



Programming Guide

Tracer® UC600 Programmable

Controller

for Modular Self Contained

▲ SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.

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TRANE
TECHNOLOGIES



Introduction

Read this manual thoroughly before operating or servicing this unit.

Warnings, Cautions, and Notices

Safety advisories appear throughout this manual as required. Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

The three types of advisories are defined as follows:

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe practices.

Indicates a situation that could result in equipment or property-damage only accidents.

Important Environmental Concerns

Scientific research has shown that certain man-made chemicals can affect the earth's naturally occurring stratospheric ozone layer when released to the atmosphere. In particular, several of the identified chemicals that may affect the ozone layer are refrigerants that contain Chlorine, Fluorine and Carbon (CFCs) and those containing Hydrogen, Chlorine, Fluorine and Carbon (HCFCs). Not all refrigerants containing these compounds have the same potential impact to the environment. Trane advocates the responsible handling of all refrigerants-including industry replacements for CFCs and HCFCs such as saturated or unsaturated HFCs and HCFCs.

Important Responsible Refrigerant Practices

Trane believes that responsible refrigerant practices are important to the environment, our customers, and the air conditioning industry. All technicians who handle refrigerants must be certified according to local rules. For the USA, the Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants and the equipment that is used in these service procedures. In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. Know the applicable laws and follow them.

⚠ WARNING

Proper Field Wiring and Grounding Required!

Failure to follow code could result in death or serious injury.

All field wiring MUST be performed by qualified personnel. Improperly installed and grounded field wiring poses FIRE and ELECTROCUTION hazards. To avoid these hazards, you MUST follow requirements for field wiring installation and grounding as described in NEC and your local/state/national electrical codes.

⚠ WARNING

Personal Protective Equipment (PPE) Required!

Failure to wear proper PPE for the job being undertaken could result in death or serious injury.

Technicians, in order to protect themselves from potential electrical, mechanical, and chemical hazards, **MUST** follow precautions in this manual and on the tags, stickers, and labels, as well as the instructions below:

- Before installing/servicing this unit, technicians **MUST** put on all PPE required for the work being undertaken (Examples; cut resistant gloves/sleeves, butyl gloves, safety glasses, hard hat/bump cap, fall protection, electrical PPE and arc flash clothing). **ALWAYS** refer to appropriate Safety Data Sheets (SDS) and OSHA guidelines for proper PPE.
- When working with or around hazardous chemicals, **ALWAYS** refer to the appropriate SDS and OSHA/GHS (Global Harmonized System of Classification and Labelling of Chemicals) guidelines for information on allowable personal exposure levels, proper respiratory protection and handling instructions.
- If there is a risk of energized electrical contact, arc, or flash, technicians **MUST** put on all PPE in accordance with OSHA, NFPA 70E, or other country-specific requirements for arc flash protection, **PRIOR** to servicing the unit. **NEVER PERFORM ANY SWITCHING, DISCONNECTING, OR VOLTAGE TESTING WITHOUT PROPER ELECTRICAL PPE AND ARC FLASH CLOTHING. ENSURE ELECTRICAL METERS AND EQUIPMENT ARE PROPERLY RATED FOR INTENDED VOLTAGE.**

⚠ WARNING

Follow EHS Policies!

Failure to follow instructions below could result in death or serious injury.

- All Trane personnel must follow the company's Environmental, Health and Safety (EHS) policies when performing work such as hot work, electrical, fall protection, lockout/tagout, refrigerant handling, etc. Where local regulations are more stringent than these policies, those regulations supersede these policies.
- Non-Trane personnel should always follow local regulations.

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Overview

The Tracer® UC600 Programmable Controller is a multi-purpose, programmable controller. Programming is done through the Tracer Graphical Programming (TGP2) Editor or using the Tracer TU service tool. This field-installed device is designed to control modular self-contained units.

BACnet Protocol

The Building Automation and Control Network (BACnet®) protocol is ANSI/ASHRAE Standard 135. This standard allows building automation systems or components from different manufacturers to share information and control functions. BACnet® provides building owners the capability to connect various types of building control systems or subsystems together for many uses. Multiple vendors can use this protocol to share information for monitoring and supervisory control between systems and devices in a multi-vendor interconnected system. The BACnet® protocol defines standard objects (data points) called BACnet® objects. Each object has a defined list of properties that provide context information about that object. In addition, BACnet® defines a number of application services that are used to interact with objects in a BACnet® device.



UC600 Rotary Switches and LEDs

Setting Addresses Using Rotary Switches

There are three rotary switches on the front of the Tracer UC600 for the purpose of defining a three-digit address when it is installed on a BACnet communications network. The three-digit address setting is used as both the rotary switch value and the BACnet device ID.

For Trane BACnet MS/TP systems, the rotary switch value must be between 1 and 127. Although "0,0,0," is a valid BACnet address, Trane reserves this address for the Tracer SC controller. For non-Trane systems, see . All device addresses on the BACnet MS/TP link must be unique.

- Before powering up Tracer UC600, set the rotary switch value as shown in the following figure.
- If the Tracer UC600 was previously powered up, do the following if you wish to make changes:
 - Make the preferred changes to the rotary switch value as illustrated in .
 - Power down the Tracer UC600; when re-powered the new rotary switch value should be active.
- For controllers that are connected through BACnet/IP, or wireless via ZigBee™, valid unit controller rotary switch values can range from 001 to 999.

Note: Valid rotary switch values used with the Tracer UC600 are 001 to 120 for BACnet MS/TP.

Figure 1. Setting rotary switch values on UC600

Important: Each Tracer UC600 device on the BACnet link must have a unique rotary switch value, otherwise communication problems will occur.

Location of LEDs

Light emitting diodes (LEDs) indicate the operation and communication status of the controller. For detailed information about wiring communication links, refer to the *BACnet Best Practices and Troubleshooting Guide* (BAS-SVX51).

Figure 2. Tracer UC600 LEDs

LED Descriptions and Activities

The following table provides a description of LED activity, indicators, and troubleshooting tips.

Table 1. LED identification and interpretation

LED type	LED activity	Indicates...	Troubleshooting/Notes
Power	Solid green	Normal operation	<i>Sequence on power-up:</i> Illuminates red, then flashes green, then solid green.
	Solid red	Low voltage or malfunction	
	Blinking red	Alarm or fault is present (<i>*see note</i>)	
Communication (Link, MBUS, IMC)	TX (transmit) blinks green	Normal operation; blinks at a fixed rate when transferring data to other devices on the link	TX LED: Regardless of connectivity, the TX will blink as it searches for devices to communicate with.
	RX (receive) blinks yellow	Normal operation; blinks at a fixed rate when receiving data from other devices on the link	
	RX on solid (yellow)	Reverse polarity is present	
	LED not illuminated	The controller is not detecting communication	<ul style="list-style-type: none"> • Cycle the power to reestablish communication. • Verify that the controller is capable of communicating with other devices on the link. • Check polarity and baud rate.
Service	Solid green	LED has been pressed and remains on until powered down (does not affect normal operation)	
	LED not illuminated	Normal operation	
Binary outputs (BO1 through BO4)	Solid yellow	Relay coil energized	
	LED not illuminated	Relay coil de-energized or No command	
Ethernet	LINK on solid (green)	Valid Ethernet connection	
	ACT flickers (yellow)	Data transmission and reception	

Note: Points that are in an alarm state when the notification type is configured as “alarm” will cause the power LED to flash red. If the notification type of a point is configured as “event,” the power LED will not flash when the point is in an alarm state. Modbus is not supported at this time.



Tracer UC600 Pre-power Checks

To avoid equipment damage, a pre-power check for inputs and outputs is recommended before applying power to the Tracer UC600. Before applying power, check for the following:

- All thermistors; check for resistance by using a digital multimeter (DMM). At room temperature, the resistance reading will be approximately 11 kΩ for a Trane thermistor.
- Thumbwheels; range between 189 Ω and 890 Ω.
- Binary outputs; check for any shorts.
- Analog outputs; verify that AC voltage is not present and that the load does not have 24 Vac or 120 Vac.

This section provides illustrations and methods of how to check the Tracer UC600 points before connection has been made and power applied. The step numbers in each illustration correspond to the information in each table.

Resistive Inputs

Checkout Procedure	Measurement	Expected Value
Step 1	Measure AC voltage across the resistive termination.	Vac » 0.0 V AC voltage will affect further measurement.
Step 2	Measure DC voltage across the resistive termination.	Vdc » 0.0 V DC voltage will affect further measurement.
Step 3	Measure the resistance across the resistive termination.	Compare the measured resistance with the expected value based on the manufacturer's specification and current conditions.

Voltage Inputs

The sensor senses the voltage and is powered.

Checkout Procedure	Measurement	Expected Value
Step 1	Measure AC voltage across the voltage input.	VAC ≈ 0.0 V AC voltage will affect further measurement.
Step 2	Measure DC voltage across the voltage termination.	Compare the measured voltage with the expected value based on the manufacturer's specification and current conditions.

Current Inputs

The sensor sources 4–20 mA and is powered.

Checkout Procedure	Measurement	Expected Value
Step 1	Measure AC voltage across the current input.	Vac ≈ 0.0 V AC voltage will affect further measurement.
Step 2	Measure the DC current across the current input.	Compare the measured current with the expected value based on the manufacturer's specification and current conditions.

Binary Inputs

Checkout Procedure	Measurement	Expected Value
Step 1	Measure AC voltage across the resistive termination.	Vac \approx 0.0 V AC voltage will affect further measurement.
Step 2	Measure DC voltage across the resistive termination.	Vdc \approx 0.0 V DC voltage will affect further measurement.
Step 3	Measure the resistance across the resistive termination.	contact open = infinity (∞) contact closed = shorted (0Ω)



Configuring the UC600

The UC600 BACnet configuration settings can be modified with either the Trane BACnet Setup Tool or the Tracer TU service tool. The BACnet setup tool can only be used to configure the baud rate, software device ID, and device units of measure. Tracer TU provides complete configuration and programming capabilities.

Using the BACnet Setup Tool

To download the Trane BACnet setup tool:

1. Use a standard Web browser to search for Trane BACnet setup tool.
2. Download and install the software on your laptop.

Connection

To connect to the UC600:

1. Connect the universal serial bus (USB-A to USA-B) cable between the laptop and the UC600 or to an equipment control panel USB port that is connected to the controller.
2. Click either the BACnet Setup Tool desktop icon or from the Start menu navigate to All Programs/Trane/Tracer BACnet Setup Tool and select **BACnet Setup Tool**. The setup tool splash screen displays briefly, followed by the Connect dialog box.
3. Select **Direct Connection (USB cable)**, if it is not already selected.
4. Click **Connect** and the Unit Summary page displays after successful connection.

Configuration

From the Unit Summary page:

1. Enter a meaningful name for the controller.
2. Expand **Controller Units** to display its contents.
3. Select the preferred units of measure for data communicated across the BACnet link.
4. Click **Protocol** to display its contents.
5. Select the preferred **Baud Rate** in the drop-down list.
6. If the software Device ID is required, check **Use Software Device ID** and enter a BACnet Device ID.
7. Click **Save**.
8. Cycle power to the device to have the new values take effect.

Using Tracer TU

This section describes how to first connect to the Tracer TU software and then configure the UC600 controller.

Notes:

- *Tracer TU software Version 8.2 or higher is required.*
- *Consult the Tracer TU Help for Programmable Controllers for updated information and procedures.*

Connection

To connect to the UC600:

1. Connect the universal serial bus (USB) cable between the laptop and the UC600, or to an equipment control panel USB port that is connected to the controller.
2. Click either the Tracer TU desktop icon or the Tracer TU program item in the Tracer TU group on the Start menu. The Tracer TU splash screen displays briefly, followed by the Connect dialog box.

3. Select **Direct Connection (USB cable)** if it is not already selected.
4. Click **Connect** and the Unit Summary page displays after successful connection.

Configuration

To configure the UC600 controller:

1. Select the **Controller Settings Utility** tab from right side of the Tracer TU window.

***Note:** The content of this screen is based on the type of controller that is connected and the system protocol used to communicate with the controller.*

2. Enter a meaningful name for the controller.
3. Click **Controller Units** to display its contents.
4. Select the preferred units of measure for data communicated across the BACnet link.
5. Click **Protocol** to display its contents.
6. Select the preferred **Baud Rate** in the drop-down list.

***Note:** The UC600 device supports four baud rates: 9600, 19200, 38400, and 76800 baud. The default baud rate is 76800 baud.*

7. If the software Device ID is required, check **Use Software Device ID** and enter a BACnet Device ID.
8. Click **Save**.
9. Cycle power to the device to have the new values take effect.



MS/TP MAC Address

Each device on a BACnet MS/TP network must be assigned a unique physical address. This is referred to as the Media Access Control (MAC) address. The BACnet Standard defines the valid address range of a MS/TP master device as zero (0) to 127. All Trane devices are master devices.

When a Tracer SC device is present on the MS/TP network, Trane restricts the use of the zero (0) MAC address. This address is assigned to the Tracer SC and cannot be changed. All other BACnet MS/TP master devices, including the UC600, must have a MAC addresses within the range of 1 to 127. The three (3) rotary switches on the front of the UC600 device are used to set the MAC address.

Failure to assign a unique address to each device on the network will cause network communication failure.



BACnet Device ID

Third-Party BAS Integration

Each device on a BACnet internetwork must be assigned a unique logical address. This is referred to as the BACnet Device ID. The valid address range is 0 to 4,194,392.

There are two methods to set the Device ID for a UC600:

- Via the rotary switches
- Software configuration

From the factory the software method is disabled. In this state, the BACnet Device ID will be the value represented by the three (3) rotary switches on the front of the device. In this state, the MAC Address and Device ID are the same value.

Using this method, the Device ID is limited to the range of 0 to 127. When there is a need to set the Device ID to a value greater than 127, software configuration must be used. Figure 3 shows the setup page that is available in Tracer TU. A very similar page is available in the BACnet Setup Tool.

To set the Device ID using the software configuration method:

1. Navigate to the **Device ID** section of the Protocol frame of the page.
2. Select **Use Software Device ID**.
3. Enter the desired value for the **BACnet Device ID** in the text box.
4. Cycle power to the device to have the new value take effect.

***Note:** When the software method is enabled the hardware method is automatically disabled.*

Figure 3. Example showing rotary dial settings and the BACnet device ID

Tracer SC BAS Integration

When Tracer SC is the BAS, the integration technician is not required to manually configure the Device ID of the UC600. The Tracer SC will do this as part of the site discovery and installation process.

Tracer SC will perform the following steps:

1. Enable the Use Software Device ID feature.
2. Calculate a unique BACnet Device ID value, based on Tracer SC Device ID, MS/TP link number, and MAC address of the unit controller.
3. Send the BACnet Device ID value to the device.



BAS Unit Control

The BAS System will control the UC600 by changing specific values, and the following conditions are all true:

- Point is in Service (By default all BAS Points are in service from the factory)
- Point is not in a Failed or Faulted condition.
- Point is written to at a priority level between 1-16

The following points are the BACnet points that will control the unit:

Note: *Unit configuration will determine which of the following points exist on your unit.*

- Discharge Air Cooling Setpoint BAS
- Discharge Air Cooling Setpoint Max BAS
- Duct Static Pressure Setpoint BAS
- Space Temperature Setpoint BAS
- Return Air Temperature Setpoint BAS
- Fixed Speed Compressor Rotate BAS
- Water Side Economizer Lockout BAS
- Occupancy Request
- Heat Cool Mode Request
- Emergency Override BAS

Routinely Updating BAS Values

The UC600 requires the BAS system to provide a routine update to the sensor values. This protects against communication loss between the BAS and the UC600. By BACnet definition, the present value of the object maintains the last value written to it, regardless of the amount of time that has elapsed since the last write. If communication is lost for several minutes or longer, the present value of BAS-supplied sensor objects may no longer represent the current state of environmental conditions. This may result in decreased occupant comfort and damage to building systems.

Alarm Reset

The UC600 control system monitors the operation of the HVAC equipment. If an abnormal condition is detected, an event notification message is sent to the Tracer SC. The corresponding binary input object will change state from inactive to active when the diagnostic or alarm is detected. The object has been configured to send a BACnet event message to external BACnet devices as defined by the protocol.

The BAS has the ability to reset internal diagnostics or alarms by controlling the state of a Binary Value to reset the alarm conditions.

- For Compressor alarms, each compressor has a dedicated reset value. Change the state of the following points from normal to reset to clear the specific compressor alarms. Once the state has been changed to reset, it will automatically change back to normal, no further action is needed.
 - Compressor 1 Failure Reset (BV 195)
 - Compressor 2 Failure Reset (BV 205)
 - Compressor 3 Failure Reset (BV 215)
 - Compressor 4 Failure Reset (BV 225)
- For Fan Failure Alarms, the Supply Fan Failure Reset (BV2) resets all fan failures. Change the state of the point from normal to reset to clear all fan alarms. Once the state has been changed to reset, it will automatically change back to normal, no further action is needed.

- For all other alarms, the Alarm Reset (BV 36) will clear those alarms. Change the state of the point from normal to reset to clear all fan alarms. Once the state has been changed to reset, it will automatically change back to normal, no further action is needed.



