

IBOX User's Guide BACnet and LON



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This manual

The user manual has the following contents:

Section 1

Discusses getting started with IBOX.

Section 2

Discusses Configuring the IBOX for your specific project.

Section 3

Discusses the validation of the Air Fixture Network.

Section 4

Details using the IBOX user interface to configure the Air Fixture Air Switch thermostats.

Section 5

Details using the IBOX user interface to configure the specific communications parameters for both LON and BACnet IBOX controllers.

Section 6

Details the AirFixture points that are available for integration.

Section 7

Specifies the BACnet points available when the IBOX is integrated by a Native BACnet system.

Section 8

Specifies the LonWorks SNVT's available when the IBOX is integrated by a LonWorks based system.

Section 9

BACnet PICS & BIBBS.

1 Getting Started

1.1 Air Fixture IBOX

The IBOX Integration platform is developed around a protocol extraction model. The IBOX interrogates the Air Fixture Communications Network and gathers read and write data points for use by a 3rd party Building Automation System using either BACnet or LON protocol. Each IBOX controller is configurable for job-specific parameters. The point list type is selected to use either the "Normal" or "Extended" list. If the "Normal" point list is used, the IBOX can integrate up to 62 AirFixture Air switch thermostats (**Note:** Air switch Network address 43 is not used). If the "Extended" point list is used, the IBOX can integrate up to 32 AirFixture Air switch thermostats. If the BACnet MSTP protocol is used, segmented responses are not supported.

When setting up the IBOX controller you are required to enter in the number of devices you would like to build. If building more than 42 devices it is required to add a (1) to the total to build. This is required since device address 43 is not available. For example if you want to build 62 devices you will place a 63 in the



number to build text box. You will build 62 devices while skipping address 43, and will thus use addresses 1 – 42, 44 – 63.

Please note!

The Air Fixture IBOX must not be used for any other purpose than that for which it was designed. Authorized personnel only may perform installation and repair.

1.2 Connecting to the IBOX

The following steps should be taken prior to connecting to the IBOX:

Step #1 - Ensure the IBOX is mounted and powered up.

Step #2 – Verify that all networked thermostats have been wired, powerd, and addressed correctly per YORK **Form 130.16-EG1** “**FlexSys Engineering Guide**”.

- **Note Important:** If it is required to change a thermostat address ensure that power is removed prior to changing the thermostat address. Power must be either off or cycled to the thermostat in order for it to recognize the change in the network address.

Step #3 – It is recommended that laptop computer or a PC is used to connect to the IBOX. This will require that the connecting computer has the capability to run a web browser. It is also required that the computer employee’s a Java Runtime Environment. If you don’t have a JRE, install the JRE included on the installation CD or go the following link and selection the option that best fits your computer : <http://java.com/en/download/manual.jsp>

Table #1

IP Address	192.168.1.10N*
Subnet Mask	255.255.255.0
Default Gateway	192.168.1.1

***Note:** N is the IBOX number. For example IBOX #1 has an IP Address of 192.168.1.101.

In order to access the IBOX for the first time you must set your IP Address on your laptop to match the network configuration of the IBOX. The subsequent steps will guide you through this process:

Step #1 – Select the start button in the bottom left of your computer screen.

Step #2 – View your computers Network and Dialup Connections.

Step #3 – View the Network Connections on your laptop. Right click your local area connections and select properties.

Step #4 – Scroll down and select the Internet Protocol (TCP/IP) selection and click the properties button.

Step #5 – The Internet Protocol (TCP/IP) Properties window will pop up. If “Obtain an IP address automatically” is selected proceed to **Step #6**. If “Use the following IP address” is selected, proceed to **Step #7**.

Step #6 – Select the “Use the following IP address” radio button. In the IP address text box, type the following – 192.168.1.99. In the Subnet mask text box, type in the following – 255.255.255.0. In the Default gateway text box, type in the following – 192.168.1.1. Your laptop is now configured to communicate with the IBOX integration platform.

Step #7 - Same as **Step #6** except you do not have to push the radio button.

If you are having problems configuring your laptop, reference **Figure 1.1 Laptop IP Configuration** for a detail on what your screen should look like.

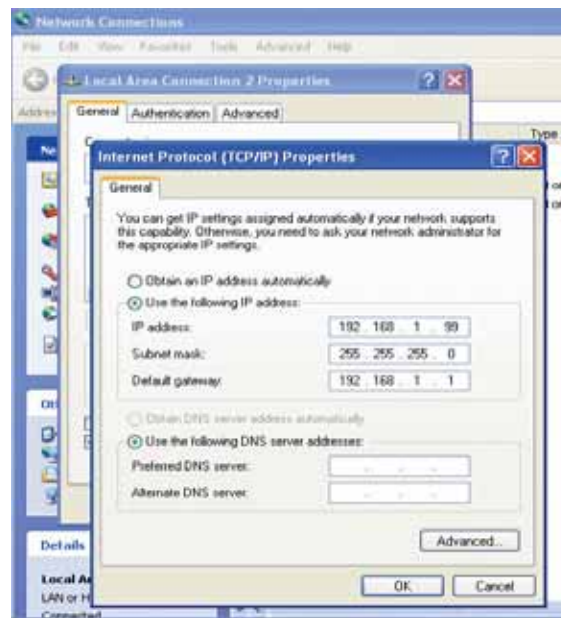


Figure 1 – Laptop IP Configuration

In order to access the IBOX's internal user interface, you must first start up Internet Explorer on your laptop. Once Internet Explorer has started, type in the IBOX's IP address (for example IBOX-1's IP address is 192.168.1.101) in the address bar, then press the Enter key on your laptop. The integrator login is:

- Username: york
- Password: integrate

For a detail of what your screen should look like, reference **Figure 1.2 Login Screen**.

Note: Once you have finished working on the IBOX, reset your computer back to Obtain an IP address automatically by selecting the radio button for this option and then clicking OK.

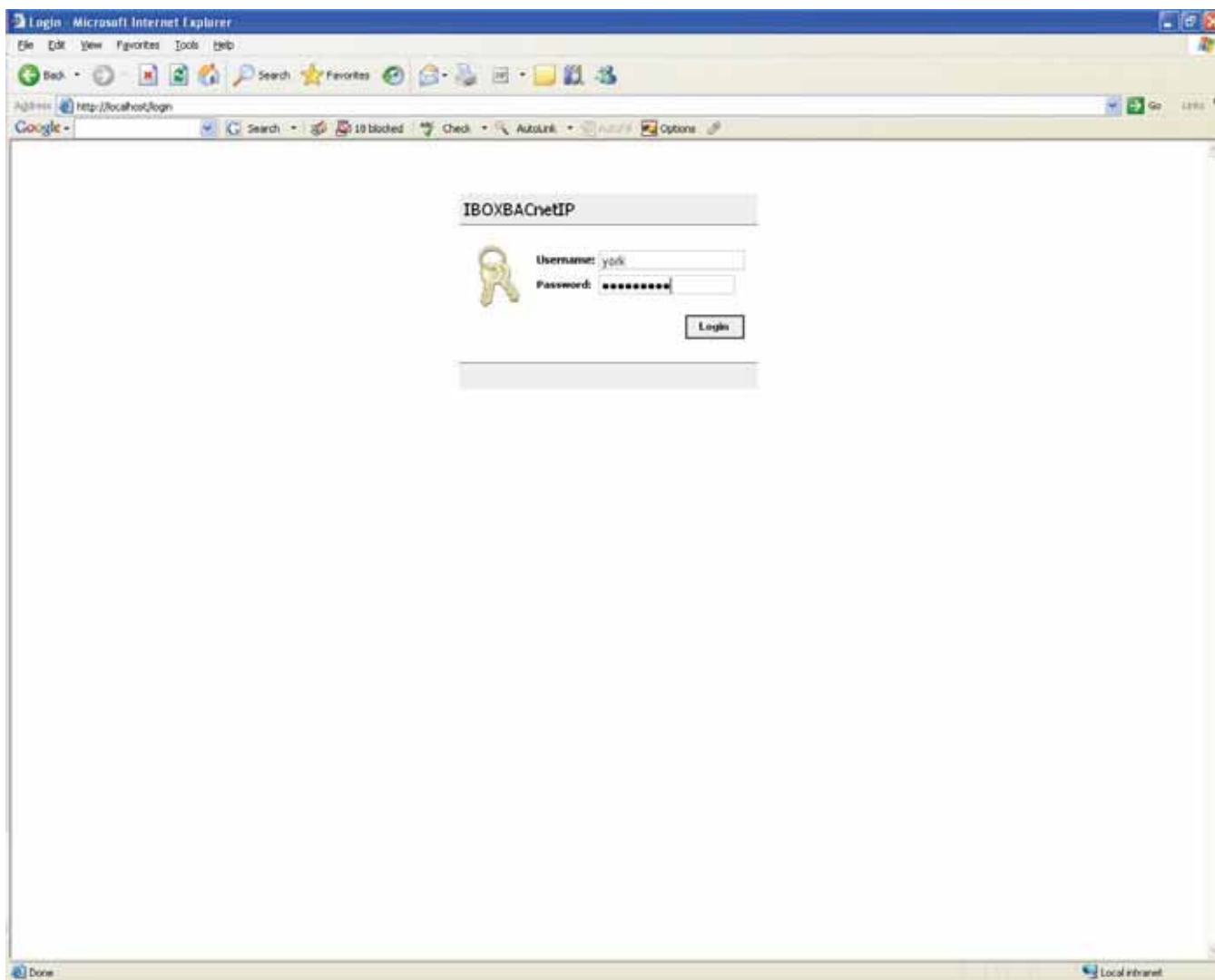


Figure 1.2 Login Screen

Based upon IBOX type, the heading will either read IBOXBACnetIP, IBOXBACnetMSTP, or IBOXLON.

After logging into the IBOX, reference one of the following figures for details on the IBOX Main menu for your integration type.

- **Figure 1.3 IBOX BACnet IP Main Menu**
- **Figure 1.4 IBOX BACnet MSTP Main Menu**
- **Figure 1.5 IBOX LON Main Menu**

Note : If unable to connect to the IBOX please ensure that your computer has a Java Runtime Environment (JRE) installed. If unsure enstall the JRE included on the installation CD or go the following link and selection the option that best fits your computer :

<http://java.com/en/download/manual.jsp>

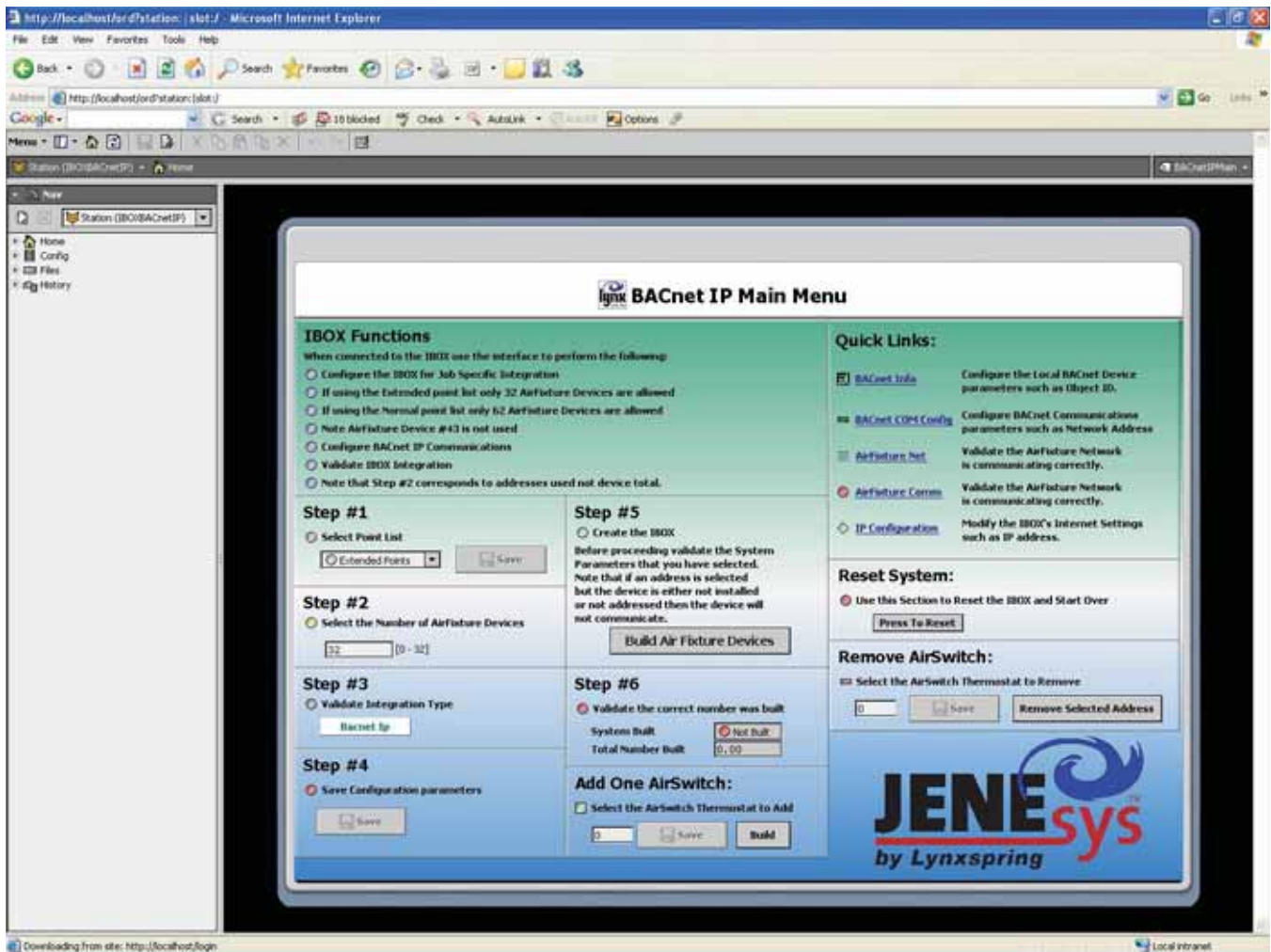


Figure 1.3 BACnet IP Main Menu

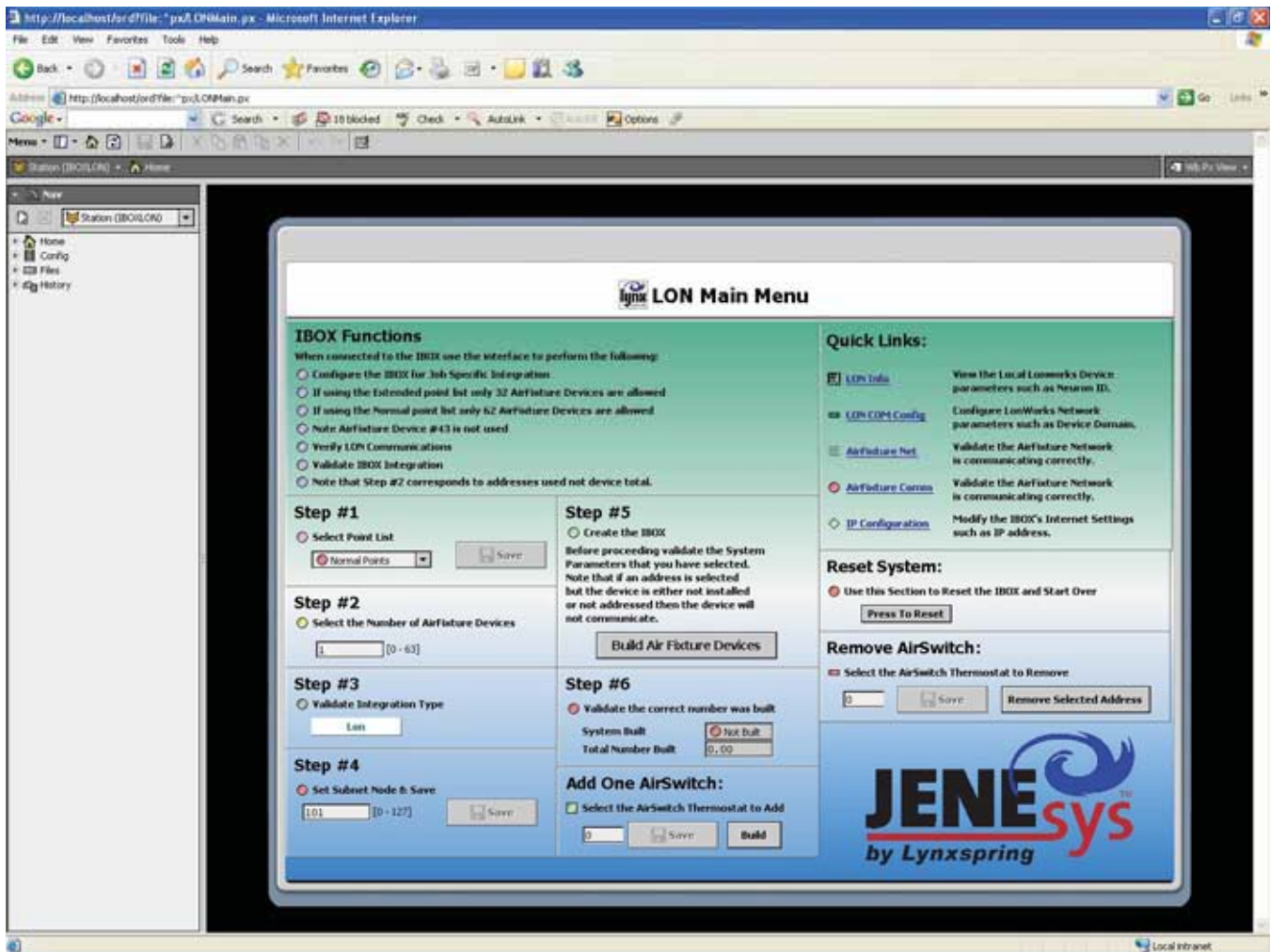


Figure 1.5 LON Main Menu

2 IBOX Configuration

2.1 BACnet IP Configuration

The IBOX User Interface has dual purposes. The initial use of the interface is to configure the IBOX, while the second is to provide integrators with a means to validate their integration. The configuration of the IBOX is discussed throughout the remainder of this section. Upon initial connection to the IBOX, you will see the setup information as follows (reference *Figure 2.1 IBOX BACnet IP Setup.*)

Step #1 ☐ Select Point List ☒ Normal Points ▼  Save	Step #5 ☐ Create the IBOX Before proceeding validate the System Parameters that you have selected. Note that if an address is selected but the device is either not installed or not addressed then the device will not communicate. Build Air Fixture Devices
Step #2 ☐ Select the Number of AirFixture Devices 1 [0 - 63]	
Step #3 ☐ Validate Integration Type Bacnet Ip	Step #6 ☒ Validate the correct number was built System Built ☒ Not Built Total Number Built 0.00
Step #4 ☒ Save Configuration parameters  Save	Add One AirSwitch: ☐ Select the AirSwitch Thermostat to Add 0  Save Build

Figure 2.1 IBOX BACnet IP Setup

2.2 Configuring the BACnet IP IBOX to use Normal Points (62 Devices)

By default the IBOX will come configured to use the “Normal” points list. Use the subsequent steps to properly configure your IBOX (reference **Figure 2.2 BACnet IP Normal Point List Configuration**.) Note that it appears that you can build 63 devices, however only 62 devices are built since address 43 is not used.

Step #1 – Ensure the Point List selected is “Normal Points.”

Step #2 – Enter the desired number of AirFixture thermostats which are going to be connected to the IBOX. You are only required to build the number of devices that are going to be connected.

Step #3 – Validate Integration type reads BACnet IP. If your screen does not read BACnet IP, then you do not have the proper IBOX controller.

Step #4 – Click the save button to save your configuration settings.

Step #5 – If you have verified steps 1-4, click the Build AirFixture Devices button.

Note: It is important that you verify the setup settings prior to building the AirFixture devices. You can only build the IBOX once.

Step #6 – Verify that the correct number of devices were created.

Step #1 ☒ Select Point List ☒ Normal Points Save	Step #5 ☐ Create the IBOX Before proceeding validate the System Parameters that you have selected. Note that if an address is selected but the device is either not installed or not addressed then the device will not communicate. Build Air Fixture Devices
Step #2 ☒ Select the Number of AirFixture Devices 63 [0 - 63]	
Step #3 ☒ Validate Integration Type Bacnet Ip	Step #6 ☒ Validate the correct number was built System Built Built Total Number Built 62.00
Step #4 ☒ Save Configuration parameters Save	Add One AirSwitch: ☐ Select the AirSwitch Thermostat to Add 0 Save Build

Figure 2.2 BACnet IP Normal Point List Configuration

2.3 Configuring the BACnet IP IBOX to use Extended Points (32 Devices)

By default the IBOX will come configured to use the “Normal” points list. Use the subsequent steps to properly configure your IBOX (reference *Figure 2.3 BACnet IP Extended Point List Configuration*.)

Step #1 – Select “Extended Points” from the drop down box.

Step #2 – Enter the desired number of AirFixture thermostats which are going to be connected to the IBOX. You are only required to build the number of devices that are going to be connected.

Step #3 – Validate Integration type reads BACnet IP. If your screen does not read BACnet IP, then you do not have the proper IBOX controller.

Step #4 – Click the save button to save your configuration settings.

Step #5 – If you have verified steps 1-4, click the Build AirFixture Devices button.
Note: It is important that you verify the setup settings prior to building the AirFixture devices. You can only build the IBOX once.

Step #6 – Verify that the correct number of devices were created.

Step #1 ☐ Select Point List ☒ Extended Points ▼  Save	Step #5 ☐ Create the IBOX Before proceeding validate the System Parameters that you have selected. Note that if an address is selected but the device is either not installed or not addressed then the device will not communicate. Build Air Fixture Devices
Step #2 ☒ Select the Number of AirFixture Devices 32 [0 - 32]	
Step #3 ☐ Validate Integration Type Bacnet Ip	Step #6 ☒ Validate the correct number was built System Built ☒ Built Total Number Built 32.00
Step #4 ☒ Save Configuration parameters  Save	Add One AirSwitch: ☐ Select the AirSwitch Thermostat to Add 0  Save Build

Figure 2.3 BACnet IP Extended Point List Configuration

2.4 BACnet MSTP Configuration

The IBOX User Interface has dual purposes. The initial use of the interface is to configure the IBOX, while the second is to provide the integrator with a means to validate their integration. The configuration of the IBOX is discussed throughout the remainder of this section. Upon initial connection to the IBOX you will see the setup information as follows (reference *Figure 2.4 IBOX BACnet MSTP Setup.*)

Step #1 ☐ Select Point List ☒ Normal Points ▼ Save	Step #5 ☐ Create the IBOX Before proceeding validate the System Parameters that you have selected. Note that if an address is selected but the device is either not installed or not addressed then the device will not communicate. Build Air Fixture Devices
Step #2 ☐ Select the Number of AirFixture Devices 1 [0 - 63]	
Step #3 ☐ Validate Integration Type Bacnet Mstp	Step #6 ☒ Validate the correct number was built System Built ☒ Not Built Total Number Built 0.00
Step #4 ☒ Save Configuration parameters Save	Add One AirSwitch: ☐ Select the AirSwitch Thermostat to Add 0 Save Build

Figure 2.4 IBOX BACnet MSTP Setup

2.5 Configuring the BACnet MSTP IBOX to use Normal Points (62 Devices)

By default the IBOX will come configured to use the “Normal” points list. Use the subsequent steps to properly configure your IBOX (reference **Figure 2.5 BACnet MSTP Normal Point List Configuration**.) Note that it appears that you can build 63 devices, however only 62 devices are built since address 43 is not used.

Step #1 – Ensure the Point List selected is “Normal Points.”

Step #2 – Enter the desired number of AirFixture thermostats which are going to be connected to the IBOX. You are only required to build the number of devices that are going to be connected.

Step #3 – Validate Integration type reads BACnet MSTP. If your screen does not read BACnet MSTP, then you do not have the proper IBOX controller.

Step #4 – Click the save button to save your configuration settings.

Step #5 – If you have verified steps 1-4, click the Build AirFixture Devices button.

Note: It is important that you verify the setup settings prior to building the AirFixture devices. You can only build the IBOX once.

Step #6 – Verify that the correct number of devices were created.

Step #1 ☐ Select Point List ☒ Normal Points Save	Step #5 ☐ Create the IBOX Before proceeding validate the System Parameters that you have selected. Note that if an address is selected but the device is either not installed or not addressed then the device will not communicate. Build Air Fixture Devices
Step #2 ☐ Select the Number of AirFixture Devices 63 [0 - 63]	
Step #3 ☐ Validate Integration Type Bacnet Mstp	Step #6 ☒ Validate the correct number was built System Built Built Total Number Built 62.00
Step #4 ☒ Save Configuration parameters Save	Add One AirSwitch: ☐ Select the AirSwitch Thermostat to Add 0 Save Build

Figure 2.5 BACnet MSTP Normal Point List Configuration

2.6 Configuring the BACnet MSTP IBOX to use Extended Points (32 Devices)

By default the IBOX will come configured to use the “Normal” points list. Use the subsequent steps to properly configure your IBOX (reference **Figure 2.6 BACnet MSTP Extended Point List Configuration.**)

Step #1 – Select “Extended Points” from the drop down box.

Step #2 – Enter the desired number of AirFixture thermostats which are going to be connected to the IBOX. You are only required to build the number of devices that are going to be connected.

Step #3 – Validate Integration type reads BACnet MSTP. If your screen does not read BACnet MSTP, then you do not have the proper IBOX controller.

Step #4 – Click the save button to save your configuration settings.

Step #5 – If you have verified steps 1-4, click the Build AirFixture Devices button.
Note: It is important that you verify the setup settings prior to building the AirFixture devices. You can only build the IBOX once.

Step #6 – Verify that the correct number of devices were created.

