (RTU), Heat Pump and Indoor Air Quality (IAQ)  
Firmware Revision 2.5



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# Compatibility Specifications

**Note:** This document contains BACnet compatibility specifications of the Viconics Technologies VT8650 Room Controllers and follows the BACnet PICS format. Objects common to all three models appear in one table, whereas objects which are model specific appear in separate tables.

**Supported BACnet® Services:** The BACnet® communicating controller meets all requirements for designation as an Application Specific Controller (B-ASC). The BACnet controller supports the following BACnet Interoperability Building Blocks (BIBBs).

Note: The controller does not support segmented requests or responses

Application Service	Designation
Data Sharing-COV-B	DS-COV-B
Data Sharing – Read Property - B	DS-RP-B
Data Sharing – Read Property Multiple - B	DS-RPM-B
Data Sharing – Write Property - B	DS-WP-B
Data Sharing - Write Property Multiple Service - B	DS-WPM-B
Device Management - Time Synchronization - B	DM-TS-B
Device Management - Device Communication Control - B	DM-DCC-B
Device Management – Dynamic Device Binding - B	DM-DDB-B
Device Management – Dynamic Object Binding - B	DM-DOB-B
Scheduling-Internal-B	SCHED-I-B

Object Name	Type and Instance	Object Property	Controller Parameter
VT8650 (all models)	Device	Object_Identifier Property 75 (R,W)	Unique ID number of a device on a network
		Object_Name Property 77 (R,W)	Unique name of a device on a network
		Model Name Property 70 (R)	Controller model number
		Firmware Revision Property 44 (R)	Current BACnet® firmware revision used by controller
		Protocol Version Property 98 (R)	Current BACnet® firmware protocol version Default is Version 1
		Protocol Revision Property 139 (R)	Current BACnet® firmware protocol revision Default is Version 2
		Max ADPU Length Property 62 (R)	Maximum ADPU Length accepted Default is 480
		ADPU Timeout Property 10 (R)	ADPU timeout value Default is 3000 ms
		Application-Software-Version Property 12 (R)	Controller base application software version Default is based on current released version
		Max_Master (R,W)	Maximum master devices allowed to be part of network. 0 to 127, default is 127
		Description Property 28 (R,W)	String of printable characters (Same as "Long Screen Message" CSV2)
		Location Property 58 (R,W)	String of printable characters (Same as "Short Screen Message" CSV1)
		Local Date Property 56 (R)	Indicates date to best of device knowledge
		Local Time Property 57 (R)	Indicated time of day best of the device knowledge

# Object Properties

## NOTE for BACnet Priorities:

- 1-3: Written in eeprom memory, the value cannot be changed at the thermostat and will remain after a power-cycle. To release it, do a "Restore Factory default" or from BACnet at same priority level.  
Usage: System configuration parameters that should not be changed.
- 4-16: Written in ram memory, the values are lost after a power-cycle.  
Usage: Initialization of LUA4RC scripts. (Do not use priorities 4-16 from a BMS.)
- 17: Relinquish default, the values can be changed at the thermostat and will remain in the thermostat after a power-cycle.  
Usage: Temperature setpoints, fan-mode, system-mode, etc.

## Analog Objects

Object Type Read/Write Settings			Object Property	Controller Parameter
Input AI	Output AO	Values AV		
Read Only	Read Only	Read Only	Event State Property 36	Indicates if object has an active event state associated with it
Read Only	Read Only	Read Only	Object Identifier Property 75	Unique ID number of an object on a network
Read Only	Read Only	Read Only	Object Name Property 77	Unique name of an object on a network
Read Only	Read Only	Read Only	Object Type Property 79	Indicates membership in a particular object type class
Read / Write	Read / Write	Read / Write	Out of Service Property 81	Indicates whether (TRUE/FALSE) the physical input object represents is not in service
Read / Write*	Read / Write	Read / Write	Present Value Property 85	Contains values of all properties specified
N/A	Read Only	Read Only	Priority Array Property 87	Read-only array of prioritized values
Read Only	Read Only	Read Only	Reliability Property 103	Indicates if Present_Value is "reliable"
N/A	Read Only	Read / Write †	Relinquish Default Property 104	Default value used for Present_Value when values in Priority_Array have a NULL value
Read Only	Read Only	Read Only	Status Flags Property 111	Represents flags that indicate general health of life safety point object
Read Only	Read Only	Read Only	Units Property 177	Indicates measurement units of Present_Value
N/A	Read / Write	Read / Write	Hight Limit Property 1101	Specifies a limit Present_Value must exceed before an event is generated
N/A	Read / Write	Read / Write	Low Limit Property 1100	Specifies a limit Present_Value must fall below before an event is generated

**N/A** = Not Applicable, property not used for objects of that type

\* The Present\_Value is only writeable when Out\_Of\_Service is TRUE.

† Relinquish default, the values can be changed at the thermostat and will remain in the thermostat after a power-cycle. Usage: Temperature setpoints, fan-mode, system-mode, etc.

## Binary Objects

Object Type Read/Write Settings			Object Property	Controller Parameter
Input BI	Output BO	Values BV		
Read Only	Read Only	Read Only	Active Text Property 4	Characterizes intended effect of the ACTIVE state of Present_Value property
Read Only	Read Only	Read Only	Event State Property 36	Indicates if object has an active event state associated with it
Read Only	Read Only	Read Only	Inactive Text Property 46	Characterizes intended effect of INACTIVE state of Present_Value property
Read Only	Read Only	Read Only	Object Identifier Property 75	Unique ID number of an object on a network
Read Only	Read Only	Read Only	Object Name Property 77	Unique name of an object on a network
Read Only	Read Only	Read Only	Object Type Property 79	Indicates membership in a particular object type class
Read / Write	Read / Write	Read / Write	Out of Service Property 81	Indicates whether (TRUE/FALSE) physical input object represents is not in service
Read Only	Read Only	N/A	Polarity Property 84	Indicates relationship between physical state of input and Present_Value
Read / Write	Read / Write	Read / Write	Present Value Property 85	Contains values of all properties specified
Read Only	Read Only	Read Only	Priority Array Property 87	Read-only array of prioritized values
N/A	Read Only	Read / Write	Relinquish Default Property 104	Default value to be used for Present Value when values in Priority_Array have a NULL value
Read Only	Read Only	Read Only	Status Flags Property 111	Represents flags that indicate general health of life safety point object

**N/A** = Not Applicable, property not used for objects of that type

**NOTE for BACnet Priorities:**

- 1-3: Written in eeprom memory, the value cannot be changed at the thermostat and will remain after a power-cycle. To release it, do a "Restore Factory default" or from BACnet at same priority level.  
Usage: System configuration parameters that should not be changed.
- 4-16: Written in ram memory, the values are lost after a power-cycle.  
Usage: Initialization of LUA4RC scripts. (Do not use priorities 4-16 from a BMS.)
- 17: Relinquish default, the values can be changed at the thermostat and will remain in the thermostat after a power-cycle.  
Usage: Temperature setpoints, fan-mode, system-mode, etc.

## CAL Objects

Read/Write	Object Property	Controller Parameter
Read / Write	Date List Property 23	List of calendar entries.
Read Only	Object Identifier Property 75	Unique ID number of an object on a network
Read Only	Object Name Property 77	Unique name of an object on a network
Read Only	Object Type Property 79	Indicates membership in a particular object type class
Read Only	Present Value Property 85	This property is TRUE when current date matches an entry.

