SmartVu™ Controls Version 2.X for Applied Rooftop Gas Heat/Electric Cooling and Electric Heat/Electric Cooling Units with PIC 6.1 Hardware

Integration Guide

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INTRODUCTION

General

The Carrier SmartVu™ control system is a product integrated control for select Carrier rooftop units, including:

- Carrier 48/50K(2,3,4,5) applied rooftop units with Puron Advance™ refrigerant (R-454B).
- Carrier 48/50V(2,3,4,5) applied rooftop units with Puron Advance™ (R-454B) refrigerant.

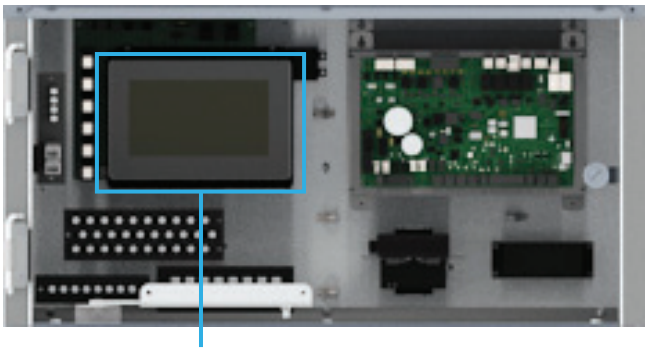
This document provides instruction on integrating Carrier SmartVu™ controls with PIC 6.1 hardware and version 2.5 software into the following building automation system (BAS) protocols and communicating sensors:

- Carrier Comfort Network (CCN).
- BACnet MS/TP.
- BACnet IP.
- Rnet (sensors and displays, not available if BACnet MS/TP is used on software version 2.5.0).

Wiring

Communication wiring is field provided and installed. Communication wiring connections are made in the unit control box. The unit control box location varies by unit model and size. Refer to the unit installation instructions for control box location and wiring access details.

Most communication wiring connections are made at the SmartVu touchscreen display in the control box. See Fig. 1 for SmartVu touchscreen display locations, Fig. 2 for port layout, and Table 1 for port details.



48/50K and 48/50V
SmartVu™ Touchscreen Display

Fig. 1 — SmartVu™ Display Locations on 48/50K and 48/50V Units

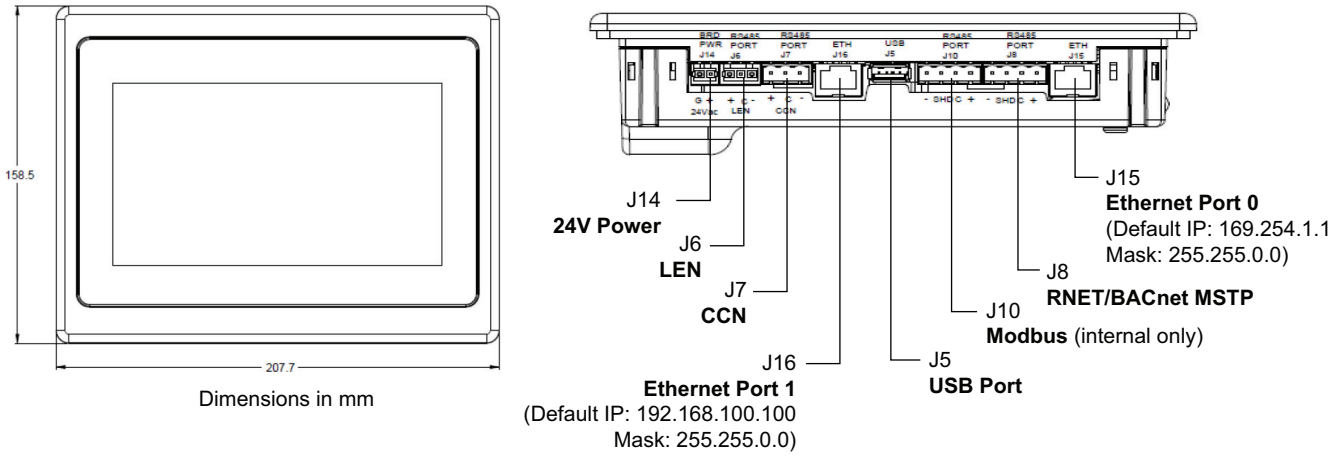


Fig. 2 — Carrier SmartVu™ Touchscreen Display Interface and Connections

Table 1 — SmartVu Display Port Connections

CONNECTOR	TYPE/ PINOUT	FUNCTION
J5	TYPE A	USB-1: Firmware/Software Upgrade
J6	+	RS485-1: LEN System Internal I/O Boards
	C	
	-	
J7	+	RS485-2: CCN (factory connected to CCN comm board)
	C	
	-	
J8	-	RS485-4: BACnet MS/TP or RNET (not both) NOTE: Requires a field-supplied connector.
	SHD	
	C	
	+	
J10	-	RS485-3: Modbus (internal VFD, ECM, and airflow measuring communication, not for BAS use)
	SHD	
	C	
	+	
J14	G	24vac Power
	+	
J15	RJ45	Ethernet 0
J16	RJ45	Ethernet 1

Signal Noise

Avoid running communication wires next to power wires or the controller's relay output wires. Other sources of noise can include:

- Spark igniters
- Radio transmitters
- Variable speed drives
- Large electric motors
- Generators
- Relays
- Transformers
- Induction heaters
- Large contactors (i.e., motor starters)
- Video display devices
- Lamp dimmers
- Fluorescent lights
- Parallel runs with power lines
- Other electronic devices

These can be sources of noise that can affect signal quality. If noise is a problem and you cannot move the wiring, use ferrite clamp-on chokes on the cabling to improve signal quality.

Control Interface

Configuring the SmartVu control for network communication can be done from the touchscreen display or with a PC using VNC Viewer software. Refer to the unit installation instruction (SI) for details on control operation, navigation, and VNC Viewer configuration.

Communication configuration is done from the Controller Config Menu.

Control Password

User access level or higher is required to configure the control for communications. See the Table 2 for the SmartVu Passwords. Refer to the unit installation instruction (SI) for details on login.

NOTE: The Controller Config screen required for communication configuration is hidden with basic access. Login with user access or higher is required to show the Controller Config screen.

Table 2 — Control Access Levels

ACCESS LEVEL	PASSWORD	DESCRIPTION
Basic	None	Access level at initial start-up or after a timeout has expired. Provides view only access to select setpoints and settings. Not all screens will be viewable. Basic access can disable the unit.
User	1111	Intermediate access to adjust setpoints and settings and access most screens. User can enable/disable the unit, enable component and system tests, and acknowledge alarms.
Service	The service password is not required for communication configuration. Contact your local Carrier Service or Applied Sales office if the service password is required.	

Software Version

This document is based on software version 2.5.0 and covers all software versions back to 2.0.0. It is recommended to update to the latest software version prior to setting up unit communication.

IMPORTANT: Software versions prior to 2.4.0 may use different network point instances and point names. Contact your Carrier applied sales office to obtain a software version specific network points list.

The software version is listed on the Login screen under App Version. See Fig. 3 for Login screen layout.



Fig. 3 — Typical Login Screen

Communication Configuration Report

Once communication configuration is complete, fill out Appendix B – Network Communication Report and Appendix C – Unit Communication Report to record the unit communication configurations. A copy of the communication reports should be saved for record and a copy provided to the customer. It is also a good practice to save a copy of the unit communication report in the unit control box.

CARRIER COMFORT NETWORK (CCN)

CCN Wiring

All units with SmartVu controls can be connected to a CCN communication bus. See Table 3 for CCN wire specification.

Table 3 — CCN Wiring Specification

DESCRIPTION	Shielded, 3 conductor cable with drain wire, CM or CMP rated (as needed)
CONDUCTOR	Minimum 20 AWG, stranded copper (tin plated)
INSULATION	PVC (polyvinyl chloride), PVC/ nylon, vinyl, Teflon, or polyethylene
COLOR CODE	Red/White/Black
SHIELDING	Aluminum/polyester 100% foil shield
JACKET	PVC (polyvinyl chloride), PVC/ nylon, vinyl, Teflon, or polyethylene
TEMPERATURE	-4°F to 140°F (-20°C to 60°C) or higher, if required by application
VOLTAGE	Cable voltage must match the application

The CCN bus connection is made at a terminal board with screw terminals next to the touchscreen display in the control box. See Fig. 4 for CCN terminal board location.



Fig. 4 — 48/50V CCN Terminal Board Location

CCN devices are connected to the communication bus in a daisy chain arrangement. The positive pin of each system element communication connector must be wired to the positive pins of the CCN devices on either side of it. The negative and signal ground pins of each system element must also be wired in the same manner. See Fig. 5. for a typical daisy chain CCN bus wiring arrangement.

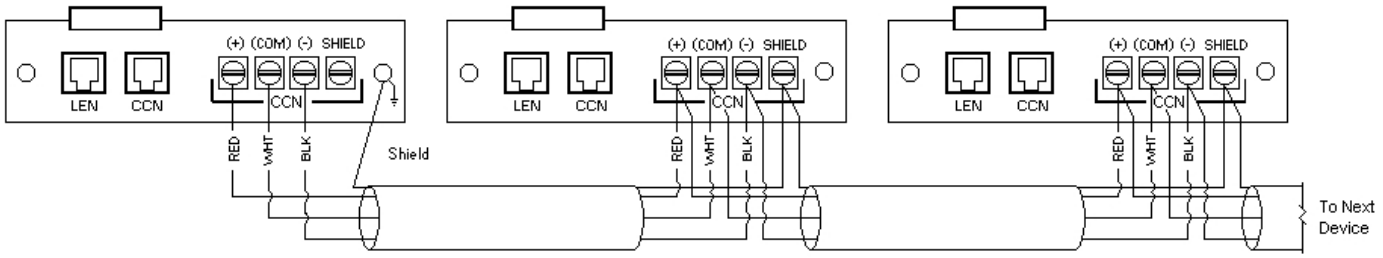


Fig. 5 — Typical CCN Bus Wiring

When connecting to a CCN communication bus, it is important that a color-coding scheme be used for the entire network to simplify the installation. It is recommended that red be used for the signal positive, black for the signal negative, and white for the signal ground. Use a similar scheme for cables containing different colored wires.

At each system element, the shields of its communication bus cables must be tied together. If the communication bus is entirely within one building, the resulting continuous shield must be connected to a ground at one point only. If the communication bus cable exits from one building and enters another, the shields must be connected to grounds at the lightning suppressor in each building where the cable enters or exits the building (one point per building only).

To connect the CCN wiring to the network:

1. Turn off power to the unit and unit controller.
2. Partially cut, then bend and pull off approximately 3 in. of the outer jacket of the cable(s). Do not nick the inner insulation.
3. Strip about 1/4 in. of the inner insulation from each wire.
4. Connect the red wire to (+) terminal, the white wire to COM terminal, and the black wire to the (–) terminal on the CCN terminal board (substitute appropriate colors for different colored cables).
5. Make sure that the wires are electrically isolated and make sure no more than 1/8-in. of the bare wire is exposed.
6. Connect the cable shield to the SHIELD terminal on the CCN terminal board or to a ground (if at the start or end of a bus or segment in a building. Twist both shields together if part of a daisy chain.

IMPORTANT: A shorted CCN bus cable will prevent some routines from running and may prevent the unit from starting. If abnormal conditions occur, disconnect the CCN bus. If conditions return to normal, check the CCN connector and cable. Run new cable if necessary. A short in one section of the bus can cause problems with all system elements on the bus.

Communication Configuration

CCN Communication configuration is done from the Controller Config screen, which will only show with user or higher access level. To access the Controller Config screen:

1. From the Home screen, press the login icon ( ) to access the Login screen.
2. Login with the user access password (1111).
3. Press the unlock button ( ) to accept the login and return to the Home screen.
4. From the Home screen, press the link for the Main Menu ( ).
5. From the Main Menu, press the Controller Config icon ( ) to go to the Controller Config screen.

   NOTE: If the controller config screen does not show, then login may have failed. Try login again.
6. From the Controller Config screen, press the CCN configuration icon ( ) to go to the CCN Configuration screen. See Fig. 6 for the configuration screen layout.
7. Adjust the CCN configuration as needed. See Table 4 for CCN configuration parameters.
8. Once configuration is complete, click on the save icon ( ) to save configuration changes.

   NOTE: A controller reboot may be required for some configuration changes to take effect.
9. Reboot or power cycle the controller.

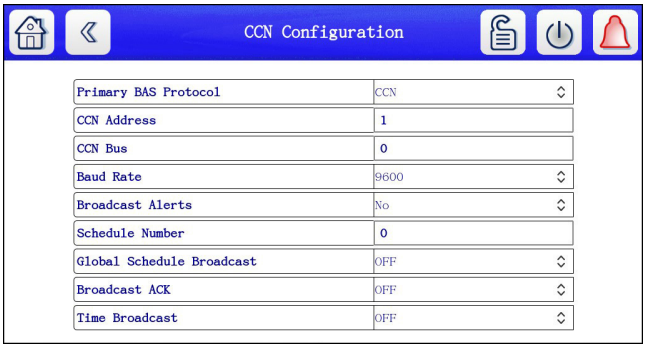


Fig. 6 — Typical CCN Configuration Screen

Table 4 — CCN Communication Configurations

NAME	DESCRIPTION
Primary BAS Network	Selects the BAS communication protocol.[a] NOTE: This configuration must be set to CCN for CCN communication.
CCN Address	Selects the address of the device. NOTE: This address must be different from all other devices on the bus.
CCN Bus	Selects the network bus number.
Baud Rate	Selects the communication rate. Selectable between 9600, 19200, and 38400. NOTE: All devices on a bus should have the same baud rate.
Broadcast Alerts	When selected On, broadcasts the unit alerts and alarms to the CCN network.
Schedule Number	Selects the schedule number. NOTE(S): • Must change from 0 to a valid schedule number (1 or higher) for CCN schedule functionality. Otherwise the controller will be “always occupied.” • Global schedule broadcasters must have a schedule set between 65 and 99.
Global Schedule Broadcast	When selected On, the control broadcasts its schedule. NOTE: One, and only one, global schedule broadcaster is allowed per network. All other devices must have global schedule broadcast set to off.
Broadcast ACK	When selected On, the control acknowledges a time broadcast. NOTE: One, and only one, broadcast acknowledger is required per CCN bus. The time broadcaster cannot be the acknowledger.
Time Broadcast	When selected On, the control broadcast the unit time and date on the CCN bus once per minute. NOTE: Only one time broadcaster is allowed per bus.

NOTE(S):

a. This chooses the primary network for occupancy control via a schedule. BACnet must be chosen to use the Network Occupancy point if not controlling via BACnet schedule objects.

Network Points

See Appendix A For CCN network points for software version 2.5.0. Contact your Carrier applied sales offices to obtain network points for older software versions.

NOTE: Not all network points will be available for every unit. Point availability will vary by model, unit type, size, and configuration.

BACNET MS/TP

Communication Wiring

All units with SmartVu controls can be connected to a BACnet MS/TP bus. See Table 5 for BACnet MS/TP wire specification.

Table 5 — BACnet MS/TP Wiring Specification

DESCRIPTION	Single twisted pair, low capacitance, CL2P, 22 AWG (7x30), TC foam FEP, plenum rated cable
CONDUCTOR	22 or 24 AWG stranded copper (tin plated)
INSULATION	Foamed FEP
COLOR CODE	Black/White
SHIELDING	Aluminum/Mylar shield with 24 AWG TC drain wire
JACKET	**SmokeGard** (SmokeGard PVC) • 0.021 in. (0.5334 mm) wall • 0.175 in. (4.445 mm) O.D. **Halar** (E-CTFE) • 0.010 in. (0.254 mm) wall • 0.144 in. (3.6576 mm) O.D.
RATING	CMP rated
TEMPERATURE	SmokeGard: 167°F (75°C) Halar: –40 to 302°F (–40 to 150°C)
VOLTAGE	300 vac, power limited
MAXIMUM LENGTH	2000 ft (610 m)

The BACnet MS/TP bus connection is made at the SmartVu touchscreen display at port J8. See Fig. 2 for SmartVu port layout and Table 1 for J8 port details.

NOTE: The J8 connector is field supplied. This connector can be either a Phoenix 1757035, Wago 231-304/026-000 or other equivalent connector.

The BACnet MS/TP device are connected to the communication bus in a daisy chain arrangement. The positive pin of each system element communication connector must be wired to the positive pins of the system elements on either side of it. The negative and signal ground pins of each system element must also be wired in the same manner. Wiring connections for BACnet MS/TP should be made at the J8 plug on the SmartVu display. See Fig. 7 for typical daisy chain MS/TP bus wiring arrangement.

The SmartVu control is locally biased. Do not use the SmartVu on a network segments with network biased equipment. Use a TERM485 on the last device on the networked biased segment of the network. The TERM485 device contains both the "end-of-line" resistor and a network biasing resistor.

NOTE: Do not use BACnet router "end-of-line" switches that add network biasing or "end-of-line" termination resistors. Use a termination resistor (e.g., TERM485) at the router when it is at the beginning or the end of a network segment.

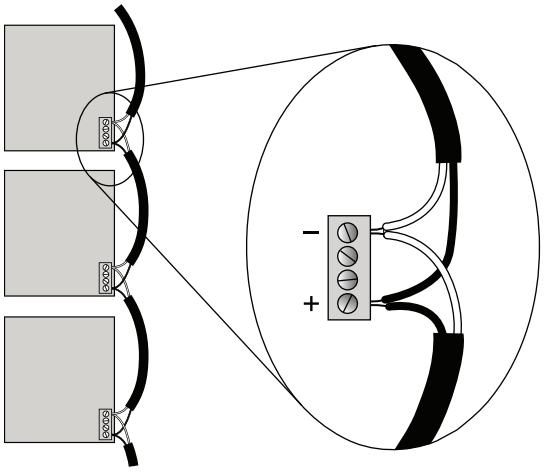


Fig. 7 — Typical BACnet MS/TP Bus Wiring

To connect the BACnet MS/TP wiring to the network:

1. Turn off power to the unit and unit controller.
2. Remove the plug from the J8 port on the touchscreen display.
3. Partially cut, then bend and pull off approximately 1 in.of the outer jacket of the cable(s). Do not nick the inner insulation.
4. Strip about 1/4 in. of the inner insulation from each wire.
5. Connect the white wire to (+) terminal and the black wire to the (–) terminal on the plug (substitute appropriate colors for different colored cables). Make sure that the wires are electrically isolated and make sure no more than 1/8 in. of the bare wire is exposed.
6. If the unit is the first or last node on the network, a termination resistor of 120 ohms should be wired across positive and negative terminals.
7. Connect the cable shield to the SHIELD terminal on the plug or to a ground (if at the start or end of a bus or segment in a building. Twist both shields together if part of a daisy chain. Do not connect the shield to the ground for the control power.
8. Re-insert the plug to the J8 port on the touchscreen display.

Communication Configuration

BACnet MS/TP Communication configuration is done from the Controller Config screen, which will only show with user or higher access level. To access the Controller Config screen:

1. From the Home screen, press the login icon ( ) to access the Login screen.
2. Login with the user access password (1111).
3. Press the unlock button ( ) to accept the login and return to the Home screen.
4. From the Home screen, press the link for the Main Menu ( ).
5. From the Main Menu, press the Controller Config icon ( ) to go to the Controller Config screen.

   NOTE: If the controller config screen does not show, then login may have failed. Try login again.
6. Prior to setting up BACnet MS/TP, the J8 serial port must be configured for MS/TP. J8 serial port configuration is done from the Zone Sensor Config screen, press the Zone Sensor Config icon ( ) from the Controller Config screen to go to the Zone Sensor Config screen. See Fig. 8 for Zone Sensor Config screen layout.
7. On the Zone Sensor Config Screen, set the Serial Port Config to "Modbus_J8_MSTP". This sets port J10 to Modbus for internal device communication (VFDs, airflow monitor) and port J8 to MS/TP for BACnet communication.

   IMPORTANT: The serial port config MUST be set to Modbus for J10 (ex: Modbus_J8_MSTP or Modbus J8_RNET) for proper system operation. Make sure Modbus is listed in the configuration before J8 or else the system will not function properly.
8. After the Serial Port Config is set to "Modbus_J8_MSTP", press the save button at the bottom of the screen (see Fig. 9). The Reboot button will appear at the bottom of the screen (see Fig. 10). You can continue with the BACnet MS/TP communication configuration and reboot once the configuration is done.
9. Press the back button ( ) from the Zone Sensor Config screen to get back to the Controller Config screen.