Step #1 ☐ Select Point List ☒ Extended Points ▼ Save	Step #5 ☐ Create the IBOX Before proceeding validate the System Parameters that you have selected. Note that if an address is selected but the device is either not installed or not addressed then the device will not communicate. Build Air Fixture Devices
Step #2 ☐ Select the Number of AirFixture Devices 32 [0 - 32]	
Step #3 ☐ Validate Integration Type Bacnet Mstp	Step #6 ☒ Validate the correct number was built System Built Built Total Number Built 32.00
Step #4 ☒ Save Configuration parameters Save	Add One AirSwitch: ☐ Select the AirSwitch Thermostat to Add 0 Save Build

Figure 2.6 BACnet MSTP Extended Point List Configuration

2.7 LonWorks Configuration

The IBOX User Interface has dual purposes. The initial use of the interface is to configure the IBOX, while the second is to provide integrators with a means to validate their integration. The configuration of the IBOX is discussed throughout the remainder of this section. Upon initial connection to the IBOX you will see the setup information as follows (reference *Figure 2.7 IBOX LON Setup*.)

Step #1 ☐ Select Point List ☒ Normal Points Save	Step #5 ☒ Create the IBOX Before proceeding validate the System Parameters that you have selected. Note that if an address is selected but the device is either not installed or not addressed then the device will not communicate. Build Air Fixture Devices
Step #2 ☒ Select the Number of AirFixture Devices 1 [0 - 63]	
Step #3 ☒ Validate Integration Type Lon	Step #6 ☒ Validate the correct number was built System Built ☒ Not Built Total Number Built 0.00
Step #4 ☒ Set Subnet Node & Save 101 [0 - 127] Save	Add One AirSwitch: ☒ Select the AirSwitch Thermostat to Add 0 Save Build

Figure 2.7 IBOX LON Setup

2.8 Configuring the LON IBOX to use Normal Points (62 Devices)

By default the IBOX will come configured to use the “Normal” points list. Use the subsequent steps to properly configure your IBOX (reference **Figure 2.8 LON Normal Point List Configuration**.) Note that it appears that you can build 63 devices, however only 62 devices are built since address 43 is not used.

Step #1 – Ensure the Point List selected is “Normal Points.”

Step #2 – Enter the desired number of AirFixture thermostats which are going to be connected to the IBOX. You are only required to build the number of devices that are going to be connected.

Step #3 – Validate Integration type reads LON. If your screen does not read LON, then you do not have the proper IBOX controller.

Step #4 – Select the desired Subnet ID and Click the save button.

Step #5 – If you have verified steps 1-4, click the Build AirFixture Devices button.

Note: It is important that you verify the setup settings prior to building the AirFixture devices. You can only build the IBOX once.

Step #6 – Verify that the correct number of devices were created.

Step #1 ☒ Select Point List ☒ Normal Points Save	Step #5 ☐ Create the IBOX Before proceeding validate the System Parameters that you have selected. Note that if an address is selected but the device is either not installed or not addressed then the device will not communicate. Build Air Fixture Devices
Step #2 ☒ Select the Number of AirFixture Devices 63 [0 - 63]	
Step #3 ☒ Validate Integration Type Lon	Step #6 ☒ Validate the correct number was built System Built Built Total Number Built 62.00
Step #4 ☒ Set Subnet Node & Save 101 [0 - 127] Save	Add One AirSwitch: ☐ Select the AirSwitch Thermostat to Add 0 Save Build

Figure 2.8 LON Normal Point List Configuration

2.9 Configuring the LON IBOX to use Extended Points (32 Devices)

By default the IBOX will come configured to use the “Normal” points list. Use the subsequent steps to properly configure your IBOX (reference **Figure 2.9 LON Extended Point List Configuration**).

Step #1 – Select “Extended Points” from the drop down box.

Step #2 – Enter the desired number of AirFixture thermostats which are going to be connected to the IBOX. You are only required to build the number of devices that are going to be connected.

Step #3 – Validate Integration type reads LON. If your screen does not read LON, then you do not have the proper IBOX controller.

Step #4 – Select the desired Subnet ID and Click the save button.

Step #5 – If you have verified steps 1-4, click the Build AirFixture Devices button.
Note: It is important that you verify the setup settings prior to building the AirFixture devices. You can only build the IBOX once.

Step #6 – Verify that the correct number of devices were created.

Step #1 ☐ Select Point List ☒ Extended Points ▼ Save	Step #5 ☐ Create the IBOX Before proceeding validate the System Parameters that you have selected. Note that if an address is selected but the device is either not installed or not addressed then the device will not communicate. Build Air Fixture Devices
Step #2 ☐ Select the Number of AirFixture Devices 32 [0 - 32]	
Step #3 ☐ Validate Integration Type Lon	Step #6 ☐ Validate the correct number was built System Built ☒ Built Total Number Built 32.00
Step #4 ☐ Set Subnet Node & Save 101 [0 - 127] Save	Add One AirSwitch: ☐ Select the AirSwitch Thermostat to Add 0 Save Build

Figure 2.9 LON Normal Point List Configuration

2.10 Starting Over – Resetting the IBOX

If desired the IBOX can be reset to the factory default configuration. By performing the reset function all Air Fixture devices will be removed along with the BACnet data objects or LON SNVTs. Once the reset action is performed the system can be reconfigured from scratch. All that is required to reset the IBOX is to push the “**Press to Reset**” button. Reference *Figure 2.10 Resetting the IBOX* for a detailed screen shot.



Figure 2.10 Resetting the IBOX

Note: If the IBOX is reset it must be reconfigured. If left in this state no integration points will be available.

2.11 Removing an Air Fixture Device

If desired one Air Switch Thermostat can be deleted at a time. Once this action is performed the Air Fixture Thermostat at the selected address will be removed from the network and all corresponding BACnet objects or LON SNVTs for this address will be removed from the IBOX. This function is commonly used if a given Air Switch thermostat is not installed on the project. For example if during installation the Air Switch thermostat at Network Address #8 is not installed this Air Switch can be removed from the IBOX. This is not a required action however it will help to “clean up” the Air Fixture network and integration points since unused devices and points will not be used. Follow the subsequent steps to remove an Air Fixture device (reference *Figure 2.11 Removing an Air Switch Thermostat* for a detailed screen shot):

Step 1 – Enter the desired Air Switch Address to delete in the text box.

Step 2 – Press the save button.

Step 3 – Press the “**Remove Selected Address**” button.



Figure 2.11 Removing an Air Switch Thermostat

Note: If an address is removed the associated Air Switch Thermostat will no longer show up in the network view and the integration points will be deleted. If you need to add the thermostat back in reference section 2.12 Adding an Air Fixture Device.

2.12 Adding an Air Fixture Device

If desired one Air Switch Thermostat can be added at a time. Once this action is performed the Air Fixture Thermostat at the selected address will be added to the network and all corresponding BACnet objects or LON SNVTs for this address will be added to the IBOX for integration. This function is commonly used if a given Air Switch thermostat is removed and then is re-installed on the project or if a new sensor is added in to the network after installation is complete. Follow the subsequent steps to add an Air Fixture device (reference **Figure 2.12 Adding an Air Switch Thermostat** for a detailed screen shot):

Step 1 – Enter the desired Air Switch Address to add in the text box.

Step 2 – Press the save button.

Step 3 – Press the “**Build**” button.



Figure 2.12 Adding an Air Switch Thermostat

3 Validating the Air Fixture Network

3.1 Accessing the Network View

The IBOX User Interface is equipped with a Network View. The Network View allows system integrators to validate network connectivity. The Network View is located in the **AirFixture Network** Menu (reference *Figure 3.1 AirFixture Network*) and is accessed by using either the Quick Links or the side Navigation Tree reference *Figure 3.2 Quick Links* and *Figure 3.3 Navigation Tree*.

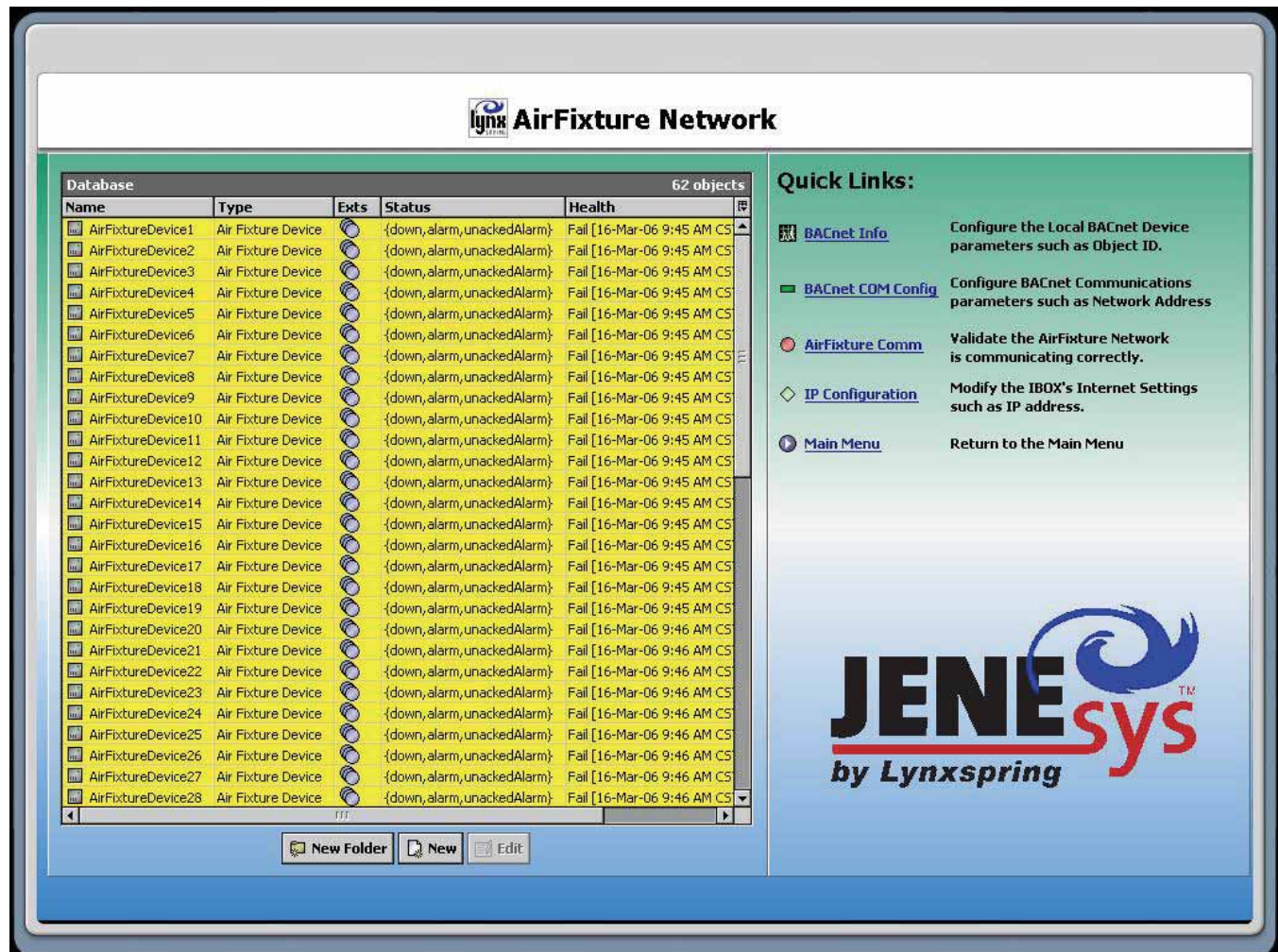


Figure 3.1 AirFixture Network

Quick Links:

 BACnet Info	Configure the Local BACnet Device parameters such as Object ID.
 BACnet COM Config	Configure BACnet Communications parameters such as Network Address
 AirFixture Net	Validate the AirFixture Network is communicating correctly.
 AirFixture Comm	Validate the AirFixture Network is communicating correctly.
 IP Configuration	Modify the IBOX's Internet Settings such as IP address.

Figure 3.2 Quick Links

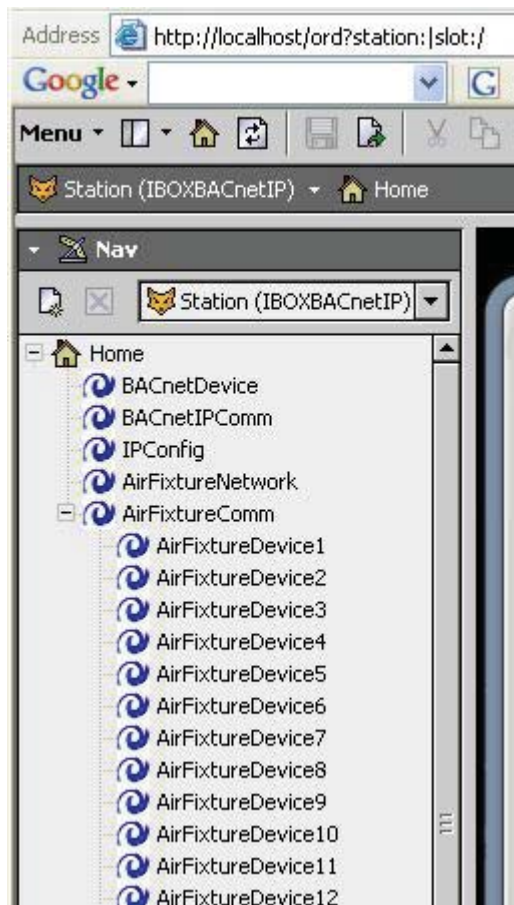
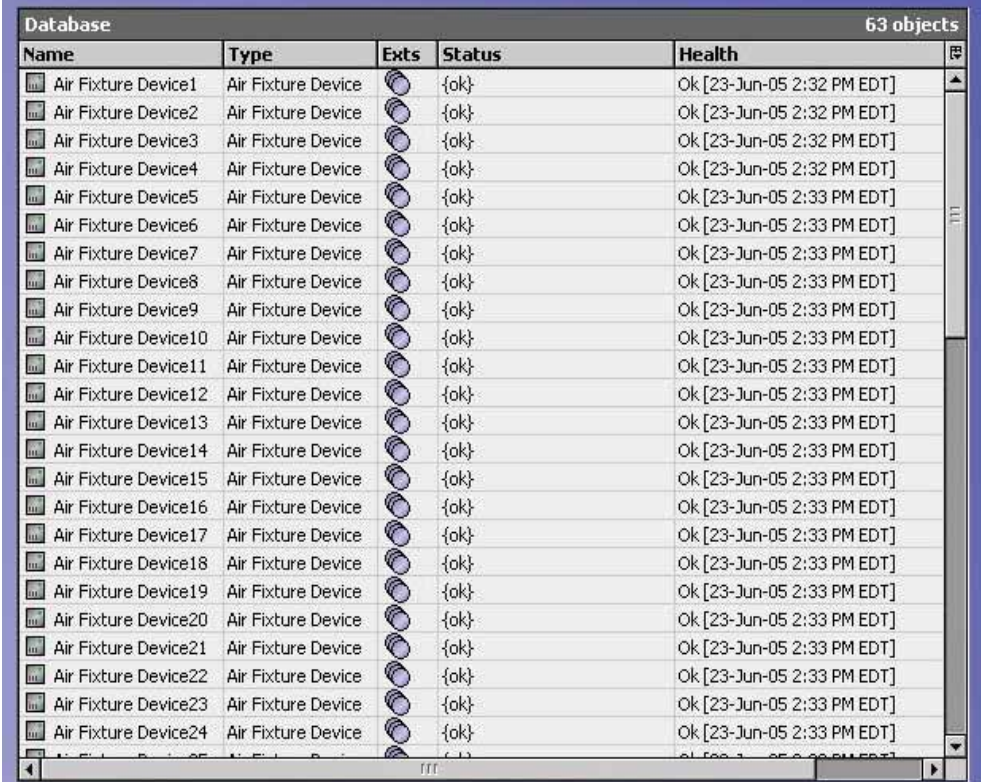


Figure 3.3 Navigation Tree

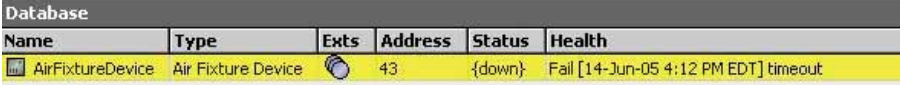
3.2 Troubleshooting Network Problems

When viewing the Air Fixture network with the Network View you may notice an Air Switch device that displays "down" or "faulted." Examples of network views are shown in *Figure 3.4 Good Air Switch Network* and *Figure 3.4 Faulted Air Switch*.



Database					63 objects
Name	Type	Exts	Status	Health	
Air Fixture Device1	Air Fixture Device	{ok}	{ok}	Ok [23-Jun-05 2:32 PM EDT]	
Air Fixture Device2	Air Fixture Device	{ok}	{ok}	Ok [23-Jun-05 2:32 PM EDT]	
Air Fixture Device3	Air Fixture Device	{ok}	{ok}	Ok [23-Jun-05 2:32 PM EDT]	
Air Fixture Device4	Air Fixture Device	{ok}	{ok}	Ok [23-Jun-05 2:32 PM EDT]	
Air Fixture Device5	Air Fixture Device	{ok}	{ok}	Ok [23-Jun-05 2:33 PM EDT]	
Air Fixture Device6	Air Fixture Device	{ok}	{ok}	Ok [23-Jun-05 2:33 PM EDT]	
Air Fixture Device7	Air Fixture Device	{ok}	{ok}	Ok [23-Jun-05 2:33 PM EDT]	
Air Fixture Device8	Air Fixture Device	{ok}	{ok}	Ok [23-Jun-05 2:33 PM EDT]	
Air Fixture Device9	Air Fixture Device	{ok}	{ok}	Ok [23-Jun-05 2:33 PM EDT]	
Air Fixture Device10	Air Fixture Device	{ok}	{ok}	Ok [23-Jun-05 2:33 PM EDT]	
Air Fixture Device11	Air Fixture Device	{ok}	{ok}	Ok [23-Jun-05 2:33 PM EDT]	
Air Fixture Device12	Air Fixture Device	{ok}	{ok}	Ok [23-Jun-05 2:33 PM EDT]	
Air Fixture Device13	Air Fixture Device	{ok}	{ok}	Ok [23-Jun-05 2:33 PM EDT]	
Air Fixture Device14	Air Fixture Device	{ok}	{ok}	Ok [23-Jun-05 2:33 PM EDT]	
Air Fixture Device15	Air Fixture Device	{ok}	{ok}	Ok [23-Jun-05 2:33 PM EDT]	
Air Fixture Device16	Air Fixture Device	{ok}	{ok}	Ok [23-Jun-05 2:33 PM EDT]	
Air Fixture Device17	Air Fixture Device	{ok}	{ok}	Ok [23-Jun-05 2:33 PM EDT]	
Air Fixture Device18	Air Fixture Device	{ok}	{ok}	Ok [23-Jun-05 2:33 PM EDT]	
Air Fixture Device19	Air Fixture Device	{ok}	{ok}	Ok [23-Jun-05 2:33 PM EDT]	
Air Fixture Device20	Air Fixture Device	{ok}	{ok}	Ok [23-Jun-05 2:33 PM EDT]	
Air Fixture Device21	Air Fixture Device	{ok}	{ok}	Ok [23-Jun-05 2:33 PM EDT]	
Air Fixture Device22	Air Fixture Device	{ok}	{ok}	Ok [23-Jun-05 2:33 PM EDT]	
Air Fixture Device23	Air Fixture Device	{ok}	{ok}	Ok [23-Jun-05 2:33 PM EDT]	
Air Fixture Device24	Air Fixture Device	{ok}	{ok}	Ok [23-Jun-05 2:33 PM EDT]	

Figure 3.4 Good Air Switch Network



Name	Type	Exts	Address	Status	Health
AirFixtureDevice	Air Fixture Device	43		{down}	Fail [14-Jun-05 4:12 PM EDT] timeout

Figure 3.5 Faulted Air Switch

If you have an Air Switch that is reading "**down**" or "**faulted**," follow these steps:

Step 1 – Validate the Air Switch Thermostat is installed.

Step 2 – Right click on the Air Switch and select "Actions," then "Ping." Reference *Figure 3.6 Pinging the Air Switch*. If the Air Switch still reads "down," proceed to **Step 3**.

Name	Type	Exts	Status	Health	Address
Views	Fixture Device		{fault}	Fail [null]	1
Actions	Fixture Device		{fault}	Fail [null]	2
New	Ping		{fault}	Fail [null]	3
	Upload		{fault}	Fail [null]	4
	Download		{fault}	Fail [null]	5
Cut	Fixture Device		{fault}	Fail [null]	6

Figure 3.6 *Pinging the Air Switch*

Step 3 – Verify that the Air Switch Thermostat is powered up by ensuring that it displays the current temperature value. If the Air Switch has power and still reads "down," proceed to **Step 4**.

Step 4 – Verify that the Air Switch Communication cable is connected. If so, and it still reads down proceed to **Step 5**.

Step 5 – Validate that the Air Switch Thermostat is addressed correctly. The Air Switch address is set by dip switches located on its back. Reference the YORK Form 130.16-EG1 “[FlexSys Engineering Guide](#)” for address dip switch settings. If the Air Switch is addressed correctly and still reads "down," proceed to **Step 6**.

Step 6 – Ensure the Air Fixture network is properly wired, reference the YORK Form 130.16-EG1 “[FlexSys Engineering Guide](#)” for wiring instructions. If the Air Switch still reads down then proceed to **Step 7**.

Step 7 – Reboot power to the Air Switch Thermostat. If the Air Switch still reads down then proceed to **Step 8**.

Step 8 – Reboot power to the IBOX controller. To perform a reboot follow these steps:

1. Remove power by disconnecting the barrel plug of the wallwart from the IBOX.
2. After power is removed the IBOX will perform a save function where the system backs up the application. You will notice that the orange beat light is still blinking and the status light is a solid green.
3. Once the beat light and status lights have gone out (which will vary anywhere from 1 – 5 minutes based upon backup time and battery charge) count to 10 and then reconnect the barrel plug of the wallwart to the IBOX.
4. Now the IBOX will boot up. The time of the reboot will vary as well from 2 – 5 minutes.
5. Once the IBOX has rebooted, log back in and check the Air Fixture Communication Network.
6. If the Air Switch in question is still not communicating then proceed to **Step 9**.

Step 9 – Take the Air Switch in question and plug it into a spot on the Air Fixture network where a Air Switch thermostat is communicating. Proceed to “ping” the Air Switch and verify that the Air Switch is recognized on the network. If the Air Switch is recognized by the network proceed to **Step 10**. If the Air Switch still is not recognized by the network proceed to **Step 11**.

Step 10 – Since the Air Switch was recognized by the network then there is a wiring issue in the network. If factory made connectors were field modified then connections to the Air Switch need to be validated. Proceed back to **Step 6**.

- **Note:** The previously removed Air Switch needs to be replaced and the network placed back to its previous configuration prior to performing **Step 9**.

Step 11 – The Air Switch has been proven to be bad or damaged and needs to be replaced.

If you have an Air Switch that is reading "**Ok**" but the data you are reading from the Air Switch is incorrect follow these steps:

- An example of incorrect data is the space temperature is reading outside the operating range of 40 to 110 degrees F.

Step 1 – Ensure the Air Fixture network is properly wired, reference the YORK Form 130.16-EG1 "**FlexSys Engineering Guide**" for wiring instructions. If the Air Switch still reads incorrect data then proceed to **Step 2**.

Step 2 – Reboot power to the Air Switch Thermostat. If the Air Switch still reads incorrect data then proceed to **Step 3**.

Step 3 – Reboot power to the IBOX controller. To perform a reboot follow these steps:

1. Remove power by disconnecting the barrel plug of the wallwart from the IBOX.
2. After power is removed the IBOX will perform a save function where the system backs up the application. You will notice that the orange beat light is still blinking and the status light is a solid green.
3. Once the beat light and status lights have gone out (which will vary anywhere from 1 – 5 minutes based upon backup time and battery charge) count to 10 and then reconnect the barrel plug of the wallwart to the IBOX.
4. Now the IBOX will boot up. The time of the reboot will vary as well from 2 – 5 minutes.
5. Once the IBOX has rebooted, log back in and check the Air Fixture Communication Network.
6. If the Air Switch in question is still reading incorrect data then proceed to **Step 4**.

Step 4 – Take the Air Switch in question and plug it into a spot on the Air Fixture network where a Air Switch thermostat is communicating. Proceed to "ping" the Air Switch and verify that the Air Switch is recognized on the network. If the Air Switch is reading correct data proceed to **Step 5**. If the Air Switch still is not reading correct data proceed to **Step 6**.

Step 5 – Since the Air Switch was reading correct data then there is a wiring issue in the network. If factory made connectors were field modified then connections to the Air Switch need to be validated. Proceed back to **Step 1**.

Step 6 – The Air Switch has been proven to be bad or damaged and needs to be replaced.

4 Configuring Air Fixture Air Switch Thermostats

4.1 Primary Air Switch Configuration

The initial configuration of the Air Switch Thermostat is performed through the IBOX user interface. This view details pertinent information about the Air Switch, configuration data and is detailed below. Reference **Figure 4.1 Air Switch Configuration View** for details of this view. To access this view, select the desired AirFixture Device from the Navigation tree, reference **Figure 3.3 Navigation Tree**. Reference Configuration properties include:

Figure 4.1 Air Switch Configuration

1. **Status** – The Air Switch's device status is detailed, a value of OK or Fault will display.
2. **Fault Cause** – If the Air Switch is in a Fault state, the cause of the fault will be detailed.
3. **Minimum Setpoint** – This value determines the minimum setpoint value to which the Air Switch can be set. The setpoint cannot be set below this value, neither locally (at the device) nor through a 3rd Party Building Automation System.
4. **Maximum Setpoint** – This value determines the maximum setpoint value to which the Air Switch can be set. The setpoint cannot be set

above this value, neither locally (at the device) nor through a 3rd Party Building Automation System.