## CSV Objects

Read/Write	Object Property	Controller Parameter
Read Only	Event State Property 36	Indicates object has an active event state associated with it
Read Only	Object Identifier Property 75	Unique ID number of an object on a network
Read Only	Object Name Property 77	Unique name of an object on a network
Read Only	Object Type Property 79	Indicates membership in a particular object type class
Read / Write	Present Value Property 85	Contains values of all properties specified
Read Only	Status Flags Property 111	Represents flags that indicate general health of life safety point object

## File Objects

Read/Write	Object Property	Controller Parameter
Read Only	Archive Property 13	Set to FALSE when the Modification_Date property changes for any reason. An archiving process to set the value of this property to TRUE when it completes.
Read Only	File Access Method Property 41	Indicates the type(s) of file access supported for this object. Supported: "1: Stream Access".
Read / Write	File Size Property 42	Indicates the size of the file data in octets. Writing a value of 0 erases file data contents.
Read Only	File Type Property 43	Identifies the intended use of this file
Read Only	Modification Date Property 71	Indicates the last time the underlying file data or File_Size of this object was modified
Read Only	Object Identifier Property 75	Unique ID number of an object on a network
Read Only	Object Name Property 77	Unique name of an object on a network
Read Only	Object Type Property 79	File type object
Read Only	Read Only Property 99	Whether FALSE or TRUE the file data may be changed through the use of the AtomicWriteFile service
Read Only	Profile Name Property 168	Name of an object profile to which this object conforms

## Multi-State Objects

Object Type Read/Write Settings		Object Property	Controller Parameter
Input MSI	Values MV		
Read Only	Read Only	Event State Property 36	Indicates if object has an active event state associated with it
Read Only	Read Only	Number of States Property 74	Defines number of states Present_Value may have
Read Only	Read Only	Object Identifier Property 75	Unique ID number of an object on a network
Read Only	Read Only	Object Name Property 77	Unique name of an object on a network
Read Only	Read Only	Object Type Property 79	Indicates membership in a particular object type class

Object Type Read/Write Settings		Object Property	Controller Parameter
Input MSI	Values MV		
Read / Write	Read / Write	Out of Service Property 81	Indicates whether (TRUE/FALSE) physical input object represents is not in service
Read / Write*	Read / Write	Present Value Property 85	Contains values of all properties specified
N/A	Read Only	Priority Array Property 87	Indicates relationship between physical state of input and Present_Value
N/A	Read / Write	Relinquish Default Property 104	Default value used for Present_Value when values in Priority_Array have a NULL value
Read Only	Read Only	State Text Property 110	Represents descriptions of all possible states of Present_Value
Read Only	Read Only	Status Flags Property 111	Represents flags that indicate general health of life safety point object

**N/A** = Not Applicable, property not used for objects of that type

\* The Present\_Value is only writeable when Out\_Of\_Service is TRUE.

## PG Objects

Read/Write	Object Property	Controller Parameter
Read Only	Description Property 28	String of printable characters whose content is not restricted. Contains up to 480 bytes of the LUA program script.
Read Only	Description Of Halt Property 29	Describes the reason why a program has been halted Text is also displayed in the HMI debug log
Read Only	Instance Of Property 48	Local name of the application program being executed by this process
Read Only	Object Identifier Property 75	Unique ID number of an object on a network
Read Only	Object Name Property 77	Unique name of an object on a network
Read Only	Object Type Property 79	Indicates membership in a particular object type class
Read Only	Out Of Service Property 81	Indicates whether (TRUE/FALSE) the process this object represents is not in service
Write Only	Program Change Property 90	Used to request changes to the operating state of the program. Writing to property affects all 10 PG objects
Read Only	Program State Property 92	Current logical state of the PG objects executing application programs
Read Only	Reason For Halt Property 100	If program halts, this property reflects the reason for halt
Read Only	Status Flags Property 111	Represents flags that indicate general health of life safety point object

## SCH Objects

Read/Write	Object Property	Controller Parameter
Read Only	Effective Period Property 32	Range of dates within which the Schedule object is active. All dates are in range, so always Effective
Read / Write	Exception Schedule Property 38	Sequence of schedule actions that takes precedence over normal behavior on a specific day or days. By default, this property refers to the calendar
Read Only	Object Identifier Property 75	Unique ID number of an object on a network
Read Only	Object Name Property 77	Unique name of an object on a network
Read Only	Object Type Property 79	Indicates membership in a particular object type class
Read / Write	Present Value Property 85	Contains the current value of the schedule (0:unoccupied, 1:occupied). Only writeable when Out Of Service is TRUE .
Read / Write	Out Of Service Property 81	Indicates whether (TRUE/FALSE) the internal calculations of the schedule object are used to determine the value of the Present Value property
Read Only	Reliability Property 103	Indicates if Present Value is "reliable"
Read Only	Status Flags Property 111	Represents flags that indicate general health of life safety point object
Read / Write	Weekly Schedule Property 123	7 elements that describe the sequence of schedule actions for each day of the week
Read Only	Schedule Default Property 174	Default value to be used when no other scheduled value is in effect. Always Unoccupied

# Analog Objects

## Analog Input Properties

Analog Input Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
Light Sensor Level	2	0	0	30000	Lux
Relative Humidity Raw Value	4	0	0	1000	%
UI20 Raw Value	5	0	0	4095	---
UI23 Raw Value	7	0	0	4095	---
UI22 Raw Value	8	0	0	4095	---
UI24 Raw Value	9	0	0	4095	---
UI19 Raw Value	31	0	0	4095	---
RH Temperature Raw Value	32	0	-400	1220	
UI16 Raw Value	33	0	0	4095	
UI17 Raw Value	34	0	0	4095	
Wireless Device 1 - Temperature	315	-40°F (-40°C)	-40°F (-40°C)	185°F (85°C)	Fahrenheit/ Celsius
Wireless Device 2 - Temperature	316	-40°F (-40°C)	-40°F (-40°C)	185°F (85°C)	Fahrenheit/ Celsius
Wireless Device 3 - Temperature	317	-40°F (-40°C)	-40°F (-40°C)	185°F (85°C)	Fahrenheit/ Celsius
Wireless Device 4 - Temperature	318	-40°F (-40°C)	-40°F (-40°C)	185°F (85°C)	Fahrenheit/ Celsius
Wireless Device 5 - Temperature	319	-40°F (-40°C)	-40°F (-40°C)	185°F (85°C)	Fahrenheit/ Celsius
Wireless Device 6 - Temperature	320	-40°F (-40°C)	-40°F (-40°C)	185°F (85°C)	Fahrenheit/ Celsius
Wireless Device 7 - Temperature	321	-40°F (-40°C)	-40°F (-40°C)	185°F (85°C)	Fahrenheit/ Celsius
Wireless Device 8 - Temperature	322	-40°F (-40°C)	-40°F (-40°C)	185°F (85°C)	Fahrenheit/ Celsius
Wireless Device 9 - Temperature	323	-40°F (-40°C)	-40°F (-40°C)	185°F (85°C)	Fahrenheit/ Celsius
Wireless Device 10 - Temperature	324	-40°F (-40°C)	-40°F (-40°C)	185°F (85°C)	Fahrenheit/ Celsius
Effective Setpoint	329	0°F (-18°C)	40°F (4°C)	100°F (38°C)	Fahrenheit/ Celsius
Paired ZigBee Devices	330	0	0	20	
Therm. Raw Value	340	0	-400	1220	
SH Therm. Raw Value	341	0	-400	1220	
Wi-Fi Network Signal Strength	342	0	0	100	Percent
Wi-Fi Module Boot Count	343	0	0	32767	
Wireless Device 11 - Temperature	355	-40°F (-40°C)	-40°F(-40°C)	185°F(85°C)	Fahrenheit/ Celsius
Wireless Device 12 - Temperature	356	-40°F (-40°C)	-40°F(-40°C)	185°F(85°C)	Fahrenheit/ Celsius
Wireless Device 13 - Temperature	357	-40°F (-40°C)	-40°F(-40°C)	185°F(85°C)	Fahrenheit/ Celsius