10. From the Controller Config screen, press the BACnet configuration icon ( ) to go to the BACnet Configuration screen. See Fig. 10 for BACnet config screen layout.
11. On the BACnet Config screen, verify that the Serial Port Config is set to J8 BACnet MS/TP. If not, repeat steps 6-8. Initiate a reboot if the serial port config does not update.
12. Adjust the BACnet configuration as needed. See Table 6 for BACnet configuration parameters.
13. Once configuration is complete, click on the save icon ( ) to save configuration changes before leaving the screen.

NOTE: A controller reboot may be required for some configuration changes to take effect. Press the Reboot button at the bottom of the screen to initiate a reboot. See Fig. 10.

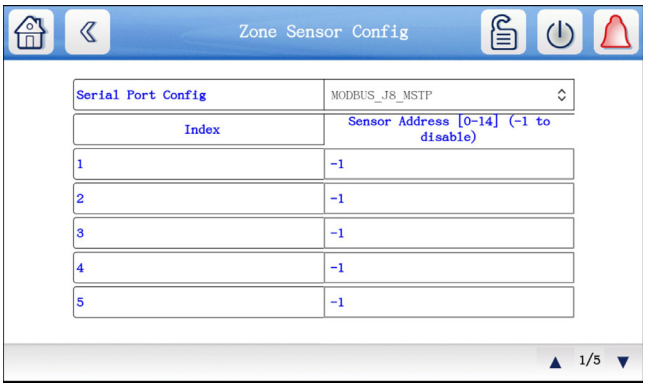


Fig. 8 — Zone Sensor Configuration Screen (Modbus_J8_MSTP)

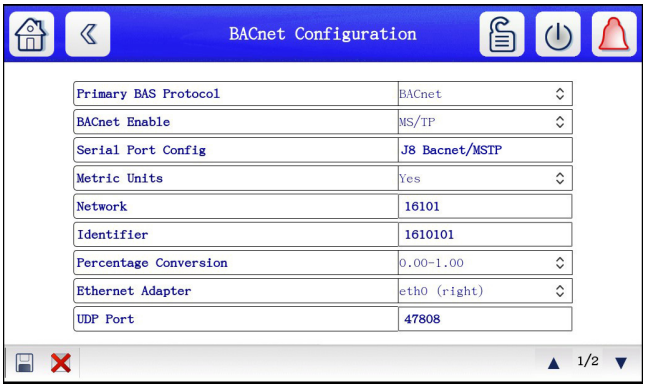


Fig. 9 — BACnet Configuration Screen (J8 Bacnet/MSTP)

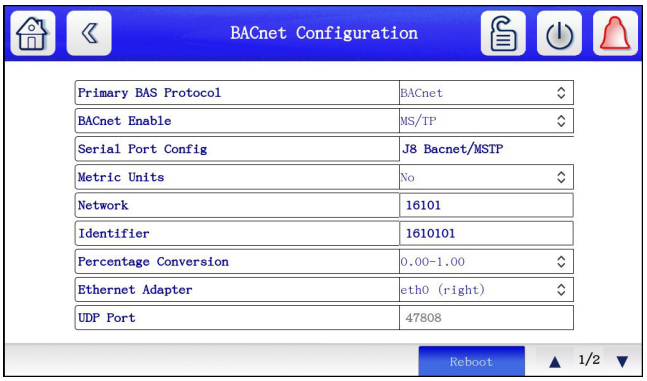


Fig. 10 — BACnet Configuration Screen (J8 Bacnet/MSTP) — Reboot

Table 6 — BACnet MS/TP Communication Configurations

NAME	DESCRIPTION
Primary BAS Network	Selects the BAS communication protocol. NOTE: This configuration must be set to BACnet for BACnet MS/TP communication.
BACnet Enable	Selects the type of BACnet communication. NOTE: This configuration must be set at MS/TP for BACnet MS/TP.
Serial Port Config	Selects the configuration of the J8 port. Selectable between MS/TP, Modbus, and Rnet. Must be set to MS/TP for BACnet MS/TP communication. NOTE: Modbus BAS communication is not supported by SmartVu.
MS/TP MAC Address	Assigns the desired MAC address for your network segment. Each device on the segment must have a unique MAC address. NOTE: A best practice is for MAC addresses to be sequential on a segment.
MS/TP Baud Rate	Assign desired baud rate for the network. The maximum number of nodes per segment is determined by the baud rate. 32 nodes are allowed on a 76,800 baud network and 16 nodes are allowed on a 38,400 baud network.
Max Masters	Recommended to be set at 127 on most networks.
MS/TP Max Info Frames	Recommended to be set no higher than 20.
Metric Units	Selects the units type. Selectable between “No” for imperial units and “Yes” for metric units.
Network	Selects the network or subnet of the device. NOTE: This network must match the main network number for MS/TP.
Identifier	Selects the address of the device. The identifier does not need to be adjusted after the MAC address is assigned. NOTE: This address must be different from all other devices on the bus.
Percentage Conversion	Selects the method of communicating percentages. Selectable between 0.00-1.00 for decimal or 0-100 for percentage.

Network Points

See Appendix A for BACnet network points for software version 2.5.0. Contact your Carrier applied sales offices to obtain network points for older software versions.

NOTE: Not all network points will be available for every unit. Point availability will vary by model, unit type, size, and configuration.

BACNET IP

Communication Wiring

All units with SmartVu controls can be connected to a BACnet IP bus. See Table 7 for BACnet IP wire specification.

Table 7 — BACnet IP Cable Specification

DESCRIPTION	CAT5e or higher Ethernet cable
RATING	CM or CMP rated, as required
MAXIMUM LENGTH	328 ft (100 m)

The BACnet IP cable connection is made at the SmartVu touch-screen display at Ethernet 0 (J15) or Ethernet 1 (J16). See Fig. 2 for SmartVu port layout and Table 1 for ethernet port details. The Ethernet cable can be plugged into the SmartVu control while the controller is powered. Ethernet pass through is not supported.

Communication Configuration

BACnet IP Communication configuration is done from the Controller Config screen, which will only show with user or higher access level. To access the Controller Config screen:

1. From the Home screen, press the login icon ( ) to access the Login screen.
2. Login with the user access password (1111) .
3. Press the unlock button ( ) to accept the login and return to the Home screen.
4. From the Home screen, press the link for the Main Menu ( ).
5. From the Main Menu, press the Controller Config icon ( ) to go to the Controller Config screen.

   NOTE: If the controller config screen does not show, then login may have failed. Try login again.
6. From the Controller Config screen, press the Gateway/DNS icon ( ) to go to the Gateway/DNS IP configuration screen. See Fig. 11 for Gateway IP screen and Fig. 12 for DNS IP screen layout.

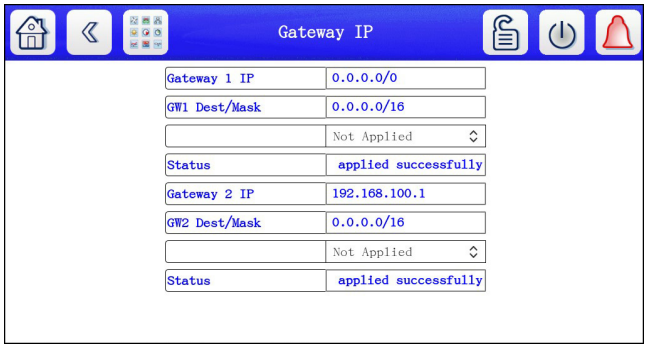


Fig. 11 — Typical Gateway IP Configuration Screen

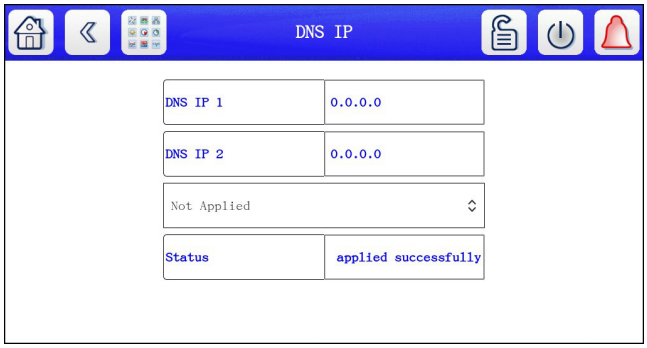


Fig. 12 — Typical DNS IP Configuration Screen

7. Adjust the Gateway and DNS configuration as needed. See Table 8 for Gateway/DNS IP configuration parameters.

   NOTE: Only Gateway IP 2 and DNS IP 2 are utilized.
8. Once configuration is complete, click on the dropdown that says “Not Applied” and select “Applied” to save configuration changes before leaving the screen. Verify the status changes applied successfully.
9. Press the Back button twice ( ) to go back to the Controller Config screen.
10. From the Controller Config screen, press the ethernet configuration icon ( ) to go to the Ethernet Configuration screen. See Fig. 13-14 for Ethernet Screen layout.

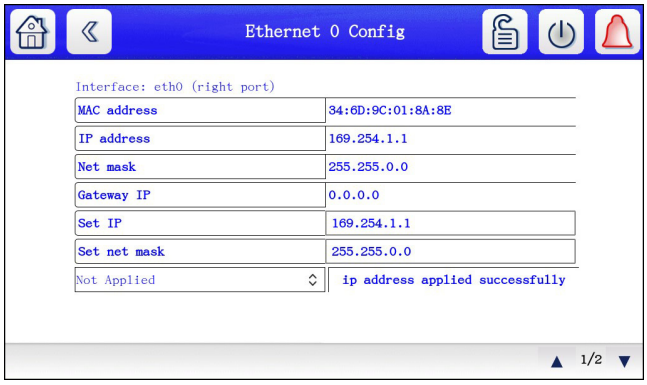


Fig. 13 — Typical Ethernet 0 Configuration Screen

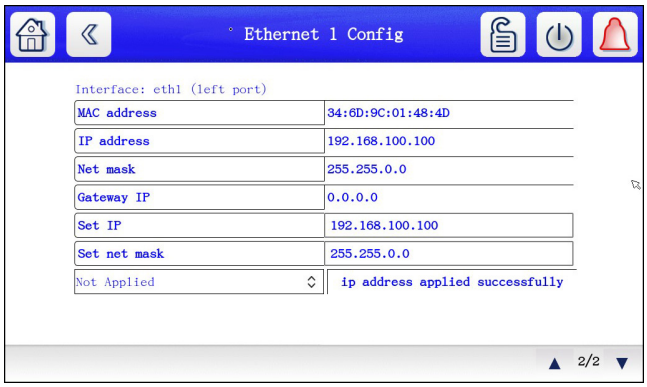


Fig. 14 — Typical Ethernet 1 Configuration Screen

11. Adjust the Ethernet configuration as needed. See Table 9 for Ethernet configuration parameters.
12. Once configuration is complete, click on the dropdown that says “Not Applied” and select “Apply” to save configuration changes before leaving the screen. Verify the status changes applied successfully.
13. Press the Back button twice ( ) to go back to the Controller Config screen.
14. From the Controller Config screen, press the BACnet configuration icon ( ) to go to the BACnet Configuration screen. See Fig. 15 for BACnet configuration screen layout.



Fig. 15 — Typical BACnet IP Configuration Screen

15. Adjust the BACnet configuration as needed. See Table 10 for BACnet configuration parameters.
16. Once configuration is complete, click on the save icon ( ) to save configuration changes before leaving the screen.

    NOTE: After the IP configuration and selection for BACnet IP are made the PIC must be rebooted for the IP configurations to be applied. After a reboot, ping the controller. When you can ping the controller successfully and find the BACnet device or PIC at that IP, check to make sure the identity sent to a "Who is" command is the same. Otherwise, wait until the PIC is pinged and responds as a BACnet device as the assigned IP on either ethernet connector (it may be necessary to cycle the power). Proceed with BACnet discovery over that ethernet connector.

Table 8 — Gateway/DNS IP Configurations

NAME	DESCRIPTION
Gateway 2 IP	Selects the gateway IP address.
Gateway 2 Mask	Selects the gateway 2 subnet mask. The gateway setting can allow both ports to be pinged from one ethernet connector, but not from the other, when the same subnets are used for both eth0 and eth1.
DNS IP 2	Selects the domain name service IP address.

Table 9 — Ethernet IP Configurations

NAME	DESCRIPTION
Set IP	Selects the control IP address.
Set Net Mask	Selects the control subnet mask.

Table 10 — BACnet IP Communication Configurations

NAME	DESCRIPTION
Primary BAS Network	Selects the BAS communication protocol. NOTE: This configuration must be set to BACnet for BACnet IP communication.
BACnet Enable	Selects the type of BACnet communication. NOTE: This configuration must be set at BACnet IP for BACnet IP.
Metric Units	Selects the units type. Selectable between "No" for imperial units and "Yes" for metric units.
Percentage Conversion	Selects the method of communicating percentages. Selectable between 0.00-1.00 for decimal or 0-100 for percentage.
Ethernet Adapter	Selects which ethernet port to use for BACnet IP. Selectable between Ethernet 0 (right side if touchscreen) or Ethernet 1 (bottom of touchscreen).
UDP Port	Selects the user datagram protocol for BACnet. Default UDP port for BACnet is 47808.
BACnet Mgmt Device	Selects the BACnet management device. Selectable between None, Foreign Device, and BACnet Broadcast Management Device (BBMD).
BBMD Address	Selects the BBMD address.
BBMD Time to Live	Selects how long a device can stay registered (in seconds) with the BBMD.

Network Points

See Appendix A for BACnet network points for software version 2.5.0. Contact your Carrier applied sales offices to obtain network points for older software versions.

NOTE: Not all network points will be available for every unit. Point availability will vary by model, unit type, size, and configuration.

RNET

Communication Wiring

Units with SmartVu control can be connected to an Rnet if BACnet MS/TP communication isn't being utilized. See Table 11 for Rnet wire specification. Refer to the ZS sensor installation guide or the Equipment Touch installation guide for additional wiring and details.

Table 11 — Rnet Wiring Specification

Description	4 conductor, shielded or unshielded, CMP, plenum rated cable.
Conductor	22 AWG (7x0096) bare copper
Insulation	Low-smoke PVC (or equivalent)
Color code	Black, white, green, red
Shielding	If shielded, Aluminum/Mylar shield (100% coverage) with TC drain wire
Listing	UL: NEC CL2P, or better
Temperature	32–167°F (0–75°C)
Voltage	300 Vac, power limited
Maximum length	500 feet (152 meters)

An accessory Rnet Harness Kit (accessory part number CRRNETPH001A00) is available to provide 12V power for ZS sensors and a quick connect terminal in the plug panel. See the Rnet Harness Kit accessory installation guide for details.

Without the accessory Rnet power harness, the Rnet connection is made at the SmartVu touchscreen display at port J8. See Fig. 2 for SmartVu port layout and Table 1 for J8 port details.

NOTE: The J8 connector is field supplied. This connector can be either a Phoenix 1757035, Wago 231-304/026-000 or other equivalent connector.

An external 12V power supply is required for ZS sensors. 24V power is available in the control panels at terminal block 4 (TB4) terminals R and C (24VAC) and terminal block 5 (TB5) terminal 10 (24VDC) to power an Equipment Touch device. See Fig. 16 for typical PCI 6.1 Rnet sensor wiring arrangement without the Rnet harness accessory.

TO CONNECT RNET WIRING TO THE PIC 6.1

1. Turn off power to the unit and unit controller.
2. Remove the plug from the J8 port on the touchscreen display.
3. Partially cut, then bend and pull off approximately 1 in. of the outer jacket of the cable(s). Do not nick the inner insulation.
4. Strip about 1/4 in. of the inner insulation from each wire.
5. Connect the white wire to (+) terminal and the black wire to the (–) terminal on the plug (substitute appropriate colors for different colored cables). Make sure that the wires are electrically isolated and make sure no more than 1/8 in. of the bare wire is exposed.
6. If the unit is the first or last node on the network, a termination resistor of 120 ohms should be wired across positive and negative terminals.
7. Connect the cable shield to the SHIELD terminal on the plug or to a ground (if at the start or end of a bus or segment in a building. Twist both shields together if part of a daisy chain. Do not connect the shield to the ground for the control power.
8. Re-insert the plug to the J8 port on the touchscreen display.

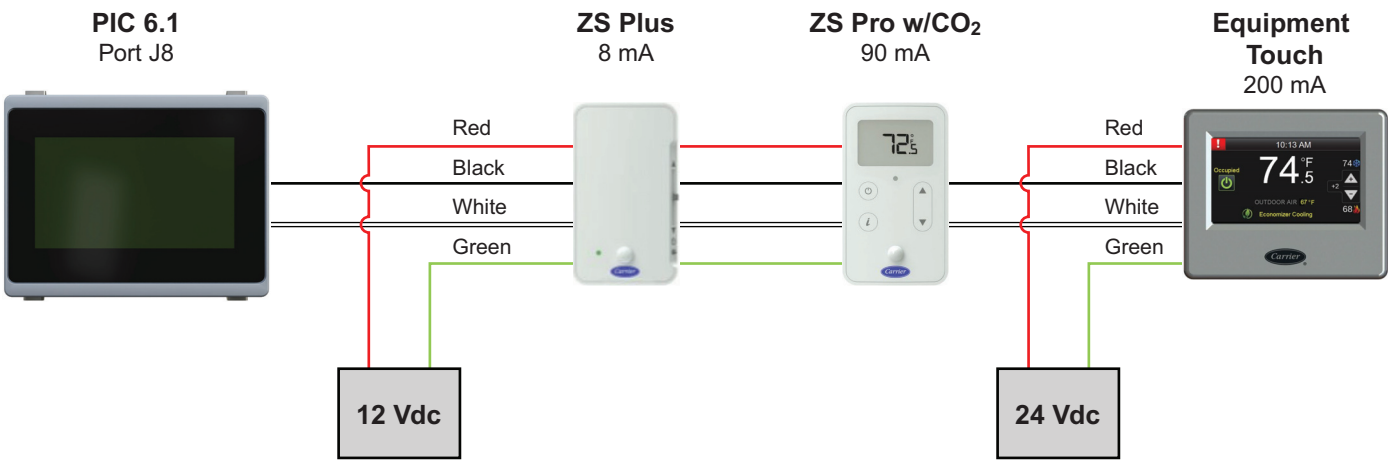


Fig. 16 — PIC 6.1 Typical Rnet Wiring

Communication Configuration

Rnet communication configuration is done from the Controller Config screen, which will only show with user or higher access level. To access the Controller Config screen:

1. From the Home screen, press the login icon ( ) to access the Login screen.
2. Login with the user access password (1111).
3. Press the unlock button ( ) to accept the login and return to the Home screen.
4. From the Home screen, press the link for the Main Menu ( ).
5. From the Main Menu, press the Controller Config icon ( ) to go to the Controller Config screen.

   NOTE: If the controller config screen does not show, then login may have failed. Try login again.
6. From the Controller Config screen, press the Zone Sensor Config icon ( ) to go to the Zone Sensor Config screen. Note: the Zone Sensor Config icon is on the second page of the Controller Config screen. Press the down arrow on the bottom right of the screen to get to the second page. See Fig. 17 for Zone Sensor Config screen layout.
7. On the Zone Sensor Config Screen, set the Serial Port Config to "Modbus_J8_RNET". This sets port J10 to Modbus for internal device communication (VFDs, airflow monitor) and port J8 to Rnet for communicating sensors.

   IMPORTANT: The serial port config MUST be set to Modbus for J10 (ex: Modbus_J8_MSTP or Modbus J8_RNET) for proper system operation. Make sure Modbus is listed in the configuration before J8 or else the system will not function properly.
8. Set the addresses for sensor index 1-5. Setting the address to –1 disables the sensor index. See Table 12 for Zone Sensor configuration parameters.
9. Use Zone Sensor Config screens 2-6 to select the sensors and the system behavior for temperature, relative humidity, CO_2, motion, and space temperature offset readings. See Fig. 18 for sensor temperature configuration screen example.
10. Once configuration is complete, click on the save icon ( ) to save configuration changes before leaving the screen.
11. Power cycle or reboot the controller to ensure the configuration changes take effect.

NOTE: A controller reboot may be required for some configuration changes to take effect. Make all required configuration changes prior to rebooting, to reduce rebooting frequency. Press the Reboot button at the bottom of the screen to initiate a reboot. See Fig. 10 for an example of a Reboot button location.