Object and Diagnostic Data Points

For quick reference, the following tables are listed and sorted two different ways. Table 2, p. 16 through Table 8, p. 27 are listed by input/output type and sorted by object name. Table 9, p. 31 is sorted by Object Name.

Note: Not all points are available to the user. The available data points are defined and dependent on the type of equipment and options.

Table 2. Analog Input

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
AI1	Space Temperature Local	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with Space Temperature Option.	Local Space Temperature Sensor.	Read Only
AI7	Space Temperature Setpoint BAS	Temperature (°C or °F)	-7.2°C (45°F) to 35°C (95°F)	Units with Space Temperature Reset Method.	Setpoint used in the Reset Calculation based on return air to set the Discharge Air Setpoint.	Writeable
AI11	Discharge Air Temperature	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	All Units	Local Discharge Air Temperature Sensor	Read Only
AI12	Duct Static Pressure Local	Pressure in(H2O)	-0.25 to 5.2 in (H2O)	All Units	Local Duct Static Pressure Sensor.	Read Only
AI32	Return Air Temperature Local	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	All Units	Local Return Air Temperature Sensor	Read Only
AI46	Condenser Water Entering Temperature	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Water Cooled Condenser Units Only	Local Condenser Water Entering Temperature Sensor	Read Only
AI47	Condenser Water Leaving Temperature	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Water Cooled Condenser Units Only	Local condenser Water Leaving Temperature Sensor	Read Only
AI48	Condenser Tee Strainer High Pressure	Pressure (PSI)	-500 to 550 PSI	Water Cooled Condenser Units Only	Local Condenser Tee Strainer High Pressure Sensor	Read Only
AI49	Condenser Tee Strainer Low Pressure	Pressure (PSI)	-500 to 550 PSI	Water Cooled Condenser Units Only	Local Condenser Tee Strainer Low Pressure Sensor	Read Only
AI58	Air Filter Differential Pressure	Pressure in(H2O)	-10 to 10 in (H2O)	All Units	Local Air Filter Differential Pressure Sensor	Read Only
AI93	Compressor 1 Discharge Pressure Sensor	Pressure (PSI)	0 to 750 PSI	Units with at least 1 Compressor	Local Compressor Refrigerant Discharge (High) Pressure Sensor	Read Only
AI94	Compressor 1 Suction Pressure Sensor	Pressure (PSI)	0 to 750 PSI	Units with at least 1 Compressor	Local Compressor Refrigerant Suction (Low) Pressure Sensor	Read Only
AI95	Compressor 1 Suction Temperature	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with at least 1 Compressor	Local Compressor Refrigerant Suction (Low) Temperature Sensor	Read Only
AI96	Compressor 2 Discharge Pressure Sensor	Pressure (PSI)	0 to 750 PSI	Units with at least 2 Compressors	Local Compressor Refrigerant Discharge (High) Pressure Sensor	Read Only
AI97	Compressor 2 Suction Pressure Sensor	Pressure (PSI)	0 to 750 PSI	Units with at least 2 Compressors	Local Compressor Refrigerant Suction (Low) Pressure Sensor	Read Only
AI98	Compressor 2 Suction Temperature	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with at least 2 Compressors	Local Compressor Refrigerant Suction (Low) Temperature Sensor	Read Only
AI99	Compressor 3 Discharge Pressure Sensor	Pressure (PSI)	0 to 750 PSI	Units with at least 3 Compressors	Local Compressor Refrigerant Discharge (High) Pressure Sensor	Read Only
AI100	Compressor 3 Suction Pressure Sensor	Pressure (PSI)	0 to 750 PSI	Units with at least 3 Compressors	Local Compressor Refrigerant Suction (Low) Pressure Sensor	Read Only
AI101	Compressor 3 Suction Temperature	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with at least 3 Compressors	Local Compressor Refrigerant Suction (Low) Temperature Sensor	Read Only
AI102	Compressor 4 Discharge Pressure Sensor	Pressure (PSI)	0 to 750 PSI	Units with at least 4 Compressors	Local Compressor Refrigerant Discharge (High) Pressure Sensor	Read Only
AI103	Compressor 4 Suction Pressure Sensor	Pressure (PSI)	0 to 750 PSI	Units with at least 4 Compressors	Local Compressor Refrigerant Suction (Low) Pressure Sensor	Read Only
AI104	Compressor 4 Suction Temperature	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with at least 4 Compressors	Local Compressor Refrigerant Suction (Low) Temperature Sensor	Read Only

Table 3. Analog Outputs

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
AO11	Heating Output Command	Percent	0% to 100% Open	Units that include heating.	Analog Control that regulates water through the heating coil.	Read Only
AO81	Compressor 1 Condenser Regulating Valve	Percent	0% to 100% Open	Unit that Circuit 1 has a Water Regulating Valve installed	Analog Control that regulates water through the water cooled condenser of the compressor	Read Only
AO82	Compressor 2 Condenser Regulating Valve	Percent	0% to 100% Open	Unit that Circuit 2 has a Water Regulating Valve installed	Analog Control that regulates water through the water cooled condenser of the compressor	Read Only
AO83	Compressor 3 Condenser Regulating Valve	Percent	0% to 100% Open	Unit that Circuit 3 has a Water Regulating Valve installed	Analog Control that regulates water through the water cooled condenser of the compressor	Read Only
AO84	Compressor 4 Condenser Regulating Valve	Percent	0% to 100% Open	Unit that Circuit 4 has a Water Regulating Valve installed	Analog Control that regulates water through the water cooled condenser of the compressor	Read Only
AO90	Compressor 1 Variable Speed Command	Percent	0% to 100% Speed	Unit where compressor 1 is a VFD Compressor	Analog signal that controls the compressor speed	Read Only
AO96	Supply Fan 1 Speed Command	Percent	0% to 100% Speed	Units with at least 1 Fan	Analog signal that Controls the Fan Speed	Read Only
AO97	Supply Fan 2 Speed Command	Percent	0% to 100% Speed	Units with at least 2 Fan	Analog signal that Controls the Fan Speed	Read Only
AO98	Supply Fan 3 Speed Command	Percent	0% to 100% Speed	Units with at least 3 Fan	Analog signal that Controls the Fan Speed	Read Only
AO99	Supply Fan 4 Speed Command	Percent	0% to 100% Speed	Units with at least 4 Fan	Analog signal that Controls the Fan Speed	Read Only
AO100	Supply Fan 5 Speed Command	Percent	0% to 100% Speed	Units with at least 5 Fan	Analog signal that Controls the Fan Speed	Read Only
AO101	Supply Fan 6 Speed Command	Percent	0% to 100% Speed	Units with at least 6 Fan	Analog signal that Controls the Fan Speed	Read Only
AO105	Water Side Economizer Valve	Percent	0% to 100% Open	Units with a Water Side Economizer	Analog Control that regulates water through the water side economizer	Read Only

Table 4. Analog Values

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
AV7	Space Temperature Setpoint BAS	Temperature (°C or °F)	-7.2°C (45°F) to 35°C (95°F)	Units with Return Air Reset Method.	Setpoint used in the Reset Calculation based on space temperature to set the Discharge Air Setpoint.	Writeable
AV18	Discharge Air Cooling Setpoint Max BAS	Temperature (°C or °F)	10°C (50°F) to 29.4°C (85°F)	Units with Discharge Air Reset Method.	Sets the maximum Reset temperature when in the cooling mode.	Writeable
AV21	Discharge Air Temperature Setpoint Active	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	All Units	Setpoint the unit is using to control the discharge air temperature to.	Read Only
AV22	Discharge Air Temperature Setpoint Pgain	None		Units with Discharge Air Reset Method.	P Gain for the PID Discharge Air Reset Calculation	Read Only
AV24	Discharge Air Cooling Setpoint BAS	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	All Units	User Entered Setpoint to control the Discharge Air to when in the cooling mode.	Writeable
AV25	Discharge Air Heating Setpoint BAS	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Unit with a Heating Coil	User Entered Setpoint to control the Discharge Air to when in the Heating mode.	Writeable
AV52	Cooling Capacity Status	Percent	-150% to 150%	All Units	Cooling Capacity actually running on the unit	Read Only
AV61	Heat Control Pgain	None		Units with Discharge Air Reset Method.	P Gain for the PID Discharge Air Reset Calculation	Read Only
AV62	Heating Capacity Primary Status	Percent	-150% to 150%	All Units	Heating Capacity actually running on the unit	Read Only
AV72	Duct Static Pressure Active	Pressure in(H2O)	-5.0 to 5.0 in (H2O)	All Units	Duct static pressure the unit is controlling the fans to.	Read Only
AV73	Space Temperature BAS	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with Discharge Air Reset Method.	Setpoint the unit is using to control the discharge air temperature to.	Writeable
AV74	Space Temperature Active	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with Discharge Air Reset Method.	Setpoint the unit is using to control the discharge air temperature to.	Read Only
AV91	Duct Static Pressure Setpoint BAS	Pressure in(H2O)	-0.0 to 5.0 in (H2O)	All Units	User entered Setpoint to control the fans to the desired pressure.	Writeable
AV92	Duct Static Pressure Setpoint Active	Pressure in(H2O)	-5.0 to 5.0 in (H2O)	All Units	Setpoint being used to control the fans	Read Only
AV101	Supply Fan Speed Pgain	None	1 to 25	All Units	P Gain for the PID Supply Fan Speed Calculation	Read Only



Object and Diagnostic Data Points

Table 4. Analog Values (continued)

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
AV115	Supply Fan Speed Status	Percent	-150 % to 150 %	All Units	Speed the Fans are actually running	Read Only
AV124	Cooling Capacity Request	Percent	-150% to 150%	All Units	Cooling Capacity needed to meet the cooling demand.	Read Only
AV129	Dirty Air Filter DP Setpoint	Pressure in(H2O)	-10.0 to 5.0 in (H2O)	All Units	Filter pressure which will generate a dirty filter alarm when the filter differential pressure exceeds it.	Writeable
AV133	Active CoolCoil Control Sensor	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	All Units	Active temperature used for controlling the cooling calculation	Read Only
AV134	Active CoolCoil Control Setpoint	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	All Units	Active Setpoint used for controlling the cooling calculation	Read Only
AV135	Active HeatCoil Control Sensor	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with a Heating Coil Only	Active temperature used for controlling the cooling calculation	Read Only
AV136	Active HeatCoil Control Setpoint	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with a Heating Coil Only	Active Setpoint used for controlling the cooling calculation	Read Only
AV139	Cooling PID Output	Percent	-150% to 150%	All Units	Output from the cooling PID calculation.	Read Only
AV143	Heat Command Request	Percent	-150% to 150%	Units with a Heating Coil Only	Output from the cooling PID calculation.	Read Only
AV149	Cooling PID Maximum Value	Percent	-150% to 150%	All Units	Maximum value that the PID calculation can attain.	Read Only
AV150	Cooling Stages Requested	None	0 - 10	All Units	Number of Compressors which are requested to run	Read Only
AV162	Circuit 1 Compressor Speed	Percent	-150% to 150%	Units with variable speed compressor (s)	Speed Status for the variable speed compressor.	Read Only
AV173	Compressor P Gain	None	0.5 to 25	All Units	P Gain for the PID Cooling Calculation	Read Only
AV174	Compressor Speed P Gain	None	0.5 to 25	All Units	P Gain for the PID Cooling Calculation	Read Only
AV176	Compressor Error Deadband	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	All Units	Deadband Compressor calculation uses for speed calculation	Read Only
AV190	Discharge Air Low Temperature Cutout	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	All Units	User Entered Setpoint to disable the unit when the Discharge Air Temperature goes below this temperature.	Writeable
AV203	Supply Fan Maximum Speed Local	Percent	50 % to 150 %	All Units	The maximum speed the fan can run when enabled	Read Only
AV204	Supply Fan Minimum Speed Local	Percent	15 % to 150 %	All Units	The minimum speed the fan can run when enabled	Read Only
AV227	Return Temperature Setpoint BAS	Temperature (°C or °F)	-7.2°C (45°F) to 35°C (95°F)	Units with Return Air Reset Method.	Setpoint used in the Reset Calculation based on return air to set the Discharge Air Setpoint.	Writeable
AV300	Compressor 1 Calculated Diff Refrigerant Pressure	PSI	-500 psi to 500 psi	Units with 1 Compressor	Calculated Differential Pressure between the Discharge and Suction Pressure Sensors	Read Only
AV301	Compressor 1 Calculated Max Speed (Percent)	Percent	-150% to 150%	Units with 1 Compressor	Calculated Maximum Speed in RPM of the Variable speed Compressor	Read Only
AV302	Compressor 1 Calculated Saturated Discharge Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 1 Compressor	Calculated Saturated Discharge Temperature calculated by the refrigerant temp and pressure.	Read Only
AV303	Compressor 1 Calculated Saturated Suction Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 1 Compressor	Calculated Suction Temperature by pressure to temperature conversion.	Read Only
AV304	Compressor 1 Calculated Speed (RPM)	None	0 - 15000 RPM	Units with 1 Compressor	Calculation of the current speed of the variable speed compressor, based on Min and Max speed setpoints.	Read Only
AV305	Compressor 1 Calculated Superheat	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 1 Compressor	Calculated Superheat of the Suction line by Temperature and pressure sensors.	Read Only
AV306	Compressor 1 Estimated Cond Approach Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 1 Compressor with Cond Reg Valve	Calculated Condenser approach temperature based off Refrigerant PT Conversion and water temperature.	Read Only
AV307	Compressor 1 Estimated Evap Approach Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 1 Compressor	Calculated approach temperature of the Evaporator refrigerant temperature and the air temperature.	Read Only
AV308	Compressor 1 Max Cond Valve Setpoint	Percent	-150% to 150%	Units with 1 Compressor with Cond Reg Valve	Maximum Valve position for the condenser regulating valve.	Read Only
AV309	Compressor 1 Max Speed (RPM)	None	5500 -15000 RPM	Units with 1 Compressor	Maximum Speed for the installed Compressor (Set at Factory)	Read Only
AV310	Compressor 1 Max Speed Setpt (RPM)	None	5500 -15000 RPM	Units with 1 Compressor	Maximum Speed Setpoint for the installed compressor. (May not be the compressor maximum and set at Factory)	Read Only

Table 4. Analog Values (continued)

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
AV311	Compressor 1 Min Cond Valve Setpoint	Percent	-150% to 150%	Units with 1 Compressor with Cond Reg Valve	Minimum Valve position for the condenser regulating valve.	Read Only
AV312	Compressor 1 Min Speed (RPM)	None	1100 -15000 RPM	Units with 1 Compressor	Maximum Speed for the installed Compressor. (Set at Factory)	Read Only
AV313	Compressor 1 Min Speed Setpt (RPM)	None	1200 - 4000 RPM	Units with 1 Compressor	Maximum Speed Setpoint for the installed compressor. (May not be the compressor maximum and set at factory)	Read Only
AV314	Compressor 1 Run Hours	None	0 - 999999827968	Units with 1 Compressor	Totalized run hours of the compressor from the last run hour reset or program change.	Read Only
AV319	Compressor 2 Calculated Diff Refrigerant Pressure	PSI	-500 psi to 500 psi	Units with 2 Compressor	Calculated Differential Pressure between the Discharge and Suction Pressure Sensors	Read Only
AV320	Compressor 2 Calculated Saturated Discharge Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 2 Compressor	Calculated Saturated Discharge Temperature calculated by the refrigerant temp and pressure.	Read Only
AV321	Compressor 2 Calculated Saturated Suction Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 2 Compressor	Calculated Suction Temperature by pressure to temperature conversion.	Read Only
AV322	Compressor 2 Calculated Superheat	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 2 Compressor	Calculated Superheat of the Suction line by Temperature and pressure sensors.	Read Only
AV323	Compressor 2 Estimated Cond Approach Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 2 Compressor with Cond Reg Valve	Calculated Condenser approach temperature based off Refrigerant PT Conversion and water temperature.	Read Only
AV324	Compressor 2 Estimated Evap Approach Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 2 Compressor	Calculated approach temperature of the Evaporator refrigerant temperature and the air temperature.	Read Only
AV325	Compressor 2 Max Cond Valve Setpoint	Percent	-150% to 150%	Units with 2 Compressor with Cond Reg Valve	Maximum Valve position for the condenser regulating valve.	Read Only
AV326	Compressor 2 Min Cond Valve Setpoint	Percent	-150% to 150%	Units with 2 Compressor with Cond Reg Valve	Minimum Valve position for the condenser regulating valve.	Read Only
AV327	Compressor 2 Run Hours	None	0 - 999999827968	Units with 2 Compressor	Totalized run hours of the compressor from the last run hour reset or program change.	Read Only
AV328	Compressor 2 Sequence Number	None	0 - 5	Units with 2 Compressor	Sequence Number to indicate what sequence the compressor will start in.	Read Only
AV333	Compressor 3 Calculated Diff Refrigerant Pressure	PSI	-500 psi to 500 psi	Units with 3 Compressor	Calculated Differential Pressure between the Discharge and Suction Pressure Sensors	Read Only
AV334	Compressor 3 Calculated Saturated Discharge Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 3 Compressor	Calculated Saturated Discharge Temperature calculated by the refrigerant temp and pressure.	Read Only
AV335	Compressor 3 Calculated Saturated Suction Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 3 Compressor	Calculated Suction Temperature by pressure to temperature conversion.	Read Only
AV336	Compressor 3 Calculated Superheat	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 3 Compressor	Calculated Superheat of the Suction line by Temperature and pressure sensors.	Read Only
AV337	Compressor 3 Estimated Cond Approach Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 3 Compressor with Cond Reg Valve	Calculated Condenser approach temperature based off Refrigerant PT Conversion and water temperature.	Read Only
AV338	Compressor 3 Estimated Evap Approach Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 3 Compressor	Calculated approach temperature of the Evaporator refrigerant temperature and the air temperature.	Read Only
AV339	Compressor 3 Max Cond Valve Setpoint	Percent	-150% to 150%	Units with 3 Compressor with Cond Reg Valve	Maximum Valve position for the condenser regulating valve.	Read Only
AV340	Compressor 3 Min Cond Valve Setpoint	Percent	-150% to 150%	Units with 3 Compressor with Cond Reg Valve	Minimum Valve position for the condenser regulating valve.	Read Only
AV341	Compressor 3 Run Hours	None	0 - 999999827968	Units with 3 Compressor	Totalized run hours of the compressor from the last run hour reset or program change.	Read Only
AV342	Compressor 3 Sequence Number	None	0 - 5	Units with 3 Compressor	Sequence Number to indicate what sequence the compressor will start in.	Read Only
AV347	Compressor 4 Calculated Diff Refrigerant Pressure	PSI	-500 psi to 500 psi	Units with 4 Compressor	Calculated Differential Pressure between the Discharge and Suction Pressure Sensors	Read Only