5. **Installer Mode** – Select whether you want the Air Switch keypad in installer mode.
 - a. Installer mode is used to test the AirValves and heating devices connected to the AirSwitch. During this mode, the AirValves are continuously cycled every 30 seconds, and the heating stages are cycled every 60 seconds. Installer mode can also be entered into at the AirSwitch by decreasing the setpoint to the minimum and pressing both setpoint adjustment buttons; Exit by pressing both setpoint adjustment buttons.
6. **Display Units** – Select between Fahrenheit or Celsius display.
7. **Control Method** – Select between pulse or floating.
 - a. The default control method is “pulse”, which refers to the pulse modulation of the AirValves on the AirFixture ceiling diffusers or FlexSys Generation II floor diffusers. Use the “floating” control method when the AirSwitch is controlling original FlexSys floor diffusers.
8. **Integral Speed** – Select the speed at which you want the control algorithm to react to temperature control.
9. **Deadband** – Select the control deadband for temperature control.
 - a. Small deadband is 2 degree's Fahrenheit
 - b. Large deadband is 5 degree's Fahrenheit
10. **Blank Display** – Select between displaying values or to show no display.
11. **Keypad Lockout** – This selection either allows occupants to manually change the temperature setpoint, or it locks out the ability to change the temperature setpoint locally. If the keypad is locked out, the Building Automation System will still be able to set the setpoint through the IBOX integration.

4.2 Viewing Live Air Switch Data

In addition to allowing the user to configure the Air Switch Thermostat, the IBOX also contains internal graphics that allow the integrator to view live data from the Air Switch Thermostats. The integrator can use this view to validate the integration with the IBOX. Reference either **Figure 4.2 Accessing Air Switch Points View (Normal Point List) from BACnet Integration** or **Figure 4.3 Accessing Air Switch Points View (Extended Point List) from LON Integration** to see details of these views. To access this view, select the desired AirFixture Device from the Navigation tree, reference **Figure 3.3 Navigation Tree**. **Note:** That the Point Views are the same for both LON and BACnet Integrations with the only difference being the **Quick Links**.

The screenshot displays the 'AirFixture Device Points (READONLY)' window. It features several panels: 'Temperature Information' with 'Space Temperature' and 'Current Setpoint' both at 73.0 °F; 'Cooling & Heating' with 'Cooling Duty Cycle' and 'Heating Command' at 0.00, and 'Heating State' set to 'Heat Off'; 'Damper Information' with 'Damper Command' at 'Auto' and 'Damper Action' at 'Normal'; 'Operating Information' with 'Operation Mode' at 'Normal Operation'; 'Alarm Information' with an empty 'Alarm Display' field; and 'Useful Information' containing four bullet points about warmup, reference data, integration verification, and communication status. A 'Quick Links' sidebar on the right includes links for 'LON Info', 'LON COM Config', 'AirFixture Net', 'AirFixture Comm', 'IP Configuration', and 'Main Menu'. The JENEsys by Lynxspring logo is in the bottom right corner.

AirFixture Device Points (READONLY)		
Temperature Information Space Temperature: 73.0 °F Current Setpoint: 73.0 °F	Cooling & Heating Cooling Duty Cycle: 0.00 Heating Command: 0.00 Heating State: Heat Off	Quick Links: LON Info View the Local Lonworks Device parameters such as Neuron ID. LON COM Config Configure LonWorks Network parameters such as Device Domain. AirFixture Net Validate the AirFixture Network is communicating correctly. AirFixture Comm Validate the AirFixture Network is communicating correctly. IP Configuration Modify the IBOX's Internet Settings such as IP address. Main Menu Return to the Main Menu
Damper Information Damper Command: Auto Damper Action: Normal	Operating Information Operation Mode: Normal Operation	
Alarm Information Alarm Display: -		
Useful Information ○ Morning Warmup is accomplished by changing the damper action from normal to reverse. ○ The displayed points are for reference only. Use them to validate integration information. ○ If you are having integration problems verify the integration is enabled. ○ If the AirFixture Device is not communicating verify installation & network address. ○ If communications is down point data will be incorrect.		

Figure 4.2 Accessing Air Switch Points View (Normal Point List) from BACnet Integration


AirFixture Device Points (READONLY)

Temperature Information Space Temperature: 73.0 °F Current Setpoint: 73.0 °F Deadband Value: 2.0 °F	Cooling & Heating Cooly Duty Cycle: 0.00 Heating Command: 0.00 Heating State: Heat Off Manual Heating: Heat Off	Quick Links:  LON Info  LON COM Config  AirFixture Net  AirFixture Comm  IP Configuration  Main Menu View the Local Lonworks Device parameters such as Neuron ID. Configure LonWorks Network parameters such as Device Domain. Validate the AirFixture Network is communicating correctly. Validate the AirFixture Network is communicating correctly. Modify the IBIX's Internet Settings such as IP address. Return to the Main Menu 
Damper Information Damper Command: Auto Damper Action: Normal	Operating Information Operation Mode: Normal Operation	
Alarm Information Alarm Display: 		
Useful Information ☐ Morning Warmup is accomplished by changing the damper action from normal to reverse. ☐ The displayed points are for reference only. Use them to validate integration information. ☐ If you are having integration problems verify the integration is enabled. ☐ If the AirFixture Device is not communicating verify installation & network address. ☐ If communications is down point data will be incorrect.		

Figure 4.3 Accessing Air Switch Points View (Extended Point List) from LON Integration

5 Configuring IBOX Integration Communications

5.1 Setting Up the Local BACnet Device

If using either BACnet IP or BACnet MSTP, continue with this section. If using LON, proceed to section [5.4 Validating the Local LonWorks Device](#). Prior to configuring the IBOX BACnet network, the integrator needs to configure the local BACnet device in the IBOX controller. The main configuration property is the BACnet Object ID. This parameter is the Device ID, also known as the Device Instance. The default BACnet Object ID is 1226. **Note:** If you have multiple IBOX controllers on the same BACnet network the Object ID for each IBOX must be different. Reference [Figure 5.1 Viewing the BACnet Local Device](#) to see how to access this view. You can use the Quick Links from the current menu to access the [BACnet Local Device Menu](#) by clicking on the [BACnet Info](#) hyperlink.

The screenshot shows the 'BACnet Local Device Menu' window. The title bar includes the Lynx logo and the text 'BACnet Local Device Menu'. The main area is divided into two panes. The left pane, titled 'Local Device: (Local Bac Lynx Device)', contains a list of configuration items with corresponding input fields or dropdown menus. The right pane, titled 'Quick Links:', contains five links with descriptions: 'BACnet COM Config' (Configure BACnet Communications parameters such as Network Address), 'AirFuture Net' (Validate the AirFuture Network is communicating correctly), 'AirFuture Comm' (Validate the AirFuture Network is communicating correctly), 'IP Configuration' (Modify the IBOX's Internet Settings such as IP address), and 'Main Menu' (Return to the Main Menu). At the bottom right of the window is the 'JENEsys by Lynxspring' logo. At the bottom left are 'Refresh' and 'Save' buttons.

Property	Value
Status	(ok)
Fault Cause	
Object Id	device 1226
System Status	Operational
Vendor Name	York Controls Group
Vendor Id	23
Model Name	IBOX - powered by NiagaraAX Framework
Firmware Revision	3.0.99
Application Software Version	Tridium 3.0.93
Location	unknown
Description	IBOX
Protocol Version	1
Protocol Revision	4
Protocol Services Supported	11111111100101111001000001111001111001
Protocol Object Types Supported	1111111010101111010110000
Max A P D U Length Accepted	480
Segmentation Supported	No Segmentation
Max Segments Accepted	max
A pdu Segment Timeout	2000 ms [0 - max]
A pdu Timeout	20000 ms [0 - max]
Number Of A pdu Retries	3
Device Address Binding	List of bacnet:BacnetAddressBinding

Figure 5.1 Viewing the BACnet Local Device

5.2 Configuring the IBOX for BACnet/IP

If using BACnet IP continue with this section. If using BACnet MSTP, proceed to section [5.3 Configuring the IBOX for BACnet MSTP](#). If using LON, proceed to section [5.4 Validating the Local LonWorks Device](#). To configure the IBOX integration platform to communicate with the Building Automation System with the BACnet/IP protocol, use the following instructions:

Step 1 – Configure the IBOX IP information to match your current network configuration. Reference **Figure 5.2 Setting up the IBOX IP Configuration** for details on setting up the IBOX's IP Configuration. **Note:** If you change the IP Configuration of your IBOX, you must reconfigure the IP Address of your laptop to match the new configuration.

Step 2 – Set the BACnet Network Number. By default the BACnet Network is 1. However, if you do not set the BACnet Network correctly, the Building Automation System may not be able to communicate with the IBOX controller.

Step 3 – Enable the BACnet/IP communications to ensure that the Building Automation System can communicate with the IBOX. BACnet/IP communication is enabled by right clicking on the IP Port (Network Port) heading and selecting "action," then "enable."

For detailed views on setting up the IBOX's BACnet/IP communications network, reference **Figure 5.3 Accessing BACnet/IP View** and **Figure 5.4 Enabling BACnet/IP Communications**.

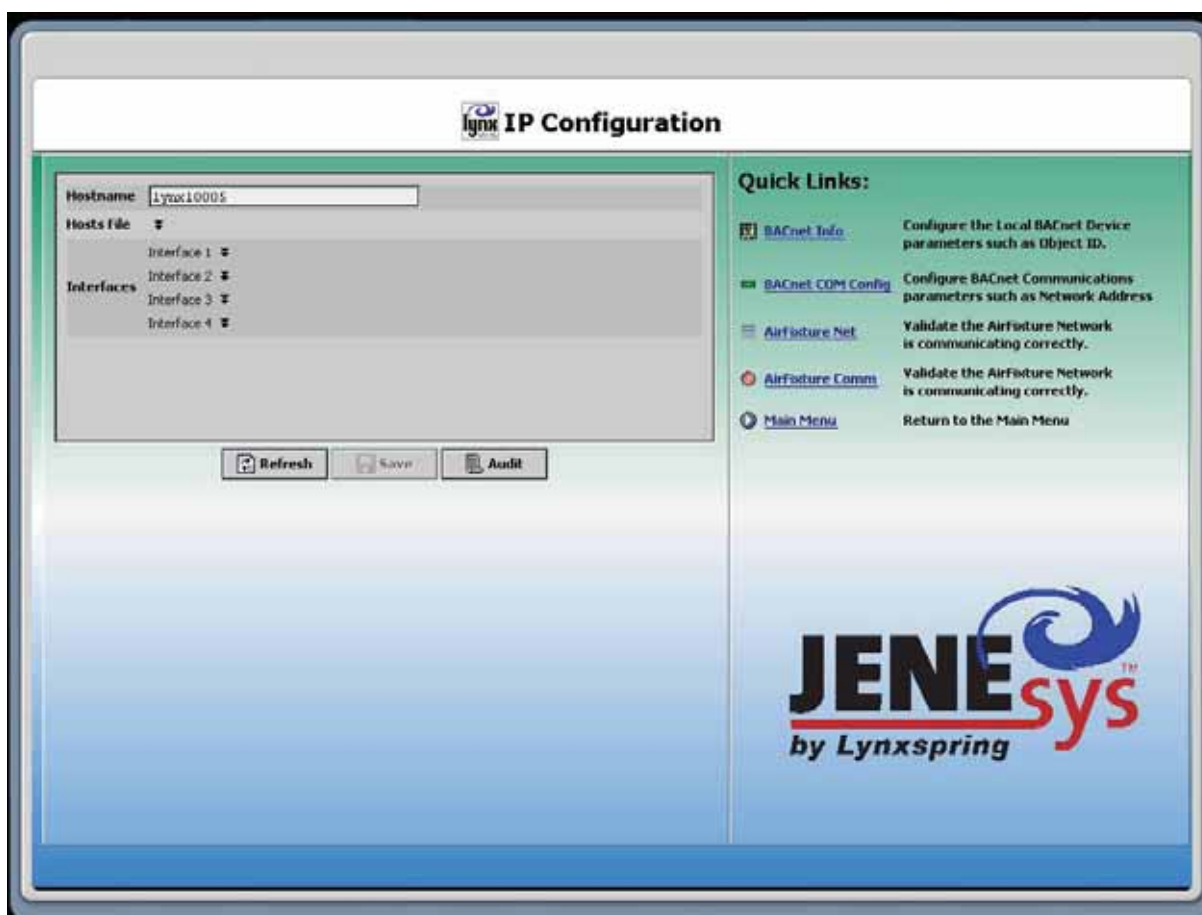


Figure 5.2 Setting up the IBOX IP Configuration

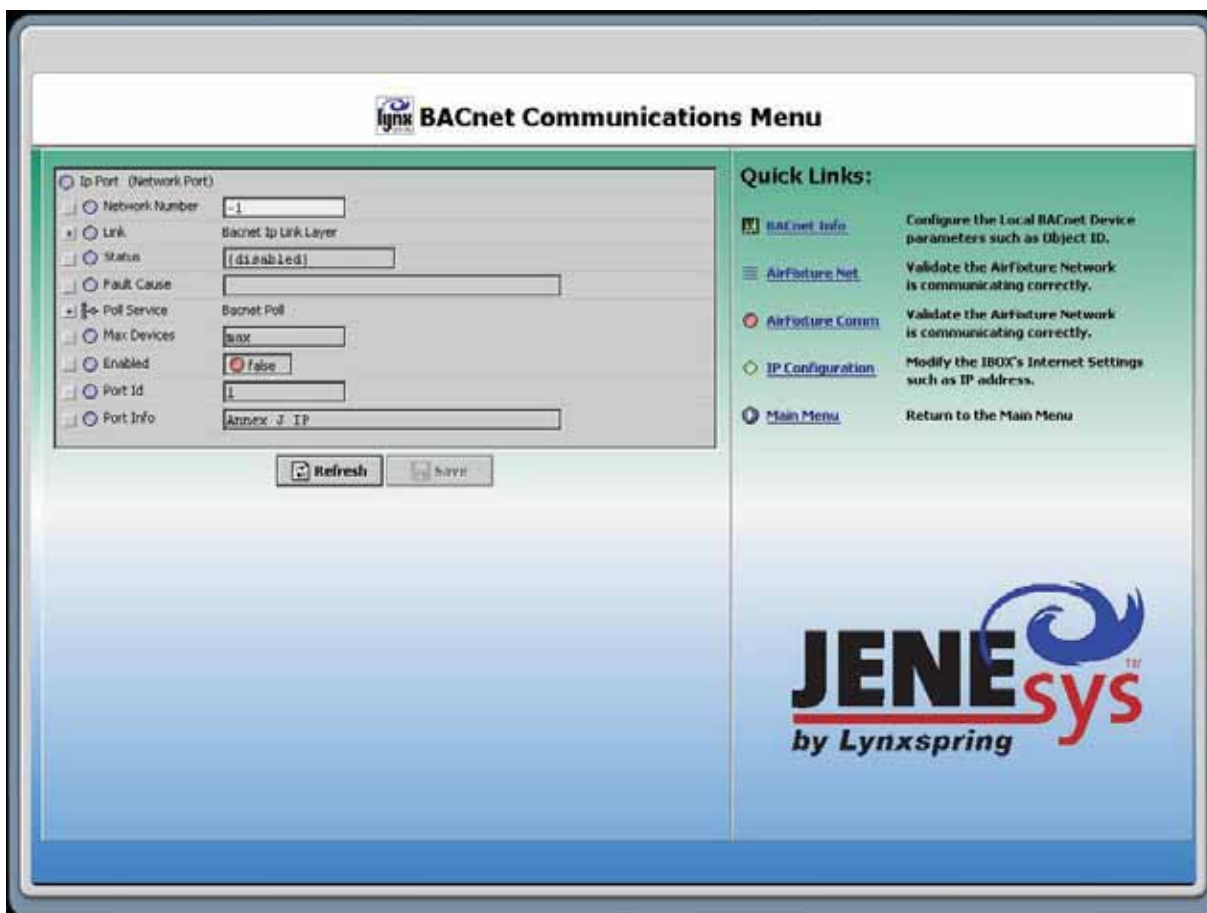


Figure 5.3 Accessing BACnet/IP View



Figure 5.4 Enabling BACnet/IP Communications

5.3 Configuring the IBOX for BACnet MS/TP

If using BACnet MSTP, continue with this section. If using BACnet IP, go back to section [5.2 Configuring the IBOX for BACnet/IP](#). If using LON, proceed to section [5.4 Validating the Local LonWorks Device](#). To configure the IBOX integration platform to communicate with the Building Automation System using BACnet MS/TP protocol, use the following instructions:

Step 1 – Set the BACnet Network Number. By default the BACnet Network is 1. However, if you do not set the BACnet Network correctly, the Building Automation System may not be able to communicate with the IBOX controller.

Step 2 – Configure the communications port to which the BACnet MS/TP network it is connected. By default the communications port is COM2.

Step 3 – Set the BACnet MS/TP MAC Address. By default the BACnet MS/TP MAC Address is 26. However, if you do not set the BACnet MS/TP MAC Address correctly, the Building Automation System may not be able to communicate with the IBOX controller. **Note:** The BACnet MS/TP MAC Address must be unique on the BACnet MS/TP Network!!!

Step 4 – Configure the Baud Rate over which the BACnet MS/TP network is communicating. By default the Baud Rate is set to 38400 Baud. Available Baud Rates are:

- 9600
- 19200
- 38400
- 76800

Step 5 – Enable the BACnet MS/TP communications. If this step is not followed the Building Automation System will not be able to communicate with the IBOX. The BACnet MS/TP communication is enabled by right clicking on the MstpPort (Network Port) heading and selecting "Action," then "Enable."

For detailed views on setting up the IBOX's BACnet MS/TP communications network reference [Figure 5.7 Viewing BACnet MS/TP View](#) and [Figure 5.8 Enabling BACnet MS/TP Communications](#).

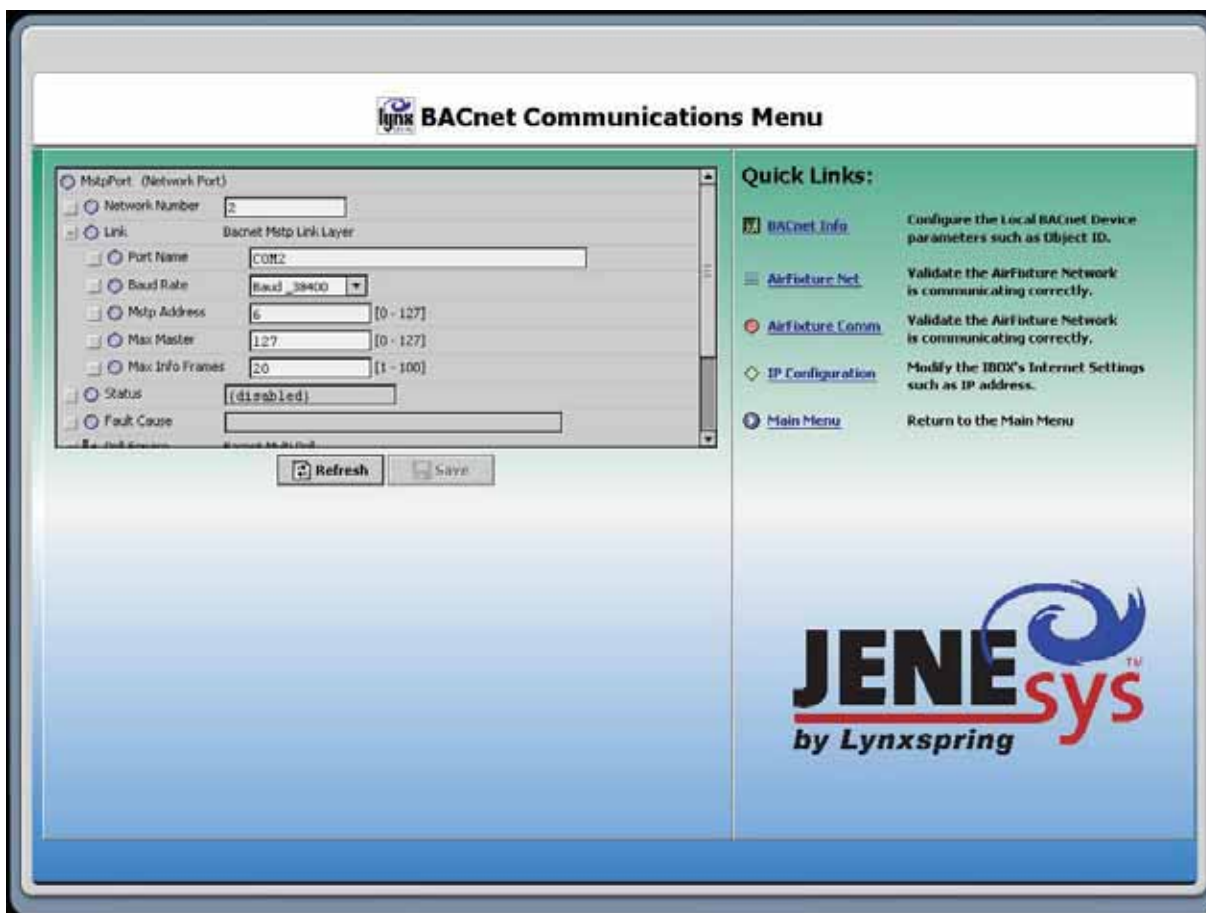


Figure 5.7 Viewing BACnet MS/TP View



Figure 5.8 Enabling BACnet MS/TP Communications

5.4 Validating the Local LonWorks Device

If using LonWorks continue with this section. If using either BACnet IP or BACnet MSTP, go back to section [5.1 Configuring the Local BACnet Device](#). This view is used to access the controller's Neuron ID and Program ID if your integration software requires these settings. There is no service pin functionality on the IBOX. Reference [Figure 5.9 Viewing the LON Local Device](#) to see how to access this view. You can use the Quick Links from the current menu to access the [LON Local Device Menu](#) by clicking on the [LON Info](#) hyperlink.

The screenshot displays the 'LON Local Device Menu' window. The main area is divided into two sections. The left section, titled 'Device Data (Device Data)', contains a list of configuration items with corresponding input fields or dropdown menus. The right section, titled 'Quick Links:', lists several links with brief descriptions. At the bottom of the main area are 'Refresh' and 'Save' buttons. The JENESys by Lynxspring logo is visible in the bottom right corner of the window.

Device Data (Device Data)	Value
Neuron Id	00 00 00 00 00 00
Program Id	00 00 00 00 00 00 00 00
Node State	Unknown
Subnet Node Id	0/0
Location	
Authenticate	False
Channel Id	0
Working Domain	0
Binding II	False
Hosted	False
Two Domains	False
Msg Tag Count	0
Address Count	0
Address Table	Address Table
Priority Slot	0
Alias Table	Alias Table
Self Doc	
Has Node Object	False
Freeze Channel Priorities	False

Quick Links:

- [LON COM Config](#): Configure LonWorks Network parameters such as Device Domain.
- [AirFixture Net](#): Validate the AirFixture Network is communicating correctly.
- [AirFixture Comm](#): Validate the AirFixture Network is communicating correctly.
- [IP Configuration](#): Modify the IBOX's Internet Settings such as IP address.
- [Main Menu](#): Return to the Main Menu

JENESys
by Lynxspring

Refresh Save

Figure 5.9 Viewing the LON Local Device

5.5 Configuring the IBOX LON Network Parameters

If using LonWorks, continue with this section. If using either BACnet IP or BACnet MSTP, go back to section [5.1 Configuring the Local BACnet Device](#). The following LON Network Management view is provided to give the integrator the ability to set up specific LON network parameters.

Only change these parameters if specifically required to enable the IBOX to communicate with the specific LON network. Most of today's LON networks will not require the setting of these parameters.

For a detailed view of the IBOX LON Communications Menu, reference **Figure 5.10 Viewing LON Network Management View**. You can use the Quick Links from the current menu to access the [LON Communications Menu](#) by clicking on the [LON COM Config](#) hyperlink.

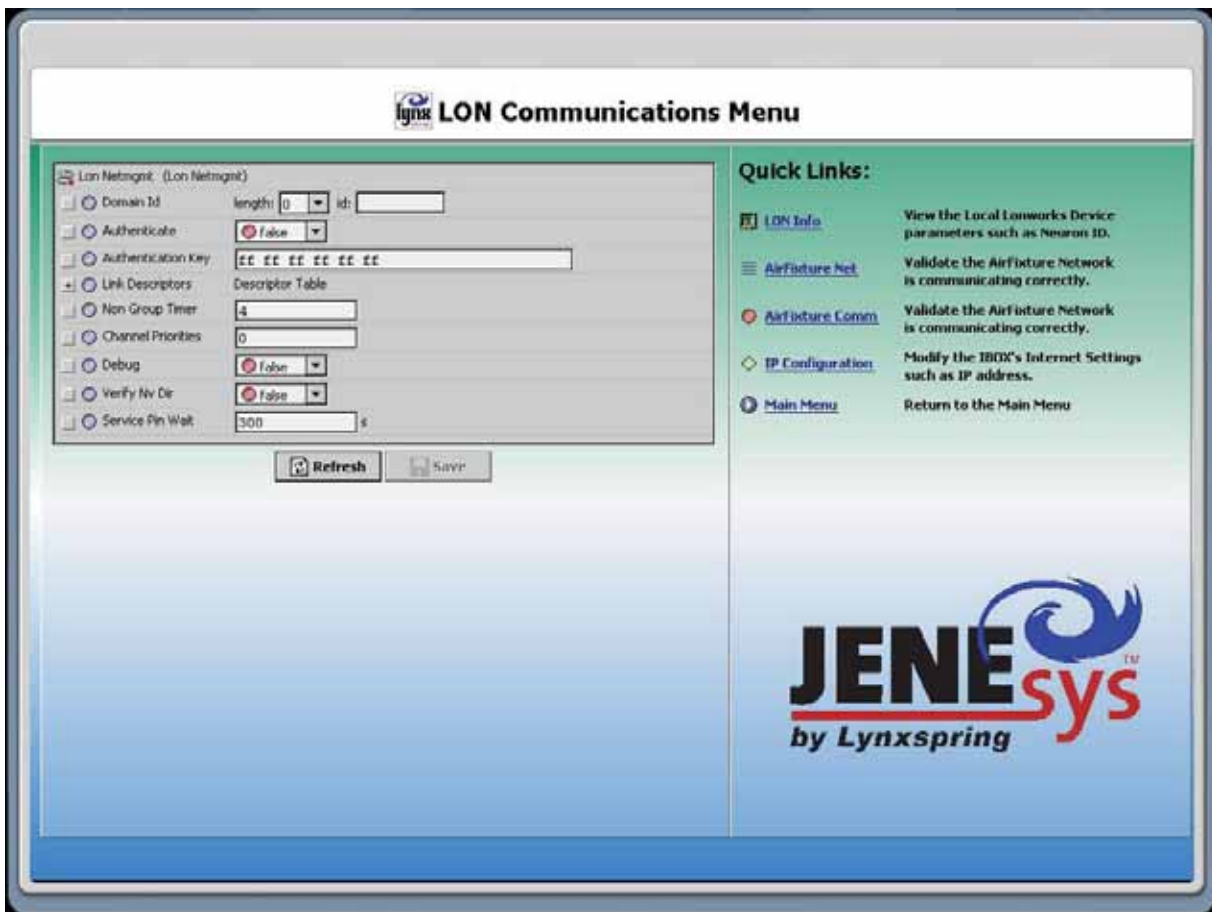


Figure 5.10 Accessing LON Network Management View

6 Exposed BACnet Data Points

6.1 BACnet and LonWorks Information

Various BACnet data points and LonWorks SNVTs are exposed in the Air Switch Thermostat. The data points are either read-only, or read/write values. The subsequent information provides details on each exposed data point.