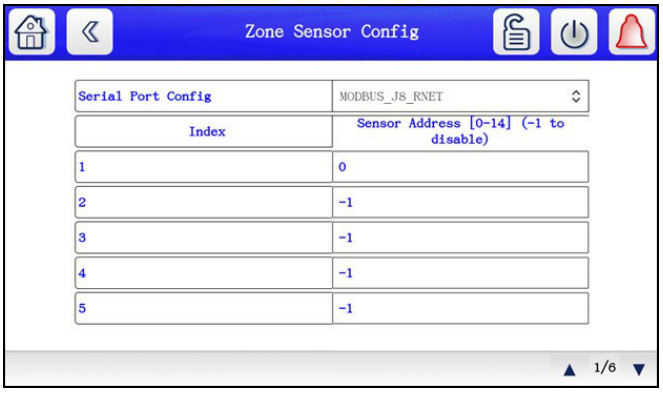


Fig. 17 — Zone Sensor Configuration Screen

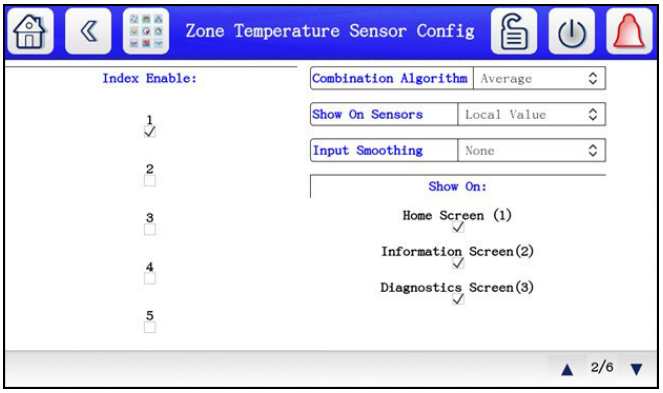


Fig. 18 — Zone Temperature Sensor Configuration Screen

Table 12 — Zone Sensor Configurations

NAME	DESCRIPTION
Serial Port Config	Selects the configuration of the J8 port. NOTE: This configuration must be set to MODBUS_J8_RNET for Rnet sensors. IMPORTANT: Do not use MODBUS_J8_MODBUS, MSTP_J8_MODBUS, or RNET_J8_MSTP configurations.
Sensor Address	Enter the sensor address for the associated sensor index. The sensor address can be 0-14 and must match the address dip switch setting on the sensor. Every sensor on the Rnet must have a different address. NOTE: Enter –1 to disable the sensor.
Index Enable	Selects if the system will use the indexed sensor reading for temperature, humidity, CO_2, space temperature offset, and motion. Check below the sensor index number to use the sensor vale and uncheck to not use the sensor value. NOTE: The sensor functions are listed at the top of the screen.
Combination Algorithm	When using more than one sensor, this configuration determines what value the system uses: **Minimum** – the lowest sensor value. **Maximum** – the highest sensor value. **Average** – average of all of the sensor values.
Show on Sensors	Indicates what value the local sensor will display. **Local value** – shows the local sensor value. **Calculated** – shows the system calculated value from the combination algorithm.
Input Smoothing	If the raw value from the sensor(s) changes frequently, you can select one of the following options to send out an average of readings. **None** – raw output. **Minimum** – average of the last 2 readings. **Medium** – average of the last 5 readings. **Maximum** – average of the last 9 readings.

APPENDIX A — BACNET AND CCN NETWORK POINTS

NOTE: This network points list is for software version 2.5.0. Contact your local Carrier applied sales office for network points for older software versions.

CATEGORY	DESCRIPTION	CCN POINT	BACNET POINT	TYPE	INSTANCE	TYPE	COV	WRITE	DEFAULT	MIN	MAX	UNITS	MS VALUE
Air Temperatures	Building Pressure (BP)	BP	AIRPRESS_BP	AV	3	6	0	No	0	0	0	IN_H2O	
Air Temperatures	Direct Expansion LAT	DXLAT	AIRTEMP_DXLAT	AV	15	6	0	No	0	0	0	DEGREE_F	
Air Temperatures	Effective Control Point	EFF_CP	AIRTEMP_EFF_CP	AV	14	6	0	No	0	0	0	DEGREE_F	
Air Temperatures	Exhaust Air Temp (EAT)	EAT	AIRTEMP_EAT	AV	11	6	0	No	0	0	0	DEGREE_F	
Air Temperatures	Mixed Air Temp (MAT)	MAT	AIRTEMP_MAT	AV	10	6	0	No	0	0	0	DEGREE_F	
Air Temperatures	Outside Air Dew Point	OADP	AIRTEMP_OADP	AV	120	6	0	No	0	0	0	DEGREE_F	
Air Temperatures	Outside Air Temp (OAT)	OAT	AIRTEMP_OAT	AV	9	6	0	No	0	0	0	DEGREE_F	
Air Temperatures	Return Air Pressure	RAP	AIRPRESS_RAP	AV	1	6	0	No	0	-1	1	IN_H2O	
Air Temperatures	Return Air Temp (RAT)	RAT	AIRTEMP_RAT	AV	6	6	0	No	0	0	0	DEGREE_F	
Air Temperatures	Space Temp (SPT)	SPT	AIRTEMP_SPT	AV	7	6	0	No	0	0	0	DEGREE_F	
Air Temperatures	Space Temp Offset	SPTO	AIRTEMP_SPTO	AV	8	6	0	No	0	0	0	DEGREE_F	
Air Temperatures	Staged Gas LAT	LAT	AIRTEMP_LAT	AV	13	6	0	No	0	0	0	DEGREE_F	
Air Temperatures	Staged Gas Limit Temp	LST	AIRTEMP_LST	AV	12	6	0	No	0	0	0	DEGREE_F	
Air Temperatures	Supply Air Dew Point	SADP	AIRTEMP_SADP	AV	123	6	0	No	0	0	0	DEGREE_F	
Air Temperatures	Supply Air Temp (SAT)	SAT	AIRTEMP_SAT	AV	4	6	0	No	0	0	0	DEGREE_F	
Air Temperatures	Supply Air Temp Offset	SATO	AIRTEMP_SATO	AV	5	6	0	No	0	0	0	DEGREE_F	
Air Temperatures	Supply Pressure (SP)	SDP	AIRPRESS_SDP	AV	2	6	0	No	0	0	0	IN_H2O	
Alarm Reset	Alarm Reset	RST_ALM	ALARMRST_RST_ALM	BV	1	4	0	Yes	0	0	1		1 =NO, 2 =YES
Alert Configs	BP High Limit	BP_HLMT	ALERTCFG_BP_HLMT	AV	35	6	0	Yes	0.1	0	0.15	IN_H2O	
Alert Configs	BP Low Limit	BP_LLMT	ALERTCFG_BP_LLMT	AV	34	6	0	Yes	-0.1	-0.15	0	IN_H2O	
Alert Configs	COFS Action	COFS_ACT	ALERTCFG_COFS_ACT	AV	74	6	0	Yes	0	0	0		
Alert Configs	COFS Time	COFS_TME	ALERTCFG_COFS_TME	AV	76	6	0	Yes	5	1	20	HOURS	
Alert Configs	COFS Trips	COFS_TRP	ALERTCFG_COFS_TRP	AV	75	6	0	Yes	5	1	20		
Alert Configs	Comp Cycling Threshold	CP_C_TH	ALERTCFG_CP_C_TH	AV	60	6	0	Yes	200	0	0	MINUTES	
Alert Configs	Compressor Cmd Time	CMPCMD_T	ALERTCFG_CMPCMD_T	AV	54	6	0	Yes	15	1	30	SECONDS	
Alert Configs	ERV Frost Alert Limit	ERV_ALRT	ALERTCFG2_ERV_ALRT	AV	45	6	0	Yes	35	25	40	DEGREE_F	
Alert Configs	Final Filter Reminder	POSTFL	ALERTCFG_POSTFL	AV	59	6	0	Yes	2880	0	43200		
Alert Configs	High SST Time	HIGH_SST	ALERTCFG_HIGH_SST	AV	48	6	0	Yes	10	0	0	MINUTES	
Alert Configs	IAQ High Limit	IAQ_HLMT	ALERTCFG_IAQ_HLMT	AV	40	6	0	Yes	1200	0	5000	PPM	
Alert Configs	Lockout Notification	LOCK_OUT	ALERTCFG_LOCK_OUT	BV	4	4	0	Yes	0	0	0		1 =OFF, 2 =ON
Alert Configs	Low Power Alarm Enable	LPALMEN	LPALMEN	BV	448	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Alert Configs	Low Power Hysteresis (mS)	LPALMHYS	LPALMHYS	AV	575	6	0	Yes	500	0	2000		
Alert Configs	Low Press Ratio Limit	LPRL	ALERTCFG_LPRL	AV	72	6	0	Yes	1.3	1	2	PSIG	
Alert Configs	Low SSH A Alert	SSHALOW	ALERTCFG_SSHALOW	AV	65	6	0	Yes	4	2	10	DEGREE_F	
Alert Configs	Low SSH A Full Load Alrt	SSHAFLLO	ALERTCFG_SSHAFLLO	AV	67	6	0	Yes	4	2	10	DEGREE_F	
Alert Configs	Low SSH A Part Load Alrt	SSHAPLLO	ALERTCFG_SSHAPLLO	AV	66	6	0	Yes	9	7	15	DEGREE_F	
Alert Configs	Low SSH Alert Time	LSSHTIME	ALERTCFG_LSSHTIME	AV	71	6	0	Yes	30	5	120	SECONDS	
Alert Configs	Low SSH B Alert	SSHBLOW	ALERTCFG_SSHBLOW	AV	68	6	0	Yes	4	2	10	DEGREE_F	
Alert Configs	Low SSH B Full Load Alrt	SSHBFLLO	ALERTCFG_SSHBFLLO	AV	70	6	0	Yes	4	2	10	DEGREE_F	
Alert Configs	Low SSH B Part Load Alrt	SSHBPLLO	ALERTCFG_SSHBPLLO	AV	69	6	0	Yes	9	7	15	DEGREE_F	
Alert Configs	Low SST 1Min Threshold	LSST1T	ALERTCFG_LSST1T	AV	63	6	0	Yes	0	-30	40	DEGREE_F	
Alert Configs	Low SST 20Sec Threshold	LSST20sT	ALERTCFG_LSST20sT	AV	64	6	0	Yes	-20	-30	40	DEGREE_F	
Alert Configs	Low SST 2Min Threshold	LSST2T	ALERTCFG_LSST2T	AV	62	6	0	Yes	10	-30	40	DEGREE_F	
Alert Configs	Low SST 4Min Threshold	LSST4T	ALERTCFG_LSST4T	AV	61	6	0	Yes	20	-30	40	DEGREE_F	

APPENDIX A — BACNET AND CCN NETWORK POINTS (cont)

CATEGORY	DESCRIPTION	CCN POINT	BACNET POINT	TYPE	INSTANCE	TYPE	COV	WRITE	DEFAULT	MIN	MAX	UNITS	MS VALUE
Alert Configs	Min Disc Chg Cir A	MINDISA	ALERTCFG_MINDISA	AV	50	6	0	Yes	11	0	99	PSIG	
Alert Configs	Min Disc Chg Cir B	MINDISB	ALERTCFG_MINDISB	AV	52	6	0	Yes	11	0	99	PSIG	
Alert Configs	Min Suc Chg Cir A	MINSUCA	ALERTCFG_MINSUCA	AV	49	6	0	Yes	20	0	99	PSIG	
Alert Configs	Min Suc Chg Cir B	MINSUCB	ALERTCFG_MINSUCB	AV	51	6	0	Yes	20	0	99	PSIG	
Alert Configs	OAD Min CFM	ECMINCFM	ALERTCFG_ECMINCFM	AV	56	6	0	Yes	0	0	0	CFM	
Alert Configs	OAT High Limit	OAT_HLMT	ALERTCFG_OAT_HLMT	AV	39	6	0	Yes	150	0	0	DEGREE_F	
Alert Configs	OAT Low Limit	OAT_LLMT	ALERTCFG_OAT_LLMT	AV	38	6	0	Yes	-40	0	0	DEGREE_F	
Alert Configs	Off Press Ratio	OFF_PRES	ALERTCFG_OFF_PRES	AV	53	6	0	Yes	-0.2	-1	1	PSIG	
Alert Configs	Outdoor Air CFM	OCFMSENS	ALERTCFG_OCFMSENS	AV	55	6	0	Yes	0	0	1	CFM	
Alert Configs	Pre-Filter Change Time	MAINFLT	ALERTCFG_MAINFLT	AV	41	6	0	Yes	2000	168	8760	HOURS	
Alert Configs	RARH High Limit	RARH_HT	ALERTCFG_RARH_HT	AV	31	6	0	Yes	100	0	100	PERCENT	
Alert Configs	RARH Low Limit	RARH_LT	ALERTCFG_RARH_LT	AV	30	6	0	Yes	0	0	100	PERCENT	
Alert Configs	RAT High Occu Limit	RATHLMTO	ALERTCFG_RATHLMTO	AV	27	6	0	Yes	90	-40	245	DEGREE_F	
Alert Configs	RAT High Unoc Limit	RATHLMTU	ALERTCFG_RATHLMTU	AV	28	6	0	Yes	100	-40	245	DEGREE_F	
Alert Configs	RAT Low Occu Limit	RATLLMTO	ALERTCFG_RATLLMTO	AV	26	6	0	Yes	60	-40	245	DEGREE_F	
Alert Configs	RAT Low Unoc Limit	RATLLMTU	ALERTCFG_RATLLMTU	AV	29	6	0	Yes	40	-40	245	DEGREE_F	
Alert Configs	SAT High Limit	SAT_HTMP	ALERTCFG_SAT_HTMP	AV	37	6	0	Yes	130	105	160	DEGREE_F	
Alert Configs	SAT High Occu Limit	SATHLMTO	ALERTCFG_SATHLMTO	AV	23	6	0	Yes	130	105	160	DEGREE_F	
Alert Configs	SAT High Unoc Limit	SATHLMTU	ALERTCFG_SATHLMTU	AV	25	6	0	Yes	130	105	160	DEGREE_F	
Alert Configs	SAT Low Limit	SAT_LTMP	ALERTCFG_SAT_LTMP	AV	36	6	0	Yes	45	0	50	DEGREE_F	
Alert Configs	SAT Low Occu Limit	SATLLMTO	ALERTCFG_SATLLMTO	AV	22	6	0	Yes	40	0	45	DEGREE_F	
Alert Configs	SAT Low Unoc Limit	SATLLMTU	ALERTCFG_SATLLMTU	AV	24	6	0	Yes	40	0	45	DEGREE_F	
Alert Configs	SP High Limit	SP_HLMT	ALERTCFG_SP_HLMT	AV	33	6	0	Yes	2	1.5	2.2	IN_H2O	
Alert Configs	SP Low Limit	SP_LLMT	ALERTCFG_SP_LLMT	AV	32	6	0	Yes	0.1	0	0.5	IN_H2O	
Alert Configs	SPRH High Limit	SPRHHL	ALERTCFG_SPRHHL	AV	16	6	0	Yes	80	0	100	PERCENT	
Alert Configs	SPRH Low Limit	SPRHLL	ALERTCFG_SPRHLL	AV	17	6	0	Yes	20	0	100	PERCENT	
Alert Configs	SPT High Occu Limit	SPTHLMTO	ALERTCFG_SPTHLMTO	AV	19	6	0	Yes	85	-10	245	DEGREE_F	
Alert Configs	SPT High Unoc Limit	SPTHLMTU	ALERTCFG_SPTHLMTU	AV	21	6	0	Yes	100	-10	245	DEGREE_F	
Alert Configs	SPT Low Occu Limit	SPTLLMTO	ALERTCFG_SPTLLMTO	AV	18	6	0	Yes	60	-10	245	DEGREE_F	
Alert Configs	SPT Low Unoc Limit	SPTLLMTU	ALERTCFG_SPTLLMTU	AV	20	6	0	Yes	45	-10	245	DEGREE_F	
Alert Configs	Static Duct Press Limit	MSDPT	ALERTCFG_MSDPT	AV	86	6	0	Yes	3	0	5	IN_H2O	
Alert Configs	T24 Diagnostic	T24ENAB	ALERTCFG_T24ENAB	BV	5	4	0	Yes	1	0	1		1 =DISABLE, 2 =ENABLE
Alert Configs	T24 Econ Max Pos	T24ECMAX	ALERTCFG_T24ECMAX	AV	83	6	0	Yes	85	50	100	PERCENT	
Alert Configs	T24 Econ Min Pos	T24ECMIN	ALERTCFG_T24ECMIN	AV	82	6	0	Yes	15	0	50	PERCENT	
Alert Configs	T24 Heat-Cool Delay	HCDELAY	ALERTCFG_HCDELAY	AV	84	6	0	Yes	25	0	60	MINUTES	
Alert Configs	T24 Move Detect	MOVEDTEC	ALERTCFG_MOVEDTEC	AV	80	6	0	Yes	1	1	10	PERCENT	
Alert Configs	T24 OA RA diff	OARADIFF	ALERTCFG_OARADIFF	AV	77	6	0	Yes	15	5	20	DEGREE_F	
Alert Configs	T24 Sat Change	SATCHNGE	ALERTCFG_SATCHNGE	AV	79	6	0	Yes	0.2	0	5	DEGREE_F	
Alert Configs	T24 SAT Move Chk	SATMOVE	ALERTCFG_SATMOVE	AV	78	6	0	Yes	10	10	20	PERCENT	
Alert Configs	T24 SAT Settle	SASETTLE	ALERTCFG_SASETTLE	AV	81	6	0	Yes	120	5	450	SECONDS	
Analog Input	CF 1 Speed	ODF1SPD	ANALOGIN_ODF1SPD	AV	135	6	0	No	0	0	0	HZ	
Analog Input	CF 2 Speed	ODF2SPD	ANALOGIN_ODF2SPD	AV	136	6	0	No	0	0	0	HZ	
Analog Input	CF 3 Speed	ODF3SPD	ANALOGIN_ODF3SPD	AV	137	6	0	No	0	0	0	HZ	
Analog Input	Comp A1 Speed	CMPA1SPD	ANALOGIN_CMPA1SPD	AV	131	6	0	No	0	0	0	HZ	
Analog Input	Comp A2 Speed	CMPA2SPD	ANALOGIN_CMPA2SPD	AV	132	6	0	No	0	0	0	HZ	
Analog Input	Comp B1 Speed	CMPB1SPD	ANALOGIN_CMPB1SPD	AV	133	6	0	No	0	0	0	HZ	
Analog Input	Comp B2 Speed	CMPB2SPD	ANALOGIN_CMPB2SPD	AV	134	6	0	No	0	0	0	HZ	
Analog Input	Demand Limit Control	DLC	ANALOGIN_DLC	AV	146	6	0	No	0	0	0		
Analog Input	EXF 3rd Party Modulation	EF3P_CMD	ANALOGIN_EF3P_CMD	AV	114	6	0	No	0	0	0	PERCENT	

APPENDIX A — BACNET AND CCN NETWORK POINTS (cont)