Analog Input Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
Wireless Device 14 - Temperature	358	-40°F (-40°C)	-40°F(-40°C)	185°F(85°C)	Fahrenheit/ Celsius
Wireless Device 15 - Temperature	359	-40°F (-40°C)	-40°F(-40°C)	185°F(85°C)	Fahrenheit/ Celsius
Wireless Device 16 - Temperature	360	-40°F (-40°C)	-40°F(-40°C)	185°F(85°C)	Fahrenheit/ Celsius
Wireless Device 17 - Temperature	361	-40°F (-40°C)	-40°F(-40°C)	185°F(85°C)	Fahrenheit/ Celsius
Wireless Device 18 - Temperature	362	-40°F (-40°C)	-40°F(-40°C)	185°F(85°C)	Fahrenheit/ Celsius
Wireless Device 19 - Temperature	363	-40°F (-40°C)	-40°F(-40°C)	185°F(85°C)	Fahrenheit/ Celsius
Wireless Device 20 - Temperature	364	-40°F (-40°C)	-40°F(-40°C)	185°F(85°C)	Fahrenheit/ Celsius
Wireless Device 1 - Humidity	365	0	0	100	Percent Relative Humidity
Wireless Device 2 - Humidity	366	0	0	100	Percent Relative Humidity
Wireless Device 3 - Humidity	367	0	0	100	Percent Relative Humidity
Wireless Device 4 - Humidity	368	0	0	100	Percent Relative Humidity
Wireless Device 5 - Humidity	369	0	0	100	Percent Relative Humidity
Wireless Device 6 - Humidity	370	0	0	100	Percent Relative Humidity
Wireless Device 7 - Humidity	371	0	0	100	Percent Relative Humidity
Wireless Device 8 - Humidity	372	0	0	100	Percent Relative Humidity
Wireless Device 9 - Humidity	373	0	0	100	Percent Relative Humidity
Wireless Device 10 - Humidity	374	0	0	100	Percent Relative Humidity
Wireless Device 11 - Humidity	375	0	0	100	Percent Relative Humidity
Wireless Device 12 - Humidity	376	0	0	100	Percent Relative Humidity
Wireless Device 13 - Humidity	377	0	0	100	Percent Relative Humidity
Wireless Device 14 - Humidity	378	0	0	100	Percent Relative Humidity
Wireless Device 15 - Humidity	379	0	0	100	Percent Relative Humidity
Wireless Device 16 - Humidity	380	0	0	100	Percent Relative Humidity
Wireless Device 17 - Humidity	381	0	0	100	Percent Relative Humidity
Wireless Device 18 - Humidity	382	0	0	100	Percent Relative Humidity
Wireless Device 19 - Humidity	383	0	0	100	Percent Relative Humidity
Wireless Device 20 - Humidity	384	0	0	100	Percent Relative Humidity

Analog Input Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
Wireless Device 1 - CO2	385	0	0	5000	Parts per Million
Wireless Device 2 - CO2	386	0	0	5000	Parts per Million
Wireless Device 3 - CO2	387	0	0	5000	Parts per Million
Wireless Device 4 - CO2	388	0	0	5000	Parts per Million
Wireless Device 5 - CO2	389	0	0	5000	Parts per Million
Wireless Device 6 - CO2	390	0	0	5000	Parts per Million
Wireless Device 7 - CO2	391	0	0	5000	Parts per Million
Wireless Device 8 - CO2	392	0	0	5000	Parts per Million
Wireless Device 9 - CO2	393	0	0	5000	Parts per Million
Wireless Device 10 - CO2	394	0	0	5000	Parts per Million
Wireless Device 11 - CO2	395	0	0	5000	Parts per Million
Wireless Device 12 - CO2	396	0	0	5000	Parts per Million
Wireless Device 13 - CO2	397	0	0	5000	Parts per Million
Wireless Device 14 - CO2	398	0	0	5000	Parts per Million
Wireless Device 15 - CO2	399	0	0	5000	Parts per Million
Wireless Device 16 - CO2	400	0	0	5000	Parts per Million
Wireless Device 17 - CO2	401	0	0	5000	Parts per Million
Wireless Device 18 - CO2	402	0	0	5000	Parts per Million
Wireless Device 19 - CO2	403	0	0	5000	Parts per Million
Wireless Device 20 - CO2	404	0	0	5000	Parts per Million

## Analog Output Properties

Analog Output Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
PI Heating Demand	21	0	0	100	%
PI Cooling Demand	22	0	0	100	%
Economizer Demand	23	0	0	100	%
Analog Output Heat Demand	24	0	0	100	%
UO11 Analog Output	123	0	0	10	Voltage
UO12 Analog Output	124	0	0	10	Voltage
UO9 Analog Output	125	0	0	10	Voltage
UO10 Analog Output	126	0	0	10	Voltage

## Analog Value Properties

Analog Value Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
User HMI	2	0	0	12	Show/Hide screen icons
Low Backlight	3	60	0	100	%
Night Backlight	4	5	0	100	%
Calibrate Room Temperature Sensor	7	0	-5°F (-20°C)	5°F (10°C)	Fahrenheit/ Celsius
Calibrate Humidity Sensor	8	0	-15	15	%
COM Address	10	254	0	254	COM address
BACnet Stack Poll Rate	16	4	1	5	----
Discharge Low Limit	20	45°F (7°C)	35°F (2°C)	65°F (18°C)	Fahrenheit/ Celsius
Minimum Fresh Air	21	0	0	20000	ft <sup>3</sup> /min
Maximum Fresh Air	22	0	0	20000	ft <sup>3</sup> /min
Minimum CO2	23	800	0	5000	ppm
Maximum CO2	24	1200	0	5000	ppm
Lua Parameter A (AV25)	25	0	-32768	32767	----
Lua Parameter B (AV26)	26	0	-32768	32767	----
Lua Parameter C (AV27)	27	0	-32768	32767	----
Lua Parameter D (AV28)	28	0	-32768	32767	----
Lua Parameter E (AV29)	29	0	-32768	32767	----
Lua Parameter F (AV30)	30	0	-32768	32767	----
Occupied Heat Setpoint	39	72°F (22°C)	40°F (4.5°C)	90°F (32°C)	Fahrenheit/ Celsius
Occupied Cool Setpoint	40	75°F (24°C)	54°F (12°C)	100°F (38°C)	Fahrenheit/ Celsius
Standby Heat Setpoint	41	69°F (21°C)	40°F (4.5°C)	90°F (32°C)	Fahrenheit/ Celsius
Standby Cool Setpoint	42	78°F (21°C)	54°F (26°C)	100°F (38°C)	Fahrenheit/ Celsius
Unoccupied Heat Setpoint	43	62°F (17°C)	40°F (4.5°C)	90°F (32°C)	Fahrenheit/ Celsius
Unoccupied Cool Setpoint	44	80°F (27°C)	54°F (26°C)	100°F (38°C)	Fahrenheit/ Celsius
Default Heating Setpoint	45	72°F (22°C)	65°F (18°C)	80°F (27°C)	Fahrenheit/ Celsius
Standby Temperature Differential	46	34°F (1.5°C)	33°F (0.5°C)	37°F (2.5°C)	Fahrenheit/ Celsius
Main Password	56	0	0	9999	Installer password
User Password	57	0	0	9999	User password
Heating Setpoint Limit	58	90°F (32°C)	40°F (4.5°C)	90°F (32°C)	Fahrenheit/ Celsius
Cooling Setpoint Limit	59	54°F (26°C)	54°F (26°C)	100°F (38°C)	Fahrenheit/ Celsius
Temporary Occupancy Time	62	2	0	24	Hours