6.2 Space Temperature Value – Read Only

NORMAL POINT LIST

- BACnet Object Name – ZN.TEMP.##
- LON SNVT Name – nvoSpaceTemp##

The space temperature value is a read-only analog value data point. Temperature values are directly associated with an Air Switch Thermostat.

Reference Appendix A of this document for a detailed point list for all the BACnet data points included in the IBOX.

Reference Appendix B of this document for a detailed point list for all the LonWorks SNVTs included in the IBOX.

6.3 Space Temperature Setpoint Write Value – Read/Write

NORMAL POINT LIST

- BACnet Object Name – ZN.SET.##
- LON SNVT Name – nviTempSetpoint ##

The space temperature set point write value is a read/write analog value data point. Temperature set point write values are directly associated with an Air Switch Thermostat.

Reference Appendix A of this document for a detailed point list for all the BACnet data points included in the IBOX.

Reference Appendix B of this document for a detailed point list for all the LonWorks SNVTs included in the IBOX.

6.3 Cooling Command Value – Read Only (Duty Cycle)

NORMAL POINT LIST

- BACnet Object Name – ZN.CLG.##
- LON SNVT Name – nvoCoolCommand ##

The cooling command value is a read-only analog value data point. Cooling command values are directly associated with an Air Switch Thermostat. The cooling command value will display a value between 0 and 100. When the cooling command value reads 0, there is no call for cooling in the space. When the cooling command value reads between 0 and 100, the Air Valve dampers are cycled, in a duty cycle mode, by the Air Switch Thermostat.

This value can be used to determine building cooling demand for tenant metering applications.

Reference Appendix A of this document for a detailed point list for all the BACnet data points included in the IBOX.

Reference Appendix B of this document for a detailed point list for all the LonWorks SNVTs included in the IBOX.

6.4 Heating Command Value – Read Only

NORMAL POINT LIST

- BACnet Object Name – ZN.HTG.##
- LON SNVT Name – nvoHeatCommand##

The heating command value is a read-only BACnet analog value data point. Heating command values are directly associated with an Air Switch Thermostat. The heating command value will display a value between 0 and 100. When the heating command value reads 0, there is no call for heating in the space. When the heating command value reads between 0 and 32.9, the fan command is cycled on and off, in a duty cycle mode, by the Air Switch Thermostat. When the heating command value reads greater than 32.9, the fan is commanded on by the Air Switch Thermostat. When the heating command value reads between 33.3 and 66.3, the first stage of heat is commanded on and off, in a duty cycle mode, by the Air Switch Thermostat. When the heating command value reads between 66.7 and 100, the first stage of heat is commanded on, and the second stage of heat is commanded on and off, in a duty cycle mode, by the Air Switch Thermostat.

Heat Table:

Value	Function
0%	Heat Off
0% to 32.9%	Fan Cycles
> 32.9%	Fan On
33.3% to 66.3%	Stage 1 Heat Cycles
66.7% to 100%	Stage 1 ON/Stage 2 Cycles

Reference Appendix A of this document for a detailed point list for all the BACnet data points included in the IBOX.

Reference Appendix B of this document for a detailed point list for all the LonWorks SNVTs included in the IBOX.

6.5 Alarm Flags Value – Read Only

NORMAL POINT LIST

- BACnet Object Name – ZN.ALM.##
- LON SNVT Name – nvoAlarm##

The alarm flags value is a read-only BACnet binary value data point and lev_percent SNVT for LON. Alarm flag values are directly associated with an Air Switch Thermostat. The value will read true for BACnet or 100% for LON when any of the following conditions occur:

1. THERMOSTAT FAULT
2. EEPROM CHECKSUM FAULT
3. TEMPERATURE SENSOR FAULT

Alarm Table BACnet:

BACnet Value	Fault
False	No Fault
True	Thermostat Fault or EEPROM Checksum Fault or Sensor Fault

Alarm Table LON:

SNVT Value	Fault
0%	No Fault
100%	Thermostat Fault or EEPROM Checksum Fault or Sensor Fault

Reference Appendix A of this document for a detailed point list for all the BACnet data points included in the IBOX.

Reference Appendix B of this document for a detailed point list for all the LonWorks SNVTs included in the IBOX.

6.6 Operating Mode Value – Read/Write

NORMAL POINT LIST

- BACnet Object Name – ZN.MOD.##
- LON SNVT Name – nviOperatorMode##

The operating mode value is a read/write BACnet multi value data point and a lev_percent SNVT for LON. Operating mode values are directly associated with an Air Switch Thermostat. The operating mode value will determine the current operating mode of the Air Switch Thermostat. The following values will determine the operating mode:

1. NORMAL OPERATING MODE
2. INSTALLER TEST MODE
3. DIAGNOSTIC MODE
4. FACTORY TEST MODE

The integrator will likely use only two modes of operation; “Normal Operating Mode” and “Diagnostic Mode”. Diagnostic Mode is used when manual commands are desired. When in Normal Operating Mode the Air Switch will run automatically.

Operating Mode Table for LON:

SNVT Value	Function
0%	Normal Operating Mode
25%	Installer Test Mode
50%	Diagnostic Mode
100%	Factory Test Mode

Reference Appendix A of this document for a detailed point list for all the BACnet data points included in the IBOX.

Reference Appendix B of this document for a detailed point list for all the LonWorks SNVTs included in the IBOX.

6.7 Damper Command Write Value – Read/Write

NORMAL POINT LIST

- BACnet Object Name – ZN.DMPCOM.##
- LON SNVT Name – nviDmpCommand##

The damper command write value is a read/write BACnet multi value data point and a lev_percent SNVT for LON. The damper command value will override the AirFixture AirValve's either full open or full closed. In order for this functionality to be present, the AirFixture Operating Mode Select point must be in state #3 "Diagnostic Mode" of operation, reference section [5.6 Operating Mode Value](#). The following values are associated with the damper command write value:

1. AUTO – NO OVERRIDE PRESENT (Damper position based on control requirements)
2. OPEN – DAMPER OPEN OVERRIDE
3. CLOSE – DAMPER CLOSE OVERRIDE

Damper Command Table for LON:

SNVT Value	Function
0%	Auto
25%	Open Command
50%	Close Command

Reference Appendix A of this document for a detailed point list for all the BACnet data points included in the IBOX.

Reference Appendix B of this document for a detailed point list for all the LonWorks SNVTs included in the IBOX.

6.8 Damper Action Write Value – Read/Write

NORMAL POINT LIST

- BACnet Object Name – ZN.DMPCOM.##
- LON SNVT Name – nviDmpCommand##

The damper action write value is a read/write BACnet multi value data point and a lev_percent SNVT for LON. The damper action value will override the AirFixture Air Switch to either direct acting or reverse acting. This point can be used to place the system into a "Morning Warm-up" mode of operation by placing the damper action into reverse. The following values are associated with the damper action write value:

1. DIRECT – DIRECT ACTING PID LOOP
2. REVERSE – REVERSE ACTING PID LOOP

Damper Action Table for LON:

SNVT Value	Function
0%	Direct
25%	Reverse

Reference Appendix A of this document for a detailed point list for all the BACnet data points included in the IBOX.

Reference Appendix B of this document for a detailed point list for all the LonWorks SNVTs included in the IBOX.

6.9 Deadband Read Value – Read Only

EXTENDED POINT LIST

- BACnet Object Name – ZN.DB.##
- LON SNVT Name – nvoDBValue##

The deadband value is a read-only analog value data point. This value corresponds directly with the deadband that has been selected with the deadband select read/write BACnet multi value data point or for LON lev_percent SNVT. The deadband analog value shall either read 2°F for a selection of “small” deadband and 5°F for a selection of “large” deadband.

Reference Appendix A of this document for a detailed point list for all the BACnet data points included in the IBOX.

Reference Appendix B of this document for a detailed point list for all the LonWorks SNVTs included in the IBOX.

6.10 Temperature Sensor Deadband Select Write Value – Read/Write

EXTENDED POINT LIST

- BACnet Object Name – ZN.DBS.##
- LON SNVT Name – nviDBSelect##

The damper action write value is a read/write BACnet multi value data point and a lev_percent SNVT for LON. Temperature sensor deadband select value shall either be 2°F for a selection of “small” deadband or 5°F for a selection of “large” deadband.

Deadband Select Table for LON:

SNVT Value	Function
0%	Small
25%	Large

Reference Appendix A of this document for a detailed point list for all the BACnet data points included in the IBOX.

Reference Appendix B of this document for a detailed point list for all the LonWorks SNVTs included in the IBOX.

6.11 Heat Command Write Value – Read/Write

EXTENDED POINT LIST

- BACnet Object Name – ZN.HTGCOM.##
- LON SNVT Name – nviManualHeat##

The heat command write value is a read/write BACnet multi value data point and a lev_percent SNVT for LON. The heat command value will override the AirFixture network heating state. In order for this functionality to be present the AirFixture Operating Mode Select point must be in state #3 “Diagnostic Mode” of

operation, reference section **6.6 Operating Mode Value**. The following values are associated with the damper command write value:

1. HEAT OFF
2. FAN ONLY
3. FAN AND STAGE ONE HEAT
4. FAN AND STAGE ONE AND TWO HEAT

Heat Command Table for LON:

SNVT Value	Function
0%	Heat Off
25%	Fan Only
50%	Fan and Stage One Heat
100%	Fan and Stage One and Two Heat

Reference Appendix A of this document for a detailed point list for all the BACnet data points included in the IBOX.

Reference Appendix B of this document for a detailed point list for all the LonWorks SNVTs included in the IBOX.

7 Appendix A – BACnet Data Points List

7.1 BACnet Data Points – (Normal List)

Air Switch #	Object Name	Object Type	Inst Num	Point Description	Point List
1	ZONE.TEMP.01	analogValue	1	Space Temperature	Normal
1	ZONE.SET.01	analogValue	2	Space Temperature Set Point	Normal
1	ZONE.CLG.01	analogValue	3	Cooling Command (Duty Cycle)	Normal
1	ZONE.HTG.01	analogValue	4	Heating Command	Normal
1	ZONE.ALM.01	binaryValue	1	AirSwitch Alarm Value	Normal
1	ZONE.MOD.01	multiStateValue	1	Operating Mode	Normal
1	ZONE.DMPCOM.01	multiStateValue	2	Manual Damper Command	Normal
1	ZONE.ACT.01	multiStateValue	3	Damper Action	Normal
2	ZONE.TEMP.02	analogValue	5	Space Temperature	Normal
2	ZONE.SET.02	analogValue	6	Space Temperature Set Point	Normal
2	ZONE.CLG.02	analogValue	7	Cooling Command (Duty Cycle)	Normal
2	ZONE.HTG.02	analogValue	8	Heating Command	Normal
2	ZONE.ALM.02	binaryValue	2	AirSwitch Alarm Value	Normal
2	ZONE.MOD.02	multiStateValue	4	Operating Mode	Normal
2	ZONE.DMPCOM.02	multiStateValue	5	Manual Damper Command	Normal
2	ZONE.ACT.02	multiStateValue	6	Damper Action	Normal
3	ZONE.TEMP.03	analogValue	9	Space Temperature	Normal
3	ZONE.SET.03	analogValue	10	Space Temperature Set Point	Normal
3	ZONE.CLG.03	analogValue	11	Cooling Command (Duty Cycle)	Normal
3	ZONE.HTG.03	analogValue	12	Heating Command	Normal
3	ZONE.ALM.03	binaryValue	3	AirSwitch Alarm Value	Normal
3	ZONE.MOD.03	multiStateValue	7	Operating Mode	Normal
3	ZONE.DMPCOM.03	multiStateValue	8	Manual Damper Command	Normal
3	ZONE.ACT.03	multiStateValue	9	Damper Action	Normal
4	ZONE.TEMP.04	analogValue	13	Space Temperature	Normal
4	ZONE.SET.04	analogValue	14	Space Temperature Set Point	Normal
4	ZONE.CLG.04	analogValue	15	Cooling Command (Duty Cycle)	Normal
4	ZONE.HTG.04	analogValue	16	Heating Command	Normal
4	ZONE.ALM.04	binaryValue	4	AirSwitch Alarm Value	Normal
4	ZONE.MOD.04	multiStateValue	10	Operating Mode	Normal
4	ZONE.DMPCOM.04	multiStateValue	11	Manual Damper Command	Normal
4	ZONE.ACT.04	multiStateValue	12	Damper Action	Normal
5	ZONE.TEMP.05	analogValue	17	Space Temperature	Normal
5	ZONE.SET.05	analogValue	18	Space Temperature Set Point	Normal
5	ZONE.CLG.05	analogValue	19	Cooling Command (Duty Cycle)	Normal
5	ZONE.HTG.05	analogValue	20	Heating Command	Normal
5	ZONE.ALM.05	binaryValue	5	AirSwitch Alarm Value	Normal
5	ZONE.MOD.05	multiStateValue	13	Operating Mode	Normal
5	ZONE.DMPCOM.05	multiStateValue	14	Manual Damper Command	Normal
5	ZONE.ACT.05	multiStateValue	15	Damper Action	Normal
6	ZONE.TEMP.06	analogValue	21	Space Temperature	Normal

6	ZONE.SET.06	analogValue	22	Space Temperature Set Point	Normal
6	ZONE.CLG.06	analogValue	23	Cooling Command (Duty Cycle)	Normal
6	ZONE.HTG.06	analogValue	24	Heating Command	Normal
6	ZONE.ALM.06	binaryValue	6	AirSwitch Alarm Value	Normal
6	ZONE.MOD.06	multiStateValue	16	Operating Mode	Normal
6	ZONE.DMPCOM.06	multiStateValue	17	Manual Damper Command	Normal
6	ZONE.ACT.06	multiStateValue	18	Damper Action	Normal
7	ZONE.CLG.07	analogValue	27	Cooling Command (Duty Cycle)	Normal
7	ZONE.HTG.07	analogValue	28	Heating Command	Normal
7	ZONE.ALM.07	binaryValue	7	AirSwitch Alarm Value	Normal
7	ZONE.MOD.07	multiStateValue	19	Operating Mode	Normal
7	ZONE.DMPCOM.07	multiStateValue	20	Manual Damper Command	Normal
7	ZONE.ACT.07	multiStateValue	21	Damper Action	Normal
8	ZONE.TEMP.08	analogValue	29	Space Temperature	Normal
8	ZONE.SET.08	analogValue	30	Space Temperature Set Point	Normal
8	ZONE.CLG.08	analogValue	31	Cooling Command (Duty Cycle)	Normal
8	ZONE.HTG.08	analogValue	32	Heating Command	Normal
8	ZONE.ALM.08	binaryValue	8	AirSwitch Alarm Value	Normal
8	ZONE.MOD.08	multiStateValue	22	Operating Mode	Normal
8	ZONE.DMPCOM.08	multiStateValue	23	Manual Damper Command	Normal
8	ZONE.ACT.08	multiStateValue	24	Damper Action	Normal
9	ZONE.TEMP.09	analogValue	33	Space Temperature	Normal
9	ZONE.SET.09	analogValue	34	Space Temperature Set Point	Normal
9	ZONE.CLG.09	analogValue	35	Cooling Command (Duty Cycle)	Normal
9	ZONE.HTG.09	analogValue	36	Heating Command	Normal
9	ZONE.ALM.09	binaryValue	9	AirSwitch Alarm Value	Normal
9	ZONE.MOD.09	multiStateValue	25	Operating Mode	Normal
9	ZONE.DMPCOM.09	multiStateValue	26	Manual Damper Command	Normal
9	ZONE.ACT.09	multiStateValue	27	Damper Action	Normal
10	ZONE.TEMP.10	analogValue	37	Space Temperature	Normal
10	ZONE.SET.10	analogValue	38	Space Temperature Set Point	Normal
10	ZONE.CLG.10	analogValue	39	Cooling Command (Duty Cycle)	Normal
10	ZONE.HTG.10	analogValue	40	Heating Command	Normal
10	ZONE.ALM.10	binaryValue	10	AirSwitch Alarm Value	Normal
10	ZONE.MOD.10	multiStateValue	28	Operating Mode	Normal
10	ZONE.DMPCOM.10	multiStateValue	29	Manual Damper Command	Normal
10	ZONE.ACT.10	multiStateValue	30	Damper Action	Normal
11	ZONE.TEMP.11	analogValue	41	Space Temperature	Normal
11	ZONE.SET.11	analogValue	42	Space Temperature Set Point	Normal
11	ZONE.CLG.11	analogValue	43	Cooling Command (Duty Cycle)	Normal
11	ZONE.HTG.11	analogValue	44	Heating Command	Normal
11	ZONE.ALM.11	binaryValue	11	AirSwitch Alarm Value	Normal
11	ZONE.MOD.11	multiStateValue	31	Operating Mode	Normal
11	ZONE.DMPCOM.11	multiStateValue	32	Manual Damper Command	Normal
11	ZONE.ACT.11	multiStateValue	33	Damper Action	Normal
12	ZONE.TEMP.12	analogValue	45	Space Temperature	Normal
12	ZONE.SET.12	analogValue	46	Space Temperature Set Point	Normal
12	ZONE.CLG.12	analogValue	47	Cooling Command (Duty Cycle)	Normal

12	ZONE.HTG.12	analogValue	48	Heating Command	Normal
12	ZONE.ALM.12	binaryValue	12	AirSwitch Alarm Value	Normal
12	ZONE.MOD.12	multiStateValue	34	Operating Mode	Normal
12	ZONE.DMPCOM.12	multiStateValue	35	Manual Damper Command	Normal
12	ZONE.ACT.12	multiStateValue	36	Damper Action	Normal
13	ZONE.TEMP.13	analogValue	49	Space Temperature	Normal
13	ZONE.SET.13	analogValue	50	Space Temperature Set Point	Normal
13	ZONE.CLG.13	analogValue	51	Cooling Command (Duty Cycle)	Normal
13	ZONE.HTG.13	analogValue	52	Heating Command	Normal
13	ZONE.ALM.13	binaryValue	13	AirSwitch Alarm Value	Normal
13	ZONE.MOD.13	multiStateValue	37	Operating Mode	Normal
13	ZONE.DMPCOM.13	multiStateValue	38	Manual Damper Command	Normal
13	ZONE.ACT.13	multiStateValue	39	Damper Action	Normal
14	ZONE.TEMP.14	analogValue	53	Space Temperature	Normal
14	ZONE.SET.14	analogValue	54	Space Temperature Set Point	Normal
14	ZONE.CLG.14	analogValue	55	Cooling Command (Duty Cycle)	Normal
14	ZONE.HTG.14	analogValue	56	Heating Command	Normal
14	ZONE.ALM.14	binaryValue	14	AirSwitch Alarm Value	Normal
14	ZONE.MOD.14	multiStateValue	40	Operating Mode	Normal
14	ZONE.DMPCOM.14	multiStateValue	41	Manual Damper Command	Normal
14	ZONE.ACT.14	multiStateValue	42	Damper Action	Normal
15	ZONE.TEMP.15	analogValue	57	Space Temperature	Normal
15	ZONE.SET.15	analogValue	58	Space Temperature Set Point	Normal
15	ZONE.CLG.15	analogValue	59	Cooling Command (Duty Cycle)	Normal
15	ZONE.HTG.15	analogValue	60	Heating Command	Normal
15	ZONE.ALM.15	binaryValue	15	AirSwitch Alarm Value	Normal
15	ZONE.MOD.15	multiStateValue	43	Operating Mode	Normal
15	ZONE.DMPCOM.15	multiStateValue	44	Manual Damper Command	Normal
15	ZONE.ACT.15	multiStateValue	45	Damper Action	Normal
16	ZONE.TEMP.16	analogValue	61	Space Temperature	Normal
16	ZONE.SET.16	analogValue	62	Space Temperature Set Point	Normal
16	ZONE.CLG.16	analogValue	63	Cooling Command (Duty Cycle)	Normal
16	ZONE.HTG.16	analogValue	64	Heating Command	Normal
16	ZONE.ALM.16	binaryValue	16	AirSwitch Alarm Value	Normal
16	ZONE.MOD.16	multiStateValue	46	Operating Mode	Normal
16	ZONE.DMPCOM.16	multiStateValue	47	Manual Damper Command	Normal
16	ZONE.ACT.16	multiStateValue	48	Damper Action	Normal
17	ZONE.TEMP.17	analogValue	65	Space Temperature	Normal
17	ZONE.SET.17	analogValue	66	Space Temperature Set Point	Normal
17	ZONE.CLG.17	analogValue	67	Cooling Command (Duty Cycle)	Normal
17	ZONE.HTG.17	analogValue	68	Heating Command	Normal
17	ZONE.ALM.17	binaryValue	17	AirSwitch Alarm Value	Normal
17	ZONE.MOD.17	multiStateValue	49	Operating Mode	Normal
17	ZONE.DMPCOM.17	multiStateValue	50	Manual Damper Command	Normal
17	ZONE.ACT.17	multiStateValue	51	Damper Action	Normal
18	ZONE.TEMP.18	analogValue	69	Space Temperature	Normal
18	ZONE.SET.18	analogValue	70	Space Temperature Set Point	Normal
18	ZONE.CLG.18	analogValue	71	Cooling Command (Duty Cycle)	Normal

18	ZONE.HTG.18	analogValue	72	Heating Command	Normal
18	ZONE.ALM.18	binaryValue	18	AirSwitch Alarm Value	Normal
18	ZONE.MOD.18	multiStateValue	52	Operating Mode	Normal
18	ZONE.DMPCOM.18	multiStateValue	53	Manual Damper Command	Normal
18	ZONE.ACT.18	multiStateValue	54	Damper Action	Normal
19	ZONE.TEMP.19	analogValue	73	Space Temperature	Normal
19	ZONE.SET.19	analogValue	74	Space Temperature Set Point	Normal
19	ZONE.CLG.19	analogValue	75	Cooling Command (Duty Cycle)	Normal
19	ZONE.HTG.19	analogValue	76	Heating Command	Normal
19	ZONE.ALM.19	binaryValue	19	AirSwitch Alarm Value	Normal
19	ZONE.MOD.19	multiStateValue	55	Operating Mode	Normal
19	ZONE.DMPCOM.19	multiStateValue	56	Manual Damper Command	Normal
19	ZONE.ACT.19	multiStateValue	57	Damper Action	Normal
20	ZONE.TEMP.20	analogValue	77	Space Temperature	Normal
20	ZONE.SET.20	analogValue	78	Space Temperature Set Point	Normal
20	ZONE.CLG.20	analogValue	79	Cooling Command (Duty Cycle)	Normal
20	ZONE.HTG.20	analogValue	80	Heating Command	Normal
20	ZONE.ALM.20	binaryValue	20	AirSwitch Alarm Value	Normal
20	ZONE.MOD.20	multiStateValue	58	Operating Mode	Normal
20	ZONE.DMPCOM.20	multiStateValue	59	Manual Damper Command	Normal
20	ZONE.ACT.20	multiStateValue	60	Damper Action	Normal
21	ZONE.TEMP.21	analogValue	81	Space Temperature	Normal
21	ZONE.SET.21	analogValue	82	Space Temperature Set Point	Normal
21	ZONE.CLG.21	analogValue	83	Cooling Command (Duty Cycle)	Normal
21	ZONE.HTG.21	analogValue	84	Heating Command	Normal
21	ZONE.ALM.21	binaryValue	21	AirSwitch Alarm Value	Normal
21	ZONE.MOD.21	multiStateValue	61	Operating Mode	Normal
21	ZONE.DMPCOM.21	multiStateValue	62	Manual Damper Command	Normal
21	ZONE.ACT.21	multiStateValue	63	Damper Action	Normal
22	ZONE.TEMP.22	analogValue	85	Space Temperature	Normal
22	ZONE.SET.22	analogValue	86	Space Temperature Set Point	Normal
22	ZONE.CLG.22	analogValue	87	Cooling Command (Duty Cycle)	Normal
22	ZONE.HTG.22	analogValue	88	Heating Command	Normal
22	ZONE.ALM.22	binaryValue	22	AirSwitch Alarm Value	Normal
22	ZONE.MOD.22	multiStateValue	64	Operating Mode	Normal
22	ZONE.DMPCOM.22	multiStateValue	65	Manual Damper Command	Normal
22	ZONE.ACT.22	multiStateValue	66	Damper Action	Normal
23	ZONE.TEMP.23	analogValue	89	Space Temperature	Normal
23	ZONE.SET.23	analogValue	90	Space Temperature Set Point	Normal
23	ZONE.CLG.23	analogValue	91	Cooling Command (Duty Cycle)	Normal
23	ZONE.HTG.23	analogValue	92	Heating Command	Normal
23	ZONE.ALM.23	binaryValue	23	AirSwitch Alarm Value	Normal
23	ZONE.MOD.23	multiStateValue	67	Operating Mode	Normal
23	ZONE.DMPCOM.23	multiStateValue	68	Manual Damper Command	Normal
24	ZONE.ACT.23	multiStateValue	69	Damper Action	Normal
24	ZONE.TEMP.24	analogValue	93	Space Temperature	Normal
24	ZONE.SET.24	analogValue	94	Space Temperature Set Point	Normal
24	ZONE.CLG.24	analogValue	95	Cooling Command (Duty Cycle)	Normal