CATEGORY	DESCRIPTION	CCN POINT	BACNET POINT	TYPE	INSTANCE	TYPE	COV	WRITE	DEFAULT	MIN	MAX	UNITS	MS VALUE
Analog Input	Exhaust Fan Speed	EFSPD	ANALOGIN_EFSPD	AV	140	6	0	No	0	0	0	PERCENT	
Analog Input	EXV A1	EXV_A1	ANALOGIN_EXV_A1	AV	141	6	0	No	0	0	100	PERCENT	
Analog Input	EXV A2	EXV_A2	ANALOGIN_EXV_A2	AV	142	6	0	No	0	0	100	PERCENT	
Analog Input	EXV B1	EXV_B1	ANALOGIN_EXV_B1	AV	143	6	0	No	0	0	100	PERCENT	
Analog Input	EXV B2	EXV_B2	ANALOGIN_EXV_B2	AV	144	6	0	No	0	0	100	PERCENT	
Analog Input	Final Filt Press Drop	FFPD	ANALOGIN_FFPD	AV	148	6	0	No	0	0	0	IN_H2O	
Analog Input	HGRH Valve 2 Feedback	HMD2	ANALOGIN_HMD2	AV	130	6	0	No	0	0	0	PERCENT	
Analog Input	HGRH Valve Feedback	HMD	ANALOGIN_HMD	AV	129	6	0	No	0	0	0	PERCENT	
Analog Input	IAQ OAD Pos Reset	IAQOPRST	ANALOGIN_IAQOPRST	AV	116	6	0	No	0	0	0	PERCENT	
Analog Input	IDF 3rd Party Modulation	SF3P_CMD	ANALOGIN_SF3P_CMD	AV	115	6	0	No	0	0	0	PERCENT	
Analog Input	IDF Speed	IDFSPD	ANALOGIN_IDFSPD	AV	138	6	0	No	0	0	0	PERCENT	
Analog Input	IDF Speed RPM	IDFRPM	ANALOGIN_IDFRPM	AV	139	6	0	No	0	0	0	RPM	
Analog Input	Indoor Air Quality	IAQOPRST	ANALOGIN_IAQ	AV	117	6	0	No	0	0	0	PPM	
Analog Input	Mixed Air RH (MARH)	MARH	ANALOGIN_MARH	AV	125	6	0	No	0	0	0	PERCENT	
Analog Input	OAD 3rd Party Modulation	OD3P_CMD	ANALOGIN_OD3P_CMD	AV	113	6	0	No	0	0	0	PERCENT	
Analog Input	OAD Feedback	DAMPPOS	ANALOGIN_DAMPPOS	AV	127	6	0	No	0	0	0	PERCENT	
Analog Input	Outdoor Air CFM	OACFM	ANALOGIN_OACFM	AV	111	6	0	No	0	0	0	CFM	
Analog Input	Outdoor Air CFM Reset	OACFMRST	ANALOGIN_OACFMRST	AV	112	6	0	No	0	0	0	CFM	
Analog Input	Outdoor Air Enthalpy	OA_ENTH	ANALOGIN_OA_ENTH	AV	149	6	0	No	0	0	0	BTU_LB	
Analog Input	Outdoor Air Quality	OAQ	ANALOGIN_OAQ	AV	118	6	0	No	2000	0	0	PPM	
Analog Input	Outdoor Air RH (OARH)	OARH	ANALOGIN_OARH	AV	119	6	0	No	0	0	0	PERCENT	
Analog Input	Pre Filt Press Drop	PFPD	ANALOGIN_PFPD	AV	147	6	0	No	0	0	0		
Analog Input	RAD Feedback	DAMPPOS2	ANALOGIN_DAMPPOS2	AV	128	6	0	No	0	0	0	PERCENT	
Analog Input	Return Air Enthalpy	RA_ENTH	ANALOGIN_RA_ENTH	AV	150	6	0	No	0	0	0	BTU_LB	
Analog Input	Return Air RH (RARH)	RARH	ANALOGIN_RARH	AV	121	6	0	No	0	0	0	PERCENT	
Analog Input	Space RH (SPRH)	SPRH	ANALOGIN_SPRH	AV	124	6	0	No	0	0	0	PERCENT	
Analog Input	Static Pressure Stpt Rst	SPSR	ANALOGIN_SPSR	AV	145	6	0	No	0	0	5	IN_H2O	
Analog Input	Supply Air RH (SARH)	SARH	ANALOGIN_SARH	AV	122	6	0	No	0	0	0	PERCENT	
Analog Input	Zone Damper Position	ZDP	ANALOGIN_ZDP	AV	126	6	0	No	0	0	0	PERCENT	
Analog Output	Actual heat command	HEATCMD	ANALGOUT_HEATCMD	AV	94	6	0	No	0	0	0	PERCENT	
Analog Output	CF 1 Command	ODF1CMD	ANALGOUT_ODF1CMD	AV	104	6	0	No	0	0	0	PERCENT	
Analog Output	CF 2 Command	ODF2CMD	ANALGOUT_ODF2CMD	AV	105	6	0	No	0	0	0	PERCENT	
Analog Output	CF 3 Command	ODF3CMD	ANALGOUT_ODF3CMD	AV	106	6	0	No	0	0	0	PERCENT	
Analog Output	Comp A1 Command	CMPA1CMD	ANALGOUT_CMPA1CMD	AV	99	6	0	No	0	0	0	PERCENT	
Analog Output	Comp A2 Command	CMPA2CMD	ANALGOUT_CMPA2CMD	AV	100	6	0	No	0	0	0	PERCENT	
Analog Output	Comp B1 Command	CMPB1CMD	ANALGOUT_CMPB1CMD	AV	101	6	0	No	0	0	0	PERCENT	
Analog Output	Comp B2 Command	CMPB2CMD	ANALGOUT_CMPB2CMD	AV	102	6	0	No	0	0	0	PERCENT	
Analog Output	ERV Outdoor Air Fan	ERV_OAF	ANALGOUT_ERV_OAF	AV	98	6	0	No	0	0	0	PERCENT	
Analog Output	Exhaust Fan Cmd	EFCMD	ANALGOUT_EFCMD	AV	97	6	0	No	0	0	0	PERCENT	
Analog Output	EXV A1 Cmd	EXVA1CMD	ANALGOUT_EXVA1CMD	AV	107	6	0	No	0	0	0	PERCENT	
Analog Output	EXV A2 Cmd	EXVA2CMD	ANALGOUT_EXVA2CMD	AV	108	6	0	No	0	0	0	PERCENT	
Analog Output	EXV B1 Cmd	EXVB1CMD	ANALGOUT_EXVB1CMD	AV	109	6	0	No	0	0	0	PERCENT	
Analog Output	EXV B2 Cmd	EXVB2CMD	ANALGOUT_EXVB2CMD	AV	110	6	0	No	0	0	0	PERCENT	
Analog Output	HGRH 2 Command	HMV2	ANALGOUT_HMV2	AV	96	6	0	No	0	0	100	PERCENT	
Analog Output	HGRH Command	HMV	ANALGOUT_HMV	AV	95	6	0	No	0	0	100	PERCENT	
Analog Output	IDF1 Control Command	IDFCMD	ANALGOUT_IDFCMD	AV	103	6	0	No	0	0	0	PERCENT	
Analog Output	OAD Command	DAMPCMD	ANALGOUT_DAMPCMD	AV	92	6	0	No	0	0	0	PERCENT	
Analog Output	RAD Cmd	DAMPCMD2	ANALGOUT_DAMPCMD2	AV	93	6	0	No	0	0	0	PERCENT	
BACnet	Local Sched Occ Request	NA	BACNET_loc_occ	AV	295	6	0	No	0	0	1		

APPENDIX A — BACNET AND CCN NETWORK POINTS (cont)

CATEGORY	DESCRIPTION	CCN POINT	BACNET POINT	TYPE	INSTANCE	TYPE	COV	WRITE	DEFAULT	MIN	MAX	UNITS	MS VALUE
BACnet	Operation Status Color	NA	BACNET_ALC_COLOR	MV	27	5	0	No	14	0	14		1 =Gray, 2 =Red, 3 =DarkBlue, 4 =LightBlue, 5 =Green, 6 =LightGreen, 7 =Yellow, 8 =Orange, 9 = Red, 10 =White, 13 =Coral, 14 =Charcoal, 15 =Purple
BACnet	Sched Linked BACnet Obj	NA	BACNET_SCH_Objj	AV	294	6	0	No	0	0	1		
BACnet	Value of Prime variable	NA	BACNET_ALC_PRIME	AV	573	6	0	No	0	-999999	999999	DEGREE_F	
Cooling Configs	Cool Heat Gap Config	GAP_CLHT	COOLCFG_GAP_CLHT	AV	193	6	0	Yes	5	2	10	DEGREE_F	
Cooling Configs	Cool Tempered Venting	TMPDVNT	COOLCFG_TMPDVNT	BV	7	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Cooling Configs	Cool Trend Level	CLTREND	COOLCFG_CLTREND	AV	191	6	0	Yes	0.2	0.1	5	DEGREE_F	
Cooling Configs	Cool Trend Time	CLTNDTM	COOLCFG_CLTNDTM	AV	192	6	0	Yes	2	1	5	MINUTES	
Cooling Configs	Cool/Heat Demand Source	DEMAND	COOLCFG_DEMAND	AV	186	6	0	Yes	3	0	5		
Cooling Configs	SAT High Deadband	SATHI_DB	COOLCFG_SATHI_DB	AV	483	6	0	Yes	5	2.5	10	DEGREE_F	
Cooling Configs	SAT Lo Deadband	SATLO_DB	COOLCFG_SATLO_DB	AV	482	6	0	Yes	10	5	15	DEGREE_F	
Cooling Configs	SAT Reset Limit	RSTLMIT	COOLCFG_RSTLMIT	AV	190	6	0	Yes	10	0	20		
Cooling Configs	SAT Reset Ratio	RSTRTIO	COOLCFG_RSTRTIO	AV	189	6	0	Yes	3	0	10		
Cooling Configs	SAT Reset Source	TPCTLRST	COOLCFG_TPCTLRST	AV	188	6	0	Yes	0	0	5		
Cooling Configs	Vent Deadband	SPLYDB	COOLCFG_SPLYDB	AV	187	6	0	Yes	15	10	30	DEGREE_F	
Cooling Setpoints	100% OA Cool SAT	NA	COOLSTP_HODACLSP	AV	296	6	0	No	73	55	75	DEGREE_F	
Cooling Setpoints	100% OA High Cool SAT	HODAHCL	COOLSTP_HODAHCL	AV	200	6	0	Yes	70	55	75	DEGREE_F	
Cooling Setpoints	100% OA Low Cool SAT	HODALCL	COOLSTP_HODALCL	AV	199	6	0	Yes	75	55	75	DEGREE_F	
Cooling Setpoints	Cool Capacity Limit S1	NA	COOLSTP_CAPLIMS1	AV	224	6	0	Yes	50	0	100	PERCENT	
Cooling Setpoints	Cool Capacity Limit S2	CCPLIMS2	COOLSTP_CAPLIMS2	AV	225	6	0	Yes	0	0	100	PERCENT	
Cooling Setpoints	Dmd Reset Cool Adjust	DMDRSTCL	COOLSTP_DMDRSTCL	AV	233	6	0	Yes	4	0	10	DEGREE_F	
Cooling Setpoints	Hi Cool On DB	DOHICLON	COOLCFG_DOHICLON	AV	203	6	0	Yes	1	0.5	20	DEGREE_F	
Cooling Setpoints	Hi Cool SAT	SAHICLSP	COOLSTP_SAHICLSP	AV	198	6	0	Yes	55	55	75	DEGREE_F	
Cooling Setpoints	Lo Cool Off DB	DOLOCLOF	COOLCFG_DOLOCLOF	AV	202	6	0	Yes	1	0.5	2	DEGREE_F	
Cooling Setpoints	Lo Cool On DB	DOLOCLON	COOLCFG_DOLOCLON	AV	201	6	0	Yes	1	0	2	DEGREE_F	
Cooling Setpoints	Lo Cool SAT	SALOCLSP	COOLSTP_SALOCLSP	AV	197	6	0	Yes	65	55	75	DEGREE_F	
Cooling Setpoints	Occupied Cooling	CLSP_OCC	COOLSTP_CLSP_OCC	AV	195	6	0	Yes	73	55	80	DEGREE_F	
Cooling Setpoints	SAT Setpt	ACTV_SP	COOLSTP_ACTV_SP	AV	527	6	0	No	0	0	0	DEGREE_F	
Cooling Setpoints	Unoccupied Cooling	CLSP_UNO	COOLSTP_CLSP_UNO	AV	196	6	0	Yes	83	55	110	DEGREE_F	
Cooling Setpoints	VAV Cool Off DB	DOVAVCOF	COOLCFG_DOVAVCOF	AV	206	6	0	Yes	2	1	25	DEGREE_F	
Cooling Setpoints	VAV Cool On DB	DOVAVCON	COOLCFG_DOVAVCON	AV	205	6	0	Yes	3.5	0	25	DEGREE_F	
Cooling Setpoints	VAV Cooling SAT	VAVCLSP	COOLSTP_VAVCLSP	AV	204	6	0	Yes	55	45	75	DEGREE_F	
Cooling Setpoints	Vent SAT	SPLYAVSP	COOLSTP_SPLYAVSP	AV	207	6	0	Yes	70	55	85	DEGREE_F	
Dehum Configs	Dehum CCT	CCTSTP	DHUMSTP_CCTSTP	AV	218	6	0	Yes	55	0	0	DEGREE_F	
Dehum Configs	Dehum Control Mode	DHUMMODE	DHUMCFG_DHUMMODE	AV	484	6	0	Yes	0	0	3		
Dehum Configs	Dehum Demand Source	DMD_SRC	DHUMCFG_DMD_SRC	AV	208	6	0	Yes	3	0	8		
Dehum Configs	Dehum RH	DHUMRHSP	DHUMSTP_DHUMRHSP	AV	215	6	0	Yes	55	40	100	PERCENT	
Dehum Configs	Dehum RH Off DB	RLOS_OFF	DHUMCFG_RLOS_OFF	AV	217	6	0	Yes	5	1	20	PERCENT	
Dehum Configs	Dehum RH On DB	RLOS_ON	DHUMCFG_RLOS_ON	AV	216	6	0	Yes	5	0	20	PERCENT	
Dehum Configs	Dehum SADP	NA	DHUMSTP_DHUMSADP	AV	302	6	0	No	0	0	0	DEGREE_F	

APPENDIX A — BACNET AND CCN NETWORK POINTS (cont)

CATEGORY	DESCRIPTION	CCN POINT	BACNET POINT	TYPE	INSTANCE	TYPE	COV	WRITE	DEFAULT	MIN	MAX	UNITS	MS VALUE
Dehum Configs	High Cool Dehum	DHUMHICL	DHUMCFG_DHUMHICL	BV	13	4	0	Yes	0	0	0		1 =DISABLE, 2 =ENABLE
Dehum Configs	High Heat Dehum	DHUMHIHT	DHUMCFG_DHUMHIHT	BV	15	4	0	Yes	0	0	0		1 =DISABLE, 2 =ENABLE
Dehum Configs	Low Cool Dehum	DHUMLOCL	DHUMCFG_DHUMLOCL	BV	14	4	0	Yes	0	0	0		1 =DISABLE, 2 =ENABLE
Dehum Configs	Low Heat Dehum	DHUMLOHT	DHUMCFG_DHUMLOHT	BV	16	4	0	Yes	0	0	0		1 =DISABLE, 2 =ENABLE
Dehum Configs	Occupied Free Dehum	OFDHUMEN	DHUMCFG_OFDHUMEN	BV	18	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Dehum Configs	Supplemental Heat	SUPPHEAT	DHUMCFG_SUPPHEAT	BV	10	4	0	Yes	0	0	0		1 =DISABLE, 2 =ENABLE
Dehum Configs	Unoccupied Dehum	UNOCENAB	DHUMCFG_UNOCENAB	BV	9	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Dehum Configs	Unoccupied Free Dehum	UFDHUMEN	DHUMCFG_UFDHUMEN	BV	19	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Dehum Configs	VAV Cool Dehum	DHUMVAV	DHUMCFG_DHUMVAV	BV	12	4	0	Yes	0	0	0		1 =DISABLE, 2 =ENABLE
Dehum Configs	Vent/None Dehum	DHUMVENT	DHUMCFG_DHUMVENT	BV	11	4	0	Yes	0	0	0		1 =DISABLE, 2 =ENABLE
Device Address	AUX	NA	COMMADDR_AUX1	AV	152	6	0	No	0	0	0		
Device Address	Compressor A1	NA	COMMADDR_COMP_A1	AV	159	6	0	No	0	0	0		
Device Address	NGC IOB 1	NA	COMMADDR_NGC1	AV	153	6	0	No	0	0	0		
Device Address	ODF 1	NA	COMMADDR_ODF_1	AV	166	6	0	No	0	0	0		
Device Address	ODF 2	NA	COMMADDR_ODF_2	AV	167	6	0	No	0	0	0		
Device Address	ODF 3	NA	COMMADDR_ODF_3	AV	168	6	0	No	0	0	0		
Device Address	PD4 EXV	NA	COMMADDR_PD4_EXV1	AV	154	6	0	No	0	0	0		
Device Address	Power Exhaust 1	NA	COMMADDR_PWREXH_1	AV	171	6	0	No	0	0	0		
Device Address	Power Exhaust 2	NA	COMMADDR_PWREXH_2	AV	172	6	0	No	0	0	0		
Device Address	Return Fan 1	NA	COMMADDR_RF_1	AV	169	6	0	No	0	0	0		
Device Address	Return Fan 2	NA	COMMADDR_RF_2	AV	170	6	0	No	0	0	0		
Device Address	SIOB 1	NA	COMMADDR_SIOB1	AV	155	6	0	No	0	0	0		
Device Address	SIOB 2	NA	COMMADDR_SIOB2	AV	156	6	0	No	0	0	0		
Device Address	SIOB 3	NA	COMMADDR_SIOB3	AV	157	6	0	No	0	0	0		
Device Address	Supply Fan 1	IDF_1	COMMADDR_IDF_1	AV	160	6	0	No	0	0	0		
Device Address	Supply Fan 2	IDF_2	COMMADDR_IDF_2	AV	161	6	0	No	0	0	0		
Device Address	Supply Fan 3	IDF_3	COMMADDR_IDF_3	AV	162	6	0	No	0	0	0		
Device Address	Supply Fan 4	NA	COMMADDR_IDF_4	AV	163	6	0	No	0	0	0		
Device Address	Supply Fan 5	NA	COMMADDR_IDF_5	AV	164	6	0	No	0	0	0		
Device Address	Supply Fan 6	NA	COMMADDR_IDF_6	AV	165	6	0	No	0	0	0		
Device Address	ZIOB	NA	COMMADDR_SYSTEMVU	AV	158	6	0	No	0	0	0		
Discrete Inputs	Cir A HPS Switch	HPSA	DISCIN_HPSA	BV	39	4	0	No	0	0	1		1 =OPEN, 2 =CLOSE
Discrete Inputs	Cir B HPS Switch	HPSB	DISCIN_HPSB	BV	40	4	0	No	0	0	1		1 =OPEN, 2 =CLOSE
Discrete Inputs	COFS	CNDOSW	DISCIN_CNDOSW	BV	33	4	0	No	0	0	1		1 =OPEN, 2 =CLOSE
Discrete Inputs	Comp A1 Feedback	CMPFBKA1	DISCIN_CMPFBKA1	BV	35	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Inputs	Comp A2 Feedback	CMPFBKA2	DISCIN_CMPFBKA2	BV	36	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Inputs	Comp B1 Feedback	CMPFBKB1	DISCIN_CMPFBKB1	BV	37	4	0	No	0	0	1		1 =OFF, 2 =ON

APPENDIX A — BACNET AND CCN NETWORK POINTS (cont)

CATEGORY	DESCRIPTION	CCN POINT	BACNET POINT	TYPE	INSTANCE	TYPE	COV	WRITE	DEFAULT	MIN	MAX	UNITS	MS VALUE
Discrete Inputs	Comp B2 Feedback	CMPFBKB2	DISCIN_CMPFBKB2	BV	38	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Inputs	Dehumidify Switch	DEHUMSW	DISCIN_DEHUMSW	BV	34	4	0	No	0	0	1		1 =OPEN, 2 =CLOSE
Discrete Inputs	DemandLimSwitch1	DLS1	DISCIN_DLS1	BV	45	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Inputs	DemandLimSwitch2	DLS2	DISCIN_DLS2	BV	46	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Inputs	ERV Frost Indicator	ERV_FRST	DISCIN_ERV_FRST	BV	42	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Inputs	ERV Motion Sensor	WHEEL_ST	DISCIN_WHEEL_ST	BV	43	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Inputs	ERV OD Filt Stat Switch	ERVFSS	DISCIN_ERVFSS	BV	44	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Inputs	Filter Switch	FILTSTAT	DISCIN_FILTSTAT	BV	30	4	0	No	0	0	1		1 =CLEAN, 2 =DIRTY
Discrete Inputs	Fire Press Switch	PRESSSW	DISCIN_PRESSSW	BV	49	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Inputs	Fire Shutdown Switch	FIRESW	DISCIN_FIRESW	BV	25	4	0	No	0	0	1		1 =OPEN, 2 =CLOSE
Discrete Inputs	Heat Alarm	HT_ALARM	DISCIN_HT_ALARM	BV	32	4	0	No	0	0	1		1 =OPEN, 2 =CLOSE
Discrete Inputs	Hi Cool Input (Y2)	TSTAT_Y2	DISCIN_TSTAT_Y2	BV	22	4	0	No	0	0	1		1 =OPEN, 2 =CLOSE
Discrete Inputs	Hi Heat Input (W2)	TSTAT_W2	DISCIN_TSTAT_W2	BV	24	4	0	No	0	0	1		1 =OPEN, 2 =CLOSE
Discrete Inputs	Hydronic Freeze Switch	FRZSW	DISCIN_FRZSW	BV	51	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Inputs	IAQ Switch	IAQSW	DISCIN_IAQSW	BV	53	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Inputs	IGC IDF Switch	IGCFANSW	DISCIN_IGCFANSW	BV	47	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Inputs	Indoor Fan Input (G)	TSTAT_G	DISCIN_TSTAT_G	BV	20	4	0	No	0	0	1		1 =OPEN, 2 =CLOSE
Discrete Inputs	Indoor Fan Limit Switch	IDF_LSM	DISCIN_IDF_LSM	BV	31	4	0	No	0	0	1		1 =OPEN, 2 =CLOSE
Discrete Inputs	Indoor RFG Sensor ALM	INRFGLK	DISCIN_INRFGLK	BV	58	4	0	No	0	0	1		1 =NORMAL, 2 =ALARM
Discrete Inputs	Lo Cool Input (Y1)	TSTAT_Y1	DISCIN_TSTAT_Y1	BV	21	4	0	No	0	0	1		1 =OPEN, 2 =CLOSE
Discrete Inputs	Lo Heat Input (W1)	TSTAT_W1	DISCIN_TSTAT_W1	BV	23	4	0	No	0	0	1		1 =OPEN, 2 =CLOSE
Discrete Inputs	OAD Neg Pressure	ENEGPRES	DISCIN_ENEGPRES	BV	56	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Inputs	OAQ Switch	OAQSW	DISCIN_OAQSW	BV	54	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Inputs	Outdoor Enthalpy	ODENTHSW	DISCIN_ODENTHSW	BV	55	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Inputs	Outdoor RFG Sensor ALM	OUTRFGLK	DISCIN_OUTRFGLK	BV	59	4	0	No	0	0	1		1 =NORMAL, 2 =ALARM
Discrete Inputs	Phase Monitor	PMR_STAT	DISCIN_PMR_STAT	BV	28	4	0	No	0	0	1		1 =OPEN, 2 =CLOSE
Discrete Inputs	Pre Filter Switch	PFPSS	DISCIN_PFPSS	BV	48	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Inputs	Pressure Safety	PPSS	DISCIN_PPSS	BV	52	4	0	No	0	0	1		1 =OFF, 2 =ON