Analog Value Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
Minimum Deadband	63	35°F (1.5°C)	34°F (1.11°C)	37°F (2.5°C)	Fahrenheit/ Celsius
Proportional Band	65	3	3	10	---
Standby Time	67	0.5	0.5	24	Hours
Unoccupied Time	68	0	0	24	Hours
Dehumidification Setpoint	71	50	30	95	%RH
Dehumidification Hysteresis	72	5	2	20	%RH
Calibrate Outside Temperature Sensor	74	32°F (0°C)	28°F (-2.5°C)	37°F (2.5°C)	Fahrenheit/ Celsius
Number of Cooling Stages	75	2	1	2	Stages
Power-up Delay	76	10	10	120	Seconds
Economizer Minimum Position	78	0	0	100	%
Economizer Maximum Position	81	0	0	100	%
High balance point	82	90°F (32°C)	34°F (1°C)	90°F (32°C)	Fahrenheit/ Celsius
Low balance point	83	-11°F (-24°C)	-40°F (-40°C)	30°F (-1°C)	Fahrenheit/ Celsius
Heating CPH	84	4	3	8	Cycles/Hour
Cooling CPH	85	4	3	4	Cycles/Hour
Anti Short Cycle Time	86	2	0	5	Minutes
Number of Heating Stages	87	2	0	2	Stages
Heating Demand Limit	88	0	0	100	%
Cooling Demand Limit	89	0	0	100	%
Heating Lockout from Outside Air Temperature	91	120°F (49°C)	-15°F (-26°C)	120°F (49°C)	Fahrenheit/ Celsius
Keyboard Value	92	0	0	35	---
Cooling Lockout	93	-40°F (-40°C)	-40°F (-40°C)	95°F (35°C)	Fahrenheit/ Celsius
Supply Air Setpoint	94	55°F (13°C)	50°F (10°C)	90°F (32°C)	Fahrenheit/ Celsius
Changeover Setpoint	95	55°F (13°C)	14°F (10°C)	70°F (21°C)	Fahrenheit/ Celsius
Fresh Air Range Upper Limit	96	0	0	20,000	Ft <sup>3</sup> /Minute
Minimum Supply Heat	97	64°F (18°C)	50°F (10°C)	72°F (22°C)	Fahrenheit/ Celsius
Supply Heat Lockout	98	32°F (0°C)	-15°F (-26°C)	120°F (49°C)	Fahrenheit/ Celsius
Discharge High Limit	99	120°F (49°C)	70°F (21°C)	150°F (65.5°C)	Fahrenheit/ Celsius
Room Temperature	100	0°F (-18°C)	-40°F (-40°C)	122°F (50°C)	Fahrenheit/ Celsius
Outdoor Temperature	101	0°F (-18°C)	-40°F (-40°C)	180°F (82°C)	Fahrenheit/ Celsius
UI22 Supply Temperature	102	0°F (-18°C)	-40°F (-40°C)	180°F (82°C)	Fahrenheit/ Celsius
Room Humidity	103	0	0	100	%RH

Analog Value Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
UI19 Temperature	104	0°F (-18°C)	-40°F (-40°C)	180°F (82°C)	Fahrenheit/ Celcius
UI20 Remote Temperature	105	0°F (-18°C)	-40°F (-40°C)	180°F (82°C)	Fahrenheit/ Celcius
CO2 Level	106	0	0	5000	ppm
Airflow Level	107	0	0	20,000	ft <sup>3</sup> /min
UI19 Analog Input	108	0	0	10	Voltage
UI24 Temperature	109	0°F (-18°C)	-40°F (-40°C)	180°F (82°C)	Fahrenheit/ Celcius
UI16 Analog Input	111	0	0	10	Voltage
UI17 Analog Input	112	0	0	10	Voltage
UI20 Analog Input	113	0	0	10	Voltage
UI22 Analog Input	114	0	0	10	Voltage
UI23 Analog Input	115	0	0	10	Voltage
UI24 Analog Input	116	0	0	10	Voltage
UI16 Temperature	117	0°F (-18°C)	-40°F (-40°C)	180°F (82°C)	Fahrenheit/ Celcius
UI17 Temperature	118	0°F (-18°C)	-40°F (-40°C)	180°F (82°C)	Fahrenheit/ Celcius
UI20 Temperature	120	0°F (-18°C)	-40°F (-40°C)	180°F (82°C)	Fahrenheit/ Celcius
UI22 Temperature	121	0°F (-18°C)	-40°F (-40°C)	180°F (82°C)	Fahrenheit/ Celcius
UI23 Temperature	122	0°F (-18°C)	-40°F (-40°C)	180°F (82°C)	Fahrenheit/ Celcius
UI19 Lua	202	0	-32768	32767	----
UI20 Lua	203	0	-32768	32767	----
UI22 Lua	204	0	-32768	32767	----
UI23 Lua	205	0	-32768	32767	----
UI24 Lua	206	0	-32768	32767	----
Ambient Low Temperature Threshold	209	40°F(4°C)	32°F(0°C)	50°F(10°C)	Fahrenheit/ Celcius
Temperature Alarm Hysteresis	210	2°F(-17°C)	0°F(-18°C)	10°F(-12°C)	Fahrenheit/ Celcius
Load Shedding Offset	211	4°F(-16°C)	4°F(-16°C)	10°F(-12°C)	Fahrenheit/ Celcius
Lua Parameter G (AV225)	225	0	-32768	32767	----
Lua Parameter H (AV226)	226	0	-32768	32767	----
Lua Parameter I (AV227)	227	0	-32768	32767	----
Lua Parameter J (AV228)	228	0	-32768	32767	----
Lua Parameter K (AV229)	229	0	-32768	32767	----
Lua Parameter L (AV230)	230	0	-32768	32767	----
Standby Screen Delay	270	150	5	300	Seconds
Ambient High Temperature Threshold	275	86°F (30°C)	32°F (0°C)	122°F (50°C)	Fahrenheit/ Celcius

Analog Value Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
Refrigeration High Temperature Threshold	276	40°F (4°C)	32°F (0°C)	60°F (16°C)	Fahrenheit/ Celcius
Refrigeration Low Temperature Threshold	277	32°F (0°C)	32°F (0°C)	50°F (10°C)	Fahrenheit/ Celcius
Freezer High Temperature Threshold	278	0°F (-18°C)	-40°F (-40°C)	32°F (0°C)	Fahrenheit/ Celcius

## Binary Objects

### Binary Input Properties

Binary Input Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
UI16 Binary Input	29	0	0	1	0 = Activated 1 = Not Activated
UI17 Binary Input	30	0	0	1	0 = Activated 1 = Not Activated
UI19 Binary Input	91	0	0	1	0 = Activated 1 = Not Activated
UI20 Binary Input	94	0	0	1	0 = Activated 1 = Not Activated
UI22 Binary Input	95	0	0	1	0 = Activated 1 = Not Activated
UI23 Binary Input	96	0	0	1	0 = Activated 1 = Not Activated
UI24 Binary Input	97	0	0	1	0 = Activated 1 = Not Activated

### Binary Output Properties

Binary Output Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
G Fan Status	25	0	0	1	0 = Off 1 = On
Y1 Status	26	0	0	1	0 = Off 1 = On
Y2 Status	27	0	0	1	0 = Off 1 = On
W1 Status	28	0	0	1	0 = Off 1 = On
W2/OB Status	29	0	0	1	0 = Off 1 = On
UO10 Binary Output	94	0	0	1	0 = Off 1 = On
BO1 Auxiliary Binary Output	98	0	0	1	0 = Off 1 = On
UO11 Binary Output	101	0	0	1	0 = Off 1 = On
UO12 Binary Output	102	0	0	1	0 = Off 1 = On