24	ZONE.HTG.24	analogValue	96	Heating Command	Normal
24	ZONE.ALM.24	binaryValue	24	AirSwitch Alarm Value	Normal
24	ZONE.MOD.24	multiStateValue	70	Operating Mode	Normal
24	ZONE.DMPCOM.24	multiStateValue	71	Manual Damper Command	Normal
24	ZONE.ACT.24	multiStateValue	72	Damper Action	Normal
25	ZONE.TEMP.25	analogValue	97	Space Temperature	Normal
25	ZONE.SET.25	analogValue	98	Space Temperature Set Point	Normal
25	ZONE.CLG.25	analogValue	99	Cooling Command (Duty Cycle)	Normal
25	ZONE.HTG.25	analogValue	100	Heating Command	Normal
25	ZONE.ALM.25	binaryValue	25	AirSwitch Alarm Value	Normal
25	ZONE.MOD.25	multiStateValue	73	Operating Mode	Normal
25	ZONE.DMPCOM.25	multiStateValue	74	Manual Damper Command	Normal
25	ZONE.ACT.25	multiStateValue	75	Damper Action	Normal
26	ZONE.TEMP.26	analogValue	101	Space Temperature	Normal
26	ZONE.SET.26	analogValue	102	Space Temperature Set Point	Normal
26	ZONE.CLG.26	analogValue	103	Cooling Command (Duty Cycle)	Normal
26	ZONE.HTG.26	analogValue	104	Heating Command	Normal
26	ZONE.ALM.26	binaryValue	26	AirSwitch Alarm Value	Normal
26	ZONE.MOD.26	multiStateValue	76	Operating Mode	Normal
26	ZONE.DMPCOM.26	multiStateValue	77	Manual Damper Command	Normal
26	ZONE.ACT.26	multiStateValue	78	Damper Action	Normal
27	ZONE.TEMP.27	analogValue	105	Space Temperature	Normal
27	ZONE.SET.27	analogValue	106	Space Temperature Set Point	Normal
27	ZONE.CLG.27	analogValue	107	Cooling Command (Duty Cycle)	Normal
27	ZONE.HTG.27	analogValue	108	Heating Command	Normal
27	ZONE.ALM.27	binaryValue	27	AirSwitch Alarm Value	Normal
27	ZONE.MOD.27	multiStateValue	79	Operating Mode	Normal
27	ZONE.DMPCOM.27	multiStateValue	80	Manual Damper Command	Normal
27	ZONE.ACT.27	multiStateValue	81	Damper Action	Normal
28	ZONE.TEMP.28	analogValue	109	Space Temperature	Normal
28	ZONE.SET.28	analogValue	110	Space Temperature Set Point	Normal
28	ZONE.CLG.28	analogValue	111	Cooling Command (Duty Cycle)	Normal
28	ZONE.HTG.28	analogValue	112	Heating Command	Normal
28	ZONE.ALM.28	binaryValue	28	AirSwitch Alarm Value	Normal
28	ZONE.MOD.28	multiStateValue	82	Operating Mode	Normal
28	ZONE.DMPCOM.28	multiStateValue	83	Manual Damper Command	Normal
28	ZONE.ACT.28	multiStateValue	84	Damper Action	Normal
29	ZONE.TEMP.29	analogValue	113	Space Temperature	Normal
29	ZONE.SET.29	analogValue	114	Space Temperature Set Point	Normal
29	ZONE.CLG.29	analogValue	115	Cooling Command (Duty Cycle)	Normal
29	ZONE.HTG.29	analogValue	116	Heating Command	Normal
29	ZONE.ALM.29	binaryValue	29	AirSwitch Alarm Value	Normal
29	ZONE.MOD.29	multiStateValue	85	Operating Mode	Normal
29	ZONE.DMPCOM.29	multiStateValue	86	Manual Damper Command	Normal
29	ZONE.ACT.29	multiStateValue	87	Damper Action	Normal
30	ZONE.TEMP.30	analogValue	117	Space Temperature	Normal
30	ZONE.SET.30	analogValue	118	Space Temperature Set Point	Normal
30	ZONE.CLG.30	analogValue	119	Cooling Command (Duty Cycle)	Normal

30	ZONE.HTG.30	analogValue	120	Heating Command	Normal
30	ZONE.ALM.30	binaryValue	30	AirSwitch Alarm Value	Normal
30	ZONE.MOD.30	multiStateValue	88	Operating Mode	Normal
30	ZONE.DMPCOM.30	multiStateValue	89	Manual Damper Command	Normal
30	ZONE.ACT.30	multiStateValue	90	Damper Action	Normal
31	ZONE.TEMP.31	analogValue	121	Space Temperature	Normal
31	ZONE.SET.31	analogValue	122	Space Temperature Set Point	Normal
31	ZONE.CLG.31	analogValue	123	Cooling Command (Duty Cycle)	Normal
31	ZONE.HTG.31	analogValue	124	Heating Command	Normal
31	ZONE.ALM.31	binaryValue	31	AirSwitch Alarm Value	Normal
31	ZONE.MOD.31	multiStateValue	91	Operating Mode	Normal
31	ZONE.DMPCOM.31	multiStateValue	92	Manual Damper Command	Normal
31	ZONE.ACT.31	multiStateValue	93	Damper Action	Normal
32	ZONE.TEMP.32	analogValue	125	Space Temperature	Normal
32	ZONE.SET.32	analogValue	126	Space Temperature Set Point	Normal
32	ZONE.CLG.32	analogValue	127	Cooling Command (Duty Cycle)	Normal
32	ZONE.HTG.32	analogValue	128	Heating Command	Normal
32	ZONE.ALM.32	binaryValue	32	AirSwitch Alarm Value	Normal
32	ZONE.MOD.32	multiStateValue	94	Operating Mode	Normal
32	ZONE.DMPCOM.32	multiStateValue	95	Manual Damper Command	Normal
32	ZONE.ACT.32	multiStateValue	96	Damper Action	Normal
33	ZONE.TEMP.33	analogValue	129	Space Temperature	Normal
33	ZONE.SET.33	analogValue	130	Space Temperature Set Point	Normal
33	ZONE.CLG.33	analogValue	131	Cooling Command (Duty Cycle)	Normal
33	ZONE.HTG.33	analogValue	132	Heating Command	Normal
33	ZONE.ALM.33	binaryValue	33	AirSwitch Alarm Value	Normal
33	ZONE.MOD.33	multiStateValue	97	Operating Mode	Normal
33	ZONE.DMPCOM.33	multiStateValue	98	Manual Damper Command	Normal
33	ZONE.ACT.33	multiStateValue	99	Damper Action	Normal
34	ZONE.TEMP.34	analogValue	133	Space Temperature	Normal
34	ZONE.SET.34	analogValue	134	Space Temperature Set Point	Normal
34	ZONE.CLG.34	analogValue	135	Cooling Command (Duty Cycle)	Normal
34	ZONE.HTG.34	analogValue	136	Heating Command	Normal
34	ZONE.ALM.34	binaryValue	34	AirSwitch Alarm Value	Normal
34	ZONE.MOD.34	multiStateValue	100	Operating Mode	Normal
34	ZONE.DMPCOM.34	multiStateValue	101	Manual Damper Command	Normal
34	ZONE.ACT.34	multiStateValue	102	Damper Action	Normal
35	ZONE.TEMP.35	analogValue	137	Space Temperature	Normal
35	ZONE.SET.35	analogValue	138	Space Temperature Set Point	Normal
35	ZONE.CLG.35	analogValue	139	Cooling Command (Duty Cycle)	Normal
35	ZONE.HTG.35	analogValue	140	Heating Command	Normal
35	ZONE.ALM.35	binaryValue	35	AirSwitch Alarm Value	Normal
35	ZONE.MOD.35	multiStateValue	103	Operating Mode	Normal
35	ZONE.DMPCOM.35	multiStateValue	104	Manual Damper Command	Normal
35	ZONE.ACT.35	multiStateValue	105	Damper Action	Normal
36	ZONE.TEMP.36	analogValue	141	Space Temperature	Normal
36	ZONE.SET.36	analogValue	142	Space Temperature Set Point	Normal
36	ZONE.CLG.36	analogValue	143	Cooling Command (Duty Cycle)	Normal

36	ZONE.HTG.36	analogValue	144	Heating Command	Normal
36	ZONE.ALM.36	binaryValue	36	AirSwitch Alarm Value	Normal
36	ZONE.MOD.36	multiStateValue	106	Operating Mode	Normal
36	ZONE.DMPCOM.36	multiStateValue	107	Manual Damper Command	Normal
36	ZONE.ACT.36	multiStateValue	108	Damper Action	Normal
37	ZONE.TEMP.37	analogValue	145	Space Temperature	Normal
37	ZONE.SET.37	analogValue	146	Space Temperature Set Point	Normal
37	ZONE.CLG.37	analogValue	147	Cooling Command (Duty Cycle)	Normal
37	ZONE.HTG.37	analogValue	148	Heating Command	Normal
37	ZONE.ALM.37	binaryValue	37	AirSwitch Alarm Value	Normal
37	ZONE.MOD.37	multiStateValue	109	Operating Mode	Normal
37	ZONE.DMPCOM.37	multiStateValue	110	Manual Damper Command	Normal
37	ZONE.ACT.37	multiStateValue	111	Damper Action	Normal
38	ZONE.TEMP.38	analogValue	149	Space Temperature	Normal
38	ZONE.SET.38	analogValue	150	Space Temperature Set Point	Normal
38	ZONE.CLG.38	analogValue	151	Cooling Command (Duty Cycle)	Normal
38	ZONE.HTG.38	analogValue	152	Heating Command	Normal
38	ZONE.ALM.38	binaryValue	38	AirSwitch Alarm Value	Normal
38	ZONE.MOD.38	multiStateValue	112	Operating Mode	Normal
38	ZONE.DMPCOM.38	multiStateValue	113	Manual Damper Command	Normal
38	ZONE.ACT.38	multiStateValue	114	Damper Action	Normal
39	ZONE.TEMP.39	analogValue	153	Space Temperature	Normal
39	ZONE.SET.39	analogValue	154	Space Temperature Set Point	Normal
39	ZONE.CLG.39	analogValue	155	Cooling Command (Duty Cycle)	Normal
39	ZONE.HTG.39	analogValue	156	Heating Command	Normal
39	ZONE.ALM.39	binaryValue	39	AirSwitch Alarm Value	Normal
39	ZONE.MOD.39	multiStateValue	115	Operating Mode	Normal
39	ZONE.DMPCOM.39	multiStateValue	116	Manual Damper Command	Normal
39	ZONE.ACT.39	multiStateValue	117	Damper Action	Normal
40	ZONE.TEMP.40	analogValue	157	Space Temperature	Normal
40	ZONE.SET.40	analogValue	158	Space Temperature Set Point	Normal
40	ZONE.CLG.40	analogValue	159	Cooling Command (Duty Cycle)	Normal
40	ZONE.HTG.40	analogValue	160	Heating Command	Normal
40	ZONE.ALM.40	binaryValue	40	AirSwitch Alarm Value	Normal
40	ZONE.MOD.40	multiStateValue	118	Operating Mode	Normal
40	ZONE.DMPCOM.40	multiStateValue	119	Manual Damper Command	Normal
40	ZONE.ACT.40	multiStateValue	120	Damper Action	Normal
41	ZONE.TEMP.41	analogValue	161	Space Temperature	Normal
41	ZONE.SET.41	analogValue	162	Space Temperature Set Point	Normal
41	ZONE.CLG.41	analogValue	163	Cooling Command (Duty Cycle)	Normal
41	ZONE.HTG.41	analogValue	164	Heating Command	Normal
41	ZONE.ALM.41	binaryValue	41	AirSwitch Alarm Value	Normal
41	ZONE.MOD.41	multiStateValue	121	Operating Mode	Normal
41	ZONE.DMPCOM.41	multiStateValue	122	Manual Damper Command	Normal
41	ZONE.ACT.41	multiStateValue	123	Damper Action	Normal
42	ZONE.TEMP.42	analogValue	165	Space Temperature	Normal
42	ZONE.SET.42	analogValue	166	Space Temperature Set Point	Normal
42	ZONE.CLG.42	analogValue	167	Cooling Command (Duty Cycle)	Normal

42	ZONE.HTG.42	analogValue	168	Heating Command	Normal
42	ZONE.ALM.42	binaryValue	42	AirSwitch Alarm Value	Normal
42	ZONE.MOD.42	multiStateValue	124	Operating Mode	Normal
42	ZONE.DMPCOM.42	multiStateValue	125	Manual Damper Command	Normal
42	ZONE.ACT.42	multiStateValue	126	Damper Action	Normal
44	ZONE.TEMP.44	analogValue	169	Space Temperature	Normal
44	ZONE.SET.44	analogValue	170	Space Temperature Set Point	Normal
44	ZONE.CLG.44	analogValue	171	Cooling Command (Duty Cycle)	Normal
44	ZONE.HTG.44	analogValue	172	Heating Command	Normal
44	ZONE.ALM.44	binaryValue	43	AirSwitch Alarm Value	Normal
44	ZONE.MOD.44	multiStateValue	127	Operating Mode	Normal
44	ZONE.DMPCOM.44	multiStateValue	128	Manual Damper Command	Normal
44	ZONE.ACT.44	multiStateValue	129	Damper Action	Normal
45	ZONE.TEMP.45	analogValue	173	Space Temperature	Normal
45	ZONE.SET.45	analogValue	174	Space Temperature Set Point	Normal
45	ZONE.CLG.45	analogValue	175	Cooling Command (Duty Cycle)	Normal
45	ZONE.HTG.45	analogValue	176	Heating Command	Normal
45	ZONE.ALM.45	binaryValue	44	AirSwitch Alarm Value	Normal
45	ZONE.MOD.45	multiStateValue	130	Operating Mode	Normal
45	ZONE.DMPCOM.45	multiStateValue	131	Manual Damper Command	Normal
45	ZONE.ACT.45	multiStateValue	132	Damper Action	Normal
46	ZONE.TEMP.46	analogValue	177	Space Temperature	Normal
46	ZONE.SET.46	analogValue	178	Space Temperature Set Point	Normal
46	ZONE.CLG.46	analogValue	179	Cooling Command (Duty Cycle)	Normal
46	ZONE.HTG.46	analogValue	180	Heating Command	Normal
46	ZONE.ALM.46	binaryValue	45	AirSwitch Alarm Value	Normal
46	ZONE.MOD.46	multiStateValue	133	Operating Mode	Normal
46	ZONE.DMPCOM.46	multiStateValue	134	Manual Damper Command	Normal
46	ZONE.ACT.46	multiStateValue	135	Damper Action	Normal
47	ZONE.TEMP.47	analogValue	181	Space Temperature	Normal
47	ZONE.SET.47	analogValue	182	Space Temperature Set Point	Normal
47	ZONE.CLG.47	analogValue	183	Cooling Command (Duty Cycle)	Normal
47	ZONE.HTG.47	analogValue	184	Heating Command	Normal
47	ZONE.ALM.47	binaryValue	46	AirSwitch Alarm Value	Normal
47	ZONE.MOD.47	multiStateValue	136	Operating Mode	Normal
47	ZONE.DMPCOM.47	multiStateValue	137	Manual Damper Command	Normal
47	ZONE.ACT.47	multiStateValue	138	Damper Action	Normal
48	ZONE.TEMP.48	analogValue	185	Space Temperature	Normal
48	ZONE.SET.48	analogValue	186	Space Temperature Set Point	Normal
48	ZONE.CLG.48	analogValue	187	Cooling Command (Duty Cycle)	Normal
48	ZONE.HTG.48	analogValue	188	Heating Command	Normal
48	ZONE.ALM.48	binaryValue	47	AirSwitch Alarm Value	Normal
48	ZONE.MOD.48	multiStateValue	139	Operating Mode	Normal
48	ZONE.DMPCOM.48	multiStateValue	140	Manual Damper Command	Normal
48	ZONE.ACT.48	multiStateValue	141	Damper Action	Normal
49	ZONE.TEMP.49	analogValue	189	Space Temperature	Normal
49	ZONE.SET.49	analogValue	190	Space Temperature Set Point	Normal
49	ZONE.CLG.49	analogValue	191	Cooling Command (Duty Cycle)	Normal

49	ZONE.HTG.49	analogValue	192	Heating Command	Normal
49	ZONE.ALM.49	binaryValue	48	AirSwitch Alarm Value	Normal
49	ZONE.MOD.49	multiStateValue	142	Operating Mode	Normal
49	ZONE.DMPCOM.49	multiStateValue	143	Manual Damper Command	Normal
49	ZONE.ACT.49	multiStateValue	144	Damper Action	Normal
50	ZONE.TEMP.50	analogValue	193	Space Temperature	Normal
50	ZONE.SET.50	analogValue	194	Space Temperature Set Point	Normal
50	ZONE.CLG.50	analogValue	195	Cooling Command (Duty Cycle)	Normal
50	ZONE.HTG.50	analogValue	196	Heating Command	Normal
50	ZONE.ALM.50	binaryValue	49	AirSwitch Alarm Value	Normal
50	ZONE.MOD.50	multiStateValue	145	Operating Mode	Normal
50	ZONE.DMPCOM.50	multiStateValue	146	Manual Damper Command	Normal
50	ZONE.ACT.50	multiStateValue	147	Damper Action	Normal
51	ZONE.TEMP.51	analogValue	197	Space Temperature	Normal
51	ZONE.SET.51	analogValue	198	Space Temperature Set Point	Normal
51	ZONE.CLG.51	analogValue	199	Cooling Command (Duty Cycle)	Normal
51	ZONE.HTG.51	analogValue	200	Heating Command	Normal
51	ZONE.ALM.51	binaryValue	50	AirSwitch Alarm Value	Normal
51	ZONE.MOD.51	multiStateValue	148	Operating Mode	Normal
51	ZONE.DMPCOM.51	multiStateValue	149	Manual Damper Command	Normal
51	ZONE.ACT.51	multiStateValue	150	Damper Action	Normal
52	ZONE.TEMP.52	analogValue	201	Space Temperature	Normal
52	ZONE.SET.52	analogValue	202	Space Temperature Set Point	Normal
52	ZONE.CLG.52	analogValue	203	Cooling Command (Duty Cycle)	Normal
52	ZONE.HTG.52	analogValue	204	Heating Command	Normal
52	ZONE.ALM.52	binaryValue	51	AirSwitch Alarm Value	Normal
52	ZONE.MOD.52	multiStateValue	151	Operating Mode	Normal
52	ZONE.DMPCOM.52	multiStateValue	152	Manual Damper Command	Normal
52	ZONE.ACT.52	multiStateValue	153	Damper Action	Normal
53	ZONE.TEMP.53	analogValue	205	Space Temperature	Normal
53	ZONE.SET.53	analogValue	206	Space Temperature Set Point	Normal
53	ZONE.CLG.53	analogValue	207	Cooling Command (Duty Cycle)	Normal
53	ZONE.HTG.53	analogValue	208	Heating Command	Normal
53	ZONE.ALM.53	binaryValue	52	AirSwitch Alarm Value	Normal
53	ZONE.MOD.53	multiStateValue	154	Operating Mode	Normal
53	ZONE.DMPCOM.53	multiStateValue	155	Manual Damper Command	Normal
53	ZONE.ACT.53	multiStateValue	156	Damper Action	Normal
54	ZONE.TEMP.54	analogValue	209	Space Temperature	Normal
54	ZONE.SET.54	analogValue	210	Space Temperature Set Point	Normal
54	ZONE.CLG.54	analogValue	211	Cooling Command (Duty Cycle)	Normal
54	ZONE.HTG.54	analogValue	212	Heating Command	Normal
54	ZONE.ALM.54	binaryValue	53	AirSwitch Alarm Value	Normal
54	ZONE.MOD.54	multiStateValue	157	Operating Mode	Normal
54	ZONE.DMPCOM.54	multiStateValue	158	Manual Damper Command	Normal
54	ZONE.ACT.54	multiStateValue	159	Damper Action	Normal
55	ZONE.TEMP.55	analogValue	213	Space Temperature	Normal
55	ZONE.SET.55	analogValue	214	Space Temperature Set Point	Normal
55	ZONE.CLG.55	analogValue	215	Cooling Command (Duty Cycle)	Normal

55	ZONE.HTG.55	analogValue	216	Heating Command	Normal
55	ZONE.ALM.55	binaryValue	54	AirSwitch Alarm Value	Normal
55	ZONE.MOD.55	multiStateValue	160	Operating Mode	Normal
55	ZONE.DMPCOM.55	multiStateValue	161	Manual Damper Command	Normal
55	ZONE.ACT.55	multiStateValue	162	Damper Action	Normal
56	ZONE.TEMP.56	analogValue	217	Space Temperature	Normal
56	ZONE.SET.56	analogValue	218	Space Temperature Set Point	Normal
56	ZONE.CLG.56	analogValue	219	Cooling Command (Duty Cycle)	Normal
56	ZONE.HTG.56	analogValue	220	Heating Command	Normal
56	ZONE.ALM.56	binaryValue	55	AirSwitch Alarm Value	Normal
56	ZONE.MOD.56	multiStateValue	163	Operating Mode	Normal
56	ZONE.DMPCOM.56	multiStateValue	164	Manual Damper Command	Normal
56	ZONE.ACT.56	multiStateValue	165	Damper Action	Normal
57	ZONE.TEMP.57	analogValue	221	Space Temperature	Normal
57	ZONE.SET.57	analogValue	222	Space Temperature Set Point	Normal
57	ZONE.CLG.57	analogValue	223	Cooling Command (Duty Cycle)	Normal
57	ZONE.HTG.57	analogValue	224	Heating Command	Normal
57	ZONE.ALM.57	binaryValue	56	AirSwitch Alarm Value	Normal
57	ZONE.MOD.57	multiStateValue	166	Operating Mode	Normal
57	ZONE.DMPCOM.57	multiStateValue	167	Manual Damper Command	Normal
57	ZONE.ACT.57	multiStateValue	168	Damper Action	Normal
58	ZONE.TEMP.58	analogValue	225	Space Temperature	Normal
58	ZONE.SET.58	analogValue	226	Space Temperature Set Point	Normal
58	ZONE.CLG.58	analogValue	227	Cooling Command (Duty Cycle)	Normal
58	ZONE.HTG.58	analogValue	228	Heating Command	Normal
58	ZONE.ALM.58	binaryValue	57	AirSwitch Alarm Value	Normal
58	ZONE.MOD.58	multiStateValue	169	Operating Mode	Normal
58	ZONE.DMPCOM.58	multiStateValue	170	Manual Damper Command	Normal
58	ZONE.ACT.58	multiStateValue	171	Damper Action	Normal
59	ZONE.TEMP.59	analogValue	229	Space Temperature	Normal
59	ZONE.SET.59	analogValue	230	Space Temperature Set Point	Normal
59	ZONE.CLG.59	analogValue	231	Cooling Command (Duty Cycle)	Normal
59	ZONE.HTG.59	analogValue	232	Heating Command	Normal
59	ZONE.ALM.59	binaryValue	58	AirSwitch Alarm Value	Normal
59	ZONE.MOD.59	multiStateValue	172	Operating Mode	Normal
59	ZONE.DMPCOM.59	multiStateValue	173	Manual Damper Command	Normal
59	ZONE.ACT.59	multiStateValue	174	Damper Action	Normal
60	ZONE.TEMP.60	analogValue	233	Space Temperature	Normal
60	ZONE.SET.60	analogValue	234	Space Temperature Set Point	Normal
60	ZONE.CLG.60	analogValue	235	Cooling Command (Duty Cycle)	Normal
60	ZONE.HTG.60	analogValue	236	Heating Command	Normal
60	ZONE.ALM.60	binaryValue	59	AirSwitch Alarm Value	Normal
60	ZONE.MOD.60	multiStateValue	175	Operating Mode	Normal
60	ZONE.DMPCOM.60	multiStateValue	176	Manual Damper Command	Normal
60	ZONE.ACT.60	multiStateValue	177	Damper Action	Normal
61	ZONE.TEMP.61	analogValue	237	Space Temperature	Normal
61	ZONE.SET.61	analogValue	238	Space Temperature Set Point	Normal
61	ZONE.CLG.61	analogValue	239	Cooling Command (Duty Cycle)	Normal

61	ZONE.HTG.61	analogValue	240	Heating Command	Normal
61	ZONE.ALM.61	binaryValue	60	AirSwitch Alarm Value	Normal
61	ZONE.MOD.61	multiStateValue	178	Operating Mode	Normal
61	ZONE.DMPCOM.61	multiStateValue	179	Manual Damper Command	Normal
61	ZONE.ACT.61	multiStateValue	180	Damper Action	Normal
62	ZONE.TEMP.62	analogValue	241	Space Temperature	Normal
62	ZONE.SET.62	analogValue	242	Space Temperature Set Point	Normal
62	ZONE.CLG.62	analogValue	243	Cooling Command (Duty Cycle)	Normal
62	ZONE.HTG.62	analogValue	244	Heating Command	Normal
62	ZONE.ALM.62	binaryValue	61	AirSwitch Alarm Value	Normal
62	ZONE.MOD.62	multiStateValue	181	Operating Mode	Normal
62	ZONE.DMPCOM.62	multiStateValue	182	Manual Damper Command	Normal
63	ZONE.ACT.62	multiStateValue	183	Damper Action	Normal
63	ZONE.TEMP.63	analogValue	245	Space Temperature	Normal
63	ZONE.SET.63	analogValue	246	Space Temperature Set Point	Normal
63	ZONE.CLG.63	analogValue	247	Cooling Command (Duty Cycle)	Normal
63	ZONE.HTG.63	analogValue	248	Heating Command	Normal
63	ZONE.ALM.63	binaryValue	62	AirSwitch Alarm Value	Normal
63	ZONE.MOD.63	multiStateValue	184	Operating Mode	Normal
63	ZONE.DMPCOM.63	multiStateValue	185	Manual Damper Command	Normal
63	ZONE.ACT.63	multiStateValue	186	Damper Action	Normal