Object and Diagnostic Data Points

Table 4. Analog Values (continued)

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
AV348	Compressor 4 Calculated Saturated Discharge Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 4 Compressor	Calculated Saturated Discharge Temperature calculated by the refrigerant temp and pressure.	Read Only
AV349	Compressor 4 Calculated Saturated Suction Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 4 Compressor	Calculated Suction Temperature by pressure to temperature conversion.	Read Only
AV350	Compressor 4 Calculated Superheat	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 4 Compressor	Calculated Superheat of the Suction line by Temperature and pressure sensors.	Writeable
AV351	Compressor 4 Estimated Cond Approach Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 4 Compressor with Cond Reg Valve	Calculated Condenser approach temperature based off Refrigerant PT Conversion and water temperature.	Writeable
AV352	Compressor 4 Estimated Evap Approach Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 4 Compressor	Calculated approach temperature of the Evaporator refrigerant temperature and the air temperature.	Writeable
AV353	Compressor 4 Max Cond Valve Setpoint	Percent	-150% to 150%	Units with 4 Compressor with Cond Reg Valve	Maximum Valve position for the condenser regulating valve.	Writeable
AV354	Compressor 4 Min Cond Valve Setpoint	Percent	-150% to 150%	Units with 4 Compressor with Cond Reg Valve	Minimum Valve position for the condenser regulating valve.	Writeable
AV355	Compressor 4 Run Hours	None	0 - 9999999827968	Units with 4 Compressor	Totalized run hours of the compressor from the last run hour reset or program change.	Read Only
AV356	Compressor 4 Sequence Number	None	0 - 5	Units with 4 Compressor	Sequence Number to indicate what sequence the compressor will start in.	Read Only
AV361	Compressors Available	None	-1000 to 1000	All Units	Number of Compressor which are available to run.	Read Only
AV363	Condenser Control Percent of Design	Percent	50 % to 100 %	Water Cooled Condenser Units Only	sets the percentage of the Control Pressure Setpoint that will be used to control the Discharge Pressure on the unit	Writeable
AV364	Condenser Design Max Pressure	PSI	-500 psi to 500 psi	Water Cooled Condenser Units Only	Condenser Max Design Pressure set by the Factory.	Read Only
AV365	Condenser Purge Time (Min)	None	5 to 60	Water Cooled Condenser Units Only	Time that the Compressor regulating valves will be open during purge mode	Writeable
AV366	Condenser Control Pressure Setpoint	PSI	-500 psi to 500 psi	Water Cooled Condenser Units Only	Calculated Condenser Control Pressure Setpoint based on the Percentage of Design and the Max Pressure	Read Only
AV368	Condenser Tee Strainer Calculated Diff Press	PSI	-10 psi to 10 psi	Water Cooled Condenser Units Only	Calculated Differential Pressure between the High and Low Condenser Tee Strainer sensors.	Read Only
AV369	Condenser Tee Strainer Calculated High Pressure	PSI	-10 psi to 600 psi	Water Cooled Condenser Units Only	Calculated High Pressure based off High Pressure input and High Pressure Offset	Read Only
AV370	Condenser Tee Strainer Calculated Low Pressure	PSI	-10 psi to 600 psi	Water Cooled Condenser Units Only	Calculated Low Pressure based off Low Pressure input and Low Pressure Offset	Read Only
AV371	Condenser Tee Strainer Diff Pressure Alarm Setpt	PSI	-500 psi to 500 psi	Water Cooled Condenser Units Only	Alarm Setpoint to generate alarm for a dirty strainer Tee based on the differential pressure.	Writeable
AV372	Condenser Tee Strainer High Pressure Offset	PSI	-15 psi to 15 psi	Water Cooled Condenser Units Only	Offset applied to the High Pressure reading to calibrate the sensor with a local gauge.	Writeable
AV373	Condenser Tee Strainer Low Pressure Offset	PSI	-15 psi to 15 psi	Water Cooled Condenser Units Only	Offset applied to the Low Pressure reading to calibrate the sensor with a local gauge.	Writeable
AV375	Condenser Valve Control P Gain	None	0.1 to 10	All Units	P Gain for the PID Condenser Calculation	Read Only
AV378	Duct Static Pressure Safety Lockout Setpoint	in(H2O)	-5.0 to 5.0 in (H2O)	All Units	If the Duct Static exceeds this Setpoint it will shut down the unit and require a manual reset.	Writeable
AV380	Variable Speed Compressor Ramp Up Delay (Sec)	None	30 to 250	Units with variable speed compressor (s)	This delay time disabled the Speed PID calculation from calculating until the delay time expires, due to the automatic ramp up built into the VFD	Read Only
AV382	Water Side Econ Calculated Enable Setpoint	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with Water Side Economizer	Temperature that the entering water must be in order to enable the Water side economizer for cooling.	Read Only
AV383	Water Side Econ Sample Time (Min)	None	1 to 5	Units with Water Side Economizer	time that the Water Side Economizer will sample the water to see if it can use for cooling.	Writeable

Table 4. Analog Values (continued)

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
AV384	Water Side Econ Valve Control P Gain	None	-1000 to 1000	Units with Water Side Economizer	P Gain for the PID Condenser Calculation	Read Only
AV385	Water Side Economizer Enable Offset	▲ Temperature	4 - 7 Degrees	Units with Water Side Economizer	This is used to calculate the Water Side Econ Enable Setpoint	Writeable
AV385	Water Side Economizer Enable Offset	▲ Temperature	4 - 7 Degrees	Units with Water Side Economizer	This is used to calculate the Water Side Econ Enable Setpoint	Writeable

Table 5. Binary Inputs

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
BI9	Emergency Stop	None	None	All Units	Normally Closed Input Open = Emergency Stop Closed = Normal	Read Only
BI10	External Auto Stop Input Status	None	None	All Units	Normally Closed Input Open = External Stop Closed = Auto	Read Only
BI29	Occupancy Input	None	None	All Units	Normally Open Input Open = Unoccupied Closed = Occupied	Read Only
BI42	Condenser Water Flow Switch	None	None	All Units	Open = No Flow Closed = Flow	Read Only
BI78	Heat/Cool Mode GBAS Input	None	None	Units with GBAS Option	Open = Heating Closed = Cooling	Read Only
BI80	Supply Fan 1 VFD Fault	None	None	Units with at least 1 Fan	Normally Closed Input Open = Alarm Closed = Normal	Read Only
BI81	Supply Fan 2 VFD Fault	None	None	Units with at least 2 Fan	Normally Closed Input Open = Alarm Closed = Normal	Read Only
BI82	Supply Fan 3 VFD Fault	None	None	Units with at least 3 Fan	Normally Closed Input Open = Alarm Closed = Normal	Read Only
BI83	Supply Fan 4 VFD Fault	None	None	Units with at least 4 Fan	Normally Closed Input Open = Alarm Closed = Normal	Read Only
BI84	Supply Fan 5 VFD Fault	None	None	Units with at least 5 Fan	Normally Closed Input Open = Alarm Closed = Normal	Read Only
BI85	Supply Fan 6 VFD Fault	None	None	Units with at least 6 Fan	Normally Closed Input Open = Alarm Closed = Normal	Read Only
BI90	Compressor 1 High Pressure Cutout	None	None	Units with at least 1 Compressor	Normally Closed Input Open = Alarm Closed = Normal	Read Only
BI91	Compressor 2 High Pressure Cutout	None	None	Units with at least 2 Compressors	Normally Closed Input Open = Alarm Closed = Normal	Read Only
BI92	Compressor 3 High Pressure Cutout	None	None	Units with at least 3 Compressors	Normally Closed Input Open = Alarm Closed = Normal	Read Only
BI93	Compressor 4 High Pressure Cutout	None	None	Units with at least 4 Compressors	Normally Closed Input Open = Alarm Closed = Normal	Read Only
BI98	Compressor 1 VFD Fault	None	None	Unit where compressor 1 is a VFD Compressor	Normally Closed Input Open = Alarm Closed = Normal	Read Only
BI107	Compressor 2 Safety Circuit Status	None	None	Units with at least 2 Compressors	Normally Open Input Open = Circuit Open Closed = Circuit Closed (Completed)	Read Only
BI108	Compressor 3 Safety Circuit Status	None	None	Units with at least 3 Compressors	Normally Open Input Open = Circuit Open Closed = Circuit Closed (Completed)	Read Only
BI109	Compressor 4 Safety Circuit Status	None	None	Units with at least 4 Compressors	Normally Open Input Open = Circuit Open Closed = Circuit Closed (Completed)	Read Only
BI114	Compressor 1 Status	None	None	Unit where compressor 1 is a VFD Compressor	Normally Open Input Open = Off Closed = On	Read Only



Object and Diagnostic Data Points

Table 6. Binary Outputs

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
BO11	Compressor 1 Command	None	None	Units with at least 1 Compressor	Normally Open Contacts Used Only Open = Stop Closed = Run Normally Closed Contacts not used	Read Only
BO12	Compressor 2 Command	None	None	Units with at least 2 Compressors	Normally Open Contacts Used Only Open = Stop Closed = Run Normally Closed Contacts not used	Read Only
BO13	Compressor 3 Command	None	None	Units with at least 3 Compressors	Normally Open Contacts Used Only Open = Stop Closed = Run Normally Closed Contacts not used	Read Only
BO14	Compressor 4 Command	None	None	Units with at least 4 Compressors	Normally Open Contacts Used Only Open = Stop Closed = Run Normally Closed Contacts not used	Read Only
BO100	Supply Fan 1 Start Stop Command	None	None	Units with at least 1 Fan	Normally Open Contacts Used Only Open = Stop Closed = Run Normally Closed Contacts not used	Read Only
BO101	Supply Fan 2 Start Stop Command	None	None	Units with at least 2 Fan	Normally Open Contacts Used Only Open = Stop Closed = Run Normally Closed Contacts not used	Read Only
BO102	Supply Fan 3 Start Stop Command	None	None	Units with at least 3 Fan	Normally Open Contacts Used Only Open = Stop Closed = Run Normally Closed Contacts not used	Read Only
BO103	Supply Fan 4 Start Stop Command	None	None	Units with at least 4 Fan	Normally Open Contacts Used Only Open = Stop Closed = Run Normally Closed Contacts not used	Read Only
BO104	Supply Fan 5 Start Stop Command	None	None	Units with at least 5 Fan	Normally Open Contacts Used Only Open = Stop Closed = Run Normally Closed Contacts not used	Read Only
BO105	Supply Fan 6 Start Stop Command	None	None	Units with at least 6 Fan	Normally Open Contacts Used Only Open = Stop Closed = Run Normally Closed Contacts not used	Read Only
BO108	Compressor 1 VFD Alarm Reset	None	None	Unit where compressor 1 is a VFD Compressor	Normally Open Contacts Used Only Open = Normal Closed = Reset Normally Closed Contacts not used	Read Only
BO109	Compressor 1 E-Stop Shutdown Command	None	None	Unit where compressor 1 is a VFD Compressor	Normally Open Contacts Used Only Open = Normal Closed = Emergency Stop Normally Closed Contacts not used	Read Only
BO125	Cooling Tower Pump Request	None	None	Water Cooled Condenser Units Only	Normally Open Contacts Used Only Open = Off Closed = Request On Normally Closed Contacts not used	Read Only
BO126	Unit Alarm Output Command	None	None	All Units	Normally Open Contacts Used Only Open = No Alarms Closed = Alarm Present Normally Closed Contacts not used	Read Only
BO130	Dirty Filter Alarm GBAS Output	None	None	Only Units with GBAS Option ordered.	Normally Open Contacts Used Only Open = No Alarms Closed = Alarm Present Normally Closed Contacts not used	Read Only
BO131	Refrigeration Circuit Failure Alarm GBAS Output	None	None	Only Units with GBAS Option ordered.	Normally Open Contacts Used Only Open = No Alarms Closed = Alarm Present Normally Closed Contacts not used	Read Only
BO132	Supply Fan Failure Alarm GBAS Output	None	None	Only Units with GBAS Option ordered.	Normally Open Contacts Used Only Open = No Alarms Closed = Alarm Present Normally Closed Contacts not used	Read Only
BO133	Heat Failure Alarm GBAS Output	None	None	Only Units with GBAS Option ordered.	Normally Open Contacts Used Only Open = No Alarms Closed = Alarm Present Normally Closed Contacts not used	Read Only

Table 7. Binary Values

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
BV2	Supply Fan Failure Reset	None	None	All units	Open = Normal Closed = Reset	Read Only
BV11	Diagnostic: Space Temperature Source Failure	None	None	Units with Space Temperature Option.	Open = Normal Closed = Failure Non latching Diagnostic, clears automatically	Read Only

Table 7. Binary Values (continued)

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
BV15	Diagnostic: Duct Static Pressure Failure	None	None	Units with Duct Pressure Sensor	Open = Normal Closed = Failure Non latching Diagnostic, clears automatically	Read Only
BV18	Cooling Safeties OK	None	None	All Units	Open = Stop Cooling Closed = Cooling OK	Read Only
BV19	Diagnostic: Discharge Air Low Temperature Lockout	None	None	All Units	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Alarm Reset or Power Cycle.	Read Only
BV21	Heat Cool Mode Active	None	None	All Units	Open = Heat Closed = Cool	Read Only
BV29	Compressor 1 Lockout BAS	None	None	Units with at least 1 Compressor	Open = Available Closed = Locked Out	Writeable
BV30	Compressor 2 Lockout BAS	None	None	Units with at least 2 Compressors	Open = Available Closed = Locked Out	Writeable
BV31	Compressor 3 Lockout BAS	None	None	Units with at least 3 Compressors	Open = Available Closed = Locked Out	Writeable
BV32	Compressor 4 Lockout BAS	None	None	Units with at least 4 Compressors	Open = Available Closed = Locked Out	Writeable
BV36	Alarm Reset	None	None	All Units	Open = Normal Closed = Reset	Writeable
BV37	Diagnostic: Auto Reset	None	None	All Units	Open = Normal Closed = Alarm	Read Only
BV42	Diagnostic: Discharge Air Temperature Source Failure	None	None	All Units	Open = Normal Closed = Failure Non latching Diagnostic, clears automatically	Read Only
BV52	Mixed Air Low Limit Active	None	None	Units with Water Side Economizer		Read Only
BV62	Fan Latch	None	None	All Units	Open = Off Closed = Fan Run	Read Only
BV63	Startup Delay Completed	None	None	All Units	Open = No Closed = Yes	Read Only
BV65	Fan Safeties OK	None	None	All Units	Open = No Closed = Yes	Read Only
BV70	Diagnostic: Condenser Water Low Temperature Lockout	None	None	All Units	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Alarm Reset or Power Cycle.	Read Only
BV72	Diagnostic: Dirty Air Filter	None	None	All Units	Open = Clean Closed = Dirty Latching Diagnostic. Cleared with Filter Alarm Reset or Power Cycle.	Read Only
BV75	Economizer Interlock OK	None	None	All Units	Open = Off Closed = On	Read Only
BV76	Active CoolCoil Control Sensor Failed	None	None	All Units	Open = Normal Closed = Failure Non latching Diagnostic, clears automatically	Read Only
BV77	Active HeatCoil Control Sensor Failed	None	None	Units with a Heating Coil Only	Open = Normal Closed = Failure Non latching Diagnostic, clears automatically	Read Only
BV78	Optional Heat Enable Command	None	None	Units with a Heating Coil Only	Open = Off Closed = On	Read Only
BV79	Optional Heat Lockout	None	None	Units with a Heating Coil Only	Open = Inactive Closed = Locked Out	Read Only
BV80	Heating Lockout BAS	None	None	Units with a Heating Coil Only	Open = Inactive Closed = Locked Out	Writeable
BV190	Compressor 1 Calculated Status	None	None	Units with 1 Compressor	Open = Off Closed = On	Read Only
BV191	Compressor 1 Call	None	None	Units with 1 Compressor	Open = Stop Closed = Run	Read Only
BV193	Compressor 1 Cond Purge Status	None	None	Units with 1 Compressor	Open = Inactive Closed = Purge Active	Writeable
BV194	Compressor 1 Cond Valve Open	None	None	Units with 1 Compressor	Open = Closed Closed = Open	Read Only
BV195	Compressor 1 Failure Reset	None	None	Units with 1 Compressor	Open = Normal Closed = Reset	Writeable
BV196	Compressor 1 Run Hour Reset	None	None	Units with 1 Compressor	Open = Normal Closed = Reset	Writeable
BV197	Compressor 1 Safety Lockout	None	None	Units with 1 Compressor	Open = Inactive Closed = Lockout Active	Read Only
BV200	Compressor 2 Calculated Status	None	None	Units with 2 Compressor	Open = Off Closed = On	Read Only