## Binary Value Properties

Binary Value Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
Door Contact Status	1	0	0	1	0 = Closed 1 = Open
Door Contact Installed	2	0	0	1	0 = No 1 = Yes
Window Contact Status	3	0	0	1	0 = Closed 1 = Open
Window Contact Installed	4	0	0	1	0 = No 1 = Yes
Low Battery Alarm	5	0	0	1	0 = Off 1 = On
Force High Backlight	6	0	0	1	0 = Off 1 = On
Display Long Screen Message	7	0	0	1	0 = Off 1 = On
Clock Alarm	8	0	0	1	0 = Off 1 = On
Exception Status	10	0	0	1	0 = Off 1 = On
PIR Local Motion	32	0	0	1	0 = No motion 1 = Motion
Window Alarm	35	0	0	1	0 = Off 1 = On
Filter Alarm	36	0	0	1	0 = Off 1 = On
Service Alarm	37	0	0	1	0 = Off 1 = On
Dehumidification Status	38	0	0	1	0 = Off 1 = On
Fan Lock Alarm	39	0	0	1	0 = Off 1 = On
Smart Recovery Status	40	0	0	1	0 = Off 1 = On
CO2 Alarm	41	0	0	1	0 = Off 1 = On
Low Fresh Air Alarm	42	0	0	1	0 = Off 1 = On
Frost Protection Alarm	43	0	0	1	0 = Off 1 = On
Water Leak	44	0	0	1	0 = Off 1 = On
Water Leak Sensor Installed	45	0	0	1	0 = No 1 = Yes
Water leak sensor status	46	0	0	1	0 = Normal 1 = Leak
Low Temperature	47	0	0	1	0 = Off 1 = On
Load Shedding Demand	48	0	0	1	0 = Off 1 = On
Load Shedding Status	49	0	0	1	0 = Off 1 = On
Load Shedding Override	50	0	0	1	0 = Off 1 = On

Binary Value Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
High Temperature	53				
ZigBee PIR Sensor Installed	200	0	0	1	0 = Off 1 = On
ZigBee Sensor Motion	201	0	0	1	0 = No motion 1 = Motion

## CSV Objects

CSV Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
Short Screen Message Text	1	0	0	64	----
Long Screen Message Text	2	0	0	480	----
External Memory Revision	3	0	0	17	----
Wi-Fi Device Name	4	0	0	63	----
Wi-Fi Firmware Version	5	0	0	63	----
MAC Address	6	0	0	18	----
Wi-Fi Network SSID	7	0	0	33	----
Wi-Fi Network IP Address	8	0	0	46	----
ZigBee Firmware Revision	9	0	0	32	----
Zigbee IEEE Address	10	0	0	18	----
Wireless Device 1 - Address	11	0	0	18	----
Wireless Device 2 - Address	12	0	0	18	----
Wireless Device 3 - Address	13	0	0	18	----
Wireless Device 4 - Address	14	0	0	18	----
Wireless Device 5 - Address	15	0	0	18	----
Wireless Device 6 - Address	16	0	0	18	----
Wireless Device 7 - Address	17	0	0	18	----
Wireless Device 8 - Address	18	0	0	18	----
Wireless Device 9 - Address	19	0	0	18	----
Wireless Device 10 - Address	20	0	0	18	----
Wireless Device 11 - Address	21	0	0	18	----
Wireless Device 12 - Address	22	0	0	18	----
Wireless Device 13 - Address	23	0	0	18	----
Wireless Device 14 - Address	24	0	0	18	----
Wireless Device 15 - Address	25	0	0	18	----
Wireless Device 16 - Address	26	0	0	18	----
Wireless Device 17 - Address	27	0	0	18	----

CSV Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
Wireless Device 18 - Address	28	0	0	18	----
Wireless Device 19 - Address	29	0	0	18	----
Wireless Device 20 - Address	30	0	0	18	----

## File Objects

File Object Properties		
Object name	Instance	Description
Custom Lua File	1	<p>Read/write access to the LUA4RC script. The script can be written via this object, or via USB.</p> <p>Note: "Program Objects" on page 39 can be used to monitor and control the script execution.</p>

## Multi-State Objects

### Multi-State Input Properties

Multi-State Input Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
ZigBee Network Status	2	1	1	5	1 = Not det. 2 = Pwr on 3 = No NWK 4 = Joined 5 = Online
Effective Occupancy	33	1	1	4	1 = Occupied 2 = Unoccupied 3 = Override 4 = Standby
Wireless Device 1 - Sensor Type	180	1	1	8	1=None 2=Unknown 3=Motion 4=Contact 5=Water 6=Temp. 7=Temp./RH 8=CO2
Wireless Device 2 - Sensor Type	181	1	1	8	1=None 2=Unknown 3=Motion 4=Contact 5=Water 6=Temp. 7=Temp./RH 8=CO2

Multi-State Input Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
Wireless Device 3 - Sensor Type	182	1	1	8	1=None 2=Unknown 3=Motion 4=Contact 5=Water 6=Temp. 7=Temp./RH 8=CO2
Wireless Device 4 - Sensor Type	183	1	1	8	1=None 2=Unknown 3=Motion 4=Contact 5=Water 6=Temp. 7=Temp./RH 8=CO2
Wireless Device 5 - Sensor Type	184	1	1	8	1=None 2=Unknown 3=Motion 4=Contact 5=Water 6=Temp. 7=Temp./RH 8=CO2
Wireless Device 6 - Sensor Type	185	1	1	8	1=None 2=Unknown 3=Motion 4=Contact 5=Water 6=Temp. 7=Temp./RH 8=CO2
Wireless Device 7 - Sensor Type	186	1	1	8	1=None 2=Unknown 3=Motion 4=Contact 5=Water 6=Temp. 7=Temp./RH 8=CO2
Wireless Device 8 - Sensor Type	187	1	1	8	1=None 2=Unknown 3=Motion 4=Contact 5=Water 6=Temp. 7=Temp./RH 8=CO2
Wireless Device 9 - Sensor Type	188	1	1	8	1=None 2=Unknown 3=Motion 4=Contact 5=Water 6=Temp. 7=Temp./RH 8=CO2

Multi-State Input Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
Wireless Device 10 - Sensor Type	189	1	1	8	1=None 2=Unknown 3=Motion 4=Contact 5=Water 6=Temp. 7=Temp./RH 8=CO2
Wireless Device 11 - Sensor Type	190	1	1	8	1=None 2=Unknown 3=Motion 4=Contact 5=Water 6=Temp. 7=Temp./RH 8=CO2
Wireless Device 12 - Sensor Type	191	1	1	8	1=None 2=Unknown 3=Motion 4=Contact 5=Water 6=Temp. 7=Temp./RH 8=CO2
Wireless Device 13 - Sensor Type	192	1	1	8	1=None 2=Unknown 3=Motion 4=Contact 5=Water 6=Temp. 7=Temp./RH 8=CO2
Wireless Device 14 - Sensor Type	193	1	1	8	1=None 2=Unknown 3=Motion 4=Contact 5=Water 6=Temp. 7=Temp./RH 8=CO2
Wireless Device 15 - Sensor Type	194	1	1	8	1=None 2=Unknown 3=Motion 4=Contact 5=Water 6=Temp. 7=Temp./RH 8=CO2
Wireless Device 16 - Sensor Type	195	1	1	8	1=None 2=Unknown 3=Motion 4=Contact 5=Water 6=Temp. 7=Temp./RH 8=CO2

Multi-State Input Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
Wireless Device 17 - Sensor Type	196	1	1	8	1=None 2=Unknown 3=Motion 4=Contact 5=Water 6=Temp. 7=Temp./RH 8=CO2
Wireless Device 18 - Sensor Type	197	1	1	8	1=None 2=Unknown 3=Motion 4=Contact 5=Water 6=Temp. 7=Temp./RH 8=CO2
Wireless Device 19 - Sensor Type	198	1	1	8	1=None 2=Unknown 3=Motion 4=Contact 5=Water 6=Temp. 7=Temp./RH 8=CO2
Wireless Device 20 - Sensor Type	199	1	1	8	1=None 2=Unknown 3=Motion 4=Contact 5=Water 6=Temp. 7=Temp./RH 8=CO2
Wireless Device 1 - Status	210	1	1	7	1 = None 2 = Closed 3 = Opened 4 = No motion 5 = Motion 6 = Normal 7 = Leak
Wireless Device 1 - Battery	211	1	1	3	1 = None 2 = Normal 3 = Low
Wireless Device 1 - Communication Status	212	1	1	4	1 = Not paired 2 = Online 3 = Invalid 4 = Offline
Wireless Device 2 - Status	220	1	1	7	1 = None 2 = Closed 3 = Opened 4 = No motion 5 = Motion 6 = Normal 7 = Leak
Wireless Device 2 - Battery	221	1	1	3	1 = None 2 = Normal 3 = Low