7.2 BACnet Data Points – (Extended List)

Air Switch #	Object Name	Object Type	Inst Num	Point Description	Point List
1	ZONE.TEMP.01	analogValue	1	Space Temperature	Extended
1	ZONE.SET.01	analogValue	2	Space Temperature Set Point	Extended
1	ZONE.CLG.01	analogValue	3	Cooling Command (Duty Cycle)	Extended
1	ZONE.HTG.01	analogValue	4	Heating Command	Extended
1	ZONE.ALM.01	binaryValue	1	AirSwitch Alarm Value	Extended
1	ZONE.MOD.01	multiStateValue	1	Operating Mode	Extended
1	ZONE.DMPCOM.01	multiStateValue	2	Manual Damper Command	Extended
1	ZONE.ACT.01	multiStateValue	3	Damper Action	Extended
1	ZONE.DB.01	analogValue	5	Deadband Value	Extended
1	ZONE.DBS.01	multiStateValue	4	Deadband Select	Extended
1	ZONE.HTGCOM.01	multiStateValue	5	Manual Heating Command	Extended
2	ZONE.TEMP.02	analogValue	6	Space Temperature	Extended
2	ZONE.SET.02	analogValue	7	Space Temperature Set Point	Extended
2	ZONE.CLG.02	analogValue	8	Cooling Command (Duty Cycle)	Extended
2	ZONE.HTG.02	analogValue	9	Heating Command	Extended
2	ZONE.ALM.02	binaryValue	2	AirSwitch Alarm Value	Extended
2	ZONE.MOD.02	multiStateValue	6	Operating Mode	Extended
2	ZONE.DMPCOM.02	multiStateValue	7	Manual Damper Command	Extended
2	ZONE.ACT.02	multiStateValue	8	Damper Action	Extended
2	ZONE.DB.02	analogValue	10	Deadband Value	Extended
2	ZONE.DBS.02	multiStateValue	9	Deadband Select	Extended
2	ZONE.HTGCOM.02	multiStateValue	10	Manual Heating Command	Extended
3	ZONE.TEMP.03	analogValue	11	Space Temperature	Extended
3	ZONE.SET.03	analogValue	12	Space Temperature Set Point	Extended
3	ZONE.CLG.03	analogValue	13	Cooling Command (Duty Cycle)	Extended
3	ZONE.HTG.03	analogValue	14	Heating Command	Extended
3	ZONE.ALM.03	binaryValue	3	AirSwitch Alarm Value	Extended
3	ZONE.MOD.03	multiStateValue	11	Operating Mode	Extended
3	ZONE.DMPCOM.03	multiStateValue	12	Manual Damper Command	Extended
3	ZONE.ACT.03	multiStateValue	13	Damper Action	Extended
3	ZONE.DB.03	analogValue	15	Deadband Value	Extended
3	ZONE.DBS.03	multiStateValue	14	Deadband Select	Extended
3	ZONE.HTGCOM.03	multiStateValue	15	Manual Heating Command	Extended
4	ZONE.TEMP.04	analogValue	16	Space Temperature	Extended
4	ZONE.SET.04	analogValue	17	Space Temperature Set Point	Extended
4	ZONE.CLG.04	analogValue	18	Cooling Command (Duty Cycle)	Extended
4	ZONE.HTG.04	analogValue	19	Heating Command	Extended
4	ZONE.ALM.04	binaryValue	4	AirSwitch Alarm Value	Extended
4	ZONE.MOD.04	multiStateValue	16	Operating Mode	Extended
4	ZONE.DMPCOM.04	multiStateValue	17	Manual Damper Command	Extended
4	ZONE.ACT.04	multiStateValue	18	Damper Action	Extended
4	ZONE.DB.04	analogValue	20	Deadband Value	Extended
4	ZONE.DBS.04	multiStateValue	19	Deadband Select	Extended

4	ZONE.HTGCOM.04	multiStateValue	20	Manual Heating Command	Extended
5	ZONE.TEMP.05	analogValue	21	Space Temperature	Extended
5	ZONE.SET.05	analogValue	22	Space Temperature Set Point	Extended
5	ZONE.CLG.05	analogValue	23	Cooling Command (Duty Cycle)	Extended
5	ZONE.HTG.05	analogValue	24	Heating Command	Extended
5	ZONE.ALM.05	binaryValue	5	AirSwitch Alarm Value	Extended
5	ZONE.MOD.05	multiStateValue	21	Operating Mode	Extended
5	ZONE.DMPCOM.05	multiStateValue	22	Manual Damper Command	Extended
5	ZONE.ACT.05	multiStateValue	23	Damper Action	Extended
5	ZONE.DB.05	analogValue	25	Deadband Value	Extended
5	ZONE.DBS.05	multiStateValue	24	Deadband Select	Extended
5	ZONE.HTGCOM.05	multiStateValue	25	Manual Heating Command	Extended
6	ZONE.TEMP.06	analogValue	26	Space Temperature	Extended
6	ZONE.SET.06	analogValue	27	Space Temperature Set Point	Extended
6	ZONE.CLG.06	analogValue	28	Cooling Command (Duty Cycle)	Extended
6	ZONE.HTG.06	analogValue	29	Heating Command	Extended
6	ZONE.ALM.06	binaryValue	6	AirSwitch Alarm Value	Extended
6	ZONE.MOD.06	multiStateValue	26	Operating Mode	Extended
6	ZONE.DMPCOM.06	multiStateValue	27	Manual Damper Command	Extended
6	ZONE.ACT.06	multiStateValue	28	Damper Action	Extended
6	ZONE.DB.06	analogValue	30	Deadband Value	Extended
6	ZONE.DBS.06	multiStateValue	29	Deadband Select	Extended
6	ZONE.HTGCOM.06	multiStateValue	30	Manual Heating Command	Extended
7	ZONE.TEMP.07	analogValue	31	Space Temperature	Extended
7	ZONE.SET.07	analogValue	32	Space Temperature Set Point	Extended
7	ZONE.CLG.07	analogValue	33	Cooling Command (Duty Cycle)	Extended
7	ZONE.HTG.07	analogValue	34	Heating Command	Extended
7	ZONE.ALM.07	binaryValue	7	AirSwitch Alarm Value	Extended
7	ZONE.MOD.07	multiStateValue	31	Operating Mode	Extended
7	ZONE.DMPCOM.07	multiStateValue	32	Manual Damper Command	Extended
7	ZONE.ACT.07	multiStateValue	33	Damper Action	Extended
7	ZONE.DB.07	analogValue	35	Deadband Value	Extended
7	ZONE.DBS.07	multiStateValue	34	Deadband Select	Extended
7	ZONE.HTGCOM.07	multiStateValue	35	Manual Heating Command	Extended
8	ZONE.TEMP.08	analogValue	36	Space Temperature	Extended
8	ZONE.SET.08	analogValue	37	Space Temperature Set Point	Extended
8	ZONE.CLG.08	analogValue	38	Cooling Command (Duty Cycle)	Extended
8	ZONE.HTG.08	analogValue	39	Heating Command	Extended
8	ZONE.ALM.08	binaryValue	8	AirSwitch Alarm Value	Extended
8	ZONE.MOD.08	multiStateValue	36	Operating Mode	Extended
8	ZONE.DMPCOM.08	multiStateValue	37	Manual Damper Command	Extended
8	ZONE.ACT.08	multiStateValue	38	Damper Action	Extended
8	ZONE.DB.08	analogValue	40	Deadband Value	Extended
8	ZONE.DBS.08	multiStateValue	39	Deadband Select	Extended
8	ZONE.HTGCOM.08	multiStateValue	40	Manual Heating Command	Extended
9	ZONE.TEMP.09	analogValue	41	Space Temperature	Extended
9	ZONE.SET.09	analogValue	42	Space Temperature Set Point	Extended
9	ZONE.CLG.09	analogValue	43	Cooling Command (Duty Cycle)	Extended

9	ZONE.HTG.09	analogValue	44	Heating Command	Extended
9	ZONE.ALM.09	binaryValue	9	AirSwitch Alarm Value	Extended
9	ZONE.MOD.09	multiStateValue	41	Operating Mode	Extended
9	ZONE.DMPCOM.09	multiStateValue	42	Manual Damper Command	Extended
9	ZONE.ACT.09	multiStateValue	43	Damper Action	Extended
9	ZONE.DB.09	analogValue	45	Deadband Value	Extended
9	ZONE.DBS.09	multiStateValue	44	Deadband Select	Extended
9	ZONE.HTGCOM.09	multiStateValue	45	Manual Heating Command	Extended
10	ZONE.TEMP.10	analogValue	46	Space Temperature	Extended
10	ZONE.SET.10	analogValue	47	Space Temperature Set Point	Extended
10	ZONE.CLG.10	analogValue	48	Cooling Command (Duty Cycle)	Extended
10	ZONE.HTG.10	analogValue	49	Heating Command	Extended
10	ZONE.ALM.10	binaryValue	10	AirSwitch Alarm Value	Extended
10	ZONE.MOD.10	multiStateValue	46	Operating Mode	Extended
10	ZONE.DMPCOM.10	multiStateValue	47	Manual Damper Command	Extended
10	ZONE.ACT.10	multiStateValue	48	Damper Action	Extended
10	ZONE.DB.10	analogValue	50	Deadband Value	Extended
10	ZONE.DBS.10	multiStateValue	49	Deadband Select	Extended
10	ZONE.HTGCOM.10	multiStateValue	50	Manual Heating Command	Extended
11	ZONE.TEMP.11	analogValue	51	Space Temperature	Extended
11	ZONE.SET.11	analogValue	52	Space Temperature Set Point	Extended
11	ZONE.CLG.11	analogValue	53	Cooling Command (Duty Cycle)	Extended
11	ZONE.HTG.11	analogValue	54	Heating Command	Extended
11	ZONE.ALM.11	binaryValue	11	AirSwitch Alarm Value	Extended
11	ZONE.MOD.11	multiStateValue	51	Operating Mode	Extended
11	ZONE.DMPCOM.11	multiStateValue	52	Manual Damper Command	Extended
11	ZONE.ACT.11	multiStateValue	53	Damper Action	Extended
11	ZONE.DB.11	analogValue	55	Deadband Value	Extended
11	ZONE.DBS.11	multiStateValue	54	Deadband Select	Extended
11	ZONE.HTGCOM.11	multiStateValue	55	Manual Heating Command	Extended
12	ZONE.TEMP.12	analogValue	56	Space Temperature	Extended
12	ZONE.SET.12	analogValue	57	Space Temperature Set Point	Extended
12	ZONE.CLG.12	analogValue	58	Cooling Command (Duty Cycle)	Extended
12	ZONE.HTG.12	analogValue	59	Heating Command	Extended
12	ZONE.ALM.12	binaryValue	12	AirSwitch Alarm Value	Extended
12	ZONE.MOD.12	multiStateValue	56	Operating Mode	Extended
12	ZONE.DMPCOM.12	multiStateValue	57	Manual Damper Command	Extended
12	ZONE.ACT.12	multiStateValue	58	Damper Action	Extended
12	ZONE.DB.12	analogValue	60	Deadband Value	Extended
12	ZONE.DBS.12	multiStateValue	59	Deadband Select	Extended
12	ZONE.HTGCOM.12	multiStateValue	60	Manual Heating Command	Extended
13	ZONE.TEMP.13	analogValue	61	Space Temperature	Extended
13	ZONE.SET.13	analogValue	62	Space Temperature Set Point	Extended
13	ZONE.CLG.13	analogValue	63	Cooling Command (Duty Cycle)	Extended
13	ZONE.HTG.13	analogValue	64	Heating Command	Extended
13	ZONE.ALM.13	binaryValue	13	AirSwitch Alarm Value	Extended
13	ZONE.MOD.13	multiStateValue	61	Operating Mode	Extended
13	ZONE.DMPCOM.13	multiStateValue	62	Manual Damper Command	Extended

13	ZONE.ACT.13	multiStateValue	63	Damper Action	Extended
13	ZONE.DB.13	analogValue	65	Deadband Value	Extended
13	ZONE.DBS.13	multiStateValue	64	Deadband Select	Extended
13	ZONE.HTGCOM.13	multiStateValue	65	Manual Heating Command	Extended
14	ZONE.TEMP.14	analogValue	66	Space Temperature	Extended
14	ZONE.SET.14	analogValue	67	Space Temperature Set Point	Extended
14	ZONE.CLG.14	analogValue	68	Cooling Command (Duty Cycle)	Extended
14	ZONE.HTG.14	analogValue	69	Heating Command	Extended
14	ZONE.ALM.14	binaryValue	14	AirSwitch Alarm Value	Extended
14	ZONE.MOD.14	multiStateValue	66	Operating Mode	Extended
14	ZONE.DMPCOM.14	multiStateValue	67	Manual Damper Command	Extended
14	ZONE.ACT.14	multiStateValue	68	Damper Action	Extended
14	ZONE.DB.14	analogValue	70	Deadband Value	Extended
14	ZONE.DBS.14	multiStateValue	69	Deadband Select	Extended
14	ZONE.HTGCOM.14	multiStateValue	70	Manual Heating Command	Extended
15	ZONE.TEMP.15	analogValue	71	Space Temperature	Extended
15	ZONE.SET.15	analogValue	72	Space Temperature Set Point	Extended
15	ZONE.CLG.15	analogValue	73	Cooling Command (Duty Cycle)	Extended
15	ZONE.HTG.15	analogValue	74	Heating Command	Extended
15	ZONE.ALM.15	binaryValue	15	AirSwitch Alarm Value	Extended
15	ZONE.MOD.15	multiStateValue	71	Operating Mode	Extended
15	ZONE.DMPCOM.15	multiStateValue	72	Manual Damper Command	Extended
15	ZONE.ACT.15	multiStateValue	73	Damper Action	Extended
15	ZONE.DB.15	analogValue	75	Deadband Value	Extended
15	ZONE.DBS.15	multiStateValue	74	Deadband Select	Extended
15	ZONE.HTGCOM.15	multiStateValue	75	Manual Heating Command	Extended
16	ZONE.TEMP.16	analogValue	76	Space Temperature	Extended
16	ZONE.SET.16	analogValue	77	Space Temperature Set Point	Extended
16	ZONE.CLG.16	analogValue	78	Cooling Command (Duty Cycle)	Extended
16	ZONE.HTG.16	analogValue	79	Heating Command	Extended
16	ZONE.ALM.16	binaryValue	16	AirSwitch Alarm Value	Extended
16	ZONE.MOD.16	multiStateValue	76	Operating Mode	Extended
16	ZONE.DMPCOM.16	multiStateValue	77	Manual Damper Command	Extended
16	ZONE.ACT.16	multiStateValue	78	Damper Action	Extended
16	ZONE.DB.16	analogValue	80	Deadband Value	Extended
16	ZONE.DBS.16	multiStateValue	79	Deadband Select	Extended
16	ZONE.HTGCOM.16	multiStateValue	80	Manual Heating Command	Extended
17	ZONE.TEMP.17	analogValue	81	Space Temperature	Extended
17	ZONE.SET.17	analogValue	82	Space Temperature Set Point	Extended
17	ZONE.CLG.17	analogValue	83	Cooling Command (Duty Cycle)	Extended
17	ZONE.HTG.17	analogValue	84	Heating Command	Extended
17	ZONE.ALM.17	binaryValue	17	AirSwitch Alarm Value	Extended
17	ZONE.MOD.17	multiStateValue	81	Operating Mode	Extended
17	ZONE.DMPCOM.17	multiStateValue	82	Manual Damper Command	Extended
17	ZONE.ACT.17	multiStateValue	83	Damper Action	Extended
17	ZONE.DB.17	analogValue	85	Deadband Value	Extended
17	ZONE.DBS.17	multiStateValue	84	Deadband Select	Extended
17	ZONE.HTGCOM.17	multiStateValue	85	Manual Heating Command	Extended

18	ZONE.TEMP.18	analogValue	86	Space Temperature	Extended
18	ZONE.SET.18	analogValue	87	Space Temperature Set Point	Extended
18	ZONE.CLG.18	analogValue	88	Cooling Command (Duty Cycle)	Extended
18	ZONE.HTG.18	analogValue	89	Heating Command	Extended
18	ZONE.ALM.18	binaryValue	18	AirSwitch Alarm Value	Extended
18	ZONE.MOD.18	multiStateValue	86	Operating Mode	Extended
18	ZONE.DMPCOM.18	multiStateValue	87	Manual Damper Command	Extended
18	ZONE.ACT.18	multiStateValue	88	Damper Action	Extended
18	ZONE.DB.18	analogValue	90	Deadband Value	Extended
18	ZONE.DBS.18	multiStateValue	89	Deadband Select	Extended
18	ZONE.HTGCOM.18	multiStateValue	90	Manual Heating Command	Extended
19	ZONE.TEMP.19	analogValue	91	Space Temperature	Extended
19	ZONE.SET.19	analogValue	92	Space Temperature Set Point	Extended
19	ZONE.CLG.19	analogValue	93	Cooling Command (Duty Cycle)	Extended
19	ZONE.HTG.19	analogValue	94	Heating Command	Extended
19	ZONE.ALM.19	binaryValue	19	AirSwitch Alarm Value	Extended
19	ZONE.MOD.19	multiStateValue	91	Operating Mode	Extended
19	ZONE.DMPCOM.19	multiStateValue	92	Manual Damper Command	Extended
19	ZONE.ACT.19	multiStateValue	93	Damper Action	Extended
19	ZONE.DB.19	analogValue	95	Deadband Value	Extended
19	ZONE.DBS.19	multiStateValue	94	Deadband Select	Extended
19	ZONE.HTGCOM.19	multiStateValue	95	Manual Heating Command	Extended
20	ZONE.TEMP.20	analogValue	96	Space Temperature	Extended
20	ZONE.SET.20	analogValue	97	Space Temperature Set Point	Extended
20	ZONE.CLG.20	analogValue	98	Cooling Command (Duty Cycle)	Extended
20	ZONE.HTG.20	analogValue	99	Heating Command	Extended
20	ZONE.ALM.20	binaryValue	20	AirSwitch Alarm Value	Extended
20	ZONE.MOD.20	multiStateValue	96	Operating Mode	Extended
20	ZONE.DMPCOM.20	multiStateValue	97	Manual Damper Command	Extended
20	ZONE.ACT.20	multiStateValue	98	Damper Action	Extended
20	ZONE.DB.20	analogValue	100	Deadband Value	Extended
20	ZONE.DBS.20	multiStateValue	99	Deadband Select	Extended
20	ZONE.HTGCOM.20	multiStateValue	100	Manual Heating Command	Extended
21	ZONE.TEMP.21	analogValue	101	Space Temperature	Extended
21	ZONE.SET.21	analogValue	102	Space Temperature Set Point	Extended
21	ZONE.CLG.21	analogValue	103	Cooling Command (Duty Cycle)	Extended
21	ZONE.HTG.21	analogValue	104	Heating Command	Extended
21	ZONE.ALM.21	binaryValue	21	AirSwitch Alarm Value	Extended
21	ZONE.MOD.21	multiStateValue	101	Operating Mode	Extended
21	ZONE.DMPCOM.21	multiStateValue	102	Manual Damper Command	Extended
21	ZONE.ACT.21	multiStateValue	103	Damper Action	Extended
21	ZONE.DB.21	analogValue	105	Deadband Value	Extended
21	ZONE.DBS.21	multiStateValue	104	Deadband Select	Extended
21	ZONE.HTGCOM.21	multiStateValue	105	Manual Heating Command	Extended
22	ZONE.TEMP.22	analogValue	106	Space Temperature	Extended
22	ZONE.SET.22	analogValue	107	Space Temperature Set Point	Extended
22	ZONE.CLG.22	analogValue	108	Cooling Command (Duty Cycle)	Extended
22	ZONE.HTG.22	analogValue	109	Heating Command	Extended

22	ZONE.ALM.22	binaryValue	22	AirSwitch Alarm Value	Extended
22	ZONE.MOD.22	multiStateValue	106	Operating Mode	Extended
22	ZONE.DMPCOM.22	multiStateValue	107	Manual Damper Command	Extended
22	ZONE.ACT.22	multiStateValue	108	Damper Action	Extended
22	ZONE.DB.22	analogValue	110	Deadband Value	Extended
22	ZONE.DBS.22	multiStateValue	109	Deadband Select	Extended
22	ZONE.HTGCOM.22	multiStateValue	110	Manual Heating Command	Extended
23	ZONE.TEMP.23	analogValue	111	Space Temperature	Extended
23	ZONE.SET.23	analogValue	112	Space Temperature Set Point	Extended
23	ZONE.CLG.23	analogValue	113	Cooling Command (Duty Cycle)	Extended
23	ZONE.HTG.23	analogValue	114	Heating Command	Extended
23	ZONE.ALM.23	binaryValue	23	AirSwitch Alarm Value	Extended
23	ZONE.MOD.23	multiStateValue	111	Operating Mode	Extended
23	ZONE.DMPCOM.23	multiStateValue	112	Manual Damper Command	Extended
23	ZONE.ACT.23	multiStateValue	113	Damper Action	Extended
23	ZONE.DB.23	analogValue	115	Deadband Value	Extended
23	ZONE.DBS.23	multiStateValue	114	Deadband Select	Extended
23	ZONE.HTGCOM.23	multiStateValue	115	Manual Heating Command	Extended
24	ZONE.TEMP.24	analogValue	116	Space Temperature	Extended
24	ZONE.SET.24	analogValue	117	Space Temperature Set Point	Extended
24	ZONE.CLG.24	analogValue	118	Cooling Command (Duty Cycle)	Extended
24	ZONE.HTG.24	analogValue	119	Heating Command	Extended
24	ZONE.ALM.24	binaryValue	24	AirSwitch Alarm Value	Extended
24	ZONE.MOD.24	multiStateValue	116	Operating Mode	Extended
24	ZONE.DMPCOM.24	multiStateValue	117	Manual Damper Command	Extended
24	ZONE.ACT.24	multiStateValue	118	Damper Action	Extended
24	ZONE.DB.24	analogValue	120	Deadband Value	Extended
24	ZONE.DBS.24	multiStateValue	119	Deadband Select	Extended
24	ZONE.HTGCOM.24	multiStateValue	120	Manual Heating Command	Extended
25	ZONE.TEMP.25	analogValue	121	Space Temperature	Extended
25	ZONE.SET.25	analogValue	122	Space Temperature Set Point	Extended
25	ZONE.CLG.25	analogValue	123	Cooling Command (Duty Cycle)	Extended
25	ZONE.HTG.25	analogValue	124	Heating Command	Extended
25	ZONE.ALM.25	binaryValue	25	AirSwitch Alarm Value	Extended
25	ZONE.MOD.25	multiStateValue	121	Operating Mode	Extended
25	ZONE.DMPCOM.25	multiStateValue	122	Manual Damper Command	Extended
25	ZONE.ACT.25	multiStateValue	123	Damper Action	Extended
25	ZONE.DB.25	analogValue	125	Deadband Value	Extended
25	ZONE.DBS.25	multiStateValue	124	Deadband Select	Extended
25	ZONE.HTGCOM.25	multiStateValue	125	Manual Heating Command	Extended
26	ZONE.TEMP.26	analogValue	126	Space Temperature	Extended
26	ZONE.SET.26	analogValue	127	Space Temperature Set Point	Extended
26	ZONE.CLG.26	analogValue	128	Cooling Command (Duty Cycle)	Extended
26	ZONE.HTG.26	analogValue	129	Heating Command	Extended
26	ZONE.ALM.26	binaryValue	26	AirSwitch Alarm Value	Extended
26	ZONE.MOD.26	multiStateValue	126	Operating Mode	Extended
26	ZONE.DMPCOM.26	multiStateValue	127	Manual Damper Command	Extended
26	ZONE.ACT.26	multiStateValue	128	Damper Action	Extended

26	ZONE.DB.26	analogValue	130	Deadband Value	Extended
26	ZONE.DBS.26	multiStateValue	129	Deadband Select	Extended
26	ZONE.HTGCOM.26	multiStateValue	130	Manual Heating Command	Extended
27	ZONE.TEMP.27	analogValue	131	Space Temperature	Extended
27	ZONE.SET.27	analogValue	132	Space Temperature Set Point	Extended
27	ZONE.CLG.27	analogValue	133	Cooling Command (Duty Cycle)	Extended
27	ZONE.HTG.27	analogValue	134	Heating Command	Extended
27	ZONE.ALM.27	binaryValue	27	AirSwitch Alarm Value	Extended
27	ZONE.MOD.27	multiStateValue	131	Operating Mode	Extended
27	ZONE.DMPCOM.27	multiStateValue	132	Manual Damper Command	Extended
27	ZONE.ACT.27	multiStateValue	133	Damper Action	Extended
27	ZONE.DB.27	analogValue	135	Deadband Value	Extended
27	ZONE.DBS.27	multiStateValue	134	Deadband Select	Extended
27	ZONE.HTGCOM.27	multiStateValue	135	Manual Heating Command	Extended
28	ZONE.TEMP.28	analogValue	136	Space Temperature	Extended
28	ZONE.SET.28	analogValue	137	Space Temperature Set Point	Extended
28	ZONE.CLG.28	analogValue	138	Cooling Command (Duty Cycle)	Extended
28	ZONE.HTG.28	analogValue	139	Heating Command	Extended
28	ZONE.ALM.28	binaryValue	28	AirSwitch Alarm Value	Extended
28	ZONE.MOD.28	multiStateValue	136	Operating Mode	Extended
28	ZONE.DMPCOM.28	multiStateValue	137	Manual Damper Command	Extended
28	ZONE.ACT.28	multiStateValue	138	Damper Action	Extended
28	ZONE.DB.28	analogValue	140	Deadband Value	Extended
28	ZONE.DBS.28	multiStateValue	139	Deadband Select	Extended
28	ZONE.HTGCOM.28	multiStateValue	140	Manual Heating Command	Extended
29	ZONE.TEMP.29	analogValue	141	Space Temperature	Extended
29	ZONE.SET.29	analogValue	142	Space Temperature Set Point	Extended
29	ZONE.CLG.29	analogValue	143	Cooling Command (Duty Cycle)	Extended
29	ZONE.HTG.29	analogValue	144	Heating Command	Extended
29	ZONE.ALM.29	binaryValue	29	AirSwitch Alarm Value	Extended
29	ZONE.MOD.29	multiStateValue	141	Operating Mode	Extended
29	ZONE.DMPCOM.29	multiStateValue	142	Manual Damper Command	Extended
29	ZONE.ACT.29	multiStateValue	143	Damper Action	Extended
29	ZONE.DB.29	analogValue	145	Deadband Value	Extended
29	ZONE.DBS.29	multiStateValue	144	Deadband Select	Extended
29	ZONE.HTGCOM.29	multiStateValue	145	Manual Heating Command	Extended
30	ZONE.TEMP.30	analogValue	146	Space Temperature	Extended
30	ZONE.SET.30	analogValue	147	Space Temperature Set Point	Extended
30	ZONE.CLG.30	analogValue	148	Cooling Command (Duty Cycle)	Extended
30	ZONE.HTG.30	analogValue	149	Heating Command	Extended
30	ZONE.ALM.30	binaryValue	30	AirSwitch Alarm Value	Extended
30	ZONE.MOD.30	multiStateValue	146	Operating Mode	Extended
30	ZONE.DMPCOM.30	multiStateValue	147	Manual Damper Command	Extended
30	ZONE.ACT.30	multiStateValue	148	Damper Action	Extended
30	ZONE.DB.30	analogValue	150	Deadband Value	Extended
30	ZONE.DBS.30	multiStateValue	149	Deadband Select	Extended
30	ZONE.HTGCOM.30	multiStateValue	150	Manual Heating Command	Extended
31	ZONE.TEMP.31	analogValue	151	Space Temperature	Extended