Object and Diagnostic Data Points

Table 7. Binary Values (continued)

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
BV201	Compressor 2 Call	None	None	Units with 2 Compressor	Open = Stop Closed = Run	Read Only
BV203	Compressor 2 Cond Purge Status	None	None	Units with 2 Compressor	Open = Inactive Closed = Purge Active	Writeable
BV204	Compressor 2 Cond Valve Open	None	None	Units with 2 Compressor	Open = Closed Closed = Open	Read Only
BV205	Compressor 2 Failure Reset	None	None	Units with 2 Compressor	Open = Normal Closed = Reset	Writeable
BV206	Compressor 2 Run Hour Reset	None	None	Units with 2 Compressor	Open = Normal Closed = Reset	Writeable
BV207	Compressor 2 Safety Lockout	None	None	Units with 2 Compressor	Open = Inactive Closed = Lockout Active	Read Only
BV210	Compressor 3 Calculated Status	None	None	Units with 3 Compressor	Open = Off Closed = On	Read Only
BV211	Compressor 3 Call	None	None	Units with 3 Compressor	Open = Stop Closed = Run	Read Only
BV213	Compressor 3 Cond Purge Status	None	None	Units with 3 Compressor	Open = Inactive Closed = Purge Active	Writeable
BV214	Compressor 3 Cond Valve Open	None	None	Units with 3 Compressor	Open = Closed Closed = Open	Read Only
BV215	Compressor 3 Failure Reset	None	None	Units with 3 Compressor	Open = Normal Closed = Reset	Writeable
BV216	Compressor 3 Run Hour Reset	None	None	Units with 3 Compressor	Open = Normal Closed = Reset	Writeable
BV217	Compressor 3 Safety Lockout	None	None	Units with 3 Compressor	Open = Inactive Closed = Lockout Active	Read Only
BV220	Compressor 4 Calculated Status	None	None	Units with 4 Compressor	Open = Off Closed = On	Read Only
BV221	Compressor 4 Call	None	None	Units with 4 Compressor	Open = Stop Closed = Run	Read Only
BV223	Compressor 4 Cond Purge Status	None	None	Units with 4 Compressor	Open = Inactive Closed = Purge Active	Writeable
BV224	Compressor 4 Cond Valve Open	None	None	Units with 4 Compressor	Open = Closed Closed = Open	Read Only
BV225	Compressor 4 Failure Reset	None	None	Units with 4 Compressor	Open = Normal Closed = Reset	Writeable
BV226	Compressor 4 Run Hour Reset	None	None	Units with 4 Compressor	Open = Normal Closed = Reset	Writeable
BV227	Compressor 4 Safety Lockout	None	None	Units with 4 Compressor	Open = Inactive Closed = Lockout Active	Read Only
BV250	Compressor Cond Valve Installed	None	None	All Units	Open = Not Installed Closed = Installed	Read Only
BV251	Condenser Water Flow Type	None	None	All Units	Open = Variable Flow Closed = Constant Flow	Writeable
BV255	Water Side Economizer Lockout BAS	None	None	Units with Water Side Economizer	Open = Available Closed = Locked Out	Read Only
BV260	Diagnostic: Compressor 1 Discharge Pressure Sensor Failure	None	None	Units with 1 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 1 Failure Reset or Power Cycle.	Read Only
BV261	Diagnostic: Compressor 1 Frost	None	None	Units with 1 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 1 Failure Reset or Power Cycle.	Read Only
BV262	Diagnostic: Compressor 1 High Pressure Shutdown	None	None	Units with 1 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 1 Failure Reset or Power Cycle.	Read Only
BV263	Diagnostic: Compressor 1 High Superheat	None	None	Units with 1 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 1 Failure Reset or Power Cycle.	Read Only
BV264	Diagnostic: Compressor 1 Low Superheat	None	None	Units with 1 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 1 Failure Reset or Power Cycle.	Read Only
BV265	Diagnostic: Compressor 1 Safety Circuit Alarm	None	None	Units with 1 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 1 Failure Reset or Power Cycle.	Read Only
BV266	Diagnostic: Compressor 1 Suction Pressure Sensor Failure	None	None	Units with 1 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 1 Failure Reset or Power Cycle.	Read Only

Object and Diagnostic Data Points

Table 7. Binary Values (continued)

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
BV267	Diagnostic: Compressor 1 Suction Temperature Sensor Failure	None	None	Units with 1 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 1 Failure Reset or Power Cycle.	Read Only
BV270	Diagnostic: Compressor 2 Discharge Pressure Sensor Failure	None	None	Units with 2 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 1 Failure Reset or Power Cycle.	Read Only
BV271	Diagnostic: Compressor 2 Froststat	None	None	Units with 2 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 2 Failure Reset or Power Cycle.	Read Only
BV272	Diagnostic: Compressor 2 High Pressure Shutdown	None	None	Units with 2 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 2 Failure Reset or Power Cycle.	Read Only
BV273	Diagnostic: Compressor 2 High Superheat	None	None	Units with 2 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 2 Failure Reset or Power Cycle.	Read Only
BV274	Diagnostic: Compressor 2 Low Superheat	None	None	Units with 2 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 2 Failure Reset or Power Cycle.	Read Only
BV275	Diagnostic: Compressor 2 Safety Circuit Alarm	None	None	Units with 2 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 2 Failure Reset or Power Cycle.	Read Only
BV276	Diagnostic: Compressor 2 Suction Pressure Sensor Failure	None	None	Units with 2 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 2 Failure Reset or Power Cycle.	Read Only
BV277	Diagnostic: Compressor 2 Suction Temperature Sensor Failure	None	None	Units with 2 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 2 Failure Reset or Power Cycle.	Read Only
BV280	Diagnostic: Compressor 3 Discharge Pressure Sensor Failure	None	None	Units with 3 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 3 Failure Reset or Power Cycle.	Read Only
BV281	Diagnostic: Compressor 3 Froststat	None	None	Units with 3 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 3 Failure Reset or Power Cycle.	Read Only
BV282	Diagnostic: Compressor 3 High Pressure Shutdown	None	None	Units with 3 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 3 Failure Reset or Power Cycle.	Read Only
BV283	Diagnostic: Compressor 3 High Superheat	None	None	Units with 3 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 3 Failure Reset or Power Cycle.	Read Only
BV284	Diagnostic: Compressor 3 Low Superheat	None	None	Units with 3 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 3 Failure Reset or Power Cycle.	Read Only
BV285	Diagnostic: Compressor 3 Safety Circuit Alarm	None	None	Units with 3 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 3 Failure Reset or Power Cycle.	Read Only
BV286	Diagnostic: Compressor 3 Suction Pressure Sensor Failure	None	None	Units with 3 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 3 Failure Reset or Power Cycle.	Read Only
BV287	Diagnostic: Compressor 3 Suction Temperature Sensor Failure	None	None	Units with 3 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 3 Failure Reset or Power Cycle.	Read Only
BV290	Diagnostic: Compressor 4 Discharge Pressure Sensor Failure	None	None	Units with 4 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 4 Failure Reset or Power Cycle.	Read Only



Object and Diagnostic Data Points

Table 7. Binary Values (continued)

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
BV291	Diagnostic: Compressor 4 Frost	None	None	Units with 4 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 4 Failure Reset or Power Cycle.	Read Only
BV292	Diagnostic: Compressor 4 High Pressure Shutdown	None	None	Units with 4 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 4 Failure Reset or Power Cycle.	Read Only
BV293	Diagnostic: Compressor 4 High Superheat	None	None	Units with 4 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 4 Failure Reset or Power Cycle.	Read Only
BV294	Diagnostic: Compressor 4 Low Superheat	None	None	Units with 4 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 4 Failure Reset or Power Cycle.	Read Only
BV295	Diagnostic: Compressor 4 Safety Circuit Alarm	None	None	Units with 4 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 4 Failure Reset or Power Cycle.	Read Only
BV296	Diagnostic: Compressor 4 Suction Pressure Sensor Failure	None	None	Units with 4 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 4 Failure Reset or Power Cycle.	Read Only
BV297	Diagnostic: Compressor 4 Suction Temperature Sensor Failure	None	None	Units with 4 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 4 Failure Reset or Power Cycle.	Read Only
BV320	Diagnostic: Dirty Condenser Tee Filter	None	None	Water Cooled Condenser Units Only	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Filter Alarm Reset or Power Cycle.	Read Only
BV321	Diagnostic: Software High Duct Static Alarm	None	None	All Units	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Filter Alarm Reset or Power Cycle.	Read Only
BV322	Diagnostic: Condenser Water Flow Loss	None	None	Water Cooled Condenser Units Only	Open = Normal Closed = Failure Non latching Diagnostic, clears automatically	Read Only
BV325	Filter Alarm Reset	None	None	All Units	Open = Normal Closed = Reset	Writeable
BV326	Fixed Speed Compressor Rotate BAS	None	None	Units with more than 2 Compressors	Open = Normal Closed = Rotate	Writeable
BV327	Fixed Speed Compressor Rotate Schedule=BAS/Local	None	None	Units with more than 2 Compressors	Open = BAS Closed = Local	Writeable
BV329	Local Auto Stop	None	None	All Units	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Supply Fan Failure Reset or Power Cycle.	Writeable
BV330	Supply Fan 1 Calculated Status	None	None	Units with at least 1 Supply Fan	Open = Off Closed = On	Read Only
BV331	Supply Fan 1 Failure	None	None	Units with at least 1 Supply Fan	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Supply Fan Failure Reset or Power Cycle.	Read Only
BV332	Supply Fan 1 Lockout BAS	None	None	Units with at least 1 Supply Fan	Open = Available Closed = Locked Out	Writeable
BV335	Supply Fan 2 Calculated Status	None	None	Units with at least 2 Supply Fan	Open = Off Closed = On	Read Only
BV336	Supply Fan 2 Failure	None	None	Units with at least 2 Supply Fan	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Supply Fan Failure Reset or Power Cycle.	Read Only
BV337	Supply Fan 2 Lockout BAS	None	None	Units with at least 2 Supply Fan	Open = Available Closed = Locked Out	Writeable
BV340	Supply Fan 3 Calculated Status	None	None	Units with at least 3 Supply Fan	Open = Off Closed = On	Read Only

Table 7. Binary Values (continued)

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
BV341	Supply Fan 3 Failure	None	None	Units with at least 3 Supply Fan	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Supply Fan Failure Reset or Power Cycle.	Read Only
BV342	Supply Fan 3 Lockout BAS	None	None	Units with at least 3 Supply Fan	Open = Available Closed = Locked Out	Writeable
BV345	Supply Fan 4 Calculated Status	None	None	Units with at least 4 Supply Fan	Open = Off Closed = On	Read Only
BV346	Supply Fan 4 Failure	None	None	Units with at least 4 Supply Fan	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Supply Fan Failure Reset or Power Cycle.	Read Only
BV347	Supply Fan 4 Lockout BAS	None	None	Units with at least 4 Supply Fan	Open = Available Closed = Locked Out	Writeable
BV350	Supply Fan 5 Calculated Status	None	None	Units with at least 5 Supply Fan	Open = Off Closed = On	Read Only
BV351	Supply Fan 5 Failure	None	None	Units with at least 5 Supply Fan	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Supply Fan Failure Reset or Power Cycle.	Read Only
BV352	Supply Fan 5 Lockout BAS	None	None	Units with at least 5 Supply Fan	Open = Available Closed = Locked Out	Writeable
BV355	Supply Fan 6 Calculated Status	None	None	Units with at least 6 Supply Fan	Open = Off Closed = On	Read Only
BV356	Supply Fan 6 Failure	None	None	Units with at least 6 Supply Fan	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Supply Fan Failure Reset or Power Cycle.	Read Only
BV357	Supply Fan 6 Lockout BAS	None	None	Units with at least 6 Supply Fan	Open = Available Closed = Locked Out	Writeable
BV360	Supply Fan Calculated Status	None	None	All Units	Open = Off Closed = Running	Read Only
BV365	Warning: Compressor 1 Cond Limit Status	None	None	Units with at least 1 Compressor	Open = Normal Capacity Closed = Limited Capacity	Read Only
BV366	Warning: Compressor 1 Frostat Limit Status	None	None	Units with at least 1 Compressor	Open = Normal Closed = Warning Active	Read Only
BV370	Warning: Compressor 2 Frostat Warning	None	None	Units with at least 2 Compressor	Open = Normal Closed = Warning Active	Read Only
BV371	Warning: Compressor 2 High Discharge Press Warning	None	None	Units with at least 2 Compressor	Open = Normal Closed = Warning Active	Read Only
BV375	Warning: Compressor 3 Frostat Warning	None	None	Units with at least 3 Compressor	Open = Normal Closed = Warning Active	Read Only
BV376	Warning: Compressor 3 High Discharge Press Warning	None	None	Units with at least 3 Compressor	Open = Normal Closed = Warning Active	Read Only
BV380	Warning: Compressor 4 Frostat Warning	None	None	Units with at least 4 Compressor	Open = Normal Closed = Warning Active	Read Only
BV381	Warning: Compressor 4 High Discharge Press Warning	None	None	Units with at least 4 Compressor	Open = Normal Closed = Warning Active	Read Only

Table 8. Multi-state Values

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
MV1	Occupancy Request	None	None	All Units	[1, Occupied]_x000D_ [2, Unoccupied]_x000D_ [3, Occupied Bypass]_x000D_ [4, Occupied Standby]_x000D_ [5, Auto]_x000D_	Writeable
MV2	Occupancy Status	None	None	All Units	[1, Occupied]_x000D_ [2, Unoccupied]_x000D_ [3, Occupied Bypass]_x000D_ [4, Occupied Standby]_x000D_ [5, Auto]_x000D_	Read Only



Object and Diagnostic Data Points

Table 8. Multi-state Values (continued)

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
MV3	Heat Cool Mode Request	None	None	All Units	[1, Auto]_x000D_ [2, Heat]_x000D_ [3, Morning Warm-up]_x000D_ [4, Cool]_x000D_ [5, Night Purge]_x000D_ [6, Pre Cool]_x000D_ [7, Off]_x000D_ [8, Test]_x000D_ [9, Emergency Heat]_x000D_ [10, Fan Only]_x000D_ [11, Free Cool]_x000D_ [12, Ice-Making]_x000D_ [13, Maximum Heat]_x000D_ [14, Economizer]_x000D_ [15, Dehumidify]_x000D_ [16, Calibrate]_x000D_	Writeable
MV4	Heat Cool Mode Status	None	None	All Units	[1, Auto]_x000D_ [2, Heat]_x000D_ [3, Morning Warm-up]_x000D_ [4, Cool]_x000D_ [5, Night Purge]_x000D_ [6, Pre Cool]_x000D_ [7, Off]_x000D_ [8, Test]_x000D_ [9, Emergency Heat]_x000D_ [10, Fan Only]_x000D_ [11, Free Cool]_x000D_ [12, Ice-Making]_x000D_ [13, Maximum Heat]_x000D_ [14, Economizer]_x000D_ [15, Dehumidify]_x000D_ [16, Calibrate]_x000D_	Read Only
MV8	Emergency Override BAS	None	None	All Units	[1, Normal]_x000D_ [2, Pressurize]_x000D_ [3, Depressurize]_x000D_ [4, Purge]_x000D_ [5, Shutdown]_x000D_ [6, Fire]_x000D_	Writeable
MV9	Water Valve Override	None	None	All Units	[1, Off]_x000D_ [2, Not Valid]_x000D_ [3, Not Valid]_x000D_ [4, Not Valid]_x000D_ [5, Open]_x000D_ [6, Close]_x000D_	Writeable
MV11	Economizer Airside Enable BAS	None	None	All Units	[1, Disabled]_x000D_ [2, Enabled]_x000D_ [3, Auto]_x000D_	Writeable
MV39	MJC MSC Factory Program Version	None	None	All Units	Version 1.4	Read Only
MV42	DX Staging Status	None	None	All Units	[1, Normal]_x000D_ [2, Start Interval Active]_x000D_ [3, Shutdown Delay Active]_x000D_ [4, Subtract Suspended]_x000D_	Read Only
MV60	Discharge Air Temperature Setpoint Source Status	None	None	All Units	[1, BAS Control]_x000D_ [2, Local Control]_x000D_ [3, BAS Default]_x000D_ [4, Not Controlled]_x000D_ [5, Space Comfort Not In Control]_x000D_	Read Only