Multi-State Input Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
Wireless Device 2 - Communication Status	222	1	1	4	1 = Not paired 2 = Online 3 = Invalid 4 = Offline
Wireless Device 3 - Status	230	1	1	7	1 = None 2 = Closed 3 = Opened 4 = No motion 5 = Motion 6 = Normal 7 = Leak
Wireless Device 3 - Battery	231	1	1	3	1 = None 2 = Normal 3 = Low
Wireless Device 3 - Communication Status	232	1	1	4	1 = Not paired 2 = Online 3 = Invalid 4 = Offline
Wireless Device 4 - Status	240	1	1	7	1 = None 2 = Closed 3 = Opened 4 = No motion 5 = Motion 6 = Normal 7 = Leak
Wireless Device 4 - Battery	241	1	1	3	1 = None 2 = Normal 3 = Low
Wireless Device 4 - Communication Status	242	1	1	4	1 = Not paired 2 = Online 3 = Invalid 4 = Offline
Wireless Device 5 - Status	250	1	1	7	1 = None 2 = Closed 3 = Opened 4 = No motion 5 = Motion 6 = Normal 7 = Leak
Wireless Device 5 - Battery	251	1	1	3	1 = None 2 = Normal 3 = Low
Wireless Device 5 - Communication Status	252	1	1	4	1 = Not paired 2 = Online 3 = Invalid 4 = Offline
Wireless Device 6 - Status	260	1	1	7	1 = None 2 = Closed 3 = Opened 4 = No motion 5 = Motion 6 = Normal 7 = Leak
Wireless Device 6 - Battery	261	1	1	3	1 = None 2 = Normal 3 = Low

Multi-State Input Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
Wireless Device 6 - Communication Status	262	1	1	4	1 = Not paired 2 = Online 3 = Invalid 4 = Offline
Wireless Device 7 - Status	270	1	1	7	1 = None 2 = Closed 3 = Opened 4 = No motion 5 = Motion 6 = Normal 7 = Leak
Wireless Device 7 - Battery	271	1	1	3	1 = None 2 = Normal 3 = Low
Wireless Device 7 - Communication Status	272	1	1	4	1 = Not paired 2 = Online 3 = Invalid 4 = Offline
Wireless Device 8 - Status	280	1	1	7	1 = None 2 = Closed 3 = Opened 4 = No motion 5 = Motion 6 = Normal 7 = Leak
Wireless Device 8 - Battery	281	1	1	3	1 = None 2 = Normal 3 = Low
Wireless Device 8 - Communication Status	282	1	1	4	1 = Not paired 2 = Online 3 = Invalid 4 = Offline
Wireless Device 9 - Status	290	1	1	7	1 = None 2 = Closed 3 = Opened 4 = No motion 5 = Motion 6 = Normal 7 = Leak
Wireless Device 9 - Battery	291	1	1	3	1 = None 2 = Normal 3 = Low
Wireless Device 9 - Communication Status	292	1	1	4	1 = Not paired 2 = Online 3 = Invalid 4 = Offline
Wireless Device 10 - Status	300	1	1	7	1 = None 2 = Closed 3 = Opened 4 = No motion 5 = Motion 6 = Normal 7 = Leak
Wireless Device 10 - Battery	301	1	1	3	1 = None 2 = Normal 3 = Low

Multi-State Input Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
Wireless Device 10 - Communication Status	302	1	1	4	1 = Not paired 2 = Online 3 = Invalid 4 = Offline
Effective Temperature Sensor	309	1	1	23	1=Wired 2=Internal 3=WL IO 4=WL 1 5=WL 2 6=WL 3 7=WL 4 8=WL 5 9=WL 6 10=WL 7 11=WL 8 12=WL 9 13=WL 10 14=WL 11 15=WL 12 16=WL 13 17=WL 14 18=WL 15 19=WL 16 20=WL 17 21=WL 18 22=WL 19 23=WL 20
Wireless Device 11 - Status	310	1	1	7	1=None 2=Closed 3=Opened 4=No motion 5=Motion 6=Normal 7=Leak
Wireless Device 11 - Battery	311	1	1	3	1=None 2=Normal 3=Low
Wireless Device 11 - Communication Status	312	1	1	4	1=Not paired 2=Online 3=Invalid 4=Offline

Multi-State Input Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
Effective Relative Humidity Sensor	313	1	1	22	1=None 2=Internal 3=WL 1 4=WL 2 5=WL 3 6=WL 4 7=WL 5 8=WL 6 9=WL 7 10=WL 8 11=WL 9 12=WL 10 13=WL 11 14=WL 12 15=WL 13 16=WL 14 17=WL 15 18=WL 16 19=WL 17 20=WL 18 21=WL 19 22=WL 20
Effective System Mode	314	1	1	2	1 = Cool 2 = Heat
Wi-Fi Module Status	315	1	1	7	1 = Offline 2 = Initializing 3 = Ready 4 = Booting 5 = Resetting 6 = Fail 7 = Testing
Wi-Fi Status	316	1	1	7	1= Idle 2 = Associate 3 = Config. 4 = Ready 5 = Online 6 = Disconn. 7 = Failure
BACnet IP Status	317	1	1	2	1 = Disabled 2 = Enabled
SMTP Server Status	318	1	1	4	1 = Unkown 2 = Disabled 3 = Offline 4 = Online
Facility Expert Enabled	319	1	1	2	1=Disabled 2=Enabled
Wireless Device 12 - Status	320	1	1	7	1=None 2=Closed 3=Opened 4=No motion 5=Motion 6=Normal 7=Leak
Wireless Device 12 - Battery	321	1	1	3	1=None 2=Normal 3=Low

Multi-State Input Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
Wireless Device 12 - Communication Status	322	1	1	4	1=Not paired 2=Online 3=Invalid 4=Offline
Facility Expert Status	323	1	1	6	1=Disabled 2=Offline 3=Connect. 4=Online 5=Failure 6=Unknown
CO2 Effective Source	324	1	1	24	1=None 2=Internal 3=Error 4=Wired 5=WL 1 6=WL 2 7=WL 3 8=WL 4 9=WL 5 10=WL 6 11=WL 7 12=WL 8 13=WL 9 14=WL 10 15=WL 11 16=WL 12 17=WL 13 18=WL 14 19=WL 15 20=WL 16 21=WL 17 22=WL 18 23=WL 19 24=WL 20
Time source	325	1	1	5	1=None 2=Local 3=BACnet 4=NTP 5=Cloud
Fan Speed Status	326	1	1	4	1 = Off 2 = Low 3 = Medium 4 = High
Wireless Device 13 - Status	330	1	1	7	1=None 2=Closed 3=Opened 4=No motion 5=Motion 6=Normal 7=Leak
Wireless Device 13 - Battery	331	1	1	3	1=None 2=Normal 3=Low
Wireless Device 13 - Communication Status	332	1	1	4	1=Not paired 2=Online 3=Invalid 4=Offline

Multi-State Input Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
Wireless Device 14 - Status	340	1	1	7	1=None 2=Closed 3=Opened 4=No motion 5=Motion 6=Normal 7=Leak
Wireless Device 14 - Battery	341	1	1	3	1=None 2=Normal 3=Low
Wireless Device 14 - Communication Status	342	1	1	4	1=Not paired 2=Online 3=Invalid 4=Offline
Wireless Device 15 - Status	350	1	1	7	1=None 2=Closed 3=Opened 4=No motion 5=Motion 6=Normal 7=Leak
Wireless Device 15 - Battery	351	1	1	3	1=None 2=Normal 3=Low
Wireless Device 15 - Communication Status	352	1	1	4	1=Not paired 2=Online 3=Invalid 4=Offline
Wireless Device 16 - Status	360	1	1	7	1=None 2=Closed 3=Opened 4=No motion 5=Motion 6=Normal 7=Leak
Wireless Device 16 - Battery	361	1	1	3	1=None 2=Normal 3=Low
Wireless Device 16 - Communication Status	362	1	1	4	1=Not paired 2=Online 3=Invalid 4=Offline
Wireless Device 17 - Status	370	1	1	7	1=None 2=Closed 3=Opened 4=No motion 5=Motion 6=Normal 7=Leak
Wireless Device 17 - Battery	371	1	1	3	1=None 2=Normal 3=Low
Wireless Device 17 - Communication Status	372	1	1	4	1=Not paired 2=Online 3=Invalid 4=Offline