31	ZONE.SET.31	analogValue	152	Space Temperature Set Point	Extended
31	ZONE.CLG.31	analogValue	153	Cooling Command (Duty Cycle)	Extended
31	ZONE.HTG.31	analogValue	154	Heating Command	Extended
31	ZONE.ALM.31	binaryValue	31	AirSwitch Alarm Value	Extended
31	ZONE.MOD.31	multiStateValue	151	Operating Mode	Extended
31	ZONE.DMPCOM.31	multiStateValue	152	Manual Damper Command	Extended
31	ZONE.ACT.31	multiStateValue	153	Damper Action	Extended
31	ZONE.DB.31	analogValue	155	Deadband Value	Extended
31	ZONE.DBS.31	multiStateValue	154	Deadband Select	Extended
31	ZONE.HTGCOM.31	multiStateValue	155	Manual Heating Command	Extended
32	ZONE.TEMP.32	analogValue	156	Space Temperature	Extended
32	ZONE.SET.32	analogValue	157	Space Temperature Set Point	Extended
32	ZONE.CLG.32	analogValue	158	Cooling Command (Duty Cycle)	Extended
32	ZONE.HTG.32	analogValue	159	Heating Command	Extended
32	ZONE.ALM.32	binaryValue	32	AirSwitch Alarm Value	Extended
32	ZONE.MOD.32	multiStateValue	156	Operating Mode	Extended
32	ZONE.DMPCOM.32	multiStateValue	157	Manual Damper Command	Extended
32	ZONE.ACT.32	multiStateValue	158	Damper Action	Extended
32	ZONE.DB.32	analogValue	160	Deadband Value	Extended
32	ZONE.DBS.32	multiStateValue	159	Deadband Select	Extended
32	ZONE.HTGCOM.32	multiStateValue	160	Manual Heating Command	Extended

8 Appendix B – LonWorks SNVT List

8.1 LON SNVTs

Air Switch #	Snvt Name	SNVT Type	Point Description	Point List
1	nvoSpaceTemp1	Temp P	Space Temperature	Normal
1	nviTempSetpoint1	Temp P	Space Temperature Set Point	Normal
1	nvoCoolCommand1	Lev Percent	Cooling Command (Duty Cycle)	Normal
1	nvoHeatCommand1	Lev Percent	Heating Command	Normal
1	nvoAlarm1	Lev Percent	AirSwitch Alarm Value	Normal
1	nviOperatorMode1	Lev Percent	Operating Mode	Normal
1	nviDmpCommand1	Lev Percent	Manual Damper Command	Normal
1	nviDmpAction1	Lev Percent	Damper Action	Normal
1	nvoDBValue1	Temp P	Deadband Value	Extended
1	nviDBSelect1	Lev Percent	Deadband Select	Extended
1	nviManualHeat1	Lev Percent	Manual Heating Command	Extended
2	nvoSpaceTemp2	Temp P	Space Temperature	Normal
2	nviTempSetpoint2	Temp P	Space Temperature Set Point	Normal
2	nvoCoolCommand2	Lev Percent	Cooling Command (Duty Cycle)	Normal
2	nvoHeatCommand2	Lev Percent	Heating Command	Normal
2	nvoAlarm2	Lev Percent	AirSwitch Alarm Value	Normal
2	nviOperatorMode2	Lev Percent	Operating Mode	Normal
2	nviDmpCommand2	Lev Percent	Manual Damper Command	Normal
2	nviDmpAction2	Lev Percent	Damper Action	Normal
2	nvoDBValue2	Temp P	Deadband Value	Extended
2	nviDBSelect2	Lev Percent	Deadband Select	Extended
2	nviManualHeat2	Lev Percent	Manual Heating Command	Extended
3	nvoSpaceTemp3	Temp P	Space Temperature	Normal
3	nviTempSetpoint3	Temp P	Space Temperature Set Point	Normal
3	nvoCoolCommand3	Lev Percent	Cooling Command (Duty Cycle)	Normal
3	nvoHeatCommand3	Lev Percent	Heating Command	Normal
3	nvoAlarm3	Lev Percent	AirSwitch Alarm Value	Normal
3	nviOperatorMode3	Lev Percent	Operating Mode	Normal
3	nviDmpCommand3	Lev Percent	Manual Damper Command	Normal
3	nviDmpAction3	Lev Percent	Damper Action	Normal
3	nvoDBValue3	Temp P	Deadband Value	Extended
3	nviDBSelect3	Lev Percent	Deadband Select	Extended
3	nviManualHeat3	Lev Percent	Manual Heating Command	Extended
4	nvoSpaceTemp4	Temp P	Space Temperature	Normal
4	nviTempSetpoint4	Temp P	Space Temperature Set Point	Normal
4	nvoCoolCommand4	Lev Percent	Cooling Command (Duty Cycle)	Normal
4	nvoHeatCommand4	Lev Percent	Heating Command	Normal
4	nvoAlarm4	Lev Percent	AirSwitch Alarm Value	Normal
4	nviOperatorMode4	Lev Percent	Operating Mode	Normal
4	nviDmpCommand4	Lev Percent	Manual Damper Command	Normal
4	nviDmpAction4	Lev Percent	Damper Action	Normal
4	nvoDBValue4	Temp P	Deadband Value	Extended

4	nviDBSelect4	Lev Percent	Deadband Select	Extended
4	nviManualHeat4	Lev Percent	Manual Heating Command	Extended
5	nvoSpaceTemp5	Temp P	Space Temperature	Normal
5	nviTempSetpoint5	Temp P	Space Temperature Set Point	Normal
5	nvoCoolCommand5	Lev Percent	Cooling Command (Duty Cycle)	Normal
5	nvoHeatCommand5	Lev Percent	Heating Command	Normal
5	nvoAlarm5	Lev Percent	AirSwitch Alarm Value	Normal
5	nviOperatorMode5	Lev Percent	Operating Mode	Normal
5	nviDmpCommand5	Lev Percent	Manual Damper Command	Normal
5	nviDmpAction5	Lev Percent	Damper Action	Normal
5	nvoDBValue5	Temp P	Deadband Value	Extended
5	nviDBSelect5	Lev Percent	Deadband Select	Extended
5	nviManualHeat5	Lev Percent	Manual Heating Command	Extended
6	nvoSpaceTemp6	Temp P	Space Temperature	Normal
6	nviTempSetpoint6	Temp P	Space Temperature Set Point	Normal
6	nvoCoolCommand6	Lev Percent	Cooling Command (Duty Cycle)	Normal
6	nvoHeatCommand6	Lev Percent	Heating Command	Normal
6	nvoAlarm6	Lev Percent	AirSwitch Alarm Value	Normal
6	nviOperatorMode6	Lev Percent	Operating Mode	Normal
6	nviDmpCommand6	Lev Percent	Manual Damper Command	Normal
6	nviDmpAction6	Lev Percent	Damper Action	Normal
6	nvoDBValue6	Temp P	Deadband Value	Extended
6	nviDBSelect6	Lev Percent	Deadband Select	Extended
6	nviManualHeat6	Lev Percent	Manual Heating Command	Extended
7	nvoSpaceTemp7	Temp P	Space Temperature	Normal
7	nviTempSetpoint7	Temp P	Space Temperature Set Point	Normal
7	nvoCoolCommand7	Lev Percent	Cooling Command (Duty Cycle)	Normal
7	nvoHeatCommand7	Lev Percent	Heating Command	Normal
7	nvoAlarm7	Lev Percent	AirSwitch Alarm Value	Normal
7	nviOperatorMode7	Lev Percent	Operating Mode	Normal
7	nviDmpCommand7	Lev Percent	Manual Damper Command	Normal
7	nviDmpAction7	Lev Percent	Damper Action	Normal
7	nvoDBValue7	Temp P	Deadband Value	Extended
7	nviDBSelect7	Lev Percent	Deadband Select	Extended
7	nviManualHeat7	Lev Percent	Manual Heating Command	Extended
8	nvoSpaceTemp8	Temp P	Space Temperature	Normal
8	nviTempSetpoint8	Temp P	Space Temperature Set Point	Normal
8	nvoCoolCommand8	Lev Percent	Cooling Command (Duty Cycle)	Normal
8	nvoHeatCommand8	Lev Percent	Heating Command	Normal
8	nvoAlarm8	Lev Percent	AirSwitch Alarm Value	Normal
8	nviOperatorMode8	Lev Percent	Operating Mode	Normal
8	nviDmpCommand8	Lev Percent	Manual Damper Command	Normal
8	nviDmpAction8	Lev Percent	Damper Action	Normal
8	nvoDBValue8	Temp P	Deadband Value	Extended
8	nviDBSelect8	Lev Percent	Deadband Select	Extended
8	nviManualHeat8	Lev Percent	Manual Heating Command	Extended
9	nvoSpaceTemp9	Temp P	Space Temperature	Normal
9	nviTempSetpoint9	Temp P	Space Temperature Set Point	Normal

9	nvoCoolCommand9	Lev Percent	Cooling Command (Duty Cycle)	Normal
9	nvoHeatCommand9	Lev Percent	Heating Command	Normal
9	nvoAlarm9	Lev Percent	AirSwitch Alarm Value	Normal
9	nviOperatorMode9	Lev Percent	Operating Mode	Normal
9	nviDmpCommand9	Lev Percent	Manual Damper Command	Normal
9	nviDmpAction9	Lev Percent	Damper Action	Normal
9	nvoDBValue9	Temp P	Deadband Value	Extended
9	nviDBSelect9	Lev Percent	Deadband Select	Extended
9	nviManualHeat9	Lev Percent	Manual Heating Command	Extended
10	nvoSpaceTemp10	Temp P	Space Temperature	Normal
10	nviTempSetpoint10	Temp P	Space Temperature Set Point	Normal
10	nvoCoolCommand10	Lev Percent	Cooling Command (Duty Cycle)	Normal
10	nvoHeatCommand10	Lev Percent	Heating Command	Normal
10	nvoAlarm10	Lev Percent	AirSwitch Alarm Value	Normal
10	nviOperatorMode10	Lev Percent	Operating Mode	Normal
10	nviDmpCommand10	Lev Percent	Manual Damper Command	Normal
10	nviDmpAction10	Lev Percent	Damper Action	Normal
10	nvoDBValue10	Temp P	Deadband Value	Extended
10	nviDBSelect10	Lev Percent	Deadband Select	Extended
10	nviManualHeat10	Lev Percent	Manual Heating Command	Extended
11	nvoSpaceTemp11	Temp P	Space Temperature	Normal
11	nviTempSetpoint11	Temp P	Space Temperature Set Point	Normal
11	nvoCoolCommand11	Lev Percent	Cooling Command (Duty Cycle)	Normal
11	nvoHeatCommand11	Lev Percent	Heating Command	Normal
11	nvoAlarm11	Lev Percent	AirSwitch Alarm Value	Normal
11	nviOperatorMode11	Lev Percent	Operating Mode	Normal
11	nviDmpCommand11	Lev Percent	Manual Damper Command	Normal
11	nviDmpAction11	Lev Percent	Damper Action	Normal
11	nvoDBValue11	Temp P	Deadband Value	Extended
11	nviDBSelect11	Lev Percent	Deadband Select	Extended
11	nviManualHeat11	Lev Percent	Manual Heating Command	Extended
12	nvoSpaceTemp12	Temp P	Space Temperature	Normal
12	nviTempSetpoint12	Temp P	Space Temperature Set Point	Normal
12	nvoCoolCommand12	Lev Percent	Cooling Command (Duty Cycle)	Normal
12	nvoHeatCommand12	Lev Percent	Heating Command	Normal
12	nvoAlarm12	Lev Percent	AirSwitch Alarm Value	Normal
12	nviOperatorMode12	Lev Percent	Operating Mode	Normal
12	nviDmpCommand12	Lev Percent	Manual Damper Command	Normal
12	nviDmpAction12	Lev Percent	Damper Action	Normal
12	nvoDBValue12	Temp P	Deadband Value	Extended
12	nviDBSelect12	Lev Percent	Deadband Select	Extended
12	nviManualHeat12	Lev Percent	Manual Heating Command	Extended
13	nvoSpaceTemp13	Temp P	Space Temperature	Normal
13	nviTempSetpoint13	Temp P	Space Temperature Set Point	Normal
13	nvoCoolCommand13	Lev Percent	Cooling Command (Duty Cycle)	Normal
13	nvoHeatCommand13	Lev Percent	Heating Command	Normal
13	nvoAlarm13	Lev Percent	AirSwitch Alarm Value	Normal
13	nviOperatorMode13	Lev Percent	Operating Mode	Normal

13	nviDmpCommand13	Lev Percent	Manual Damper Command	Normal
13	nviDmpAction13	Lev Percent	Damper Action	Normal
13	nvoDBValue13	Temp P	Deadband Value	Extended
13	nviDBSelect13	Lev Percent	Deadband Select	Extended
13	nviManualHeat13	Lev Percent	Manual Heating Command	Extended
14	nvoSpaceTemp14	Temp P	Space Temperature	Normal
14	nviTempSetpoint14	Temp P	Space Temperature Set Point	Normal
14	nvoCoolCommand14	Lev Percent	Cooling Command (Duty Cycle)	Normal
14	nvoHeatCommand14	Lev Percent	Heating Command	Normal
14	nvoAlarm14	Lev Percent	AirSwitch Alarm Value	Normal
14	nviOperatorMode14	Lev Percent	Operating Mode	Normal
14	nviDmpCommand14	Lev Percent	Manual Damper Command	Normal
14	nviDmpAction14	Lev Percent	Damper Action	Normal
14	nvoDBValue14	Temp P	Deadband Value	Extended
14	nviDBSelect14	Lev Percent	Deadband Select	Extended
14	nviManualHeat14	Lev Percent	Manual Heating Command	Extended
15	nvoSpaceTemp15	Temp P	Space Temperature	Normal
15	nviTempSetpoint15	Temp P	Space Temperature Set Point	Normal
15	nvoCoolCommand15	Lev Percent	Cooling Command (Duty Cycle)	Normal
15	nvoHeatCommand15	Lev Percent	Heating Command	Normal
15	nvoAlarm15	Lev Percent	AirSwitch Alarm Value	Normal
15	nviOperatorMode15	Lev Percent	Operating Mode	Normal
15	nviDmpCommand15	Lev Percent	Manual Damper Command	Normal
15	nviDmpAction15	Lev Percent	Damper Action	Normal
15	nvoDBValue15	Temp P	Deadband Value	Extended
15	nviDBSelect15	Lev Percent	Deadband Select	Extended
15	nviManualHeat15	Lev Percent	Manual Heating Command	Extended
16	nvoSpaceTemp16	Temp P	Space Temperature	Normal
16	nviTempSetpoint16	Temp P	Space Temperature Set Point	Normal
16	nvoCoolCommand16	Lev Percent	Cooling Command (Duty Cycle)	Normal
16	nvoHeatCommand16	Lev Percent	Heating Command	Normal
16	nvoAlarm16	Lev Percent	AirSwitch Alarm Value	Normal
16	nviOperatorMode16	Lev Percent	Operating Mode	Normal
16	nviDmpCommand16	Lev Percent	Manual Damper Command	Normal
16	nviDmpAction16	Lev Percent	Damper Action	Normal
16	nvoDBValue16	Temp P	Deadband Value	Extended
16	nviDBSelect16	Lev Percent	Deadband Select	Extended
16	nviManualHeat16	Lev Percent	Manual Heating Command	Extended
17	nvoSpaceTemp17	Temp P	Space Temperature	Normal
17	nviTempSetpoint17	Temp P	Space Temperature Set Point	Normal
17	nvoCoolCommand17	Lev Percent	Cooling Command (Duty Cycle)	Normal
17	nvoHeatCommand17	Lev Percent	Heating Command	Normal
17	nvoAlarm17	Lev Percent	AirSwitch Alarm Value	Normal
17	nviOperatorMode17	Lev Percent	Operating Mode	Normal
17	nviDmpCommand17	Lev Percent	Manual Damper Command	Normal
17	nviDmpAction17	Lev Percent	Damper Action	Normal
17	nvoDBValue17	Temp P	Deadband Value	Extended
17	nviDBSelect17	Lev Percent	Deadband Select	Extended

17	nviManualHeat17	Lev Percent	Manual Heating Command	Extended
18	nvoSpaceTemp18	Temp P	Space Temperature	Normal
18	nviTempSetpoint18	Temp P	Space Temperature Set Point	Normal
18	nvoCoolCommand18	Lev Percent	Cooling Command (Duty Cycle)	Normal
18	nvoHeatCommand18	Lev Percent	Heating Command	Normal
18	nvoAlarm18	Lev Percent	AirSwitch Alarm Value	Normal
18	nviOperatorMode18	Lev Percent	Operating Mode	Normal
18	nviDmpCommand18	Lev Percent	Manual Damper Command	Normal
18	nviDmpAction18	Lev Percent	Damper Action	Normal
18	nvoDBValue18	Temp P	Deadband Value	Extended
18	nviDBSelect18	Lev Percent	Deadband Select	Extended
18	nviManualHeat18	Lev Percent	Manual Heating Command	Extended
19	nvoSpaceTemp19	Temp P	Space Temperature	Normal
19	nviTempSetpoint19	Temp P	Space Temperature Set Point	Normal
19	nvoCoolCommand19	Lev Percent	Cooling Command (Duty Cycle)	Normal
19	nvoHeatCommand19	Lev Percent	Heating Command	Normal
19	nvoAlarm19	Lev Percent	AirSwitch Alarm Value	Normal
19	nviOperatorMode19	Lev Percent	Operating Mode	Normal
19	nviDmpCommand19	Lev Percent	Manual Damper Command	Normal
19	nviDmpAction19	Lev Percent	Damper Action	Normal
19	nvoDBValue19	Temp P	Deadband Value	Extended
19	nviDBSelect19	Lev Percent	Deadband Select	Extended
19	nviManualHeat19	Lev Percent	Manual Heating Command	Extended
20	nvoSpaceTemp20	Temp P	Space Temperature	Normal
20	nviTempSetpoint20	Temp P	Space Temperature Set Point	Normal
20	nvoCoolCommand20	Lev Percent	Cooling Command (Duty Cycle)	Normal
20	nvoHeatCommand20	Lev Percent	Heating Command	Normal
20	nvoAlarm20	Lev Percent	AirSwitch Alarm Value	Normal
20	nviOperatorMode20	Lev Percent	Operating Mode	Normal
20	nviDmpCommand20	Lev Percent	Manual Damper Command	Normal
20	nviDmpAction20	Lev Percent	Damper Action	Normal
20	nvoDBValue20	Temp P	Deadband Value	Extended
20	nviDBSelect20	Lev Percent	Deadband Select	Extended
20	nviManualHeat20	Lev Percent	Manual Heating Command	Extended
21	nvoSpaceTemp21	Temp P	Space Temperature	Normal
21	nviTempSetpoint21	Temp P	Space Temperature Set Point	Normal
21	nvoCoolCommand21	Lev Percent	Cooling Command (Duty Cycle)	Normal
21	nvoHeatCommand21	Lev Percent	Heating Command	Normal
21	nvoAlarm21	Lev Percent	AirSwitch Alarm Value	Normal
21	nviOperatorMode21	Lev Percent	Operating Mode	Normal
21	nviDmpCommand21	Lev Percent	Manual Damper Command	Normal
21	nviDmpAction21	Lev Percent	Damper Action	Normal
21	nvoDBValue21	Temp P	Deadband Value	Extended
21	nviDBSelect21	Lev Percent	Deadband Select	Extended
21	nviManualHeat21	Lev Percent	Manual Heating Command	Extended
22	nvoSpaceTemp22	Temp P	Space Temperature	Normal
22	nviTempSetpoint22	Temp P	Space Temperature Set Point	Normal
22	nvoCoolCommand22	Lev Percent	Cooling Command (Duty Cycle)	Normal

22	nvoHeatCommand22	Lev Percent	Heating Command	Normal
22	nvoAlarm22	Lev Percent	AirSwitch Alarm Value	Normal
22	nviOperatorMode22	Lev Percent	Operating Mode	Normal
22	nviDmpCommand22	Lev Percent	Manual Damper Command	Normal
22	nviDmpAction22	Lev Percent	Damper Action	Normal
22	nvoDBValue22	Temp P	Deadband Value	Extended
22	nviDBSelect22	Lev Percent	Deadband Select	Extended
22	nviManualHeat22	Lev Percent	Manual Heating Command	Extended
23	nvoSpaceTemp23	Temp P	Space Temperature	Normal
23	nviTempSetpoint23	Temp P	Space Temperature Set Point	Normal
23	nvoCoolCommand23	Lev Percent	Cooling Command (Duty Cycle)	Normal
23	nvoHeatCommand23	Lev Percent	Heating Command	Normal
23	nvoAlarm23	Lev Percent	AirSwitch Alarm Value	Normal
23	nviOperatorMode23	Lev Percent	Operating Mode	Normal
23	nviDmpCommand23	Lev Percent	Manual Damper Command	Normal
23	nviDmpAction23	Lev Percent	Damper Action	Normal
23	nvoDBValue23	Temp P	Deadband Value	Extended
23	nviDBSelect23	Lev Percent	Deadband Select	Extended
23	nviManualHeat23	Lev Percent	Manual Heating Command	Extended
24	nvoSpaceTemp24	Temp P	Space Temperature	Normal
24	nviTempSetpoint24	Temp P	Space Temperature Set Point	Normal
24	nvoCoolCommand24	Lev Percent	Cooling Command (Duty Cycle)	Normal
24	nvoHeatCommand24	Lev Percent	Heating Command	Normal
24	nvoAlarm24	Lev Percent	AirSwitch Alarm Value	Normal
24	nviOperatorMode24	Lev Percent	Operating Mode	Normal
24	nviDmpCommand24	Lev Percent	Manual Damper Command	Normal
24	nviDmpAction24	Lev Percent	Damper Action	Normal
24	nvoDBValue24	Temp P	Deadband Value	Extended
24	nviDBSelect24	Lev Percent	Deadband Select	Extended
24	nviManualHeat24	Lev Percent	Manual Heating Command	Extended
25	nvoSpaceTemp25	Temp P	Space Temperature	Normal
25	nviTempSetpoint25	Temp P	Space Temperature Set Point	Normal
25	nvoCoolCommand25	Lev Percent	Cooling Command (Duty Cycle)	Normal
25	nvoHeatCommand25	Lev Percent	Heating Command	Normal
25	nvoAlarm25	Lev Percent	AirSwitch Alarm Value	Normal
25	nviOperatorMode25	Lev Percent	Operating Mode	Normal
25	nviDmpCommand25	Lev Percent	Manual Damper Command	Normal
25	nviDmpAction25	Lev Percent	Damper Action	Normal
25	nvoDBValue25	Temp P	Deadband Value	Extended
25	nviDBSelect25	Lev Percent	Deadband Select	Extended
25	nviManualHeat25	Lev Percent	Manual Heating Command	Extended
26	nvoSpaceTemp26	Temp P	Space Temperature	Normal
26	nviTempSetpoint26	Temp P	Space Temperature Set Point	Normal
26	nvoCoolCommand26	Lev Percent	Cooling Command (Duty Cycle)	Normal
26	nvoHeatCommand26	Lev Percent	Heating Command	Normal
26	nvoAlarm26	Lev Percent	AirSwitch Alarm Value	Normal
26	nviOperatorMode26	Lev Percent	Operating Mode	Normal
26	nviDmpCommand26	Lev Percent	Manual Damper Command	Normal