Object and Diagnostic Data Points

Table 8. Multi-state Values (continued)

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
MV70	Compressor 1 Mode	None	None	Units with at least 1 Compressor	[1, Off]_x000D_ [2, Starting]_x000D_ [3, Running]_x000D_ [4, Diag: Safety Circuit Alarm]_x000D_ [5, Diag: Low Superheat]_x000D_ [6, Diag: Suction Press Sensor Failure]_x000D_ [7, Diag: Suction Temp Sensor Failure]_x000D_ [8, Diag: Frostarm]_x000D_ [9, Diag: Discharge Press Sensor Failure]_x000D_ [10, Diag: High Pressure Cutout Alarm]_x000D_ [11, VFD Fault]_x000D_ [12, Diag: High Superheat]_x000D_ [13, Warn: Cond Limit Active]_x000D_ [14, Comp Locked Out]_x000D_ [15, Warn: Frostarm Limit Active]_x000D_	Read Only
MV71	Compressor 2 Mode	None	None	Units with at least 2 Compressors	[1, Off]_x000D_ [2, Starting]_x000D_ [3, Running]_x000D_ [4, Diag: Safety Circuit Alarm]_x000D_ [5, Diag: Low Superheat]_x000D_ [6, Diag: Suction Press Sensor Failure]_x000D_ [7, Diag: Suction Temp Sensor Failure]_x000D_ [8, Diag: Frostarm]_x000D_ [9, Diag: Discharge Press Sensor Failure]_x000D_ [10, Diag: High Pressure Cutout Alarm]_x000D_ [11, VFD Fault]_x000D_ [12, Diag: High Superheat]_x000D_ [13, Warn: High Disc Press]_x000D_ [14, Comp Locked Out]_x000D_ [15, Warn: Frostarm Warning]_x000D_	Read Only
MV72	Compressor 3 Mode	None	None	Units with at least 3 Compressors	[1, Off]_x000D_ [2, Starting]_x000D_ [3, Running]_x000D_ [4, Diag: Safety Circuit Alarm]_x000D_ [5, Diag: Low Superheat]_x000D_ [6, Diag: Suction Press Sensor Failure]_x000D_ [7, Diag: Suction Temp Sensor Failure]_x000D_ [8, Diag: Frostarm]_x000D_ [9, Diag: Discharge Press Sensor Failure]_x000D_ [10, Diag: High Pressure Cutout Alarm]_x000D_ [11, VFD Fault]_x000D_ [12, Diag: High Superheat]_x000D_ [13, Warn: High Disc Press]_x000D_ [14, Comp Locked Out]_x000D_ [15, Warn: Frostarm Warning]_x000D_	Read Only



Object and Diagnostic Data Points

Table 8. Multi-state Values (continued)

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
MV73	Compressor 4 Mode	None	None	Units with at least 4 Compressors	[1, Off]_x000D_ [2, Starting]_x000D_ [3, Running]_x000D_ [4, Diag: Safety Circuit Alarm]_x000D_ [5, Diag: Low Superheat]_x000D_ [6, Diag: Suction Press Sensor Failure]_x000D_ [7, Diag: Suction Temp Sensor Failure]_x000D_ [8, Diag: Frost Alarm]_x000D_ [9, Diag: Discharge Press Sensor Failure]_x000D_ [10, Diag: High Pressure Cutout Alarm]_x000D_ [11, VFD Fault]_x000D_ [12, Diag: High Superheat]_x000D_ [13, Warn: High Disc Press]_x000D_ [14, Comp Locked Out]_x000D_ [15, Warn: Frost Warning]_x000D_	Read Only
MV78	Fixed Speed Lead Compressor	None	None	Units with at least 2 Compressors	[1, Not Used]_x000D_ [2, Compressor 2]_x000D_ [3, Compressor 3]_x000D_ [4, Compressor 4]_x000D_	Read Only
MV79	Mechanical Cooling Stages Failed	None	None	All Units	[1, 1 Comp Failed]_x000D_ [2, 2 Comp Failed]_x000D_ [3, 3 Comp Failed]_x000D_ [4, 4 Comp Failed]_x000D_ [5, None Failed]_x000D_	Read Only
MV80	Mechanical Stages Active	None	None	All Units	[1, 0 Compressors]_x000D_ [2, 1 Compressor]_x000D_ [3, 2 Compressors]_x000D_ [4, 3 Compressors]_x000D_ [5, 4 Compressors]_x000D_ [6, 1 Compressors]_x000D_ [7, 2 Compressor]_x000D_ [8, 3 Compressors]_x000D_ [9, 4 Compressors]_x000D_ [10, 0 Compressors]_x000D_	Read Only
MV82	MSC Unit Discharge Air Control Strategy	None	None	All Units	[1, Fixed DA Setpoint]_x000D_ [2, Return Air Reset]_x000D_ [3, Space Temp Reset]_x000D_	Read Only
MV83	MSC Unit Status	None	None	All Units	[1, Normal]_x000D_ [2, Unit Off]_x000D_ [3, Warning Present]_x000D_ [4, Alarm Present]_x000D_ [5, Exterior Stop]_x000D_ [6, Local Stop]_x000D_ [7, E-Stop]_x000D_ [8, BAS Fire]_x000D_ [9, BAS Shutdown]_x000D_	Read Only
MV85	Water Side Economizer Mode Status	None	None	Units with Water Side Economizer	[1, Disabled]_x000D_ [2, Enabled]_x000D_ [3, Not Present]_x000D_	Read Only
MV90	Supply Fans Failed	None	None	All Units	[1, 1 Fan Failed]_x000D_ [2, 2 Fans Failed]_x000D_ [3, 3 Fans Failed]_x000D_ [4, 4 Fans Failed]_x000D_ [5, 5 Fans Failed]_x000D_ [6, 6 Fans Failed]_x000D_ [7, None Failed]_x000D_	Read Only
MV100	Unit Information	None	None	All Units	State 1	Read Only

Table 9. All Object Types Sorted by Object Name

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
AV133	Active CoolCoil Control Sensor	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	All Units	Active Temperature used for controlling the cooling calculation	Read Only
BV76	Active CoolCoil Control Sensor Failed	None	None	All Units	Open = Normal Closed = Failure Non latching Diagnostic, clears automatically	Read Only
AV134	Active CoolCoil Control Setpoint	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	All Units	Active Setpoint used for controlling the cooling calculation	Read Only
AV135	Active HeatCoil Control Sensor	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with a Heating Coil Only	Active Temperature used for controlling the cooling calculation	Read Only
BV77	Active HeatCoil Control Sensor Failed	None	None	Units with a Heating Coil Only	Open = Normal Closed = Failure Non latching Diagnostic, clears automatically	Read Only
AV136	Active HeatCoil Control Setpoint	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with a Heating Coil Only	Active Setpoint used for controlling the cooling calculation	Read Only
AI58	Air Filter Differential Pressure	Pressure in(H2O)	-10 to 10 in (H2O)	All Units	Local Air Filter Differential Pressure Sensor	Read Only
BV36	Alarm Reset	None	None	All Units	Open = Normal Closed = Reset	Writeable
AV162	Circuit 1 Compressor Speed	Percent	-150% to 150%	Units with variable speed compressor (s)	Speed Status for the variable speed compressor.	Read Only
AV300	Compressor 1 Calculated Diff Refrigerant Pressure	PSI	-500 psi to 500 psi	Units with 1 Compressor	Calculated Differential Pressure between the Discharge and Suction Pressure Sensors	Read Only
AV301	Compressor 1 Calculated Max Speed (Percent)	Percent	-150% to 150%	Units with 1 Compressor	Calculated Maximum Speed in RPM of the Variable speed Compressor	Read Only
AV302	Compressor 1 Calculated Saturated Discharge Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 1 Compressor	Calculated Saturated Discharge Temperature calculated by the refrigerant temp and pressure.	Read Only
AV303	Compressor 1 Calculated Saturated Suction Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 1 Compressor	Calculated Suction Temperature by pressure to temperature conversion.	Read Only
AV304	Compressor 1 Calculated Speed (RPM)	None	0 - 15000 RPM	Units with 1 Compressor	Calculation of the current speed of the variable speed compressor, based on Min and Max speed setpoints.	Read Only
BV190	Compressor 1 Calculated Status	None	None	Units with 1 Compressor	Open = Off Closed = On	Read Only
AV305	Compressor 1 Calculated Superheat	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 1 Compressor	Calculated Superheat of the Suction line by Temperature and pressure sensors.	Read Only
BV191	Compressor 1 Call	None	None	Units with 1 Compressor	Open = Stop Closed = Run	Read Only
BO11	Compressor 1 Command	None	None	Units with at least 1 Compressor	Normally Open Contacts Used Only Open = Stop Closed = Run Normally Closed Contacts not used	Read Only
BV193	Compressor 1 Cond Purge Status	None	None	Units with 1 Compressor	Open = Inactive Closed = Purge Active	Writeable
BV194	Compressor 1 Cond Valve Open	None	None	Units with 1 Compressor	Open = Closed Closed = Open	Read Only
AO81	Compressor 1 Condenser Regulating Valve	Percent	0% to 100% Open	Unit that Circuit 1 has a Water Regulating Valve installed	Analog Control that regulates water through the water cooled condenser of the compressor	Read Only
AI93	Compressor 1 Discharge Pressure Sensor	Pressure (PSI)	0 to 750 PSI	Units with at least 1 Compressor	Local Compressor Refrigerant Discharge (High) Pressure Sensor	Read Only
AV306	Compressor 1 Estimated Cond Approach Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 1 Compressor with Cond Reg Valve	Calculated Condenser approach temperature based off Refrigerant PT Conversion and water temperature.	Read Only
AV307	Compressor 1 Estimated Evap Approach Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 1 Compressor	Calculated approach temperature of the Evaporator refrigerant temperature and the air temperature.	Read Only
BO109	Compressor 1 E-Stop Shutdown Command	None	None	Unit where compressor 1 is a VFD Compressor	Normally Open Contacts Used Only Open = Normal Closed = Emergency Stop Normally Closed Contacts not used	Read Only
BV195	Compressor 1 Failure Reset	None	None	Units with 1 Compressor	Open = Normal Closed = Reset	Writeable



Object and Diagnostic Data Points

Table 9. All Object Types Sorted by Object Name (continued)

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
BI90	Compressor 1 High Pressure Cutout	None	None	Units with at least 1 Compressor	Normally Closed Input Open = Alarm Closed = Normal	Read Only
BV29	Compressor 1 Lockout BAS	None	None	Units with at least 1 Compressor	Open = Available Closed = Locked Out	Writeable
AV308	Compressor 1 Max Cond Valve Setpoint	Percent	-150% to 150%	Units with 1 Compressor with Cond Reg Valve	Maximum Valve position for the condenser regulating valve.	Read Only
AV309	Compressor 1 Max Speed (RPM)	None	5500 -15000 RPM	Units with 1 Compressor	Maximum Speed for the installed Compressor (Set at Factory)	Read Only
AV310	Compressor 1 Max Speed Setpt (RPM)	None	5500 -15000 RPM	Units with 1 Compressor	Maximum Speed Setpoint for the installed compressor. (May not be the compressor maximum and set at Factory)	Read Only
AV311	Compressor 1 Min Cond Valve Setpoint	Percent	-150% to 150%	Units with 1 Compressor with Cond Reg Valve	Minimum Valve position for the condenser regulating valve.	Read Only
AV312	Compressor 1 Min Speed (RPM)	None	1100 -15000 RPM	Units with 1 Compressor	Maximum Speed for the installed Compressor. (Set at Factory)	Read Only
AV313	Compressor 1 Min Speed Setpt (RPM)	None	1200 - 4000 RPM	Units with 1 Compressor	Maximum Speed Setpoint for the installed compressor. (May not be the compressor maximum and set at factory)	Read Only
MV70	Compressor 1 Mode	None	None	Units with at least 1 Compressor	[1, Off]_x000D_ [2, Starting]_x000D_ [3, Running]_x000D_ [4, Diag: Safety Circuit Alarm]_x000D_ [5, Diag: Low Superheat]_x000D_ [6, Diag: Suction Press Sensor Failure]_x000D_ [7, Diag: Suction Temp Sensor Failure]_x000D_ [8, Diag: Frost Alarm]_x000D_ [9, Diag: Discharge Press Sensor Failure]_x000D_ [10, Diag: High Pressure Cutout Alarm]_x000D_ [11, VFD Fault]_x000D_ [12, Diag: High Superheat]_x000D_ [13, Warn: Cond Limit Active]_x000D_ [14, Comp Locked Out]_x000D_ [15, Warn: Frost Limit Active]_x000D_	Read Only
BV196	Compressor 1 Run Hour Reset	None	None	Units with 1 Compressor	Open = Normal Closed = Reset	Writeable
AV314	Compressor 1 Run Hours	None	0 - 9999999827968	Units with 1 Compressor	Totalized run hours of the compressor from the last run hour reset or program change.	Read Only
BV197	Compressor 1 Safety Lockout	None	None	Units with 1 Compressor	Open = Inactive Closed = Lockout Active	Read Only
BI114	Compressor 1 Status	None	None	Unit where compressor 1 is a VFD Compressor	Normally Open Input Open = Off Closed = On	Read Only
AI94	Compressor 1 Suction Pressure Sensor	Pressure (PSI)	0 to 750 PSI	Units with at least 1 Compressor	Local Compressor Refrigerant Suction (Low) Pressure Sensor	Read Only
AI95	Compressor 1 Suction Temperature	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with at least 1 Compressor	Local Compressor Refrigerant Suction (Low) Temperature Sensor	Read Only
AO90	Compressor 1 Variable Speed Command	Percent	0% to 100% Speed	Unit where compressor 1 is a VFD Compressor	Analog signal that controls the compressor speed	Read Only
BO108	Compressor 1 VFD Alarm Reset	None	None	Unit where compressor 1 is a VFD Compressor	Normally Open Contacts Used Only Open = Normal Closed = Reset Normally Closed Contacts not used	Read Only
BI98	Compressor 1 VFD Fault	None	None	Unit where compressor 1 is a VFD Compressor	Normally Closed Input Open = Alarm Closed = Normal	Read Only
AV319	Compressor 2 Calculated Diff Refrigerant Pressure	PSI	-500 psi to 500 psi	Units with 2 Compressor	Calculated Differential Pressure between the Discharge and Suction Pressure Sensors	Read Only

Table 9. All Object Types Sorted by Object Name (continued)

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
AV320	Compressor 2 Calculated Saturated Discharge Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 2 Compressor	Calculated Saturated Discharge Temperature calculated by the refrigerant temp and pressure.	Read Only
AV321	Compressor 2 Calculated Saturated Suction Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 2 Compressor	Calculated Suction Temperature by pressure to temperature conversion.	Read Only
BV200	Compressor 2 Calculated Status	None	None	Units with 2 Compressor	Open = Off Closed = On	Read Only
AV322	Compressor 2 Calculated Superheat	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 2 Compressor	Calculated Superheat of the Suction line by Temperature and pressure sensors.	Read Only
BV201	Compressor 2 Call	None	None	Units with 2 Compressor	Open = Stop Closed = Run	Read Only
BO12	Compressor 2 Command	None	None	Units with at least 2 Compressors	Normally Open Contacts Used Only Open = Stop Closed = Run Normally Closed Contacts not used	Read Only
BV203	Compressor 2 Cond Purge Status	None	None	Units with 2 Compressor	Open = Inactive Closed = Purge Active	Writeable
BV204	Compressor 2 Cond Valve Open	None	None	Units with 2 Compressor	Open = Closed Closed = Open	Read Only
AO82	Compressor 2 Condenser Regulating Valve	Percent	0% to 100% Open	Unit that Circuit 2 has a Water Regulating Valve Installed	Analog Control that regulates water through the water cooled condenser of the compressor	Read Only
AI96	Compressor 2 Discharge Pressure Sensor	Pressure (PSI)	0 to 750 PSI	Units with at least 2 Compressors	Local Compressor Refrigerant Discharge (High) Pressure Sensor	Read Only
AV323	Compressor 2 Estimated Cond Approach Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 2 Compressor with Cond Reg Valve	Calculated Condenser approach temperature based off Refrigerant PT Conversion and water temperature.	Read Only
AV324	Compressor 2 Estimated Evap Approach Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 2 Compressor	Calculated approach temperature of the Evaporator refrigerant temperature and the air temperature.	Read Only
BV205	Compressor 2 Failure Reset	None	None	Units with 2 Compressor	Open = Normal Closed = Reset	Writeable
BI91	Compressor 2 High Pressure Cutout	None	None	Units with at least 2 Compressors	Normally Closed Input Open = Alarm Closed = Normal	Read Only
BV30	Compressor 2 Lockout BAS	None	None	Units with at least 2 Compressors	Open = Available Closed = Locked Out	Writeable
AV325	Compressor 2 Max Cond Valve Setpoint	Percent	-150% to 150%	Units with 2 Compressor with Cond Reg Valve	Maximum Valve position for the condenser regulating valve.	Read Only
AV326	Compressor 2 Min Cond Valve Setpoint	Percent	-150% to 150%	Units with 2 Compressor with Cond Reg Valve	Minimum Valve position for the condenser regulating valve.	Read Only
MV71	Compressor 2 Mode	None	None	Units with at least 2 Compressors	[1, Off]_x000D_ [2, Starting]_x000D_ [3, Running]_x000D_ [4, Diag: Safety Circuit Alarm]_x000D_ [5, Diag: Low Superheat]_x000D_ [6, Diag: Suction Press Sensor Failure]_x000D_ [7, Diag: Suction Temp Sensor Failure]_x000D_ [8, Diag: Frost Alarm]_x000D_ [9, Diag: Discharge Press Sensor Failure]_x000D_ [10, Diag: High Pressure Cutout Alarm]_x000D_ [11, VFD Fault]_x000D_ [12, Diag: High Superheat]_x000D_ [13, Warn: High Disc Press]_x000D_ [14, Comp Locked Out]_x000D_ [15, Warn: Frost Warning]_x000D_	Read Only
BV206	Compressor 2 Run Hour Reset	None	None	Units with 2 Compressor	Open = Normal Closed = Reset	Writeable
AV327	Compressor 2 Run Hours	None	0 - 9999999827968	Units with 2 Compressor	Totalized run hours of the compressor from the last run hour reset or program change.	Read Only