Multi-State Input Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
Wireless Device 18 - Status	380	1	1	7	1=None 2=Closed 3=Opened 4=No motion 5=Motion 6=Normal 7=Leak
Wireless Device 18 - Battery	381	1	1	3	1=None 2=Normal 3=Low
Wireless Device 18 - Communication Status	382	1	1	4	1=Not paired 2=Online 3=Invalid 4=Offline
Wireless Device 19 - Status	390	1	1	7	1=None 2=Closed 3=Opened 4=No motion 5=Motion 6=Normal 7=Leak
Wireless Device 19 - Battery	391	1	1	3	1=None 2=Normal 3=Low
Wireless Device 19 - Communication Status	392	1	1	4	1=Not paired 2=Online 3=Invalid 4=Offline
Wireless Device 20 - Status	400	1	1	7	1=None 2=Closed 3=Opened 4=No motion 5=Motion 6=Normal 7=Leak
Wireless Device 20 - Battery	401	1	1	3	1=None 2=Normal 3=Low
Wireless Device 20 - Communication Status	402	1	1	4	1=Not paired 2=Online 3=Invalid 4=Offline

## Multi-State Value Properties

Multi-State Value Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
Long Message Background Color	1	1	1	11	1=White 2=Green 3=Blue 4=Grey 5=Dark grey 6=Pink 7=Purple 8=Red 9=Orange 10=Black 11=Default
HMI Color	2	1	1	10	1=White 2=Green 3=Blue 4=Grey 5=Dark grey 6=Pink 7=Purple 8=Red 9=Orange 10=Black
Main Display	3	1	1	2	1 = Temperature 2 = Setpoint
Display Language	4	1	1	23	1 = English 2 = French 3 = Spanish 4 = Chinese 5 = Russian 6 = Arabic 7 = Bulgarian 8 = Czech 9 = Danish 10 = Dutch 11 = Finnish 12 = German 13 = Hungarian 14 = Indonesian 15 = Italian 16 = Norwegian 17 = Polish 18 = Portuguese 19 = Slovak 20 = Swedish 21 = Turkish 22 = Japanese 23 = Hebrew
Time Format	5	1	1	2	1 = AM-PM 2 = 24 Hours
Network Units	6	1	1	2	1 = SI 2 = Imperial
Network Language	7	1	1	3	1 = English 2 = French 3 = Spanish

Multi-State Value Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
BACnet Baud Rate	8	7	1	7	1 = 9600 2 = 19200 3 = 38400 4 = 57600 5 = 76800 6 = 115200 7 = Auto
Occupancy Command	10	2	1	3	1 = Loc. occ 2 = Occupied 3 = Unocc.
Standby Mode Configuration	11	1	1	2	1 = Absolute 2 = Offset
Fan Delay	12	2	1	2	1 = Off 2 = On
Dehumidification Lockout	13	1	1	2	1 = Disabled 2 = Enabled
System Mode	16	4	1	4	1 = Off 2 = Auto 3 = Cool 4 = Heat
Fan Mode	17	2	1	3	1 = On 2 = Auto 3 = Smart
Use Standby Screen	32	1	1	4	1 = No 2 = Yes 3 = Occ. only 4 = Screen sav
UI16 Configuration	46	1	1	6	1 = None 2 = Rem NSB 3 = Motion NO 4 = Motion NC 5 = Window 6 = Fan lock
UI17 Configuration	47	1	1	5	1 = None 2 = Door dry 3 = Override 4 = Filter 5 = Service
UI19 Configuration	49	1	1	2	1 = None 2 = CO2
Temperature Scale	51	1	1	2	1 = °C 2 = °F
Frost Protection	55	1	1	2	1 = Off 2 = On
Setpoint Function	58	2	1	2	1 = Dual SP 2 = Attach SP
Room Humidity Display	70	1	1	2	1 = Disabled 2 = Enabled
Enable Smart Recovery	71	1	1	2	1 = Off 2 = On
Economizer Configuration	72	1	1	2	1 = Off 2 = On
Schedule Menu	73	2	1	4	1 = Disabled 2 = Enabled 3 = Dis. no. clk. 4 = En. no. clk.

Multi-State Value Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
Mechanical Cooling Allowed	79	1	1	2	1 = Off 2 = On
BO1 Auxiliary Output Configuration	92	1	1	2	1 = NO 2 = NC
Fan Control in Heating Mode	95	2	1	2	1 = Off 2 = On
UO9 Configuration	96	4	1	4	1 = Analog 2 = Binary 3 = Relay RC 4 = Relay RH
UO10 Configuration	97	1	1	3	1 = Analog 2 = Binary 3 = Relay RC
UO11 Configuration	98	1	1	2	1 = Analog 2 = Binary
UO12 Configuration	99	2	1	2	1 = Analog 2 = Binary
French	101	2	1	2	1 = Disabled 2 = Enabled
Spanish	102	2	1	2	1 = Disabled 2 = Enabled
Chinese	103	2	1	2	1 = Disabled 2 = Enabled
Russian	104	2	1	2	1 = Disabled 2 = Enabled
Occupancy Source	110	1	1	4	1 = Motion 2 = Schedule 3 = Mot. occ. 4 = Mot. unoc.
Mode Button	111	1	1	2	1 = Normal 2 = Off-Auto
Control Status	112	1	1	3	1 = Off 2 = Cool 3 = Heat

Multi-State Value Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
Custom button icon	114	1	1	17	1 = Default Button 2 = No Button 3 = System Mode Heat/Cool 4 = System Mode On/Off 5 = Fan mode 6 = Override Button 7 = Units Button 8 = Help Button 9 = Language Button 10 = Schedule Button 11 = Lighting Button 12 = Blind Button 13 = Lamp Button 14 = Energy Button 15 = Make Room Button 16 = Setting Button 17 = Timer Button
Custom button behavior	115	1	1	12	1 = Default function 2 = No function 3 = System mode function 4 = Fan function 5 = Override function 6 = Schedule function 7 = Units function 8 = Help function 9 = Language function 10 = Configuration function 11 = Custom function 12 = Standby function
Comfort or economy mode	116	1	1	2	1 = Comfort 2 = Economy
Reversing valve operation	117	1	1	2	1 = O 2 = B
Compressor - auxiliary interlock	118	1	1	2	1 = Off 2 = On
Application	119	1	1	2	1 = Rooftop 2 = Heatpump
Arabic	120	1	1	2	1 = Disabled 2 = Enabled

Multi-State Value Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
Czech	122	1	1	2	1 = Disabled 2 = Enabled
Danish	123	1	1	2	1 = Disabled 2 = Enabled
Dutch	124	1	1	2	1 = Disabled 2 = Enabled
Finnish	125	1	1	2	1 = Disabled 2 = Enabled
German	126	1	1	2	1 = Disabled 2 = Enabled
Hungarian	127	1	1	2	1 = Disabled 2 = Enabled
Indonesian	128	1	1	2	1 = Disabled 2 = Enabled
Italian	129	1	1	2	1 = Disabled 2 = Enabled
Norwegian	130	1	1	2	1 = Disabled 2 = Enabled
Polish	131	1	1	2	1 = Disabled 2 = Enabled
Portuguese	132	1	1	2	1 = Disabled 2 = Enabled
Slovak	133	1	1	2	1 = Disabled 2 = Enabled
Swedish	134	1	1	2	1 = Disabled 2 = Enabled
Turkish	135	1	1	2	1 = Disabled 2 = Enabled
Schedule Type	136	1	1	2	1 = 7 days 2 = 5 + 2 days 3 = 5 + 1 + 1 days
UI16 Input Type	138	2	1	3	1=Therm. 2=Binary 3=Voltage
UI17 Input Type	139	2	1	3	1=Therm. 2=Binary 3=Voltage
UI19 Input Type	140	3	1	3	1=Therm. 2=Binary 3=Voltage
UI20 Input Type	141	1	1	3	1=Therm. 2=Binary 3=Voltage
UI22 Input Type	142	1	1	3	1=Therm. 2=Binary 3=Voltage
UI23 Input Type	143	1	1	3	1=Therm. 2=Binary 3=Voltage
UI24 Input Type	144	3	1	3	1=Therm. 2=Binary 3=Voltage