APPENDIX A — BACNET AND CCN NETWORK POINTS (cont)

CATEGORY	DESCRIPTION	CCN POINT	BACNET POINT	TYPE	INSTANCE	TYPE	COV	WRITE	DEFAULT	MIN	MAX	UNITS	MS VALUE
Discrete Inputs	Remote Switch	RESW	DISCIN_RESW	BV	41	4	0	No	0	0	1		1 =OPEN, 2 =CLOSE
Discrete Inputs	Shutdown Switch	SHTDWNSW	DISCIN_SHTDWNSW	BV	29	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Inputs	Smoke Detector	SMOKESW	DISCIN_SMOKESW	BV	26	4	0	No	0	0	1		1 =OPEN, 2 =CLOSE
Discrete Inputs	Smoke Evac Switch	EVACSW	DISCIN_EVACSW	BV	50	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Inputs	Smoke Purge Switch	SMKPRGSW	DISCIN_SMKPRGSW	BV	27	4	0	No	0	0	1		1 =OPEN, 2 =CLOSE
Discrete Inputs	VS Oil Level Switch A	VSOLSWA	DISCIN_VSOLSWA	BV	57	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Outputs	3rd Party Reheat Relay	RH3PRLY	DISCOUT_RH3PRLY	BV	73	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Outputs	Alarm	ALMOUT	DISCOUT_ALMOUT	BV	83	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Outputs	CCH A	CCHRA	DISCOUT_CCHRA	BV	70	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Outputs	CCH B	CCHRB	DISCOUT_CCHRB	BV	71	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Outputs	CF 1 Relay	ODF1	DISCOUT_ODF1	BV	67	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Outputs	CF 2 Relay	ODF2	DISCOUT_ODF2	BV	68	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Outputs	CF 3 Relay	ODF3	DISCOUT_ODF3	BV	69	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Outputs	Comp A1 Modulation RLY	CMPRELA1	DISCOUT_CMPRELA1	BV	61	4	0	No	0	0	1		1 =OPEN, 2 =CLOSE
Discrete Outputs	Comp A2 Modulation RLY	CMPRELA2	DISCOUT_CMPRELA2	BV	63	4	0	No	0	0	1		1 =OPEN, 2 =CLOSE
Discrete Outputs	Compressor A1	CPA1	DISCOUT_CPA1	BV	60	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Outputs	Compressor A2	CPA2	DISCOUT_CPA2	BV	62	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Outputs	Compressor B1	CPB1	DISCOUT_CPB1	BV	64	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Outputs	Compressor B2	CPB2	DISCOUT_CPB2	BV	65	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Outputs	ERV Bypass Damper	BYP_DAMP	DISCOUT_BYP_DAMP	BV	81	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Outputs	ERV Wheel	ERVWHEEL	DISCOUT_ERVWHEEL	BV	74	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Outputs	Fan Auto Address	AUTOADDR	DISCOUT_AUTOADDR	BV	90	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Outputs	Heat Enable 1	STGHEAT1	DISCOUT_STGHEAT1	BV	75	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Outputs	Heat Enable 2	STGHEAT2	DISCOUT_STGHEAT2	BV	76	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Outputs	Heat Enable 3	STGHEAT3	DISCOUT_STGHEAT3	BV	77	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Outputs	Heat Enable 4	STGHEAT4	DISCOUT_STGHEAT4	BV	78	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Outputs	Heat Enable 5	STGHEAT5	DISCOUT_STGHEAT5	BV	79	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Outputs	Heat Enable 6	STGHEAT6	DISCOUT_STGHEAT6	BV	80	4	0	No	0	0	1		1 =OFF, 2 =ON

APPENDIX A — BACNET AND CCN NETWORK POINTS (cont)

CATEGORY	DESCRIPTION	CCN POINT	BACNET POINT	TYPE	INSTANCE	TYPE	COV	WRITE	DEFAULT	MIN	MAX	UNITS	MS VALUE
Discrete Outputs	Heat Interlock Relay	HIR	DISCOUT_HIR	BV	84	4	0	No	0	0	0		1 =OFF, 2 =ON
Discrete Outputs	Heat Reclaim	HRR	DISCOUT_HRR	BV	86	4	0	No	0	0	0		1 =OFF, 2 =ON
Discrete Outputs	Humidifier	HMFR	DISCOUT_HMFR	BV	85	4	0	No	0	0	0		1 =OFF, 2 =ON
Discrete Outputs	IDF VFD Bypass Relay	IDFBYREL	DISCOUT_IDFBYREL	BV	66	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Outputs	Power Exh A	PEA	DISCOUT_PEA	BV	87	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Outputs	Power Exh B	PEB	DISCOUT_PEB	BV	88	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Outputs	Power Exh C	PEC	DISCOUT_PEC	BV	89	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Outputs	Power Exhaust Enable	POWEXH1	DISCOUT_POWEXH1	AV	219	6	0	No	0	0	1		
Discrete Outputs	Reheat 3-way valve	HMS	DISCOUT_HMS	BV	72	4	0	No	0	0	1		1 =OFF, 2 =ON
Discrete Outputs	VSC A1 Safe Stop	VSCA1_SS	DISCOUT_VSCA1_SS	BV	445	4	0	No	1	0	1		1 =OFF, 2 =ON
Discrete Outputs	Zone Damper Override RLY	ZDOR	DISCOUT_ZDOR	BV	82	4	0	No	0	0	1		1 =OFF, 2 =ON
EnergyX Configs	ERV Check Type	CHKTYPE	ERVCFG_CHKTYPE	AV	260	6	0	Yes	0	0	2		
EnergyX Configs	ERV Enthalpy Tolerance	ENTTOL	ERVCFG_ENTTOL	AV	262	6	0	Yes	2	0	2	BTU_LB	
EnergyX Configs	ERV Fan Damper Min Pos	ERVMINPS	ERVCFG_ERVMINPS	AV	265	6	0	Yes	10	0	100	PERCENT	
EnergyX Configs	ERV Fan Max Bypass Close	MAXBYPCL	ERVCFG_MAXBYPCL	AV	264	6	0	Yes	100	0	100	PERCENT	
EnergyX Configs	ERV Fan Max Bypass Open	MAXBYPOP	ERVCFG_MAXBYPOP	AV	263	6	0	Yes	100	0	100	PERCENT	
EnergyX Configs	ERV Off Enthalpy DB	OFFENTDB	ERVCFG_OFFENTDB	AV	269	6	0	Yes	0.5	0	2	BTU_LB	
EnergyX Configs	ERV Off Temp DB	OFFTMPDB	ERVCFG_OFFTMPDB	AV	268	6	0	Yes	5	0	10	DELTA_F	
EnergyX Configs	ERV Temp Tolerance	TMPTOL	ERVCFG_TMPTOL	AV	261	6	0	Yes	10	0	20	DELTA_F	
EnergyX Configs	ERV Wheel Exh Min Speed	ERVEFMIN	ERVCFG_ERVEFMIN	AV	267	6	0	Yes	0	0	100	PERCENT	
EnergyX Configs	ERV Wheel-Minimum Pos	WHMINPOS	ERVCFG_WHMINPOS	AV	266	6	0	Yes	10	0	100	PERCENT	
Equipment Configs	3rd Party Reheat Enable	RH3PEN	EQUIPCFG_RH3PEN	BV	108	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	Alarm Output	ALARMEN	EQUIPCFG_ALARMEN	BV	101	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	Aux Relay	AUXRELAY	EQUIPCFG_AUXRELAY	AV	256	6	0	Yes	0	0	2		
Equipment Configs	COFS	CONDEN	EQUIPCFG_CONDEN	BV	123	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	Demand Reset Switch	DMDRSTEN	EQUIPCFG_DMDRSTEN	BV	122	4	0	Yes	0	0	0		1 =DISABLE, 2 =ENABLE
Equipment Configs	Demand/Capacity Anlg In	DMDLIM	EQUIPCFG_DMDLIM	BV	93	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	EAT Sensor	EATEN	EQUIPCFG_EATEN	BV	102	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	Economizer (OAD)	ECONEN	EQUIPCFG_ECONEN	BV	117	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	Emergency Shutdown En	SHTDWNEN	EQUIPCFG_SHTDWNEN	BV	99	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	Enthalpy Switch	ENTHSWEN	EQUIPCFG_ENTHSWEN	BV	124	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	ERV	ERVEN	EQUIPCFG_ERVEN	BV	110	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	ERV Bypass Damper	ERVBYPEN	EQUIPCFG_ERVBYPEN	BV	112	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE

APPENDIX A — BACNET AND CCN NETWORK POINTS (cont)

CATEGORY	DESCRIPTION	CCN POINT	BACNET POINT	TYPE	INSTANCE	TYPE	COV	WRITE	DEFAULT	MIN	MAX	UNITS	MS VALUE
Equipment Configs	ERV OAF	ERVOAFEN	EQUIPCFG_ERVOAFEN	BV	111	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	Evacuation Switch	EVACEN	EQUIPCFG_EVACEN	BV	114	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	EXF 3rd Party Mod	EF3PEN	EQUIPCFG_EF3PEN	BV	107	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	Exhaust Fan	EFEN	EQUIPCFG_EFEN	BV	116	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	Fire Switch	FIRESWEN	EQUIPCFG_FIRESWEN	BV	113	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	Freeze Switch	NA	EQUIPCFG_FRZSWEN	AV	303	6	0	No	0	0	1		
Equipment Configs	Heat Stage 1 Relay	HT1EN	EQUIPCFG_HT1EN	BV	118	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	Heat Stage 2 Relay	HT2EN	EQUIPCFG_HT2EN	BV	119	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	Heat Stage 3 Relay	HT3EN	EQUIPCFG_HT3EN	BV	120	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	Heat Stage 4 Relay	HT4EN	EQUIPCFG_HT4EN	BV	121	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	Humidistat	HUMSWEN	EQUIPCFG_HUMSWEN	BV	96	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	IAQ Switch	IAQSWEN	EQUIPCFG_IAQSWEN	BV	127	4	0	Yes	0	0	0		1 =DISABLE, 2 =ENABLE
Equipment Configs	IAQ/OAD Input Config	NA	EQUIPCFG_SIO1AI10	AV	257	6	0	Yes	0	0	5		
Equipment Configs	IAQ-OD Pos Reset Enable	IAQOREN	EQUIPCFG_IAQOREN	BV	125	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	IDF 3rd Party Mod	SF3PEN	EQUIPCFG_SF3PEN	BV	105	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	IDF VFD Bypass	IDFVFDBY	EQUIPCFG_IDFVFDBY	BV	104	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	OACFM Sensor	OACFMEN	EQUIPCFG_OACFMEN	BV	103	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	OAD 3rd Party Mod	OAD3PEN	EQUIPCFG_OAD3PEN	BV	109	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	OAQ Switch	OAQSWEN	EQUIPCFG_OAQSWEN	BV	126	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	Phase Monitor	PMREN	EQUIPCFG_PMREN	BV	98	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	Pre-Filter Switch	FILTSWEN	EQUIPCFG_FILTSWEN	BV	97	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	Pressurization Switch	PRESSEN	EQUIPCFG_PRESSEN	BV	115	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	Remote Input	RESWEN	EQUIPCFG_RESWEN	AV	255	6	0	Yes	0	0	2		
Equipment Configs	Select IAQ or OAQ Switch	SIO3DI7	EQUIPCFG_SIO3DI7	AV	574	6	0	Yes	0	0	2		
Equipment Configs	Smoke Detector	SMOKEEN	EQUIPCFG_SMOKEEN	BV	94	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	SPSR Sensor	SPSREN	EQUIPCFG_SPSREN	BV	106	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	Thermostat	TSTATEN	EQUIPCFG_TSTATEN	BV	95	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Equipment Configs	ZDOR	ZDOREN	EQUIPCFG_ZDOREN	BV	100	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Exhaust Fan Configs	EXF Control Config	CONTROL	EFCFG_CONTROL	AV	235	6	0	Yes	0	0	3		
Exhaust Fan Configs	EXF Evacuation Speed	EXFEVAC	EFCFG_EXFEVAC	AV	249	6	0	Yes	0	0	100	PERCENT	
Exhaust Fan Configs	EXF Max Speed	MAXSPD	EFCFG_MAXSPD	AV	237	6	0	Yes	50	20	100	PERCENT	

APPENDIX A — BACNET AND CCN NETWORK POINTS (cont)

CATEGORY	DESCRIPTION	CCN POINT	BACNET POINT	TYPE	INSTANCE	TYPE	COV	WRITE	DEFAULT	MIN	MAX	UNITS	MS VALUE
Exhaust Fan Configs	EXF Min Speed	MINSPD	EFCFG_MINSPD	AV	236	6	0	Yes	10	0	100	PERCENT	
Exhaust Fan Configs	EXF OAD Pos 1	DAMPPOS1	EFCFG_DAMPPOS1	AV	240	6	0	Yes	50	0	100	PERCENT	
Exhaust Fan Configs	EXF OAD Pos 2	DAMPPOS2	EFCFG_DAMPPOS2	AV	241	6	0	Yes	100	0	100	PERCENT	
Exhaust Fan Configs	EXF OAD Position 1	PEOAD1	EFCFG_PEOAD1	AV	242	6	0	Yes	25	0	100	PERCENT	
Exhaust Fan Configs	EXF OAD Position 2	PEOAD2	EFCFG_PEOAD2	AV	243	6	0	Yes	50	0	100	PERCENT	
Exhaust Fan Configs	EXF OAD Position 3	PEOAD3	EFCFG_PEOAD3	AV	244	6	0	Yes	75	0	100	PERCENT	
Exhaust Fan Configs	EXF OAD Position 4	PEOAD4	EFCFG_PEOAD4	AV	245	6	0	Yes	100	0	100	PERCENT	
Exhaust Fan Configs	EXF OAD Position 5	PEOAD5	EFCFG_PEOAD5	AV	246	6	0	Yes	100	0	100	PERCENT	
Exhaust Fan Configs	EXF OAD Position 6	PEOAD6	EFCFG_PEOAD6	AV	247	6	0	Yes	100	0	100	PERCENT	
Exhaust Fan Configs	EXF Smoke Purge Speed	EXFPURGE	EFCFG_EXFPURGE	AV	248	6	0	Yes	0	0	100	PERCENT	
Exhaust Fan Configs	EXF Speed OAD Pos 1	SPEED1	EFCFG_SPEED1	AV	238	6	0	Yes	25	0	100	PERCENT	
Exhaust Fan Configs	EXF Speed OAD Pos 2	SPEED2	EFCFG_SPEED2	AV	239	6	0	Yes	50	0	100	PERCENT	
Exhaust Fan Configs	Ret Air Press Threshold	RAP_TH	EFCFG_RAP_TH	AV	85	6	0	Yes	-0.4	-1	1	IN_H2O	
Exhaust Fan Setpoints	Building Pressure	EFBPSPT	EFSTP_EFBPSPT	AV	250	6	0	Yes	0.05	-0.3	0.3	IN_H2O	
Free Cooling Configs	Changeover Select	CHNGSEL	FRECLCFG_CHNGSEL	AV	278	6	0	Yes	0	0	3		
Free Cooling Configs	Diff Dry Bulb Threshold	DIFFDBTH	FRECLCFG_DIFFDBTH	AV	282	6	0	Yes	0	0	10	DEGREE_F	
Free Cooling Configs	Diff Enthalpy Threshold	DIFFENTH	FRECLCFG_DIFFENTH	AV	279	6	0	Yes	0.5	0	2	BTU_LB	
Free Cooling Configs	Dry Bulb Chngeover (OAT)	DRYBLB	FRECLCFG_DRYBLB	BV	132	4	0	Yes	1	0	1		1 =DISABLE, 2 =ENABLE
Free Cooling Configs	Free Cool Timeguard	FCOOL_TG	FRECLCFG_FCOOL_TG	AV	473	6	0	Yes	5	0	30	MINUTES	
Free Cooling Configs	IAQ Switch OAD Pos Reset	IAQOADRS	FRECLCFG_IAQOADRS	AV	283	6	0	Yes	-10	-100	0	PERCENT	
Free Cooling Configs	OADP Limit Check	DEWLIM	FRECLCFG_DEWLIM	BV	133	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Free Cooling Configs	OADP Threshold	DEWLIMTH	FRECLCFG_DEWLIMTH	AV	281	6	0	Yes	55	50	62	DEGREE_F	
Free Cooling Configs	OAQ Check	ODAIRQ	FRECLCFG_ODAIRQ	BV	147	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Free Cooling Configs	OAQ Lockout	ODAIRQTH	FRECLCFG_ODAIRQTH	AV	395	6	0	Yes	1300	1000	2000	PPM	
Free Cooling Configs	OAT Dry Bulb Threshold	DRYBLBTH	FRECLCFG_DRYBLBTH	AV	280	6	0	Yes	75	-40	120	DEGREE_F	
Free Cooling Configs	Occ Free Cool	FREECLEN	FRECLCFG_FREECLEN	BV	130	4	0	Yes	0	0	0		1 =DISABLE, 2 =ENABLE
Free Cooling Configs	Unocc Free Cooling	UFC	FRECLCFG_UFC	BV	131	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Heater Configs	Heat 2Stage Dn Timeguard	HT2DTG	HEATCFG_HT2DTG	AV	309	6	0	Yes	120	30	300	SECONDS	
Heater Configs	Heat 2Stage Up Timeguard	NA	HEATCFG_HT2UTG	AV	310	6	0	Yes	120	30	300	SECONDS	
Heater Configs	Heat Fan Off Delay Timer	HEAT_FOD	HEATCFG_HEAT_FOD	AV	312	6	0	Yes	45	30	120	SECONDS	
Heater Configs	Heat Tempered Cooling	HTTEMPCL	HEATCFG_HTTEMPCL	BV	135	4	0	Yes	0	0	0		1 =DISABLE, 2 =ENABLE
Heater Configs	Heat Tempered Cooling DB	HEATTTDB	HEATCFG_HEATTTDB	AV	306	6	0	Yes	0	0	0		
Heater Configs	Heat Tempered Venting	HTMPDVNT	HEATCFG_HTMPDVNT	BV	134	4	0	Yes	0	0	0		1 =DISABLE, 2 =ENABLE
Heater Configs	Heat Trend Level	HTTREND	HEATCFG_HTTREND	AV	307	6	0	Yes	0.1	0.1	5	DEGREE_F	
Heater Configs	Heat Trend Time	HTTNDTM	HEATCFG_HTTNDTM	AV	308	6	0	Yes	120	30	600	SECONDS	
Heater Configs	Morning Warmup Only	HEAT_EBL	HEATCFG_HEAT_EBL	BV	137	4	0	Yes	1	0	1		1 =DISABLE, 2 =ENABLE
Heating Setpoints	100% OA High Heat SAT	HODAHHT	HEATSTP_HODAHHT	AV	318	6	0	Yes	85	65	125	DEGREE_F	
Heating Setpoints	100% OA Low Heat SAT	HODALHT	HEATSTP_HODALHT	AV	317	6	0	Yes	75	65	125	DEGREE_F	
Heating Setpoints	Hi Heat On DB	DOHIHTON	HEATCFG_DOHIHTON	AV	321	6	0	Yes	1	0.5	20	DEGREE_F	
Heating Setpoints	Hi Heat SAT	SAHIHTSP	HEATSTP_SAHIHTSP	AV	316	6	0	Yes	95	60	125	DEGREE_F	
Heating Setpoints	Lo Heat Off DB	DOLOHTOF	HEATCFG_DOLOHTOF	AV	320	6	0	Yes	1	0.5	2	DEGREE_F	
Heating Setpoints	Lo Heat On DB	DOLOHTON	HEATCFG_DOLOHTON	AV	319	6	0	Yes	1	0	2	DEGREE_F	
Heating Setpoints	Lo Heat SAT	SALOHTSP	HEATSTP_SALOHTSP	AV	315	6	0	Yes	85	60	125	DEGREE_F	
Heating Setpoints	Occupied Heating	HTSP_OCC	HEATSTP_HTSP_OCC	AV	313	6	0	Yes	68	55	80	DEGREE_F	