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Table 9. All Object Types Sorted by Object Name (continued)

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
BI107	Compressor 2 Safety Circuit Status	None	None	Units with at least 2 Compressors	Normally Open Input Open = Circuit Open Closed = Circuit Closed (Completed)	Read Only
BV207	Compressor 2 Safety Lockout	None	None	Units with 2 Compressor	Open = Inactive Closed = Lockout Active	Read Only
AV328	Compressor 2 Sequence Number	None	0 - 5	Units with 2 Compressor	Sequence Number to indicate what sequence the compressor will start in.	Read Only
AI97	Compressor 2 Suction Pressure Sensor	Pressure (PSI)	0 to 750 PSI	Units with at least 2 Compressors	Local Compressor Refrigerant Suction (Low) Pressure Sensor	Read Only
AI98	Compressor 2 Suction Temperature	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with at least 2 Compressors	Local Compressor Refrigerant Suction (Low) Temperature Sensor	Read Only
AV333	Compressor 3 Calculated Diff Refrigerant Pressure	PSI	-500 psi to 500 psi	Units with 3 Compressor	Calculated Differential Pressure between the Discharge and Suction Pressure Sensors	Read Only
AV334	Compressor 3 Calculated Saturated Discharge Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 3 Compressor	Calculated Saturated Discharge Temperature calculated by the refrigerant temp and pressure.	Read Only
AV335	Compressor 3 Calculated Saturated Suction Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 3 Compressor	Calculated Suction Temperature by pressure to temperature conversion.	Read Only
BV210	Compressor 3 Calculated Status	None	None	Units with 3 Compressor	Open = Off Closed = On	Read Only
AV336	Compressor 3 Calculated Superheat	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 3 Compressor	Calculated Superheat of the Suction line by Temperature and pressure sensors.	Read Only
BV211	Compressor 3 Call	None	None	Units with 3 Compressor	Open = Stop Closed = Run	Read Only
BO13	Compressor 3 Command	None	None	Units with at least 3 Compressors	Normally Open Contacts Used Only Open = Stop Closed = Run Normally Closed Contacts not used	Read Only
BV213	Compressor 3 Cond Purge Status	None	None	Units with 3 Compressor	Open = Inactive Closed = Purge Active	Writeable
BV214	Compressor 3 Cond Valve Open	None	None	Units with 3 Compressor	Open = Closed Closed = Open	Read Only
AO83	Compressor 3 Condenser Regulating Valve	Percent	0% to 100% Open	Unit that Circuit 3 has a Water Regulating Valve installed	Analog Control that regulates water through the water cooled condenser of the compressor	Read Only
AI99	Compressor 3 Discharge Pressure Sensor	Pressure (PSI)	0 to 750 PSI	Units with at least 3 Compressors	Local Compressor Refrigerant Discharge (High) Pressure Sensor	Read Only
AV337	Compressor 3 Estimated Cond Approach Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 3 Compressor with Cond Reg Valve	Calculated Condenser approach temperature based off Refrigerant PT Conversion and water temperature.	Read Only
AV338	Compressor 3 Estimated Evap Approach Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 3 Compressor	Calculated approach temperature of the Evaporator refrigerant temperature and the air temperature.	Read Only
BV215	Compressor 3 Failure Reset	None	None	Units with 3 Compressor	Open = Normal Closed = Reset	Writeable
BI92	Compressor 3 High Pressure Cutout	None	None	Units with at least 3 Compressors	Normally Closed Input Open = Alarm Closed = Normal	Read Only
BV31	Compressor 3 Lockout BAS	None	None	Units with at least 3 Compressors	Open = Available Closed = Locked Out	Writeable
AV339	Compressor 3 Max Cond Valve Setpoint	Percent	-150% to 150%	Units with 3 Compressor with Cond Reg Valve	Maximum Valve position for the condenser regulating valve.	Read Only
AV340	Compressor 3 Min Cond Valve Setpoint	Percent	-150% to 150%	Units with 3 Compressor with Cond Reg Valve	Minimum Valve position for the condenser regulating valve.	Read Only

Table 9. All Object Types Sorted by Object Name (continued)

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
MV72	Compressor 3 Mode	None	None	Units with at least 3 Compressors	[1, Off]_x000D_ [2, Starting]_x000D_ [3, Running]_x000D_ [4, Diag: Safety Circuit Alarm]_x000D_ [5, Diag: Low Superheat]_x000D_ [6, Diag: Suction Press Sensor Failure]_x000D_ [7, Diag: Suction Temp Sensor Failure]_x000D_ [8, Diag: Frost Alarm]_x000D_ [9, Diag: Discharge Press Sensor Failure]_x000D_ [10, Diag: High Pressure Cutout Alarm]_x000D_ [11, VFD Fault]_x000D_ [12, Diag: High Superheat]_x000D_ [13, Warn: High Disc Press]_x000D_ [14, Comp Locked Out]_x000D_ [15, Warn: Frost Warning]_x000D_	Read Only
BV216	Compressor 3 Run Hour Reset	None	None	Units with 3 Compressor	Open = Normal Closed = Reset	Writeable
AV341	Compressor 3 Run Hours	None	0 - 9999999827968	Units with 3 Compressor	Totalized run hours of the compressor from the last run hour reset or program change.	Read Only
BI108	Compressor 3 Safety Circuit Status	None	None	Units with at least 3 Compressors	Normally Open Input Open = Circuit Open Closed = Circuit Closed (Completed)	Read Only
BV217	Compressor 3 Safety Lockout	None	None	Units with 3 Compressor	Open = Inactive Closed = Lockout Active	Read Only
AV342	Compressor 3 Sequence Number	None	0 - 5	Units with 3 Compressor	Sequence Number to indicate what sequence the compressor will start in.	Read Only
AI100	Compressor 3 Suction Pressure Sensor	Pressure (PSI)	0 to 750 PSI	Units with at least 3 Compressors	Local Compressor Refrigerant Suction (Low) Pressure Sensor	Read Only
AI101	Compressor 3 Suction Temperature	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with at least 3 Compressors	Local Compressor Refrigerant Suction (Low) Temperature Sensor	Read Only
AV347	Compressor 4 Calculated Diff Refrigerant Pressure	PSI	-500 psi to 500 psi	Units with 4 Compressor	Calculated Differential Pressure between the Discharge and Suction Pressure Sensors	Read Only
AV348	Compressor 4 Calculated Saturated Discharge Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 4 Compressor	Calculated Saturated Discharge Temperature calculated by the refrigerant temp and pressure.	Read Only
AV349	Compressor 4 Calculated Saturated Suction Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 4 Compressor	Calculated Suction Temperature by pressure to temperature conversion.	Read Only
BV220	Compressor 4 Calculated Status	None	None	Units with 4 Compressor	Open = Off Closed = On	Read Only
AV350	Compressor 4 Calculated Superheat	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 4 Compressor	Calculated Superheat of the Suction line by Temperature and pressure sensors.	Writeable
BV221	Compressor 4 Call	None	None	Units with 4 Compressor	Open = Stop Closed = Run	Read Only
BO14	Compressor 4 Command	None	None	Units with at least 4 Compressors	Normally Open Contacts Used Only Open = Stop Closed = Run Normally Closed Contacts not used	Read Only
BV223	Compressor 4 Cond Purge Status	None	None	Units with 4 Compressor	Open = Inactive Closed = Purge Active	Writeable
BV224	Compressor 4 Cond Valve Open	None	None	Units with 4 Compressor	Open = Closed Closed = Open	Read Only
AO84	Compressor 4 Condenser Regulating Valve	Percent	0% to 100% Open	Unit that Circuit 4 has a Water Regulating Valve installed	Analog Control that regulates water through the water cooled condenser of the compressor	Read Only
AI102	Compressor 4 Discharge Pressure Sensor	Pressure (PSI)	0 to 750 PSI	Units with at least 4 Compressors	Local Compressor Refrigerant Discharge (High) Pressure Sensor	Read Only
AV351	Compressor 4 Estimated Cond Approach Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 4 Compressor with Cond Reg Valve	Calculated Condenser approach temperature based off Refrigerant PT Conversion and water temperature.	Writeable
AV352	Compressor 4 Estimated Evap Approach Temp	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with 4 Compressor	Calculated approach temperature of the Evaporator refrigerant temperature and the air temperature.	Writeable



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Table 9. All Object Types Sorted by Object Name (continued)

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
BV225	Compressor 4 Failure Reset	None	None	Units with 4 Compressor	Open = Normal Closed = Reset	Writeable
BI93	Compressor 4 High Pressure Cutout	None	None	Units with at least 4 Compressors	Normally Closed Input Open = Alarm Closed = Normal	Read Only
BV32	Compressor 4 Lockout BAS	None	None	Units with at least 4 Compressors	Open = Available Closed = Locked Out	Writeable
AV353	Compressor 4 Max Cond Valve Setpoint	Percent	-150% to 150%	Units with 4 Compressor with Cond Reg Valve	Maximum Valve position for the condenser regulating valve.	Writeable
AV354	Compressor 4 Min Cond Valve Setpoint	Percent	-150% to 150%	Units with 4 Compressor with Cond Reg Valve	Minimum Valve position for the condenser regulating valve.	Writeable
MV73	Compressor 4 Mode	None	None	Units with at least 4 Compressors	[1, Off]_x000D_ [2, Starting]_x000D_ [3, Running]_x000D_ [4, Diag: Safety Circuit Alarm]_x000D_ [5, Diag: Low Superheat]_x000D_ [6, Diag: Suction Press Sensor Failure]_x000D_ [7, Diag: Suction Temp Sensor Failure]_x000D_ [8, Diag: Frost Alarm]_x000D_ [9, Diag: Discharge Press Sensor Failure]_x000D_ [10, Diag: High Pressure Cutout Alarm]_x000D_ [11, VFD Fault]_x000D_ [12, Diag: High Superheat]_x000D_ [13, Warn: High Disc Press]_x000D_ [14, Comp Locked Out]_x000D_ [15, Warn: Frost Warning]_x000D_	Read Only
BV226	Compressor 4 Run Hour Reset	None	None	Units with 4 Compressor	Open = Normal Closed = Reset	Writeable
AV355	Compressor 4 Run Hours	None	0 - 9999999827968	Units with 4 Compressor	Totalized run hours of the compressor from the last run hour reset or program change.	Read Only
BI109	Compressor 4 Safety Circuit Status	None	None	Units with at least 4 Compressors	Normally Open Input Open = Circuit Open Closed = Circuit Closed (Completed)	Read Only
BV227	Compressor 4 Safety Lockout	None	None	Units with 4 Compressor	Open = Inactive Closed = Lockout Active	Read Only
AV356	Compressor 4 Sequence Number	None	0 - 5	Units with 4 Compressor	Sequence Number to indicate what sequence the compressor will start in.	Read Only
AI103	Compressor 4 Suction Pressure Sensor	Pressure (PSI)	0 to 750 PSI	Units with at least 4 Compressors	Local Compressor Refrigerant Suction (Low) Pressure Sensor	Read Only
AI104	Compressor 4 Suction Temperature	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with at least 4 Compressors	Local Compressor Refrigerant Suction (Low) Temperature Sensor	Read Only
BV250	Compressor Cond Valve Installed	None	None	All Units	Open = Not Installed Closed = Installed	Read Only
AV176	Compressor Error Deadband	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	All Units	Deadband Compressor calculation uses for speed calculation	Read Only
AV173	Compressor P Gain	None	0.5 to 25	All Units	P Gain for the PID Cooling Calculation	Read Only
AV174	Compressor Speed P Gain	None	0.5 to 25	All Units	P Gain for the PID Cooling Calculation	Read Only
AV361	Compressors Available	None	-1000 to 1000	All Units	Number of Compressor which are available to run.	Read Only
AV363	Condenser Control Percent of Design	Percent	50 % to 100 %	Water Cooled Condenser Units Only	sets the percentage of the Control Pressure Setpoint that will be used to control the Discharge Pressure on the unit	Writeable
AV366	Condenser Control Pressure Setpoint	PSI	-500 psi to 500 psi	Water Cooled Condenser Units Only	Calculated Condenser Control Pressure Setpoint based on the Percentage of Design and the Max Pressure	Read Only
AV364	Condenser Design Max Pressure	PSI	-500 psi to 500 psi	Water Cooled Condenser Units Only	Condenser Max Design Pressure set by the Factory.	Read Only
AV365	Condenser Purge Time (Min)	None	5 to 60	Water Cooled Condenser Units Only	Time that the Compressor regulating valves will be open during purge mode	Writeable

Table 9. All Object Types Sorted by Object Name (continued)

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
AV368	Condenser Tee Strainer Calculated Diff Press	PSI	-10 psi to 10 psi	Water Cooled Condenser Units Only	Calculated Differential Pressure between the High and Low Condenser Tee Strainer sensors.	Read Only
AV369	Condenser Tee Strainer Calculated High Pressure	PSI	-10 psi to 600 psi	Water Cooled Condenser Units Only	Calculated High Pressure based off High Pressure input and High Pressure Offset	Read Only
AV370	Condenser Tee Strainer Calculated Low Pressure	PSI	-10 psi to 600 psi	Water Cooled Condenser Units Only	Calculated Low Pressure based off Low Pressure input and Low Pressure Offset	Read Only
AV371	Condenser Tee Strainer Diff Pressure Alarm Setpt	PSI	-500 psi to 500 psi	Water Cooled Condenser Units Only	Alarm Setpoint to generate alarm for a dirty strainer Tee based on the differential pressure.	Writeable
AI48	Condenser Tee Strainer High Pressure	Pressure (PSI)	-500 to 550 PSI	Water Cooled Condenser Units Only	Local Condenser Tee Strainger High Pressure Sensor	Read Only
AV372	Condenser Tee Strainer High Pressure Offset	PSI	-15 psi to 15 psi	Water Cooled Condenser Units Only	Offset applied to the High Pressure reading to calibrate the sensor with a local gauge.	Writeable
AI49	Condenser Tee Strainer Low Pressure	Pressure (PSI)	-500 to 550 PSI	Water Cooled Condenser Units Only	Local Condenser Tee Strainger Low Pressure Sensor	Read Only
AV373	Condenser Tee Strainer Low Pressure Offset	PSI	-15 psi to 15 psi	Water Cooled Condenser Units Only	Offset applied to the Low Pressure reading to calibrate the sensor with a local gauge.	Writeable
AV375	Condenser Valve Control P Gain	None	0.1 to 10	All Units	P Gain for the PID Condenser Calculation	Read Only
AI46	Condenser Water Entering Temperature	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Water Cooled Condenser Units Only	Local Condenser Water Entering Temperature Sensor	Read Only
BI42	Condenser Water Flow Switch	None	None	All Units	Open = No Flow Closed = Flow	Read Only
BV251	Condenser Water Flow Type	None	None	All Units	Open = Variable Flow Closed = Constant Flow	Writeable
AI47	Condenser Water Leaving Temperature	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Water Cooled Condenser Units Only	Local condenser Water Leaving Temperature Sensor	Read Only
AV124	Cooling Capacity Request	Percent	-150% to 150%	All Units	Cooling Capacity needed to meet the cooling demand.	Read Only
AV52	Cooling Capacity Status	Percent	-150% to 150%	All Units	Cooling Capacity actually running on the unit	Read Only
AV149	Cooling PID Maximum Value	Percent	-150% to 150%	All Units	Maximum value that the PID calculation can attain.	Read Only
AV139	Cooling PID Output	Percent	-150% to 150%	All Units	Output from the cooling PID calculation.	Read Only
BV18	Cooling Safeties OK	None	None	All Units	Open = Stop Cooling Closed = Cooling OK	Read Only
AV150	Cooling Stages Requested	None	0 - 10	All Units	Number of Compressors which are requested to run	Read Only
BO125	Cooling Tower Pump Request	None	None	Water Cooled Condenser Units Only	Normally Open Contacts Used Only Open = Off Closed = Request On Normally Closed Contacts not used	Read Only
BV37	Diagnostic: Auto Reset	None	None	All Units	Open = Normal Closed = Alarm	Read Only
BV260	Diagnostic: Compressor 1 Discharge Pressure Sensor Failure	None	None	Units with 1 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 1 Failure Reset or Power Cycle.	Read Only
BV261	Diagnostic: Compressor 1 Frost	None	None	Units with 1 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 1 Failure Reset or Power Cycle.	Read Only
BV262	Diagnostic: Compressor 1 High Pressure Shutdown	None	None	Units with 1 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 1 Failure Reset or Power Cycle.	Read Only
BV263	Diagnostic: Compressor 1 High Superheat	None	None	Units with 1 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 1 Failure Reset or Power Cycle.	Read Only