26	nviDmpAction26	Lev Percent	Damper Action	Normal
26	nvoDBValue26	Temp P	Deadband Value	Extended
26	nviDBSelect26	Lev Percent	Deadband Select	Extended
26	nviManualHeat26	Lev Percent	Manual Heating Command	Extended
27	nvoSpaceTemp27	Temp P	Space Temperature	Normal
27	nviTempSetpoint27	Temp P	Space Temperature Set Point	Normal
27	nvoCoolCommand27	Lev Percent	Cooling Command (Duty Cycle)	Normal
27	nvoHeatCommand27	Lev Percent	Heating Command	Normal
27	nvoAlarm27	Lev Percent	AirSwitch Alarm Value	Normal
27	nviOperatorMode27	Lev Percent	Operating Mode	Normal
27	nviDmpCommand27	Lev Percent	Manual Damper Command	Normal
27	nviDmpAction27	Lev Percent	Damper Action	Normal
27	nvoDBValue27	Temp P	Deadband Value	Extended
27	nviDBSelect27	Lev Percent	Deadband Select	Extended
27	nviManualHeat27	Lev Percent	Manual Heating Command	Extended
28	nvoSpaceTemp28	Temp P	Space Temperature	Normal
28	nviTempSetpoint28	Temp P	Space Temperature Set Point	Normal
28	nvoCoolCommand28	Lev Percent	Cooling Command (Duty Cycle)	Normal
28	nvoHeatCommand28	Lev Percent	Heating Command	Normal
28	nvoAlarm28	Lev Percent	AirSwitch Alarm Value	Normal
28	nviOperatorMode28	Lev Percent	Operating Mode	Normal
28	nviDmpCommand28	Lev Percent	Manual Damper Command	Normal
28	nviDmpAction28	Lev Percent	Damper Action	Normal
28	nvoDBValue28	Temp P	Deadband Value	Extended
28	nviDBSelect28	Lev Percent	Deadband Select	Extended
28	nviManualHeat28	Lev Percent	Manual Heating Command	Extended
29	nvoSpaceTemp29	Temp P	Space Temperature	Normal
29	nviTempSetpoint29	Temp P	Space Temperature Set Point	Normal
29	nvoCoolCommand29	Lev Percent	Cooling Command (Duty Cycle)	Normal
29	nvoHeatCommand29	Lev Percent	Heating Command	Normal
29	nvoAlarm29	Lev Percent	AirSwitch Alarm Value	Normal
29	nviOperatorMode29	Lev Percent	Operating Mode	Normal
29	nviDmpCommand29	Lev Percent	Manual Damper Command	Normal
29	nviDmpAction29	Lev Percent	Damper Action	Normal
29	nvoDBValue29	Temp P	Deadband Value	Extended
29	nviDBSelect29	Lev Percent	Deadband Select	Extended
29	nviManualHeat29	Lev Percent	Manual Heating Command	Extended
30	nvoSpaceTemp30	Temp P	Space Temperature	Normal
30	nviTempSetpoint30	Temp P	Space Temperature Set Point	Normal
30	nvoCoolCommand30	Lev Percent	Cooling Command (Duty Cycle)	Normal
30	nvoHeatCommand30	Lev Percent	Heating Command	Normal
30	nvoAlarm30	Lev Percent	AirSwitch Alarm Value	Normal
30	nviOperatorMode30	Lev Percent	Operating Mode	Normal
30	nviDmpCommand30	Lev Percent	Manual Damper Command	Normal
30	nviDmpAction30	Lev Percent	Damper Action	Normal
30	nvoDBValue30	Temp P	Deadband Value	Extended
30	nviDBSelect30	Lev Percent	Deadband Select	Extended
30	nviManualHeat30	Lev Percent	Manual Heating Command	Extended

31	nvoSpaceTemp31	Temp P	Space Temperature	Normal
31	nviTempSetpoint31	Temp P	Space Temperature Set Point	Normal
31	nvoCoolCommand31	Lev Percent	Cooling Command (Duty Cycle)	Normal
31	nvoHeatCommand31	Lev Percent	Heating Command	Normal
31	nvoAlarm31	Lev Percent	AirSwitch Alarm Value	Normal
31	nviOperatorMode31	Lev Percent	Operating Mode	Normal
31	nviDmpCommand31	Lev Percent	Manual Damper Command	Normal
31	nviDmpAction31	Lev Percent	Damper Action	Normal
31	nvoDBValue31	Temp P	Deadband Value	Extended
31	nviDBSelect31	Lev Percent	Deadband Select	Extended
31	nviManualHeat31	Lev Percent	Manual Heating Command	Extended
32	nvoSpaceTemp32	Temp P	Space Temperature	Normal
32	nviTempSetpoint32	Temp P	Space Temperature Set Point	Normal
32	nvoCoolCommand32	Lev Percent	Cooling Command (Duty Cycle)	Normal
32	nvoHeatCommand32	Lev Percent	Heating Command	Normal
32	nvoAlarm32	Lev Percent	AirSwitch Alarm Value	Normal
32	nviOperatorMode32	Lev Percent	Operating Mode	Normal
32	nviDmpCommand32	Lev Percent	Manual Damper Command	Normal
32	nviDmpAction32	Lev Percent	Damper Action	Normal
32	nvoDBValue32	Temp P	Deadband Value	Extended
32	nviDBSelect32	Lev Percent	Deadband Select	Extended
32	nviManualHeat32	Lev Percent	Manual Heating Command	Extended
33	nvoSpaceTemp33	Temp P	Space Temperature	Normal
33	nviTempSetpoint33	Temp P	Space Temperature Set Point	Normal
33	nvoCoolCommand33	Lev Percent	Cooling Command (Duty Cycle)	Normal
33	nvoHeatCommand33	Lev Percent	Heating Command	Normal
33	nvoAlarm33	Lev Percent	AirSwitch Alarm Value	Normal
33	nviOperatorMode33	Lev Percent	Operating Mode	Normal
33	nviDmpCommand33	Lev Percent	Manual Damper Command	Normal
33	nviDmpAction33	Lev Percent	Damper Action	Normal
34	nvoSpaceTemp34	Temp P	Space Temperature	Normal
34	nviTempSetpoint34	Temp P	Space Temperature Set Point	Normal
34	nvoCoolCommand34	Lev Percent	Cooling Command (Duty Cycle)	Normal
34	nvoHeatCommand34	Lev Percent	Heating Command	Normal
34	nvoAlarm34	Lev Percent	AirSwitch Alarm Value	Normal
34	nviOperatorMode34	Lev Percent	Operating Mode	Normal
34	nviDmpCommand34	Lev Percent	Manual Damper Command	Normal
34	nviDmpAction34	Lev Percent	Damper Action	Normal
35	nvoSpaceTemp35	Temp P	Space Temperature	Normal
35	nviTempSetpoint35	Temp P	Space Temperature Set Point	Normal
35	nvoCoolCommand35	Lev Percent	Cooling Command (Duty Cycle)	Normal
35	nvoHeatCommand35	Lev Percent	Heating Command	Normal
35	nvoAlarm35	Lev Percent	AirSwitch Alarm Value	Normal
35	nviOperatorMode35	Lev Percent	Operating Mode	Normal
35	nviDmpCommand35	Lev Percent	Manual Damper Command	Normal
35	nviDmpAction35	Lev Percent	Damper Action	Normal
36	nvoSpaceTemp36	Temp P	Space Temperature	Normal
36	nviTempSetpoint36	Temp P	Space Temperature Set Point	Normal

36	nvoCoolCommand36	Lev Percent	Cooling Command (Duty Cycle)	Normal
36	nvoHeatCommand36	Lev Percent	Heating Command	Normal
36	nvoAlarm36	Lev Percent	AirSwitch Alarm Value	Normal
36	nviOperatorMode36	Lev Percent	Operating Mode	Normal
36	nviDmpCommand36	Lev Percent	Manual Damper Command	Normal
36	nviDmpAction36	Lev Percent	Damper Action	Normal
37	nvoSpaceTemp37	Temp P	Space Temperature	Normal
37	nviTempSetpoint37	Temp P	Space Temperature Set Point	Normal
37	nvoCoolCommand37	Lev Percent	Cooling Command (Duty Cycle)	Normal
37	nvoHeatCommand37	Lev Percent	Heating Command	Normal
37	nvoAlarm37	Lev Percent	AirSwitch Alarm Value	Normal
37	nviOperatorMode37	Lev Percent	Operating Mode	Normal
37	nviDmpCommand37	Lev Percent	Manual Damper Command	Normal
37	nviDmpAction37	Lev Percent	Damper Action	Normal
38	nvoSpaceTemp38	Temp P	Space Temperature	Normal
38	nviTempSetpoint38	Temp P	Space Temperature Set Point	Normal
38	nvoCoolCommand38	Lev Percent	Cooling Command (Duty Cycle)	Normal
38	nvoHeatCommand38	Lev Percent	Heating Command	Normal
38	nvoAlarm38	Lev Percent	AirSwitch Alarm Value	Normal
38	nviOperatorMode38	Lev Percent	Operating Mode	Normal
38	nviDmpCommand38	Lev Percent	Manual Damper Command	Normal
38	nviDmpAction38	Lev Percent	Damper Action	Normal
39	nvoSpaceTemp39	Temp P	Space Temperature	Normal
39	nviTempSetpoint39	Temp P	Space Temperature Set Point	Normal
39	nvoCoolCommand39	Lev Percent	Cooling Command (Duty Cycle)	Normal
39	nvoHeatCommand39	Lev Percent	Heating Command	Normal
39	nvoAlarm39	Lev Percent	AirSwitch Alarm Value	Normal
39	nviOperatorMode39	Lev Percent	Operating Mode	Normal
39	nviDmpCommand39	Lev Percent	Manual Damper Command	Normal
39	nviDmpAction39	Lev Percent	Damper Action	Normal
40	nvoSpaceTemp40	Temp P	Space Temperature	Normal
40	nviTempSetpoint40	Temp P	Space Temperature Set Point	Normal
40	nvoCoolCommand40	Lev Percent	Cooling Command (Duty Cycle)	Normal
40	nvoHeatCommand40	Lev Percent	Heating Command	Normal
40	nvoAlarm40	Lev Percent	AirSwitch Alarm Value	Normal
40	nviOperatorMode40	Lev Percent	Operating Mode	Normal
40	nviDmpCommand40	Lev Percent	Manual Damper Command	Normal
40	nviDmpAction40	Lev Percent	Damper Action	Normal
41	nvoSpaceTemp41	Temp P	Space Temperature	Normal
41	nviTempSetpoint41	Temp P	Space Temperature Set Point	Normal
41	nvoCoolCommand41	Lev Percent	Cooling Command (Duty Cycle)	Normal
41	nvoHeatCommand41	Lev Percent	Heating Command	Normal
41	nvoAlarm41	Lev Percent	AirSwitch Alarm Value	Normal
41	nviOperatorMode41	Lev Percent	Operating Mode	Normal
41	nviDmpCommand41	Lev Percent	Manual Damper Command	Normal
41	nviDmpAction41	Lev Percent	Damper Action	Normal
42	nvoSpaceTemp42	Temp P	Space Temperature	Normal
42	nviTempSetpoint42	Temp P	Space Temperature Set Point	Normal

42	nvoCoolCommand42	Lev Percent	Cooling Command (Duty Cycle)	Normal
42	nvoHeatCommand42	Lev Percent	Heating Command	Normal
42	nvoAlarm42	Lev Percent	AirSwitch Alarm Value	Normal
42	nviOperatorMode42	Lev Percent	Operating Mode	Normal
42	nviDmpCommand42	Lev Percent	Manual Damper Command	Normal
42	nviDmpAction42	Lev Percent	Damper Action	Normal
44	nvoSpaceTemp44	Temp P	Space Temperature	Normal
44	nviTempSetpoint44	Temp P	Space Temperature Set Point	Normal
44	nvoCoolCommand44	Lev Percent	Cooling Command (Duty Cycle)	Normal
44	nvoHeatCommand44	Lev Percent	Heating Command	Normal
44	nvoAlarm44	Lev Percent	AirSwitch Alarm Value	Normal
44	nviOperatorMode44	Lev Percent	Operating Mode	Normal
44	nviDmpCommand44	Lev Percent	Manual Damper Command	Normal
44	nviDmpAction44	Lev Percent	Damper Action	Normal
45	nvoSpaceTemp45	Temp P	Space Temperature	Normal
45	nviTempSetpoint45	Temp P	Space Temperature Set Point	Normal
45	nvoCoolCommand45	Lev Percent	Cooling Command (Duty Cycle)	Normal
45	nvoHeatCommand45	Lev Percent	Heating Command	Normal
45	nvoAlarm45	Lev Percent	AirSwitch Alarm Value	Normal
45	nviOperatorMode45	Lev Percent	Operating Mode	Normal
45	nviDmpCommand45	Lev Percent	Manual Damper Command	Normal
45	nviDmpAction45	Lev Percent	Damper Action	Normal
46	nvoSpaceTemp46	Temp P	Space Temperature	Normal
46	nviTempSetpoint46	Temp P	Space Temperature Set Point	Normal
46	nvoCoolCommand46	Lev Percent	Cooling Command (Duty Cycle)	Normal
46	nvoHeatCommand46	Lev Percent	Heating Command	Normal
46	nvoAlarm46	Lev Percent	AirSwitch Alarm Value	Normal
46	nviOperatorMode46	Lev Percent	Operating Mode	Normal
46	nviDmpCommand46	Lev Percent	Manual Damper Command	Normal
46	nviDmpAction46	Lev Percent	Damper Action	Normal
47	nvoSpaceTemp47	Temp P	Space Temperature	Normal
47	nviTempSetpoint47	Temp P	Space Temperature Set Point	Normal
47	nvoCoolCommand47	Lev Percent	Cooling Command (Duty Cycle)	Normal
47	nvoHeatCommand47	Lev Percent	Heating Command	Normal
47	nvoAlarm47	Lev Percent	AirSwitch Alarm Value	Normal
47	nviOperatorMode47	Lev Percent	Operating Mode	Normal
47	nviDmpCommand47	Lev Percent	Manual Damper Command	Normal
47	nviDmpAction47	Lev Percent	Damper Action	Normal
48	nvoSpaceTemp48	Temp P	Space Temperature	Normal
48	nviTempSetpoint48	Temp P	Space Temperature Set Point	Normal
48	nvoCoolCommand48	Lev Percent	Cooling Command (Duty Cycle)	Normal
48	nvoHeatCommand48	Lev Percent	Heating Command	Normal
48	nvoAlarm48	Lev Percent	AirSwitch Alarm Value	Normal
48	nviOperatorMode48	Lev Percent	Operating Mode	Normal
48	nviDmpCommand48	Lev Percent	Manual Damper Command	Normal
48	nviDmpAction48	Lev Percent	Damper Action	Normal
49	nvoSpaceTemp49	Temp P	Space Temperature	Normal
49	nviTempSetpoint49	Temp P	Space Temperature Set Point	Normal

49	nvoCoolCommand49	Lev Percent	Cooling Command (Duty Cycle)	Normal
49	nvoHeatCommand49	Lev Percent	Heating Command	Normal
49	nvoAlarm49	Lev Percent	AirSwitch Alarm Value	Normal
49	nviOperatorMode49	Lev Percent	Operating Mode	Normal
49	nviDmpCommand49	Lev Percent	Manual Damper Command	Normal
49	nviDmpAction49	Lev Percent	Damper Action	Normal
50	nvoSpaceTemp50	Temp P	Space Temperature	Normal
50	nviTempSetpoint50	Temp P	Space Temperature Set Point	Normal
50	nvoCoolCommand50	Lev Percent	Cooling Command (Duty Cycle)	Normal
50	nvoHeatCommand50	Lev Percent	Heating Command	Normal
50	nvoAlarm50	Lev Percent	AirSwitch Alarm Value	Normal
50	nviOperatorMode50	Lev Percent	Operating Mode	Normal
50	nviDmpCommand50	Lev Percent	Manual Damper Command	Normal
50	nviDmpAction50	Lev Percent	Damper Action	Normal
51	nvoSpaceTemp51	Temp P	Space Temperature	Normal
51	nviTempSetpoint51	Temp P	Space Temperature Set Point	Normal
51	nvoCoolCommand51	Lev Percent	Cooling Command (Duty Cycle)	Normal
51	nvoHeatCommand51	Lev Percent	Heating Command	Normal
51	nvoAlarm51	Lev Percent	AirSwitch Alarm Value	Normal
51	nviOperatorMode51	Lev Percent	Operating Mode	Normal
51	nviDmpCommand51	Lev Percent	Manual Damper Command	Normal
51	nviDmpAction51	Lev Percent	Damper Action	Normal
52	nvoSpaceTemp52	Temp P	Space Temperature	Normal
52	nviTempSetpoint52	Temp P	Space Temperature Set Point	Normal
52	nvoCoolCommand52	Lev Percent	Cooling Command (Duty Cycle)	Normal
52	nvoHeatCommand52	Lev Percent	Heating Command	Normal
52	nvoAlarm52	Lev Percent	AirSwitch Alarm Value	Normal
52	nviOperatorMode52	Lev Percent	Operating Mode	Normal
52	nviDmpCommand52	Lev Percent	Manual Damper Command	Normal
52	nviDmpAction52	Lev Percent	Damper Action	Normal
53	nvoSpaceTemp53	Temp P	Space Temperature	Normal
53	nviTempSetpoint53	Temp P	Space Temperature Set Point	Normal
53	nvoCoolCommand53	Lev Percent	Cooling Command (Duty Cycle)	Normal
53	nvoHeatCommand53	Lev Percent	Heating Command	Normal
53	nvoAlarm53	Lev Percent	AirSwitch Alarm Value	Normal
53	nviOperatorMode53	Lev Percent	Operating Mode	Normal
53	nviDmpCommand53	Lev Percent	Manual Damper Command	Normal
53	nviDmpAction53	Lev Percent	Damper Action	Normal
54	nvoSpaceTemp54	Temp P	Space Temperature	Normal
54	nviTempSetpoint54	Temp P	Space Temperature Set Point	Normal
54	nvoCoolCommand54	Lev Percent	Cooling Command (Duty Cycle)	Normal
54	nvoHeatCommand54	Lev Percent	Heating Command	Normal
54	nvoAlarm54	Lev Percent	AirSwitch Alarm Value	Normal
54	nviOperatorMode54	Lev Percent	Operating Mode	Normal
54	nviDmpCommand54	Lev Percent	Manual Damper Command	Normal
54	nviDmpAction54	Lev Percent	Damper Action	Normal
55	nvoSpaceTemp55	Temp P	Space Temperature	Normal
55	nviTempSetpoint55	Temp P	Space Temperature Set Point	Normal

55	nvoCoolCommand55	Lev Percent	Cooling Command (Duty Cycle)	Normal
55	nvoHeatCommand55	Lev Percent	Heating Command	Normal
55	nvoAlarm55	Lev Percent	AirSwitch Alarm Value	Normal
55	nviOperatorMode55	Lev Percent	Operating Mode	Normal
55	nviDmpCommand55	Lev Percent	Manual Damper Command	Normal
55	nviDmpAction55	Lev Percent	Damper Action	Normal
56	nvoSpaceTemp56	Temp P	Space Temperature	Normal
56	nviTempSetpoint56	Temp P	Space Temperature Set Point	Normal
56	nvoCoolCommand56	Lev Percent	Cooling Command (Duty Cycle)	Normal
56	nvoHeatCommand56	Lev Percent	Heating Command	Normal
56	nvoAlarm56	Lev Percent	AirSwitch Alarm Value	Normal
56	nviOperatorMode56	Lev Percent	Operating Mode	Normal
56	nviDmpCommand56	Lev Percent	Manual Damper Command	Normal
56	nviDmpAction56	Lev Percent	Damper Action	Normal
57	nvoSpaceTemp57	Temp P	Space Temperature	Normal
57	nviTempSetpoint57	Temp P	Space Temperature Set Point	Normal
57	nvoCoolCommand57	Lev Percent	Cooling Command (Duty Cycle)	Normal
57	nvoHeatCommand57	Lev Percent	Heating Command	Normal
57	nvoAlarm57	Lev Percent	AirSwitch Alarm Value	Normal
57	nviOperatorMode57	Lev Percent	Operating Mode	Normal
57	nviDmpCommand57	Lev Percent	Manual Damper Command	Normal
57	nviDmpAction57	Lev Percent	Damper Action	Normal
58	nvoSpaceTemp58	Temp P	Space Temperature	Normal
58	nviTempSetpoint58	Temp P	Space Temperature Set Point	Normal
58	nvoCoolCommand58	Lev Percent	Cooling Command (Duty Cycle)	Normal
58	nvoHeatCommand58	Lev Percent	Heating Command	Normal
58	nvoAlarm58	Lev Percent	AirSwitch Alarm Value	Normal
58	nviOperatorMode58	Lev Percent	Operating Mode	Normal
58	nviDmpCommand58	Lev Percent	Manual Damper Command	Normal
58	nviDmpAction58	Lev Percent	Damper Action	Normal
59	nvoSpaceTemp59	Temp P	Space Temperature	Normal
59	nviTempSetpoint59	Temp P	Space Temperature Set Point	Normal
59	nvoCoolCommand59	Lev Percent	Cooling Command (Duty Cycle)	Normal
59	nvoHeatCommand59	Lev Percent	Heating Command	Normal
59	nvoAlarm59	Lev Percent	AirSwitch Alarm Value	Normal
59	nviOperatorMode59	Lev Percent	Operating Mode	Normal
59	nviDmpCommand59	Lev Percent	Manual Damper Command	Normal
59	nviDmpAction59	Lev Percent	Damper Action	Normal
60	nvoSpaceTemp60	Temp P	Space Temperature	Normal
60	nviTempSetpoint60	Temp P	Space Temperature Set Point	Normal
60	nvoCoolCommand60	Lev Percent	Cooling Command (Duty Cycle)	Normal
60	nvoHeatCommand60	Lev Percent	Heating Command	Normal
60	nvoAlarm60	Lev Percent	AirSwitch Alarm Value	Normal
60	nviOperatorMode60	Lev Percent	Operating Mode	Normal
60	nviDmpCommand60	Lev Percent	Manual Damper Command	Normal
60	nviDmpAction60	Lev Percent	Damper Action	Normal
61	nvoSpaceTemp61	Temp P	Space Temperature	Normal
61	nviTempSetpoint61	Temp P	Space Temperature Set Point	Normal

61	nvoCoolCommand61	Lev Percent	Cooling Command (Duty Cycle)	Normal
61	nvoHeatCommand61	Lev Percent	Heating Command	Normal
61	nvoAlarm61	Lev Percent	AirSwitch Alarm Value	Normal
61	nviOperatorMode61	Lev Percent	Operating Mode	Normal
61	nviDmpCommand61	Lev Percent	Manual Damper Command	Normal
61	nviDmpAction61	Lev Percent	Damper Action	Normal
62	nvoSpaceTemp62	Temp P	Space Temperature	Normal
62	nviTempSetpoint62	Temp P	Space Temperature Set Point	Normal
62	nvoCoolCommand62	Lev Percent	Cooling Command (Duty Cycle)	Normal
62	nvoHeatCommand62	Lev Percent	Heating Command	Normal
62	nvoAlarm62	Lev Percent	AirSwitch Alarm Value	Normal
62	nviOperatorMode62	Lev Percent	Operating Mode	Normal
62	nviDmpCommand62	Lev Percent	Manual Damper Command	Normal
63	nvoSpaceTemp63	Temp P	Space Temperature	Normal
63	nviTempSetpoint63	Temp P	Space Temperature Set Point	Normal
63	nvoCoolCommand63	Lev Percent	Cooling Command (Duty Cycle)	Normal
63	nvoHeatCommand63	Lev Percent	Heating Command	Normal
63	nvoAlarm63	Lev Percent	AirSwitch Alarm Value	Normal
63	nviOperatorMode63	Lev Percent	Operating Mode	Normal
63	nviDmpCommand63	Lev Percent	Manual Damper Command	Normal

9 Appendix C – BACnet PICS & BIBBS

9.1 BACnet PICS

PICS BACnet Conformance Class Supported

Class 1	complete
Class 2	complete
Class 3	complete
Class 4	partial
Class 5	partial
Class 6	partial

PICS BACnet Functional Groups Supported

HHWS	partial
PCWS	partial

PICS BACnet Standard Application Services Supported

Application Service	Initiate Requests	Executes Requests
ReadProperty	yes	yes
ReadPropertyMultiple	yes	yes
ReadRange (trend log only)	no	yes
WriteProperty	yes	yes
WritePropertyMultiple	yes	yes
ConfirmedEventNotification	yes	yes
UnConfirmedEventNotification	yes	yes
AcknowledgeAlarm	yes	yes
GetAlarmSummary	yes	yes
Who-Has	yes	yes
I-Have	yes	yes
Who-Is	yes	yes
I-Am	yes	yes
SubscribeCOV	yes	no
ConfirmedCOVNotification	no	yes
UnconfirmedCOVNotification	no	yes

PICS Standard Object-Types Supported

Object-Type	Supported	Dynamically Creatable	Dynamically Deletable
Analog Input	yes	no	no
Analog Output	yes	no	no
Analog Value	yes	no	no
Binary Input	yes	no	no
Binary Output	yes	no	no
Binary Value	yes	no	no
Schedule (exported as read only)	yes	no	no
Calendar (exported as read only)	yes	no	no
Trend Log (exported as read only)	yes	no	no
Multistate Input (8 states max)	yes	no	no
Multistate Output (8 states max)	yes	no	no
Multistate Value (8 states max)	yes	no	no
Device	yes	Not applicable	Not applicable

Segmentation Capability

Feature	Supported	Window size
Segmented Request	yes	any
Segmented Response	yes	any

PICS Data Link Layer Option

ISO 8802-3, 10BASE5	yes
ISO 8802-3, 10BASE2	yes
ISO 8802-3, 10BASET	yes
ISO 8802-3, Fiber	yes
BACnet/IP- Annex J	yes
MS/TP master (JACE only)	yes

Networking Options	Supported
Router, Clause 6 – Ethernet IP-Ethernet, Ethernet-MS/TP, Ethernet IP-MS/TP	yes
BACnet Broadcast Management Device (BBMD)	yes

PICS Character Sets Supported

ANSI X3.4	yes
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9.2 BACnet BIBBS

BIBBs Supported

Data Sharing	ReadProperty-B	DS-RP-B
	ReadPropertyMultiple-B	DS-RPM-B
	WriteProperty-B	DS-WP-B
	WritePropertyMultiple-B	DS-WPM-B

Device and Network Management	Dynamic Device Binding-B	DM-DDB-B
	Dynamic Object Binding-B	DM-DOB-B
	DeviceCommunicationControl-B	DM-DCC-B
	TimeSynchronization-B	DM-TS-B

Notes:

[illegible]

[illegible]