APPENDIX A — BACNET AND CCN NETWORK POINTS (cont)

CATEGORY	DESCRIPTION	CCN POINT	BACNET POINT	TYPE	INSTANCE	TYPE	COV	WRITE	DEFAULT	MIN	MAX	UNITS	MS VALUE
Heating Setpoints	Unoccupied Heating	HTSP_UNO	HEATSTP_HTSP_UNO	AV	314	6	0	Yes	58	40	99	DEGREE_F	
Indoor Fan Configs	Hi Cool IDF Speed	IDFCSPD2	IDFCFG_IDFCSPD2	AV	328	6	0	Yes	100	0	100	PERCENT	
Indoor Fan Configs	Hi Heat IDF Speed	IDFHSPD2	IDFCFG_IDFHSPD2	AV	333	6	0	Yes	100	0	100	PERCENT	
Indoor Fan Configs	IDF Control	OPSELECT	IDFCFG_OPSELECT	AV	322	6	0	Yes	1	0	8		
Indoor Fan Configs	IDF Evacuation Speed	IDFEVAC	IDFCFG_IDFEVAC	AV	336	6	0	Yes	34	0	100	PERCENT	
Indoor Fan Configs	IDF Pressurization Speed	IDFPRESS	IDFCFG_IDFPRESS	AV	335	6	0	Yes	34	0	100	PERCENT	
Indoor Fan Configs	IDF PURGE Speed	IDFPURGE	IDFCFG_IDFPURGE	AV	334	6	0	Yes	34	0	100	PERCENT	
Indoor Fan Configs	Indoor Fan Max Speed	IDFMXSPD	IDFCFG_IDFMXSPD	AV	325	6	0	Yes	100	0	100	PERCENT	
Indoor Fan Configs	Indoor Fan Min Speed	IDFMNSPD	IDFCFG_IDFMNSPD	AV	324	6	0	Yes	34	0	100	PERCENT	
Indoor Fan Configs	Lo Cool IDF Speed	IDFCSPD1	IDFCFG_IDFCSPD1	AV	326	6	0	Yes	66	0	100	PERCENT	
Indoor Fan Configs	Lo Heat IDF Speed	IDFHSPD1	IDFCFG_IDFHSPD1	AV	332	6	0	Yes	66	0	100	PERCENT	
Indoor Fan Configs	Med Cool IDF Speed	IDFMCSPD	IDFCFG_IDFMCSPD	AV	327	6	0	Yes	88	0	100	PERCENT	
Indoor Fan Configs	Occupied Fan	OCCUCFG	IDFCFG_OCCUCFG	AV	337	6	0	Yes	0	0	1		
Indoor Fan Configs	SAV High Cool Cap Thresh	SAVHCCTH	IDFCFG_SAVHCCTH	AV	331	6	0	Yes	90	0	100	PERCENT	
Indoor Fan Configs	SAV Low Cool Cap Thresh	SAVLCCTH	IDFCFG_SAVLCCTH	AV	329	6	0	Yes	70	0	100	PERCENT	
Indoor Fan Configs	SAV Med Cool Cap Thresh	SAVMCCTH	IDFCFG_SAVMCCTH	AV	330	6	0	Yes	75	0	100	PERCENT	
Indoor Fan Configs	SAV Mode Selection	SAVTYPE	IDFCFG_SAVTYPE	AV	323	6	0	Yes	0	0	1		
Indoor Fan Configs	SDP Reset Time	SDPRTIME	IDFCFG_SDPRTIME	AV	341	6	0	Yes	15	5	30	MINUTES	
Indoor Fan Configs	SDP Reset ZDP Threshold	SDPRZDP	IDFCFG_SDPRZDP	AV	342	6	0	Yes	85	40	100	PERCENT	
Indoor Fan Configs	SP Reset Limit	SDPRLMIT	IDFCFG_SDPRLMIT	AV	288	6	0	No	0.75	0	3	IN_H2O	
Indoor Fan Configs	SP Reset Ratio	SDPRRTIO	IDFCFG_SDPRRTIO	AV	340	6	0	Yes	0.2	0	3	IN_H2O	
Indoor Fan Configs	SP Reset Source	SDPRS	IDFCFG_SDPRS	AV	339	6	0	Yes	0	0	5		
Indoor Fan Configs	Unoccupied Fan	UNOCCFG	IDFCFG_UNOCCFG	AV	338	6	0	Yes	0	0	1		
Indoor Fan Setpoints	Air Flow Setpoint	AIRFLOW	IDFSTP_AIRFLOW	AV	345	6	0	Yes	1200	0	50000	CFM	
Indoor Fan Setpoints	CO2 Level	CO2LVL	IDFSTP_CO2LVL	AV	343	6	0	Yes	2000	0	2000	PPM	
Indoor Fan Setpoints	Supply Pressure	DUCTSET	IDFSTP_DUCTSET	AV	344	6	0	Yes	1.5	0	2.5	IN_H2O	
Indoor Fan Setpoints	Zone Pressure	NA	IDFSTP_ZPSETPT	AV	287	6	0	No	0.05	-0.25	0.25	IN_H2O	
Limiting Configs	Analog Limit Mode	AICLSEL	DMDLMCFG_AICLSEL	AV	221	6	0	Yes	0	0	2		
Limiting Configs	Capacity Limit Enable	NA	DMDLMCFG_DMDCPEN	AV	305	6	0	No	0	0	1		
Limiting Configs	Capacity Limit Source	CAPLMSRC	DMDLMCFG_CAPLMSRC	AV	222	6	0	Yes	0	0	3		
Limiting Configs	Cool Demand Limit S1	CDLIMS1	COOLSTP_DMDLIMS1	AV	226	6	0	Yes	4	0	10	DELTA_F	
Limiting Configs	Cool Demand Limit S2	CDLIMS2	COOLSTP_DMDLIMS2	AV	227	6	0	Yes	6	0	10	DELTA_F	
Limiting Configs	Demand Limit Enable	NA	DMDLMCFG_DMDLMEN	AV	304	6	0	No	0	0	1		
Limiting Configs	Demand Limit Source	DMDLMSRC	DMDLMCFG_DMDLMSRC	AV	220	6	0	Yes	0	0	3		
Limiting Configs	Demand Switch Enable	DLSWSEN	DMDLMCFG_DLSWSEN	BV	91	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Limiting Configs	Dmd Reset Heat Adjust	DMDRSTHT	HEATSTP_DMDRSTHT	AV	234	6	0	Yes	4	0	10	DEGREE_F	
Limiting Configs	Heat Capacity Limit S1	HCPLIMS1	HEATSTP_CAPLIMS1	AV	229	6	0	Yes	50	0	100	PERCENT	
Limiting Configs	Heat Capacity Limit S2	HCPLIMS2	HEATSTP_CAPLIMS2	AV	230	6	0	Yes	0	0	100	PERCENT	
Limiting Configs	Heat Demand Limit S1	HDLIMS1	HEATSTP_DMDLIMS1	AV	231	6	0	Yes	4	0	10	DELTA_F	
Limiting Configs	Heat Demand Limit S2	HDLIMS2	HEATSTP_DMDLIMS2	AV	232	6	0	Yes	6	0	10	DELTA_F	
Limiting Configs	Max Cool Capacity	CLCAPSTP	COOLSTP_CLCAPSTP	AV	223	6	0	Yes	100	50	100	PERCENT	
Limiting Configs	Max Heat Capacity	HTCAPSTP	HEATSTP_HTCAPSTP	AV	228	6	0	Yes	100	50	100	PERCENT	
Mode	CF 1 Mode	ODF1MDN	MDESTS_ODF1MDN	MV	7	5	0	No	0	0	0		1 =NONE, 2 =MANUAL, 3 =DP_OPT, 4 =DP_LOW, 5 =DP_LOW, 6 =DP_HIGH, 7 =DT_HIGH

APPENDIX A — BACNET AND CCN NETWORK POINTS (cont)

CATEGORY	DESCRIPTION	CCN POINT	BACNET POINT	TYPE	INSTANCE	TYPE	COV	WRITE	DEFAULT	MIN	MAX	UNITS	MS VALUE
Mode	CF 2 Mode	ODF2MDN	MDESTS_ODF2MDN	MV	8	5	0	No	0	0	0		1 =NONE, 2 =MANUAL, 3 =DP_OPT, 4 =DP_LOW, 5 =DP_LOW, 6 =DP_HIGH, 7 =DT_HIGH
Mode	CF 3 Mode	ODF3MDN	MDESTS_ODF3MDN	MV	9	5	0	No	0	0	0		1 =NONE, 2 =MANUAL, 3 =DP_OPT, 4 =DP_LOW, 5 =DP_LOW, 6 =DP_HIGH, 7 =DT_HIGH
Mode	Circuit A Mode	CIRCAMDN	MDESTS_CIRCAMDN	MV	1	5	0	No	0	0	0		1 =NORMAL, 2 =TEST
Mode	Circuit B Mode	CIRCBMDN	MDESTS_CIRCBMDN	MV	2	5	0	No	0	0	0		1 =NORMAL, 2 =TEST
Mode	Comp A1 Mode	CMPA1MDN	MDESTS_CMPA1MDN	MV	3	5	0	No	0	0	0		1 =NONE, 2 =MANUAL, 3 =FLD_TEMP, 4 =DP_HIGH, 5 =DP 6 =LOW, 7 =P_HIGH, 8 =SP_LOW, 9 =DT_HIGH, 10 =MOTTMPHI, 11 =FLDTMPHI, 12 =INVTMPHI, 13 =RCTTMPHI, 14 =OILVISLO, 15 =MOTCURHI, 16 =CMPSURGE, 17 =MODE_MAX, 18 =DP_HIGHF, 19 =SP_LOWF
Mode	Comp A2 Mode	CMPA2MDN	MDESTS_CMPA2MDN	MV	4	5	0	No	0	0	0		1 =NONE, 2 =MANUAL, 3 =FLD_TEMP, 4 =DP_HIGH, 5 =DP 6 =LOW, 7 =P_HIGH, 8 =SP_LOW, 9 =DT_HIGH, 10 =MOTTMPHI, 11 =FLDTMPHI, 12 =INVTMPHI, 13 =RCTTMPHI, 14 =OILVISLO, 15 =MOTCURHI, 16 =CMPSURGE, 17 =MODE_MAX, 18 =DP_HIGHF, 19 =SP_LOWF

APPENDIX A — BACNET AND CCN NETWORK POINTS (cont)

CATEGORY	DESCRIPTION	CCN POINT	BACNET POINT	TYPE	INSTANCE	TYPE	COV	WRITE	DEFAULT	MIN	MAX	UNITS	MS VALUE
Mode	Comp B1 Mode	CMPB1MDN	MDESTS_CMPB1MDN	MV	5	5	0	No	0	0	0		1 =NONE, 2 =MANUAL, 3 =FLD_TEMP, 4 =DP_HIGH, 5 =DP 6 =LOW, 7 =P_HIGH, 8 =SP_LOW, 9 =DT_HIGH, 10 =MOTTMPHI, 11 =FLDTMPHI, 12 =INVTMPHI, 13 =RCTTMPHI, 14 =OILVISLO, 15 =MOTCURHI, 16 =CMPSURGE, 17 =MODE_MAX, 18 =DP_HIGHF, 19 =SP_LOWF
Mode	Comp B2 Mode	CMPB2MDN	MDESTS_CMPB2MDN	MV	6	5	0	No	0	0	0		1 =NONE, 2 =MANUAL, 3 =FLD_TEMP, 4 =DP_HIGH, 5 =DP 6 =LOW, 7 =P_HIGH, 8 =SP_LOW, 9 =DT_HIGH, 10 =MOTTMPHI, 11 =FLDTMPHI, 12 =INVTMPHI, 13 =RCTTMPHI, 14 =OILVISLO, 15 =MOTCURHI, 16 =CMPSURGE, 17 =MODE_MAX, 18 =DP_HIGHF, 19 =SP_LOWF
Mode	Demand Determination	DMD_DET	MDESTS_DMD_DET	AV	290	6	0	No	0	0	0		
Mode	ERV Check Status	ERVCHECK	MDESTS_ERVCHECK	BV	138	4	0	No	0	0	1		1 =FALSE, 2 =TRUE
Mode	Heater Mode	HEATRMDN	MDESTS_HEATRMDN	MV	11	5	0	No	0	0	0		1 =NONE, 2 =SAT, 3 =RAT, 4 =ZONE, 5 =MAT, 6 =EXTERNAL, MANUAL, 7 =SAT, 8 =RAT, 9 =ZONE, 10 =MAT, 11 =EXTERNAL, MANUAL

APPENDIX A — BACNET AND CCN NETWORK POINTS (cont)

CATEGORY	DESCRIPTION	CCN POINT	BACNET POINT	TYPE	INSTANCE	TYPE	COV	WRITE	DEFAULT	MIN	MAX	UNITS	MS VALUE
Mode	Indoor Fan Mode	IDFMDNUM	MDESTS_IDFMDNUM	MV	10	5	0	No	0	0	0		1 =NONE, 2 =MANUAL, 3 =SDP_NOM, 4 =SDP_HIGH, 5 =SDP_LOW, 6 =CO2_NOM, 7 =CO2_LOW, 8 =CTLFLUID, 9 =SST_LOW, 10 =ST_LOW, 11 =FLOW_NOM, 12 =BP_NOM, 13 =BP_HIGH, BP_LOW, TRACK, ON
Mode	OAD Mode	ECONMNUM	MDESTS_ECONMNUM	MV	12	5	0	No	0	0	0		1 =NONE, 2 =MANUAL, 3 =AMB_FLOW, 4 =MNAIRQLY, 5 =NOM_TRAC, 6 =SAT, 7 =IAQ_OVR, 8 =AMBFLWSW
Mode	Operational State	OP_STATE	MDESTS_OP_STATE	AV	291	6	0	No	0	0	0		
Mode	Reheat Oil Purge	DHUMPURG	MDESTS_DHUMPURG	BV	139	4	0	No	0	0	1		1 =OFF, 2 =ON
Mode	Temp Compensated Start	MODETCST	MDESTS_MODETCST	BV	177	4	0	No	0	0	0		1 =OFF, 2 =ON
Network Inputs	Net 3rd Party EXF	EF3P_NET	ANALOGIN_EF3P_NET	AV	353	6	0	Yes	0	0	0	PERCENT	
Network Inputs	Net 3rd Party IDF	SF3P_NET	ANALOGIN_SF3P_NET	AV	355	6	0	Yes	0	0	0	PERCENT	
Network Inputs	Net 3rd Party OAD	OD3P_NET	ANALOGIN_OD3P_NET	AV	354	6	0	Yes	0	0	0	PERCENT	
Network Inputs	Net Building Pressure	BPNET	AIRPRESS_BPNET	AV	352	6	0	Yes	0	0	0	IN_H2O	
Network Inputs	Net IAQ OAD Pos Reset	IAQORNET	ANALOGIN_IAQORNET	AV	351	6	0	Yes	0	0	0	PERCENT	
Network Inputs	Net IAQ Reset	IAQRNET	ANALOGIN_IAQRNET	AV	358	6	0	Yes	0	0	0	PPM	
Network Inputs	Net Indoor Air Quality	IAQNET	ANALOGIN_IAQNET	AV	357	6	0	Yes	0	0	0	PPM	
Network Inputs	Net OA CFM Reset	OCFMRNET	ANALOGIN_OCFMRNET	AV	350	6	0	Yes	0	0	0	CFM	
Network Inputs	Net OAT	OATNET	AIRTEMP_OATNET	AV	362	6	0	Yes	0	0	0	DEGREE_F	
Network Inputs	Net Outdoor Air CFM	OACFMNET	ANALOGIN_OACFMNET	AV	349	6	0	Yes	0	0	0	CFM	
Network Inputs	Net Outdoor Air Quality	OAQNET	ANALOGIN_OAQNET	AV	356	6	0	Yes	0	0	0	PPM	
Network Inputs	Net RARH	RARHNET	ANALOGIN_RARHNET	AV	348	6	0	Yes	0	0	0	PERCENT	
Network Inputs	Net SP Reset	SPSR_NET	ANALOGIN_SPSR_NET	AV	364	6	0	Yes	0	0	5	IN_H2O	
Network Inputs	Net Space Temp Offset	SPTONET	AIRTEMP_SPTONET	AV	361	6	0	Yes	0	0	0	DEGREE_F	
Network Inputs	Net SPRH	SPRHNET	ANALOGIN_SPRHNET	AV	347	6	0	Yes	0	0	0	PERCENT	
Network Inputs	Net SPT	SPTNET	AIRTEMP_SPTNET	AV	360	6	0	Yes	0	0	0	DEGREE_F	
Network Inputs	Net Zone Damper Position	ZDPNET	ANALOGIN_ZDPNET	AV	365	6	0	Yes	0	0	0	PERCENT	
Network Inputs	Network G	G_NET	NETIN_G_NET	BV	145	4	0	Yes	0	0	1		1 =OFF, 2 =ON
Network Inputs	Network HSTAT	HSTATNET	NETIN_HSTATNET	BV	146	4	0	Yes	0	0	1		1 =OFF, 2 =ON
Network Inputs	Network Supply Pressure	SDP_NET	AIRPRESS_SDP_NET	AV	359	6	0	Yes	0	0	0	IN_H2O	
Network Inputs	Network W1	W1_NET	NETIN_W1_NET	BV	143	4	0	Yes	0	0	1		1 =OFF, 2 =ON
Network Inputs	Network W2	W2_NET	NETIN_W2_NET	BV	144	4	0	Yes	0	0	1		1 =OFF, 2 =ON
Network Inputs	Network Y1	Y1_NET	NETIN_Y1_NET	BV	141	4	0	Yes	0	0	1		1 =OFF, 2 =ON

APPENDIX A — BACNET AND CCN NETWORK POINTS (cont)