Object and Diagnostic Data Points

Table 9. All Object Types Sorted by Object Name (continued)

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
BV264	Diagnostic: Compressor 1 Low Superheat	None	None	Units with 1 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 1 Failure Reset or Power Cycle.	Read Only
BV265	Diagnostic: Compressor 1 Safety Circuit Alarm	None	None	Units with 1 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 1 Failure Reset or Power Cycle.	Read Only
BV266	Diagnostic: Compressor 1 Suction Pressure Sensor Failure	None	None	Units with 1 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 1 Failure Reset or Power Cycle.	Read Only
BV267	Diagnostic: Compressor 1 Suction Temperature Sensor Failure	None	None	Units with 1 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 1 Failure Reset or Power Cycle.	Read Only
BV270	Diagnostic: Compressor 2 Discharge Pressure Sensor Failure	None	None	Units with 2 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 1 Failure Reset or Power Cycle.	Read Only
BV271	Diagnostic: Compressor 2 Froststat	None	None	Units with 2 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 2 Failure Reset or Power Cycle.	Read Only
BV272	Diagnostic: Compressor 2 High Pressure Shutdown	None	None	Units with 2 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 2 Failure Reset or Power Cycle.	Read Only
BV273	Diagnostic: Compressor 2 High Superheat	None	None	Units with 2 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 2 Failure Reset or Power Cycle.	Read Only
BV274	Diagnostic: Compressor 2 Low Superheat	None	None	Units with 2 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 2 Failure Reset or Power Cycle.	Read Only
BV275	Diagnostic: Compressor 2 Safety Circuit Alarm	None	None	Units with 2 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 2 Failure Reset or Power Cycle.	Read Only
BV276	Diagnostic: Compressor 2 Suction Pressure Sensor Failure	None	None	Units with 2 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 2 Failure Reset or Power Cycle.	Read Only
BV277	Diagnostic: Compressor 2 Suction Temperature Sensor Failure	None	None	Units with 2 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 2 Failure Reset or Power Cycle.	Read Only
BV280	Diagnostic: Compressor 3 Discharge Pressure Sensor Failure	None	None	Units with 3 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 3 Failure Reset or Power Cycle.	Read Only
BV281	Diagnostic: Compressor 3 Froststat	None	None	Units with 3 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 3 Failure Reset or Power Cycle.	Read Only

Object and Diagnostic Data Points

Table 9. All Object Types Sorted by Object Name (continued)

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
BV282	Diagnostic: Compressor 3 High Pressure Shutdown	None	None	Units with 3 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 3 Failure Reset or Power Cycle.	Read Only
BV283	Diagnostic: Compressor 3 High Superheat	None	None	Units with 3 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 3 Failure Reset or Power Cycle.	Read Only
BV284	Diagnostic: Compressor 3 Low Superheat	None	None	Units with 3 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 3 Failure Reset or Power Cycle.	Read Only
BV285	Diagnostic: Compressor 3 Safety Circuit Alarm	None	None	Units with 3 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 3 Failure Reset or Power Cycle.	Read Only
BV286	Diagnostic: Compressor 3 Suction Pressure Sensor Failure	None	None	Units with 3 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 3 Failure Reset or Power Cycle.	Read Only
BV287	Diagnostic: Compressor 3 Suction Temperature Sensor Failure	None	None	Units with 3 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 3 Failure Reset or Power Cycle.	Read Only
BV290	Diagnostic: Compressor 4 Discharge Pressure Sensor Failure	None	None	Units with 4 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 4 Failure Reset or Power Cycle.	Read Only
BV291	Diagnostic: Compressor 4 Froststat	None	None	Units with 4 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 4 Failure Reset or Power Cycle.	Read Only
BV292	Diagnostic: Compressor 4 High Pressure Shutdown	None	None	Units with 4 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 4 Failure Reset or Power Cycle.	Read Only
BV293	Diagnostic: Compressor 4 High Superheat	None	None	Units with 4 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 4 Failure Reset or Power Cycle.	Read Only
BV294	Diagnostic: Compressor 4 Low Superheat	None	None	Units with 4 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 4 Failure Reset or Power Cycle.	Read Only
BV295	Diagnostic: Compressor 4 Safety Circuit Alarm	None	None	Units with 4 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 4 Failure Reset or Power Cycle.	Read Only
BV296	Diagnostic: Compressor 4 Suction Pressure Sensor Failure	None	None	Units with 4 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 4 Failure Reset or Power Cycle.	Read Only
BV297	Diagnostic: Compressor 4 Suction Temperature Sensor Failure	None	None	Units with 4 Compressor	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 4 Failure Reset or Power Cycle.	Read Only



Object and Diagnostic Data Points

Table 9. All Object Types Sorted by Object Name (continued)

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
BV322	Diagnostic: Condenser Water Flow Loss	None	None	Water Cooled Condenser Units Only	Open = Normal Closed = Failure Non latching Diagnostic, clears automatically	Read Only
BV70	Diagnostic: Condenser Water Low Temperature Lockout	None	None	All Units	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Alarm Reset or Power Cycle.	Read Only
BV72	Diagnostic: Dirty Air Filter	None	None	All Units	Open = Clean Closed = Dirty Latching Diagnostic. Cleared with Filter Alarm Reset or Power Cycle.	Read Only
BV320	Diagnostic: Dirty Condenser Tee Filter	None	None	Water Cooled Condenser Units Only	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Filter Alarm Reset or Power Cycle.	Read Only
BV19	Diagnostic: Discharge Air Low Temperature Lockout	None	None	All Units	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Alarm Reset or Power Cycle.	Read Only
BV42	Diagnostic: Discharge Air Temperature Source Failure	None	None	All Units	Open = Normal Closed = Failure Non latching Diagnostic, clears automatically	Read Only
BV15	Diagnostic: Duct Static Pressure Failure	None	None	Units with Duct Pressure Sensor	Open = Normal Closed = Failure Non latching Diagnostic, clears automatically	Read Only
BV321	Diagnostic: Software High Duct Static Alarm	None	None	All Units	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Filter Alarm Reset or Power Cycle.	Read Only
BV11	Diagnostic: Space Temperature Source Failure	None	None	Units with Space Temperature Option.	Open = Normal Closed = Failure Non latching Diagnostic, clears automatically	Read Only
AV129	Dirty Air Filter DP Setpoint	Pressure in(H2O)	-10.0 to 5.0 in (H2O)	All Units	Filter pressure which will generate a dirty filter alarm when the filter differential pressure exceeds it.	Writeable
BO130	Dirty Filter Alarm GBAS Output	None	None	Only Units with GBAS Option ordered.	Normally Open Contacts Used Only Open = No Alarms Closed = Alarm Present Normally Closed Contacts not used	Read Only
AV24	Discharge Air Cooling Setpoint BAS	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	All Units	User Entered Setpoint to control the Discharge Air to when in the cooling mode.	Writeable
AV18	Discharge Air Cooling Setpoint Max BAS	Temperature (°C or °F)	10°C (50°F) to 29.4°C (85°F)	Units with Discharge Air Reset Method.	Sets the maximum Reset Temperature when in the cooling mode.	Writeable
AV25	Discharge Air Heating Setpoint BAS	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Unit with a Heating Coil	User Entered Setpoint to control the Discharge Air to when in the Heating mode.	Writeable
AV190	Discharge Air Low Temperature Cutout	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	All Units	User Entered Setpoint to disable the unit when the Discharge Air Temperature goes below this temperature.	Writeable
AI11	Discharge Air Temperature	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	All Units	Local Discharge Air Temperature Sensor	Read Only
AV21	Discharge Air Temperature Setpoint Active	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	All Units	Setpoint the unit is using to control the discharge air temperature to.	Read Only
AV22	Discharge Air Temperature Setpoint Pgain	None		Units with Discharge Air Reset Method.	P Gain for the PID Discharge Air Reset Calculation	Read Only

Table 9. All Object Types Sorted by Object Name (continued)

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
MV60	Discharge Air Temperature Setpoint Source Status	None	None	All Units	[1, BAS Control]_x000D_ [2, Local Control]_x000D_ [3, BAS Default]_x000D_ [4, Not Controlled]_x000D_ [5, Space Comfort Not In Control]_x000D_	Read Only
AV72	Duct Static Pressure Active	Pressure in(H2O)	-5.0 to 5.0 in (H2O)	All Units	Duct static pressure the unit is controlling the fans to.	Read Only
AI12	Duct Static Pressure Local	Pressure in(H2O)	-0.25 to 5.2 in (H2O)	All Units	Local Duct Static Pressure Sensor.	Read Only
AV378	Duct Static Pressure Safety Lockout Setpoint	in(H2O)	-5.0 to 5.0 in (H2O)	All Units	If the Duct Static exceeds this Setpoint it will shut down the unit and require a manual reset.	Writeable
AV92	Duct Static Pressure Setpoint Active	Pressure in(H2O)	-5.0 to 5.0 in (H2O)	All Units	Setpoint being used to control the fans	Read Only
AV91	Duct Static Pressure Setpoint BAS	Pressure in(H2O)	-0.0 to 5.0 in (H2O)	All Units	User entered Setpoint to control the fans to the desired pressure.	Writeable
MV42	DX Staging Status	None	None	All Units	[1, Normal]_x000D_ [2, Start Interval Active]_x000D_ [3, Shutdown Delay Active]_x000D_ [4, Subtract Suspended]_x000D_	Read Only
MV11	Economizer Airside Enable BAS	None	None	All Units	[1, Disabled]_x000D_ [2, Enabled]_x000D_ [3, Auto]_x000D_	Writeable
BV75	Economizer Interlock OK	None	None	All Units	Open = Off Closed = On	Read Only
MV8	Emergency Override BAS	None	None	All Units	[1, Normal]_x000D_ [2, Pressurize]_x000D_ [3, Depressurize]_x000D_ [4, Purge]_x000D_ [5, Shutdown]_x000D_ [6, Fire]_x000D_	Writeable
BI9	Emergency Stop	None	None	All Units	Normally Closed Input Open = Emergency Stop Closed = Normal	Read Only
BI10	External Auto Stop Input Status	None	None	All Units	Normally Closed Input Open = External Stop Closed = Auto	Read Only
BV62	Fan Latch	None	None	All Units	Open = Off Closed = Fan Run	Read Only
BV65	Fan Safeties OK	None	None	All Units	Open = No Closed = Yes	Read Only
BV325	Filter Alarm Reset	None	None	All Units	Open = Normal Closed = Reset	Writeable
BV326	Fixed Speed Compressor Rotate BAS	None	None	Units with more than 2 Compressors	Open = Normal Closed = Rotate	Writeable
BV327	Fixed Speed Compressor Rotate Schedule=BAS/Local	None	None	Units with more than 2 Compressors	Open = BAS Closed = Local	Writeable
MV78	Fixed Speed Lead Compressor	None	None	Units with at least 2 Compressors	[1, Not Used]_x000D_ [2, Compressor 2]_x000D_ [3, Compressor 3]_x000D_ [4, Compressor 4]_x000D_	Read Only
AV143	Heat Command Request	Percent	-150% to 150%	Units with a Heating Coil Only	Output from the cooling PID calculation.	Read Only
AV61	Heat Control Pgain	None		Units with Discharge Air Reset Method.	P Gain for the PID Discharge Air Reset Calculation	Read Only
BV21	Heat Cool Mode Active	None	None	All Units	Open = Heat Closed = Cool	Read Only



Object and Diagnostic Data Points

Table 9. All Object Types Sorted by Object Name (continued)

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
MV3	Heat Cool Mode Request	None	None	All Units	[1, Auto]_x000D_ [2, Heat]_x000D_ [3, Morning Warm-up]_x000D_ [4, Cool]_x000D_ [5, Night Purge]_x000D_ [6, Pre Cool]_x000D_ [7, Off]_x000D_ [8, Test]_x000D_ [9, Emergency Heat]_x000D_ [10, Fan Only]_x000D_ [11, Free Cool]_x000D_ [12, Ice-Making]_x000D_ [13, Maximum Heat]_x000D_ [14, Economizer]_x000D_ [15, Dehumidify]_x000D_ [16, Calibrate]_x000D_	Writeable
MV4	Heat Cool Mode Status	None	None	All Units	[1, Auto]_x000D_ [2, Heat]_x000D_ [3, Morning Warm-up]_x000D_ [4, Cool]_x000D_ [5, Night Purge]_x000D_ [6, Pre Cool]_x000D_ [7, Off]_x000D_ [8, Test]_x000D_ [9, Emergency Heat]_x000D_ [10, Fan Only]_x000D_ [11, Free Cool]_x000D_ [12, Ice-Making]_x000D_ [13, Maximum Heat]_x000D_ [14, Economizer]_x000D_ [15, Dehumidify]_x000D_ [16, Calibrate]_x000D_	Read Only
BI78	Heat/Cool Mode GBAS Input	None	None	Only Units with GBAS Option ordered.	Open = Heating Closed = Cooling	Read Only
AV62	Heating Capacity Primary Status	Percent	-150% to 150%	All Units	Heating Capacity actually running on the unit	Read Only
BV80	Heating Lockout BAS	None	None	Units with a Heating Coil Only	Open = Inactive Closed = Locked Out	Writeable
AO11	Heating Output Command	Percent	0% to 100% Open	Units that include heating.	Analog Control that regulates water through the heating coil.	Read Only
BV329	Local Auto Stop	None	None	All Units	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Supply Fan Failure Reset or Power Cycle.	Writeable
MV79	Mechanical Cooling Stages Failed	None	None	All Units	[1, 1 Comp Failed]_x000D_ [2, 2 Comp Failed]_x000D_ [3, 3 Comp Failed]_x000D_ [4, 4 Comp Failed]_x000D_ [5, None Failed]_x000D_	Read Only
MV80	Mechanical Stages Active	None	None	All Units	[1, 0 Compressors]_x000D_ [2, 1 Compressor]_x000D_ [3, 2 Compressors]_x000D_ [4, 3 Compressors]_x000D_ [5, 4 Compressors]_x000D_ [6, 1 Compressors]_x000D_ [7, 2 Compressor]_x000D_ [8, 3 Compressors]_x000D_ [9, 4 Compressors]_x000D_ [10, 0 Compressors]_x000D_	Read Only
BV52	Mixed Air Low Limit Active	None	None	Units with Water Side Economizer		Read Only
MV39	MJC MSC Factory Program Version	None	None	All Units	Version 1.4	Read Only
MV82	MSC Unit Discharge Air Control Strategy	None	None	All Units	[1, Fixed DA Setpoint]_x000D_ [2, Return Air Reset]_x000D_ [3, Space Temp Reset]_x000D_	Read Only

Table 9. All Object Types Sorted by Object Name (continued)