Multi-State Value Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
Room Temperature Sensor	145	1	1	23	1=Wired 2=Internal 3=WL IO 4=WL 1 5=WL 2 6=WL 3 7=WL 4 8=WL 5 9=WL 6 10=WL 7 11=WL 8 12=WL 9 13=WL 10 14=WL 11 15=WL 12 16=WL 13 17=WL 14 18=WL 15 19=WL 16 20=WL 17 21=WL 18 22=WL 19 23=WL 20
CO2 Display	146	2	1	2	1 = Disabled 2 = Enabled
CO2 Autocalibration	147	2	1	2	1 = Disabled 2 = Enabled
Lock Screen	148	1	1	2	1 = No 2 = Yes
Relative humidity sensor	149	2	1	22	1=None 2=Internal 3=WL 1 4=WL 2 5=WL 3 6=WL 4 7=WL 5 8=WL 6 9=WL 7 10=WL 8 11=WL 9 12=WL 10 13=WL 11 14=WL 12 15=WL 13 16=WL 14 17=WL 15 18=WL 16 19=WL 17 20=WL 18 21=WL 19 22=WL 20

Multi-State Value Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
CO2 source	150	2	1	22	1=None 2=Local 3=WL 1 4=WL 2 5=WL 3 6=WL 4 7=WL 5 8=WL 6 9=WL 7 10=WL 8 11=WL 9 12=WL 10 13=WL 11 14=WL 12 15=WL 13 16=WL 14 17=WL 15 18=WL 16 19=WL 17 20=WL 18 21=WL 19 22=WL 20
Temperature Alarm Enabled	151	1	1	2	1=Off 2=On
ADR Permission	152	1	1	2	1=Off 2=On
Japanese	155	1	1	2	1= Disabled 2=Enabled
Hebrew	156	1	1	2	1= Disabled 2=Enabled
Display the Fan Status icon	180	2	1	2	1=Disabled 2=Enabled
Display the System Status icon	181	2	1	2	1=Disabled 2=Enabled
Display the Help button	182	2	1	2	1=Disabled 2=Enabled
Wireless Device 1 - Function	210	6	1	9	1 = None 2 = Window 3 =Door 4 = Motion 5 = Env. data 6 = Remove 7 = Water 8 = Refrig. 9 = Freezer
Wireless Device 2 - Function	220	6	1	9	1 = None 2 = Window 3 =Door 4 = Motion 5 = Env. data 6 = Remove 7 = Water 8 = Refrig. 9 = Freezer

Multi-State Value Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
Wireless Device 3 - Function	230	6	1	9	1 = None 2 = Window 3 =Door 4 = Motion 5 = Env. data 6 = Remove 7 = Water 8 = Refrig. 9 = Freezer
Wireless Device 4 - Function	240	6	1	9	1 = None 2 = Window 3 =Door 4 = Motion 5 = Env. data 6 = Remove 7 = Water 8 = Refrig. 9 = Freezer
Wireless Device 5 - Function	250	6	1	9	1 = None 2 = Window 3 =Door 4 = Motion 5 = Env. data 6 = Remove 7 = Water 8 = Refrig. 9 = Freezer
Wireless Device 6 - Function	260	6	1	9	1 = None 2 = Window 3 =Door 4 = Motion 5 = Env. data 6 = Remove 7 = Water 8 = Refrig. 9 = Freezer
Wireless Device 7 - Function	270	6	1	9	1 = None 2 = Window 3 =Door 4 = Motion 5 = Env. data 6 = Remove 7 = Water 8 = Refrig. 9 = Freezer
Wireless Device 8 - Function	280	6	1	9	1 = None 2 = Window 3 =Door 4 = Motion 5 = Env. data 6 = Remove 7 = Water 8 = Refrig. 9 = Freezer

Multi-State Value Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
Wireless Device 9 - Function	290	6	1	9	1 = None 2 = Window 3 =Door 4 = Motion 5 = Env. data 6 = Remove 7 = Water 8 = Refrig. 9 = Freezer
Wireless Device 10 - Function	300	6	1	9	1 = None 2 = Window 3 =Door 4 = Motion 5 = Env. data 6 = Remove 7 = Water 8 = Refrig. 9 = Freezer
Wireless Device 11 - Function	310	6	1	9	1 = None 2 = Window 3 =Door 4 = Motion 5 = Env. data 6 = Remove 7 = Water 8 = Refrig. 9 = Freezer
Wireless Device 12 - Function	320	6	1	9	1 = None 2 = Window 3 =Door 4 = Motion 5 = Env. data 6 = Remove 7 = Water 8 = Refrig. 9 = Freezer
Wireless Device 13 - Function	330	6	1	9	1 = None 2 = Window 3 =Door 4 = Motion 5 = Env. data 6 = Remove 7 = Water 8 = Refrig. 9 = Freezer
Wireless Device 14 - Function	340	6	1	9	1 = None 2 = Window 3 =Door 4 = Motion 5 = Env. data 6 = Remove 7 = Water 8 = Refrig. 9 = Freezer

Multi-State Value Properties					
Object name	Instance	Default Value	Minimum Range Value	Maximum Range Value	Description
Wireless Device 15 - Function	350	6	1	9	1 = None 2 = Window 3 =Door 4 = Motion 5 = Env. data 6 = Remove 7 = Water 8 = Refrig. 9 = Freezer
Wireless Device 16 - Function	360	6	1	9	1 = None 2 = Window 3 =Door 4 = Motion 5 = Env. data 6 = Remove 7 = Water 8 = Refrig. 9 = Freezer
Wireless Device 17 - Function	370	6	1	9	1 = None 2 = Window 3 =Door 4 = Motion 5 = Env. data 6 = Remove 7 = Water 8 = Refrig. 9 = Freezer
Wireless Device 18 - Function	380	6	1	9	1 = None 2 = Window 3 =Door 4 = Motion 5 = Env. data 6 = Remove 7 = Water 8 = Refrig. 9 = Freezer
Wireless Device 19 - Function	390	6	1	9	1 = None 2 = Window 3 =Door 4 = Motion 5 = Env. data 6 = Remove 7 = Water 8 = Refrig. 9 = Freezer
Wireless Device 20 - Function	400	6	1	9	1 = None 2 = Window 3 =Door 4 = Motion 5 = Env. data 6 = Remove 7 = Water 8 = Refrig. 9 = Freezer

**NOTE for BACnet Priorities:**

- 1-3: Written in eeprom memory, the value cannot be changed at the thermostat and will remain after a power-cycle. To release it, do a "Restore Factory default" or from BACnet at same priority level.  
Usage: System configuration parameters that should not be changed.
- 4-16: Written in ram memory, the values are lost after a power-cycle.  
Usage: Initialization of LUA4RC scripts. (Do not use priorities 4-16 from a BMS.)
- 17: Relinquish default, the values can be changed at the thermostat and will remain in the thermostat after a power-cycle.  
Usage: Temperature setpoints, fan-mode, system-mode, etc.

# Program Objects

Program Object Properties		
Object name	Instance	Description
Lua Program 1	1	Monitors and controls the internal LUA4RC script. Note: Script can be read/written via "File Objects" on page 18.