CATEGORY	DESCRIPTION	CCN POINT	BACNET POINT	TYPE	INSTANCE	TYPE	COV	WRITE	DEFAULT	MIN	MAX	UNITS	MS VALUE
Network Inputs	Network Y2	Y2_NET	NETIN_Y2_NET	BV	142	4	0	Yes	0	0	1		1 =OFF, 2 =ON
OA Damper Config	Bld Pressure Deadband	OABPORDB	OADCFG_OABPORDB	AV	398	6	0	Yes	0.01	0	0.05	IN_H2O	
OA Damper Config	Bld Pressure Override En	OABPOREN	OADCFG_OABPOREN	AV	396	6	0	Yes	0	0	1		
OA Damper Config	Bld Pressure Threshold	OABPORTH	OADCFG_OABPORTH	AV	397	6	0	Yes	0.02	0	0.2	IN_H2O	
OA Damper Config	IAQ OA CFM Reset	IAQCFMRS	OADCFG_IAQCFMRS	AV	392	6	0	Yes	0	-40000	0	CFM	
OA Damper Config	IAQ Override Conf	IAQOCFG	OADCFG_IAQOCFG	AV	369	6	0	Yes	0	0	2		
OA Damper Config	IAQ Override Deadband	IAQODB	OADCFG_IAQODB	AV	384	6	0	Yes	200	100	1000	PPM	
OA Damper Config	IAQ Override Position	IAQOPOS	OADCFG_IAQOPOS	AV	385	6	0	Yes	50	0	100	PERCENT	
OA Damper Config	IAQ Override Threshold	IAQOTH	OADCFG_IAQOTH	AV	383	6	0	Yes	1200	400	2000	PPM	
OA Damper Config	IAQ Pre-Occ Purge	IAQPOP	OADCFG_IAQPOP	BV	149	4	0	Yes	1	0	1		1 =DISABLE, 2 =ENABLE
OA Damper Config	IAQ Purge Duration	IAQPDUR	OADCFG_IAQPDUR	AV	386	6	0	Yes	15	5	60	MINUTES	
OA Damper Config	IAQ Purge Hi Temp Pos	IAQPHITP	OADCFG_IAQPHITP	AV	391	6	0	Yes	35	0	100	PERCENT	
OA Damper Config	IAQ Purge Lo Temp Pos	IAQPLOTP	OADCFG_IAQPLOTP	AV	390	6	0	Yes	10	0	100	PERCENT	
OA Damper Config	IAQ Purge Lockout	IAQPLOCK	OADCFG_IAQPLOCK	AV	387	6	0	Yes	50	35	70	DEGREE_F	
OA Damper Config	IAQ Purge OAT Hi Lockout	IAQPRGHL	OADCFG_IAQPRGHL	AV	389	6	0	Yes	95	85	115	DEGREE_F	
OA Damper Config	IAQ Purge OAT Lo Lockout	IAQPRGLL	OADCFG_IAQPRGLL	AV	388	6	0	Yes	45	0	50	DEGREE_F	
OA Damper Config	IAQ Reset Source	IAQRESET	OADCFG_IAQRESET	AV	382	6	0	Yes	0	0	3		
OA Damper Config	IAQ Vent Standby Demand	IAQSBVEN	OADCFG_IAQSBVEN	BV	148	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
OA Damper Config	IDF Vent Speed 1	VENTSPD1	IDFCFG_VENTSPD1	AV	374	6	0	Yes	66	0	100	PERCENT	
OA Damper Config	IDF Vent Speed 2	VENTSPD2	IDFCFG_VENTSPD2	AV	375	6	0	Yes	70	0	100	PERCENT	
OA Damper Config	IDF Vent Speed 3	VENTSPD3	IDFCFG_VENTSPD3	AV	376	6	0	Yes	80	0	100	PERCENT	
OA Damper Config	IDF Vent Speed 4	VENTSPD4	IDFCFG_VENTSPD4	AV	377	6	0	Yes	100	0	100	PERCENT	
OA Damper Config	Min OAD Control Point	MINOADCP	OADCFG_MINOADCP	AV	372	6	0	Yes	75	0	100	PERCENT	
OA Damper Config	OA Damper Vent Pos 1	OADPOS1	OADCFG_OADPOS1	AV	378	6	0	Yes	60	0	100	PERCENT	
OA Damper Config	OA Damper Vent Pos 2	OADPOS2	OADCFG_OADPOS2	AV	379	6	0	Yes	38	0	100	PERCENT	
OA Damper Config	OA Damper Vent Pos 3	OADPOS3	OADCFG_OADPOS3	AV	380	6	0	Yes	30	0	100	PERCENT	
OA Damper Config	OA Damper Vent Pos 4	OADPOS4	OADCFG_OADPOS4	AV	381	6	0	Yes	0	0	100	PERCENT	
OA Damper Config	OA Dehum Enable	OADHUMEN	OADCFG_OADHUMEN	BV	17	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
OA Damper Config	OACFM Setpoint	CFMSP	OADCFG_CFMSP	AV	399	6	0	Yes	780	0	20000	CFM	
OA Damper Config	OAD Fault Detect Gap	FLTGAP	OADCFG_FLTGAP	AV	57	6	0	Yes	5	2	100	PERCENT	
OA Damper Config	OAD Fault Detect Time	FLTTIME	OADCFG_FLTTIME	AV	58	6	0	Yes	20	10	240	SECONDS	
OA Damper Config	OAD Max Position	MAXPOS	OADCFG_MAXPOS	AV	371	6	0	Yes	100	0	100	PERCENT	
OA Damper Config	OAD Min Position	MINPOS	OADCFG_MINPOS	AV	370	6	0	Yes	10	0	100	PERCENT	
OA Damper Config	OAD Smoke Evac Speed	OADEVAC	OADCFG_OADEVAC	AV	373	6	0	Yes	0	0	100	PERCENT	
OA Damper Config	Purge Long Duration	PRGLONG	OADCFG_PRGLONG	AV	394	6	0	Yes	60	10	60	MINUTES	
OA Damper Config	Purge Short Duration	PRGSHORT	OADCFG_PRGSHORT	AV	393	6	0	Yes	20	5	30	MINUTES	
OA Damper Config	Ventilation Control	ECONCTRL	OADCFG_ECONCTRL	AV	368	6	0	Yes	0	0	5		
Occupancy	Auto Restart	AUTRST	UNITCFG_AUTRST	BV	207	4	0	Yes	0	0	1		1 =OFF, 2 =ON
Occupancy	Occupancy Override Time	OCC_OT	UNITCFG_OCC_OT	AV	259	6	0	Yes	2	0	4	HOURS	
Occupancy	Occupied Standby	OCCSB_EN	OCCSB	BV	179	4	0	No	0	0	0		1 =DISABLE, 2 =ENABLE
Occupancy	Occupied Standby Enable	OCCSB_EN	OCCSB_EN	BV	92	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
Occupancy	Occupied Standby Net	OCCSBNET	OCCSBNET	AV	366	6	0	Yes	0	0	0		
Occupancy	Occupied Standby Time	OCCSTNDT	OCCSTNDT	AV	258	6	0	Yes	5	5	30	MINUTES	
Occupancy	Occupied Standby ZS	ZS_OCCSB	ZS_OCCSB	AV	367	6	0	Yes	0	0	0		

APPENDIX A — BACNET AND CCN NETWORK POINTS (cont)

CATEGORY	DESCRIPTION	CCN POINT	BACNET POINT	TYPE	INSTANCE	TYPE	COV	WRITE	DEFAULT	MIN	MAX	UNITS	MS VALUE
Runtime	CCH A Minutes	NA	RUNTIME_CCHRA_RT	AV	453	6	0	No	0	0	0		
Runtime	CCH A Reset Count	NA	RUNTIME_CCHRA_RC	AV	455	6	0	No	0	0	0		
Runtime	CCH A Start Count	NA	RUNTIME_CCHRA_SC	AV	454	6	0	No	0	0	0		
Runtime	CCH B Minutes	NA	RUNTIME_CCHRB_RT	AV	456	6	0	No	0	0	0		
Runtime	CCH B Reset Count	NA	RUNTIME_CCHRB_RC	AV	458	6	0	No	0	0	0		
Runtime	CCH B Start Count	NA	RUNTIME_CCHRB_SC	AV	457	6	0	No	0	0	0		
Runtime	CF 1 Minutes	NA	RUNTIME_CND1_RT	AV	429	6	0	No	0	0	0		
Runtime	CF 1 Reset Count	NA	RUNTIME_CND1_RC	AV	431	6	0	No	0	0	0		
Runtime	CF 1 Start Count	NA	RUNTIME_CND1_SC	AV	430	6	0	No	0	0	0		
Runtime	CF 2 Minutes	NA	RUNTIME_CND2_RT	AV	432	6	0	No	0	0	0		
Runtime	CF 2 Reset Count	NA	RUNTIME_CND2_RC	AV	434	6	0	No	0	0	0		
Runtime	CF 2 Start Count	NA	RUNTIME_CND2_SC	AV	433	6	0	No	0	0	0		
Runtime	CF 3 Minutes	NA	RUNTIME_CND3_RT	AV	435	6	0	No	0	0	0		
Runtime	CF 3 Reset Count	NA	RUNTIME_CND3_RC	AV	437	6	0	No	0	0	0		
Runtime	CF 3 Start Count	NA	RUNTIME_CND3_SC	AV	436	6	0	No	0	0	0		
Runtime	Comp A1 Minutes	NA	RUNTIME_COMPA1RT	AV	417	6	0	No	0	0	0		
Runtime	Comp A1 Reset Count	NA	RUNTIME_COMPA1RC	AV	419	6	0	No	0	0	0		
Runtime	Comp A1 Start Count	NA	RUNTIME_COMPA1SC	AV	418	6	0	No	0	0	0		
Runtime	Comp A2 Minutes	NA	RUNTIME_COMPA2RT	AV	420	6	0	No	0	0	0		
Runtime	Comp A2 Reset Count	NA	RUNTIME_COMPA2RC	AV	422	6	0	No	0	0	0		
Runtime	Comp A2 Start Count	NA	RUNTIME_COMPA2SC	AV	421	6	0	No	0	0	0		
Runtime	Comp B1 Minutes	NA	RUNTIME_COMPB1RT	AV	423	6	0	No	0	0	0		
Runtime	Comp B1 Reset Count	NA	RUNTIME_COMPB1RC	AV	425	6	0	No	0	0	0		
Runtime	Comp B1 Start Count	NA	RUNTIME_COMPB1SC	AV	424	6	0	No	0	0	0		
Runtime	Comp B2 Minutes	NA	RUNTIME_COMPB2RT	AV	426	6	0	No	0	0	0		
Runtime	Comp B2 Reset Count	NA	RUNTIME_COMPB2RC	AV	428	6	0	No	0	0	0		
Runtime	Comp B2 Start Count	NA	RUNTIME_COMPB2SC	AV	427	6	0	No	0	0	0		
Runtime	Exhaust Fan Minutes	NA	RUNTIME_EFAN_RT	AV	441	6	0	No	0	0	0		
Runtime	Exhaust Fan Reset Count	NA	RUNTIME_EFAN_RC	AV	443	6	0	No	0	0	0		
Runtime	Exhaust Fan Start Count	NA	RUNTIME_EFAN_SC	AV	442	6	0	No	0	0	0		
Runtime	Heat Reset Count	NA	RUNTIME_SHEAT_RC	AV	446	6	0	No	0	0	0		
Runtime	Heat Minutes	NA	RUNTIME_SHEAT_RT	AV	444	6	0	No	0	0	0		
Runtime	Heat Start Count	NA	RUNTIME_SHEAT_SC	AV	445	6	0	No	0	0	0		
Runtime	HGRH Valve Minutes	NA	RUNTIME_HMVLV_RT	AV	447	6	0	No	0	0	0		
Runtime	HGRH Valve Reset Count	NA	RUNTIME_HMVLV_RC	AV	449	6	0	No	0	0	0		
Runtime	HGRH Valve Start Count	NA	RUNTIME_HMVLV_SC	AV	448	6	0	No	0	0	0		
Runtime	Humdimizer Cycle Cnt	NA	RUNTIME_HUMPUSC	AV	465	6	0	No	0	0	0		
Runtime	Indoor Fan Minutes	NA	RUNTIME_IDF_RT	AV	438	6	0	No	0	0	0		
Runtime	Indoor Fan Reset Count	NA	RUNTIME_IDF_RC	AV	440	6	0	No	0	0	0		
Runtime	Indoor Fan Start Count	NA	RUNTIME_IDF_SC	AV	439	6	0	No	0	0	0		
Runtime	OAD Minutes	NA	RUNTIME_DAMP_RT	AV	450	6	0	No	0	0	0		
Runtime	OAD Reset Count	NA	RUNTIME_DAMP_RC	AV	452	6	0	No	0	0	0		
Runtime	OAD Start Count	NA	RUNTIME_DAMP_SC	AV	451	6	0	No	0	0	0		
Runtime	Oil Cir A Count	NA	RUNTIME_OILACYSC	AV	459	6	0	No	0	0	0		
Runtime	Oil Cir B Count	NA	RUNTIME_OILBCYSC	AV	460	6	0	No	0	0	0		
Service	A1 Start Pos	EXVSTA1	EXVSTP_EXVSTA1	AV	274	6	0	Yes	35	0	100	PERCENT	
Service	A1 Superheat Setpoint	SupHtA1	EXVSTP_SupHtA1	AV	270	6	0	Yes	0	0	0	DEGREE_F	
Service	A1 Superheat Temp	SSHA1	RFGTEMP_SSHA1	AV	408	6	0	No	0	0	0	DEGREE_F	
Service	A2 Start Pos	EXVSTA2	EXVSTP_EXVSTA2	AV	275	6	0	Yes	35	0	100	PERCENT	
Service	A2 Superheat Setpoint	SupHtA2	EXVSTP_SupHtA2	AV	271	6	0	Yes	0	0	0	DEGREE_F	

APPENDIX A — BACNET AND CCN NETWORK POINTS (cont)

CATEGORY	DESCRIPTION	CCN POINT	BACNET POINT	TYPE	INSTANCE	TYPE	COV	WRITE	DEFAULT	MIN	MAX	UNITS	MS VALUE
Service	A2 Superheat Temp	SSHA2	RFGTEMP_SSHA2	AV	409	6	0	No	0	0	0	DEGREE_F	
Service	B1 Start Pos	EXVSTB1	EXVSTP_EXVSTB1	AV	276	6	0	Yes	35	0	100	PERCENT	
Service	B1 Superheat Setpoint	SupHtB1	EXVSTP_SupHtB1	AV	272	6	0	Yes	0	0	0	DEGREE_F	
Service	B1 Superheat Temp	SSHB1	RFGTEMP_SSHB1	AV	410	6	0	No	0	0	0	DEGREE_F	
Service	B2 Start Pos	EXVSTB2	EXVSTP_EXVSTB2	AV	277	6	0	Yes	35	0	100	PERCENT	
Service	B2 Superheat Setpoint	SupHtB2	EXVSTP_SupHtB2	AV	273	6	0	Yes	0	0	0	DEGREE_F	
Service	B2 Superheat Temp	SSHB2	RFGTEMP_SSHB2	AV	411	6	0	No	0	0	0	DEGREE_F	
Service	CCH A OAT Lockout	CCHTHA	COOLCFG_CCHTHA	AV	471	6	0	Yes	80	50	90	DEGREE_F	
Service	CCH B OAT Lockout	CCHTHB	COOLCFG_CCHTHB	AV	472	6	0	Yes	80	50	90	DEGREE_F	
Service	CF Speed MAX	CFSPDMX1	COOLCFG_CFSPDMX1	AV	497	6	0	Yes	100	0	0	PERCENT	
Service	CF Speed MIN	CFSPDMN1	COOLCFG_CFSPDMN1	AV	496	6	0	Yes	0	0	0	PERCENT	
Service	CF User Start Spd Enab	SPDStpEN	CNDSTP_SPDStpEN	BV	172	4	0	Yes	0	0	0		1 =DISABLE, 2 =ENABLE
Service	CF User Start Speed	CFSTSPD1	COOLCFG_CFSTSPD1	AV	498	6	0	Yes	0	0	0	PERCENT	
Service	Cir A Discharge Pressure	DPA	RFGPRESS_DPA	AV	402	6	0	No	0	0	0	PSIG	
Service	Cir A Oil Rec Time Left	ORTMLFTA	CMPASTS_ORTMLFTA	AV	462	6	0	No	0	0	0	SECONDS	
Service	Cir A Suction Pressure	SPA	RFGPRESS_SPA	AV	400	6	0	No	0	0	0	PSIG	
Service	Cir A VSC Boost State	BOOSTSTA	CMPASTS_BOOSTSTA	AV	346	6	0	No	0	0	0		
Service	Cir B Discharge Pressure	DPB	RFGPRESS_DPB	AV	403	6	0	No	0	0	0	PSIG	
Service	Cir B Oil Rec Time Left	ORTMLFTB	CMPBSTS_ORTMLFTB	AV	464	6	0	No	0	0	0	SECONDS	
Service	Cir B Suction Pressure	SPB	RFGPRESS_SPB	AV	401	6	0	No	0	0	0	PSIG	
Service	Cmp Nominal Spd Max A1	CMPMAXA1	COOLSTP_CMPMAXA1	AV	474	6	0	Yes	100	0	0	PERCENT	
Service	Cmp Nominal Spd Max A2	CMPMAXA2	COOLSTP_CMPMAXA2	AV	476	6	0	Yes	100	0	0	PERCENT	
Service	Cmp Nominal Spd Max B1	CMPMAXB1	COOLSTP_CMPMAXB1	AV	478	6	0	Yes	100	0	0	PERCENT	
Service	Cmp Nominal Spd Max B2	CMPMAXB2	COOLSTP_CMPMAXB2	AV	480	6	0	Yes	100	0	0	PERCENT	
Service	Cmp Nominal Spd Min A1	CMPMINA1	COOLSTP_CMPMINA1	AV	475	6	0	Yes	0	0	0	PERCENT	
Service	Cmp Nominal Spd Min A2	CMPMINA2	COOLSTP_CMPMINA2	AV	477	6	0	Yes	0	0	0	PERCENT	
Service	Cmp Nominal Spd Min B1	CMPMINB1	COOLSTP_CMPMINB1	AV	479	6	0	Yes	0	0	0	PERCENT	
Service	Cmp Nominal Spd Min B2	CMPMINB2	COOLSTP_CMPMINB2	AV	481	6	0	Yes	0	0	0	PERCENT	
Service	Compressor Failure Timer	CMPFLRTM	CMPFLRTM	AV	88	6	0	Yes	5	2	20	SECONDS	
Service	Compressor Stuck On Time	CMPSTKTM	CMPSTKTM	AV	87	6	0	Yes	4	2	20	SECONDS	
Service	Con Coil Bypass Time	CCBYPTME	DHUMCFG_CCBYPTME	AV	212	6	0	Yes	0	0	0	MINUTES	
Service	Cond Coil Purge Pos	CCPRGPOS	DHUMCFG_CCPRGPOS	AV	213	6	0	Yes	50	0	0	PERCENT	
Service	Cond Coil Purge Time	CCPRGTME	DHUMCFG_CCPRGTME	AV	214	6	0	Yes	10	0	0	MINUTES	
Service	Cooling Coil Temp	CCT	RFGTEMP_CCT	AV	293	6	0	No	0	0	0	DEGREE_F	
Service	Dehum Oil Recov Time	OILTIME	DHUMCFG_OILTIME	AV	506	6	0	Yes	60	0	120	MINUTES	
Service	Discharge Gas Temp A	NA	RFGTEMP_DGTA	AV	300	6	0	No	0	0	0	DEGREE_F	
Service	EXV A1 Objective	EXVA1OBJ	OUTPUTS_EXVA1OBJ	AV	523	6	0	No	0	0	0		
Service	EXV A2 Objective	EXVA2OBJ	OUTPUTS_EXVA2OBJ	AV	524	6	0	No	0	0	0		
Service	EXV B1 Objective	EXVB1OBJ	OUTPUTS_EXVB1OBJ	AV	525	6	0	No	0	0	0		
Service	EXV B2 Objective	EXVB2OBJ	OUTPUTS_EXVB2OBJ	AV	526	6	0	No	0	0	0		
Service	Heat Sink Ctrl Offset	HSCTRLOF	HEATSINK_HSCTRLOF	AV	89	6	0	Yes	10	0	20	DEGREE_F	
Service	HGRH Coil Closed Time	RHTCLTME	DHUMCFG_RHTCLTME	AV	211	6	0	Yes	45	5	120	MINUTES	
Service	HGRH Coil Open Time	RHTOPTME	DHUMCFG_RHTOPTME	AV	210	6	0	Yes	2	1	5	MINUTES	
Service	HGRH Start Pos	RHSTART	DHUMCFG_RHSTART	AV	489	6	0	Yes	5	0	100	PERCENT	
Service	HGRH Startup Time	RHTIME	DHUMCFG_RHTIME	AV	490	6	0	Yes	30	0	120	SECONDS	
Service	HGRH Valve Max Pos	RHMAXPOS	DHUMCFG_RHMAXPOS	AV	488	6	0	Yes	99	50	100	PERCENT	
Service	HGRH Valve Min Pos	RHMINPOS	DHUMCFG_RHMINPOS	AV	487	6	0	Yes	1	0	50	PERCENT	
Service	High Heat Sink Temp	HSHTEMP	HEATSINK_HSHTEMP	AV	91	6	0	Yes	200	100	250	DEGREE_F	
Service	High Heat Sink Temp DB	HSHTMPDB	HEATSINK_HSHTMPDB	AV	90	6	0	Yes	8	0	20	DEGREE_F	

APPENDIX A — BACNET AND CCN NETWORK POINTS (cont)

CATEGORY	DESCRIPTION	CCN POINT	BACNET POINT	TYPE	INSTANCE	TYPE	COV	WRITE	DEFAULT	MIN	MAX	UNITS	MS VALUE
Service	High MT Dehum Lockout	DHMATLCK	DHUMCFG_DHMATLCK	AV	209	6	0	Yes	105	90	115	DEGREE_F	
Service	Humidizer Purge	NA	HMZR_CONDPURG	AV	301	6	0	No	0	0	0		
Service	Load Request Comp A1	A1LOADRQ	CMPA1STS_LOADREQ	AV	519	6	0	No	0	0	0		
Service	Load Request Comp A2	A2LOADRQ	CMPA2STS_LOADREQ	AV	520	6	0	No	0	0	0		
Service	Load Request Comp B1	B1LOADRQ	CMPB1STS_LOADREQ	AV	521	6	0	No	0	0	0		
Service	Load Request Comp B2	B2LOADRQ	CMPB2STS_LOADREQ	AV	522	6	0	No	0	0	0		
Service	Low Cap Req Comp On	LCRCO	COOLCFG_LCRCO	BV	174	4	0	Yes	1	0	1		1 =NO, 2 =YES
Service	Low Pressure Ratio Time	LPRTIME	LPRTIME	AV	73	6	0	Yes	30	5	120	SECONDS	
Service	Manual Start Pos Enable	EXVSTENB	EXVSTP_EXVSTENB	BV	129	4	0	Yes	0	0	0		1 =DISABLE, 2 =ENABLE
Service	Oil Recov High Thld	OILHITH	DHUMCFG_OILHITH	AV	505	6	0	Yes	50	0	100	PERCENT	
Service	Oil Recov Low Thld	OILLOWTH	DHUMCFG_OILLOWTH	AV	504	6	0	Yes	20	0	100	PERCENT	
Service	Oil Recovery Actv Cir A	NA	CMPASTS_OILRECAC	AV	461	6	0	No	0	0	0		
Service	Oil Recovery Actv Cir B	CBORECAC	CMPBSTS_OILRECAC	AV	463	6	0	No	0	0	0		
Service	Oil Sump Temp	OILTSMPA	RFGTEMP_OILTSMPA	AV	416	6	0	No	0	0	0	DEGREE_F	
Service	Saturated Discharge CirA	SDTA	RFGTEMP_SDTA	AV	406	6	0	No	0	0	0	DEGREE_F	
Service	Saturated Discharge CirB	SDTB	RFGTEMP_SDTB	AV	407	6	0	No	0	0	0	DEGREE_F	
Service	Saturated Suction A	SSTA	RFGTEMP_SSTA	AV	404	6	0	No	0	0	0	DEGREE_F	
Service	Saturated Suction B	SSTB	RFGTEMP_SSTB	AV	405	6	0	No	0	0	0	DEGREE_F	
Service	SCT High Limit	SCT_HLIM	COOLCFG_SCT_HLIM	AV	485	6	0	Yes	115	100	140	DEGREE_F	
Service	SCT Low Limit	SCT_LLIM	COOLCFG_SCT_LLIM	AV	486	6	0	Yes	80	40	90	DEGREE_F	
Service	SDT Abs Max Cir A	SDTABMXA	CMPASTS_SDTABSMX	AV	539	6	0	No	0	0	0		
Service	SDT Abs Max Cir B	SDTABMXB	CMPBSTS_SDTABSMX	AV	543	6	0	No	0	0	0		
Service	SDT Abs Min Cir A	SDTABMNA	CMPASTS_SDTABSMN	AV	538	6	0	No	0	0	0		
Service	SDT Abs Min Cir B	SDTABMNB	CMPBSTS_SDTABSMN	AV	542	6	0	No	0	0	0		
Service	SDT Env Max Cir B	SDTENMXB	CMPBSTS_SDTENVMX	AV	535	6	0	No	0	0	0		
Service	SDT Env Max CirA	SDTENMXA	CMPASTS_SDTENVMX	AV	531	6	0	No	0	0	0		
Service	SDT Env Min Cir B	SDTENMNB	CMPBSTS_SDTENVMN	AV	534	6	0	No	0	0	0		
Service	SDT Env Min CirA	SDTENMNA	CMPASTS_SDTENVMN	AV	530	6	0	No	0	0	0		
Service	SDT Setpoint 1	SDTTEMP1	CNDSTP_SDTTEMP1	AV	493	6	0	Yes	0	0	0	DEGREE_F	
Service	SDT Setpoint 2	SDTTEMP2	CNDSTP_SDTTEMP2	AV	494	6	0	Yes	0	0	0	DEGREE_F	
Service	SDT Setpoint 3	SDTTEMP3	CNDSTP_SDTTEMP3	AV	495	6	0	Yes	0	0	0	DEGREE_F	
Service	SDT Setpoint Enable	SDTStpEn	CNDSTP_SDTStpEn	BV	171	4	0	Yes	0	0	0		1 =DISABLE, 2 =ENABLE
Service	SST Abs Max Cir B	SSTABMXB	CMPBSTS_SSTABSMX	AV	541	6	0	No	0	0	0		
Service	SST Abs Max CirA	SSTABMXA	CMPASTS_SSTABSMX	AV	537	6	0	No	0	0	0		
Service	SST Abs Min Cir B	SSTABMNB	CMPBSTS_SSTABSMN	AV	540	6	0	No	0	0	0		
Service	SST Abs Min CirA	SSTABMNA	CMPASTS_SSTABSMN	AV	536	6	0	No	0	0	0		
Service	SST Env Max Cir B	SSTENMXB	CMPBSTS_SSTENVMX	AV	533	6	0	No	0	0	0		
Service	SST Env Max CirA	SSTENMXA	CMPASTS_SSTENVMX	AV	529	6	0	No	0	0	0		
Service	SST Env Min Cir B	SSTENMNB	CMPBSTS_SSTENVMN	AV	532	6	0	No	0	0	0		
Service	SST Env Min CirA	SSTENMNA	CMPASTS_SSTENVMN	AV	528	6	0	No	0	0	0		
Service	Suction Gas Temp 1	NA	RFGTEMP_SGT1	AV	299	6	0	No	0	0	0	DEGREE_F	
Service	Suction Gas Temp Cir A1	SGTA1	RFGTEMP_SGTA1	AV	412	6	0	No	0	0	0	DEGREE_F	
Service	Suction Gas Temp Cir A2	SGTA2	RFGTEMP_SGTA2	AV	413	6	0	No	0	0	0	DEGREE_F	
Service	Suction Gas Temp Cir B1	SGTB1	RFGTEMP_SGTB1	AV	414	6	0	No	0	0	0	DEGREE_F	
Service	Suction Gas Temp Cir B2	SGTB2	RFGTEMP_SGTB2	AV	415	6	0	No	0	0	0	DEGREE_F	
Service	User Setpoint Enable	SETPTENB	EXVSTP_SETPTENB	BV	128	4	0	Yes	0	0	0		1 =DISABLE, 2 =ENABLE

APPENDIX A — BACNET AND CCN NETWORK POINTS (cont)

CATEGORY	DESCRIPTION	CCN POINT	BACNET POINT	TYPE	INSTANCE	TYPE	COV	WRITE	DEFAULT	MIN	MAX	UNITS	MS VALUE
Service	VSC Fixed Speed Override	VSCFS_OR	COOLCFG_VSCFS_OR	BV	175	4	0	Yes	0	0	1		1 =DISABLE, 2 =ENABLE
States	Add Heat Comfort Trend	CMTRNDAH	SVCOUT_CMTRNDAH	BV	136	4	0	Yes	0	0	0		1 =DISABLE, 2 =ENABLE
States	CF 2 State	ODF2STN	STATES_ODF2STN	MV	20	5	0	No	0	0	0		1 =OFF, 2 =NOT_RDY, 3 =READY, 4 =STARTING, 5 =RUNNING, 6 =STOPPING, 7 =DISABLE, 8 =TRIPOUT
States	CF 3 State	ODF3STN	STATES_ODF3STN	MV	21	5	0	No	0	0	0		1 =OFF, 2 =NOT_RDY, 3 =READY, 4 =STARTING, 5 =RUNNING, 6 =STOPPING, 7 =DISABLE, 8 =TRIPOUT
States	Circuit A State	CIRCASTN	STATES_CIRCASTN	MV	13	5	0	No	0	0	0		1 =OFF, 2 =NOT_RDY, 3 =READY, 4 =STARTING, 5 =RUNNING, 6 =STOPPING, 7 =DISABLE, 8 =TRIPOUT
States	Circuit B State	CIRCBSTN	STATES_CIRCBSTN	MV	14	5	0	No	0	0	0		1 =OFF, 2 =NOT_RDY, 3 =READY, 4 =STARTING, 5 =RUNNING, 6 =STOPPING, 7 =DISABLE, 8 =TRIPOUT
States	Comp A1 State	CMPA1STN	STATES_CMPA1STN	MV	15	5	0	No	0	0	0		1 =OFF, 2 =NOT_RDY, 3 =READY, 4 =STARTING, 5 =RUNNING, 6 =STOPPING, 7 =DISABLE, 8 =TRIPOUT
States	Comp A2 State	CMPA2STN	STATES_CMPA2STN	MV	16	5	0	No	0	0	0		1 =OFF, 2 =NOT_RDY, 3 =READY, 4 =STARTING, 5 =RUNNING, 6 =STOPPING, 7 =DISABLE, 8 =TRIPOUT
States	Comp B1 State	CMPB1STN	STATES_CMPB1STN	MV	17	5	0	No	0	0	0		1 =OFF, 2 =NOT_RDY, 3 =READY, 4 =STARTING, 5 =RUNNING, 6 =STOPPING, 7 =DISABLE, 8 =TRIPOUT

APPENDIX A — BACNET AND CCN NETWORK POINTS (cont)

CATEGORY	DESCRIPTION	CCN POINT	BACNET POINT	TYPE	INSTANCE	TYPE	COV	WRITE	DEFAULT	MIN	MAX	UNITS	MS VALUE
States	Comp B2 State	NA	STATES_CMPB2STN	MV	18	5	0	No	0	0	0		1 =OFF, 2 =NOT_RDY, 3 =READY, 4 =STARTING, 5 =RUNNING, 6 =STOPPING, 7 =DISABLE, 8 =TRIPOUT
States	Cool Comfort Trending	CMTRNDAC	SVCOUT_CMTRNDAC	BV	8	4	0	Yes	0	0	0		1 =DISABLE, 2 =ENABLE
States	Free Cooling Available	OKTOFRCL	STATES_OKTOFRCL	BV	176	4	0	No	0	0	0		1 =YES, 2 =NO
States	Free Dehum Status	OKTOFDHM	STATES_OKTOFDHM	BV	180	4	0	No	0	0	0		1 =DISABLE, 2 =ENABLE
States	Heater State	HEATRSTN	STATES_HEATRSTN	MV	24	5	0	No	0	0	0		1 =OFF, 2 =NOT_RDY, 3 =READY, 4 =STARTING, 5 =RUNNING, 6 =STOPPING, 7 =DISABLE, 8 =TRIPOUT
States	HGRH State	RHTSTNUM	STATES_RHTSTNUM	MV	23	5	0	No	0	0	0		1 =OFF, 2 =NOT_RDY, 3 =READY, 4 =STARTING, 5 =RUNNING, 6 =STOPPING, 7 =DISABLE, 8 =TRIPOUT
States	Indoor Fan State	IDFNUM	STATES_IDFNUM	MV	22	5	0	No	0	0	0		1 =OFF, 2 =NOT_RDY, 3 =READY, 4 =STARTING, 5 =RUNNING, 6 =STOPPING, 7 =DISABLE, 8 =TRIPOUT
States	OAD State	ECONNUM	STATES_ECONNUM	MV	25	5	0	No	0	0	0		1 =OFF, 2 =NOT_RDY, 3 =READY, 4 =STARTING, 5 =RUNNING, 6 =STOPPING, 7 =DISABLE, 8 =TRIPOUT
States	Occupancy Source	OCCSRNUM	STATES_OCCSRNUM	MV	26	5	0	No	0	0	0		1 =DefaultSchedule, 2 =LocalSchedule, 3 =BMSSchedule, 4 =RemoteSwitch, 5 =TimedOverride, 6 =Linkage, 7 =Forced, 8 =MotionSensing

APPENDIX A — BACNET AND CCN NETWORK POINTS (cont)

CATEGORY	DESCRIPTION	CCN POINT	BACNET POINT	TYPE	INSTANCE	TYPE	COV	WRITE	DEFAULT	MIN	MAX	UNITS	MS VALUE
States	ODF A State	ODF1STN	STATES_ODF1STN	MV	19	5	0	No	0	0	0		1 =OFF, 2 =NOT_RDY, 3 =READY, 4 =STARTING, 5 =RUNNING, 6 =STOPPING, 7 =DISABLE, 8 =TRIPOUT
States	Pre-Occ Purge State	PURGEACT	STATES_PURGEACT	BV	178	4	0	No	0	0	1		1 =OFF, 2 =ON
States	Time Until Next Occupied	MINTILOC	STATES_MINTILOC	AV	516	6	0	No	0	0	0	MINUTES	
Switch Inversion	Alarm Relay	NA	SWTCHCFG_ALARMINV	BV	206	4	0	Yes	0	0	0		1 =NORMAL, 2 =INVERTED
Switch Inversion	Compressor A1	NA	SWTCHCFG_CMPA1INV	BV	200	4	0	Yes	0	0	0		1 =NORMAL, 2 =INVERTED
Switch Inversion	Compressor A2	NA	SWTCHCFG_CMPA2INV	BV	201	4	0	Yes	0	0	0		1 =NORMAL, 2 =INVERTED
Switch Inversion	Condensate Ovrflw Switch	NA	SWTCHCFG_CNDSWINV	BV	182	4	0	Yes	0	0	0		1 =NORMAL, 2 =INVERTED
Switch Inversion	Crankcase Heater A	NA	SWTCHCFG_CCHRAINV	BV	202	4	0	Yes	1	0	0		1 =NORMAL, 2 =INVERTED
Switch Inversion	Damper Override Relay	NA	SWTCHCFG_DORINV	BV	199	4	0	Yes	0	0	0		1 =NORMAL, 2 =INVERTED
Switch Inversion	ERV Bypass Damper	NA	SWTCHCFG_EVBYPINV	BV	204	4	0	Yes	0	0	0		1 =NORMAL, 2 =INVERTED
Switch Inversion	ERV Frost Indication	NA	SWTCHCFG_FRSTINV	BV	196	4	0	Yes	0	0	0		1 =NORMAL, 2 =INVERTED
Switch Inversion	ERV Wheel	NA	SWTCHCFG_ERVINV	BV	205	4	0	Yes	0	0	0		1 =NORMAL, 2 =INVERTED
Switch Inversion	ERV Wheel Motion Sensor	NA	SWTCHCFG_WHLSTINV	BV	197	4	0	Yes	0	0	0		1 =NORMAL, 2 =INVERTED
Switch Inversion	EXF Enable	NA	SWTCHCFG_PEENINV	BV	203	4	0	Yes	0	0	0		1 =NORMAL, 2 =INVERTED
Switch Inversion	Filter Status Switch	NA	SWTCHCFG_FLTSWINV	BV	192	4	0	Yes	0	0	0		1 =NORMAL, 2 =INVERTED
Switch Inversion	Fire Shutdown	NA	SWTCHCFG_FRESWINV	BV	195	4	0	Yes	0	0	0		1 =NORMAL, 2 =INVERTED
Switch Inversion	Heat Alarm/Limit Switch	NA	SWTCHCFG_HTALMINV	BV	181	4	0	Yes	0	0	0		1 =NORMAL, 2 =INVERTED
Switch Inversion	Heat Enable	NA	SWTCHCFG_HTENINV	BV	198	4	0	Yes	0	0	0		1 =NORMAL, 2 =INVERTED
Switch Inversion	High Pressure Switch	NA	SWTCHCFG_HPSAINV	BV	185	4	0	Yes	1	0	0		1 =NORMAL, 2 =INVERTED
Switch Inversion	Humidistat Switch	NA	SWTCHCFG_DHMSWINV	BV	189	4	0	Yes	0	0	0		1 =NORMAL, 2 =INVERTED
Switch Inversion	Indoor Fan Limit Switch	NA	SWTCHCFG_IDFSWINV	BV	184	4	0	Yes	0	0	0		1 =NORMAL, 2 =INVERTED
Switch Inversion	Phase Monitor	NA	SWTCHCFG_PMRSWINV	BV	194	4	0	Yes	0	0	0		1 =NORMAL, 2 =INVERTED
Switch Inversion	Remote Input	NA	SWTCHCFG_RESWINV	BV	193	4	0	Yes	0	0	0		1 =NORMAL, 2 =INVERTED
Switch Inversion	Smoke Detector	NA	SWTCHCFG_SMKSWINV	BV	183	4	0	Yes	0	0	0		1 =NORMAL, 2 =INVERTED
Switch Inversion	Thermostat G	NA	SWTCHCFG_TSTGINV	BV	186	4	0	Yes	0	0	0		1 =NORMAL, 2 =INVERTED

APPENDIX A — BACNET AND CCN NETWORK POINTS (cont)

CATEGORY	DESCRIPTION	CCN POINT	BACNET POINT	TYPE	INSTANCE	TYPE	COV	WRITE	DEFAULT	MIN	MAX	UNITS	MS VALUE
Switch Inversion	Thermostat W1	NA	SWTCHCFG_TSTW1INV	BV	190	4	0	Yes	0	0	0		1 =NORMAL, 2 =INVERTED
Switch Inversion	Thermostat W2	NA	SWTCHCFG_TSTW2INV	BV	191	4	0	Yes	0	0	0		1 =NORMAL, 2 =INVERTED
Switch Inversion	Thermostat Y1	NA	SWTCHCFG_TSTY1INV	BV	187	4	0	Yes	0	0	0		1 =NORMAL, 2 =INVERTED
Switch Inversion	Thermostat Y2	NA	SWTCHCFG_TSTY2INV	BV	188	4	0	Yes	0	0	0		1 =NORMAL, 2 =INVERTED
Unit Information	Cooling Capacity	NA	HCSTATUS_CAPACT	AV	286	6	0	No	0	0	0		
Unit Information	Filter Minutes	NA	GENUINIT_FILT_RT	AV	466	6	0	No	0	0	0		
Unit Information	Filter Status	NA	FILTER_STATUS	AV	297	6	0	No	0	0	1		
Unit Information	Heat Request from UI	HEATREQ	HCSTATUS_HEATREQ	AV	284	6	0	No	0	0	0	PERCENT	
Unit Information	Heat/Cool status	NA	GENUNIT_HEATCOOL	AV	292	6	0	No	0	0	2		
Unit Information	IDF Feedback Status	IDFFDBK	IDFFDBK_STATUS	BV	6	4	0	No	1	0	1		1 =DISABLE, 2 =ENABLE
Unit Information	Linkage Active	LINK_ACT	LINK_ACT	BV	140	4	0	No	0	0	0		1 =NO, 2 =YES
Unit Information	Network Occupancy	NETOCC	GENUNIT_NETOCC	AV	363	6	0	Yes	2	0	2		
Unit Information	Occupied	OCCUPIED	GENUNIT_OCCUPIED	AV	289	6	0	No	0	0	1		
Unit Information	Pre-Filter Press Limit	PFLTRLIM	GENUNIT_PREFLTR_LIM	AV	43	6	0	Yes	1.5	0.5	5	IN_H2O	
Unit Information	Pre-Filter Source	PFLTRSRC	GENUNIT_PREFLTR_SRC	AV	42	6	0	Yes	0	0	3		
Unit Information	Reset Filter Hours	NA	GENUNIT_FLTR_RST	BV	167	4	0	Yes	0	0	0		1 =NO, 2 =YES
Unit Information	Supply Air Temp Cntrl Pt	NA	HCSTATUS_SATCTLPT	AV	285	6	0	No	0	0	0		
Unit Information	Sys Max Cool Cap	SMAXCCAP	GENUNIT_SMAXCCAP	AV	567	6	0	No	0	0	100	PERCENT	
Unit Information	Sys Max Heat Cap	SMAXHCAP	GENUNIT_SMAXHCAP	AV	568	6	0	No	0	0	100	PERCENT	

APPENDIX B — NETWORK COMMUNICATION REPORT

The communication details are to be recorded by the installing contractor or controls contractor that configures the unit for communication. A copy of the communication details should be saved for record and shared with the customer. It may also be beneficial to store a copy in the unit control panel.

PROJECT INFORMATION

Project Name _____ Controls Installer _____

Address _____ Contact Name _____

City _____ Contact Phone _____

State/Providence _____ Zip Code _____ Contact Email _____

Building Automation System

Make _____ Model _____ Version _____

Communication Type ☐ CCN ☐ BACnet MS/TP ☐ BACnet IP ☐ _____

Communication Details

_____

_____

_____

_____

_____

_____

_____

APPENDIX C — UNIT COMMUNICATION REPORT

UNIT INFORMATION

Model Number _____ Serial Number _____

Unit Tag/Name _____ Unit Location _____

CCN Communication

NAME	CONFIGURATION
Primary BAS Network	CCN
CCN Address	
CCN Bus	
Baud Rate	
Broadcast Alerts	On / Off
Schedule Number	
Global Schedule Broadcast	
Broadcast ACK	On / Off
Time Broadcast	On / Off

BACnet MS/TP Communication

NAME	CONFIGURATION
Primary BAS Network	BACnet
BACnet Enable	MS/TP
Serial Port Config	MS/TP
Metric Units	On / Off
Network	
Identifier	
Percentage Conversion	0.00-1.00 / 0-100%

BACnet IP Communication

NAME	CONFIGURATION
Gateway 2 IP	
Gateway 2 Mask	
Set IP	
Set Net Mask	
Primary BAS Network	BACnet
BACnet Enable	BACnet IP
Metric Units	On / Off
Percentage Conversion	0.00-1.00 / 0-100%
Ethernet Adapter	Eth0 / Eth 1
UDP Port	
BACnet Mgmt Device	None / Foreign Device / BBMD
BBMD Address	
BBMD Time to Live	
MAC Address	

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Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.

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