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
MV83	MSC Unit Status	None	None	All Units	[1, Normal]_x000D_ [2, Unit Off]_x000D_ [3, Warning Present]_x000D_ [4, Alarm Present]_x000D_ [5, Exterior Stop]_x000D_ [6, Local Stop]_x000D_ [7, E-Stop]_x000D_ [8, BAS Fire]_x000D_ [9, BAS Shutdown]_x000D_	Read Only
BI29	Occupancy Input	None	None	All Units	Normally Open Input Open = Unoccupied Closed = Occupied	Read Only
MV1	Occupancy Request	None	None	All Units	[1, Occupied]_x000D_ [2, Unoccupied]_x000D_ [3, Occupied Bypass]_x000D_ [4, Occupied Standby]_x000D_ [5, Auto]_x000D_	Writeable
MV2	Occupancy Status	None	None	All Units	[1, Occupied]_x000D_ [2, Unoccupied]_x000D_ [3, Occupied Bypass]_x000D_ [4, Occupied Standby]_x000D_ [5, Auto]_x000D_	Read Only
AI110	Occupied Zone Cooling Setpoint GBAS Input	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Only Units with GBAS Option ordered.	0.5 to 4.5VDC Signal gives 50°F to 90°F	Read Only
AI111	Occupied Zone Heating Setpoint GBAS Input	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Only Units with GBAS Option ordered.	0.5 to 4.5VDC Signal gives 50°F to 90°F	Read Only
BV78	Optional Heat Enable Command	None	None	Units with a Heating Coil Only	Open = Off Closed = On	Read Only
BV79	Optional Heat Lockout	None	None	Units with a Heating Coil Only	Open = Inactive Closed = Locked Out	Read Only
BO131	Refrigeration Circuit Failure Alarm GBAS Output	None	None	Only Units with GBAS Option ordered.	Normally Open Contacts Used Only Open = No Alarms Closed = Alarm Present Normally Closed Contacts not used	Read Only
AI32	Return Air Temperature Local	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	All Units	Local Return Air Temperature Sensor	Read Only
AV227	Return Temperature Setpoint BAS	Temperature (°C or °F)	-7.2°C (45°F) to 35°C (95°F)	Units with Return Air Reset Method.	Setpoint used in the Reset Calculation based on return air to set the Discharge Air Setpoint.	Writeable
AV74	Space Temperature Active	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with Discharge Air Reset Method.	Setpoint the unit is using to control the discharge air temperature to.	Read Only
AV73	Space Temperature BAS	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with Discharge Air Reset Method.	Setpoint the unit is using to control the discharge air temperature to.	Writeable
AI1	Space Temperature Local	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with Space Temperature Option.	Local Space Temperature Sensor.	Read Only
AV7	Space Temperature Setpoint BAS	Temperature (°C or °F)	-7.2°C (45°F) to 35°C (95°F)	Units with Space Temperature Reset Method.	Setpoint used in the Reset Calculation based on return air to set the Discharge Air Setpoint.	Writeable
AV7	Space Temperature Setpoint BAS	Temperature (°C or °F)	-7.2°C (45°F) to 35°C (95°F)	Units with Return Air Reset Method.	Setpoint used in the Reset Calculation based on space temperature to set the Discharge Air Setpoint.	Writeable
BV63	Startup Delay Completed	None	None	All Units	Open = No Closed = Yes	Read Only
AI114	Supply Air Cooling Setpoint GBAS Input	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Only Units with GBAS Option ordered.	0.5 to 4.5VDC Signal gives 40°F to 90°F	Read Only
AI115	Supply Air Heating Setpoint GBAS Input	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Only Units with GBAS Option ordered.	0.5 to 4.5VDC Signal gives 40°F to 95°F	Read Only
AI116	Supply Air Static Pressure Setpoint GBAS Input	Pressure in(H2O)	-5.2 to 5.2 in (H2O)	Only Units with GBAS Option ordered.	0.5 to 4.5VDC Signal gives 0-5 in (H2O)	Read Only
BV330	Supply Fan 1 Calculated Status	None	None	Units with at least 1 Supply Fan	Open = Off Closed = On	Read Only



Object and Diagnostic Data Points

Table 9. All Object Types Sorted by Object Name (continued)

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
BV331	Supply Fan 1 Failure	None	None	Units with at least 1 Supply Fan	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Supply Fan Failure Reset or Power Cycle.	Read Only
BV332	Supply Fan 1 Lockout BAS	None	None	Units with at least 1 Supply Fan	Open = Available Closed = Locked Out	Writeable
AO96	Supply Fan 1 Speed Command	Percent	0% to 100% Speed	Units with at least 1 Fan	Analog signal that Controls the Fan Speed	Read Only
BO100	Supply Fan 1 Start Stop Command	None	None	Units with at least 1 Fan	Normally Open Contacts Used Only Open = Stop Closed = Run Normally Closed Contacts not used	Read Only
BI80	Supply Fan 1 VFD Fault	None	None	Units with at least 1 Fan	Normally Closed Input Open = Alarm Closed = Normal	Read Only
BV335	Supply Fan 2 Calculated Status	None	None	Units with at least 2 Supply Fan	Open = Off Closed = On	Read Only
BV336	Supply Fan 2 Failure	None	None	Units with at least 2 Supply Fan	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Supply Fan Failure Reset or Power Cycle.	Read Only
BV337	Supply Fan 2 Lockout BAS	None	None	Units with at least 2 Supply Fan	Open = Available Closed = Locked Out	Writeable
AO97	Supply Fan 2 Speed Command	Percent	0% to 100% Speed	Units with at least 2 Fan	Analog signal that Controls the Fan Speed	Read Only
BO101	Supply Fan 2 Start Stop Command	None	None	Units with at least 2 Fan	Normally Open Contacts Used Only Open = Stop Closed = Run Normally Closed Contacts not used	Read Only
BI81	Supply Fan 2 VFD Fault	None	None	Units with at least 2 Fan	Normally Closed Input Open = Alarm Closed = Normal	Read Only
BV340	Supply Fan 3 Calculated Status	None	None	Units with at least 3 Supply Fan	Open = Off Closed = On	Read Only
BV341	Supply Fan 3 Failure	None	None	Units with at least 3 Supply Fan	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Supply Fan Failure Reset or Power Cycle.	Read Only
BV342	Supply Fan 3 Lockout BAS	None	None	Units with at least 3 Supply Fan	Open = Available Closed = Locked Out	Writeable
AO98	Supply Fan 3 Speed Command	Percent	0% to 100% Speed	Units with at least 3 Fan	Analog signal that Controls the Fan Speed	Read Only
BO102	Supply Fan 3 Start Stop Command	None	None	Units with at least 3 Fan	Normally Open Contacts Used Only Open = Stop Closed = Run Normally Closed Contacts not used	Read Only
BI82	Supply Fan 3 VFD Fault	None	None	Units with at least 3 Fan	Normally Closed Input Open = Alarm Closed = Normal	Read Only
BV345	Supply Fan 4 Calculated Status	None	None	Units with at least 4 Supply Fan	Open = Off Closed = On	Read Only
BV346	Supply Fan 4 Failure	None	None	Units with at least 4 Supply Fan	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Supply Fan Failure Reset or Power Cycle.	Read Only
BV347	Supply Fan 4 Lockout BAS	None	None	Units with at least 4 Supply Fan	Open = Available Closed = Locked Out	Writeable
AO99	Supply Fan 4 Speed Command	Percent	0% to 100% Speed	Units with at least 4 Fan	Analog signal that Controls the Fan Speed	Read Only
BO103	Supply Fan 4 Start Stop Command	None	None	Units with at least 4 Fan	Normally Open Contacts Used Only Open = Stop Closed = Run Normally Closed Contacts not used	Read Only
BI83	Supply Fan 4 VFD Fault	None	None	Units with at least 4 Fan	Normally Closed Input Open = Alarm Closed = Normal	Read Only
BV350	Supply Fan 5 Calculated Status	None	None	Units with at least 5 Supply Fan	Open = Off Closed = On	Read Only
BV351	Supply Fan 5 Failure	None	None	Units with at least 5 Supply Fan	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Supply Fan Failure Reset or Power Cycle.	Read Only

Table 9. All Object Types Sorted by Object Name (continued)

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
BV352	Supply Fan 5 Lockout BAS	None	None	Units with at least 5 Supply Fan	Open = Available Closed = Locked Out	Writeable
AO100	Supply Fan 5 Speed Command	Percent	0% to 100% Speed	Units with at least 5 Fan	Analog signal that Controls the Fan Speed	Read Only
BO104	Supply Fan 5 Start Stop Command	None	None	Units with at least 5 Fan	Normally Open Contacts Used Only Open = Stop Closed = Run Normally Closed Contacts not used	Read Only
BI84	Supply Fan 5 VFD Fault	None	None	Units with at least 5 Fan	Normally Closed Input Open = Alarm Closed = Normal	Read Only
BV355	Supply Fan 6 Calculated Status	None	None	Units with at least 6 Supply Fan	Open = Off Closed = On	Read Only
BV356	Supply Fan 6 Failure	None	None	Units with at least 6 Supply Fan	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Supply Fan Failure Reset or Power Cycle.	Read Only
BV357	Supply Fan 6 Lockout BAS	None	None	Units with at least 6 Supply Fan	Open = Available Closed = Locked Out	Writeable
AO101	Supply Fan 6 Speed Command	Percent	0% to 100% Speed	Units with at least 6 Fan	Analog signal that Controls the Fan Speed	Read Only
BO105	Supply Fan 6 Start Stop Command	None	None	Units with at least 6 Fan	Normally Open Contacts Used Only Open = Stop Closed = Run Normally Closed Contacts not used	Read Only
BI85	Supply Fan 6 VFD Fault	None	None	Units with at least 6 Fan	Normally Closed Input Open = Alarm Closed = Normal	Read Only
BV360	Supply Fan Calculated Status	None	None	All Units	Open = Off Closed = Running	Read Only
BO132	Supply Fan Failure Alarm GBAS Output	None	None	Only Units with GBAS Option ordered.	Normally Open Contacts Used Only Open = No Alarms Closed = Alarm Present Normally Closed Contacts not used	Read Only
BV2	Supply Fan Failure Reset	None	None	All units	Open = Normal Closed = Reset	Read Only
AV203	Supply Fan Maximum Speed Local	Percent	50 % to 150 %	All Units	The maximum speed the fan can run when enabled	Read Only
AV204	Supply Fan Minimum Speed Local	Percent	15 % to 150 %	All Units	The minimum speed the fan can run when enabled	Read Only
AV101	Supply Fan Speed Pgain	None	1 to 25	All Units	P Gain for the PID Supply Fan Speed Calculation	Read Only
AV115	Supply Fan Speed Status	Percent	-150 % to 150 %	All Units	Speed the Fans are actually running	Read Only
MV90	Supply Fans Failed	None	None	All Units	[1, 1 Fan Failed]_x000D_ [2, 2 Fans Failed]_x000D_ [3, 3 Fans Failed]_x000D_ [4, 4 Fans Failed]_x000D_ [5, 5 Fans Failed]_x000D_ [6, 6 Fans Failed]_x000D_ [7, None Failed]_x000D_	Read Only
BO126	Unit Alarm Output Command	None	None	All Units	Normally Open Contacts Used Only Open = No Alarms Closed = Alarm Present Normally Closed Contacts not used	Read Only
MV100	Unit Information	None	None	All Units	State 1	Read Only
AI112	Unoccupied Zone Cooling Setpoint GBAS Input	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Only Units with GBAS Option ordered.	0.5 to 4.5VDC Signal gives 50°F to 90°F	Read Only
AI113	Unoccupied Zone Heating Setpoint GBAS Input	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Only Units with GBAS Option ordered.	0.5 to 4.5VDC Signal gives 50°F to 90°F	Read Only
AV380	Variable Speed Compressor Ramp Up Delay (Sec)	None	30 to 250	Units with variable speed compressor (s)	This delay time disabled the Speed PID calculation from calculating until the delay time expires, due to the automatic ramp up built into the VFD	Read Only
BV365	Warning: Compressor 1 Cond Limit Status	None	None	Units with at least 1 Compressor	Open = Normal Capacity Closed = Limited Capacity	Read Only
BV366	Warning: Compressor 1 Frost Limit Status	None	None	Units with at least 1 Compressor	Open = Normal Closed = Warning Active	Read Only
BV370	Warning: Compressor 2 Frost Warning	None	None	Units with at least 2 Compressor	Open = Normal Closed = Warning Active	Read Only



Object and Diagnostic Data Points

Table 9. All Object Types Sorted by Object Name (continued)

Object Identifier	Point Name	Units of Measure	Minimum Maximum	When the Point Exists	Description	Read/Write
BV371	Warning: Compressor 2 High Discharge Press Warning	None	None	Units with at least 2 Compressor	Open = Normal Closed = Warning Active	Read Only
BV375	Warning: Compressor 3 Frost Warning	None	None	Units with at least 3 Compressor	Open = Normal Closed = Warning Active	Read Only
BV376	Warning: Compressor 3 High Discharge Press Warning	None	None	Units with at least 3 Compressor	Open = Normal Closed = Warning Active	Read Only
BV380	Warning: Compressor 4 Frost Warning	None	None	Units with at least 4 Compressor	Open = Normal Closed = Warning Active	Read Only
BV381	Warning: Compressor 4 High Discharge Press Warning	None	None	Units with at least 4 Compressor	Open = Normal Closed = Warning Active	Read Only
AV382	Water Side Econ Calculated Enable Setpoint	Temperature (°C or °F)	-50°C (-58°F) to 236°C (482°F)	Units with Water Side Economizer	Temperature that the entering water must be in order to enable the Water side economizer for cooling.	Read Only
AV383	Water Side Econ Sample Time (Min)	None	1 to 5	Units with Water Side Economizer	time that the Water Side Economizer will sample the water to see if it can use for cooling.	Writeable
AV384	Water Side Econ Valve Control P Gain	None	-1000 to 1000	Units with Water Side Economizer	P Gain for the PID Condenser Calculation	Read Only
AV385	Water Side Economizer Enable Offset	▲ Temperature	4 - 7 Degrees	Units with Water Side Economizer	This is used to calculate the Water Side Econ Enable Setpoint	Writeable
BV255	Water Side Economizer Lockout BAS	None	None	Units with Water Side Economizer	Open = Available Closed = Locked Out	Read Only
MV85	Water Side Economizer Mode Status	None	None	Units with Water Side Economizer	[1, Disabled]_x000D_ [2, Enabled]_x000D_ [3, Not Present]_x000D_	Read Only
AO105	Water Side Economizer Valve	Percent	0% to 100% Open	Units with a Water Side Economizer	Analog Control that regulates water through the water side economizer	Read Only
MV9	Water Valve Override	None	None	All Units	[1, Off]_x000D_ [2, Not Valid]_x000D_ [3, Not Valid]_x000D_ [4, Not Valid]_x000D_ [5, Open]_x000D_ [6, Close]_x000D_	Writeable



Alarming

The UC600 unit for modular self contained units has several objects used for communicating alarms to the system.

Table 10. Alarm Objects

Point Type	Point Instance	Point Name	Description	Notification Class
BI	9	Emergency Stop	Normally Closed Input Open = Emergency Stop Closed = Normal	1
BI	10	External Auto Stop Input Status	Normally Closed Input Open = External Stop Closed = Auto	1
BI	80	Supply Fan 1 VFD Fault	Normally Closed Input Open = Alarm Closed = Auto	1
BI	81	Supply Fan 2 VFD Fault	Normally Closed Input Open = Alarm Closed = Auto	1
BI	82	Supply Fan 3 VFD Fault	Normally Closed Input Open = Alarm Closed = Auto	1
BI	83	Supply Fan 4 VFD Fault	Normally Closed Input Open = Alarm Closed = Auto	1
BI	84	Supply Fan 5 VFD Fault	Normally Closed Input Open = Alarm Closed = Auto	1
BI	85	Supply Fan 6 VFD Fault	Normally Closed Input Open = Alarm Closed = Auto	1
BI	90	Compressor 1 High Pressure Cutout	Normally Closed Input Open = Alarm Closed = Auto	1
BI	91	Compressor 2 High Pressure Cutout	Normally Closed Input Open = Alarm Closed = Auto	1
BI	92	Compressor 3 High Pressure Cutout	Normally Closed Input Open = Alarm Closed = Auto	1
BI	93	Compressor 4 High Pressure Cutout	Normally Closed Input Open = Alarm Closed = Auto	1
BI	98	Compressor 1 VFD Fault	Normally Closed Input Open = Alarm Closed = Auto	1
BV	15	Diagnostic: Duct Static Pressure Failure	Open = Normal Closed = Failure Non latching Diagnostic, clears automatically	1
BV	19	Diagnostic: Discharge Air Low Temperature Lockout	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Alarm Reset or Power Cycle.	1
BV	41	Diagnostic: Discharge Air High Temperature Lockout	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Alarm Reset or Power Cycle.	1
BV	42	Diagnostic: Discharge Air Temperature Source Failure	Open = Normal Closed = Failure Non latching Diagnostic, clears automatically	1
BV	70	Diagnostic: Condenser Water Low Temperature Lockout	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Alarm Reset or Power Cycle.	1
BV	72	Diagnostic: Dirty Air Filter	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Filter Alarm Reset or Power Cycle.	2
BV	76	Active CoolCoil Control Sensor Failed	Open = Normal Closed = Failure Non latching Diagnostic, clears automatically	1

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Table 10. Alarm Objects (continued)

Point Type	Point Instance	Point Name	Description	Notification Class
BV	77	Active HeatCoil Control Sensor Failed	Open = Normal Closed = Failure Non latching Diagnostic, clears automatically	1
BV	260	Diagnostic: Compressor 1 Discharge Pressure Sensor Failure	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 1 Failure Reset or Power Cycle.	1
BV	261	Diagnostic: Compressor 1 Froststat	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 1 Failure Reset or Power Cycle.	1
BV	262	Diagnostic: Compressor 1 High Pressure Shutdown	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 1 Failure Reset or Power Cycle.	1
BV	263	Diagnostic: Compressor 1 High Superheat	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 1 Failure Reset or Power Cycle.	1
BV	264	Diagnostic: Compressor 1 Low Superheat	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 1 Failure Reset or Power Cycle.	1
BV	265	Diagnostic: Compressor 1 Safety Circuit Alarm	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 1 Failure Reset or Power Cycle.	0
BV	266	Diagnostic: Compressor 1 Suction Pressure Sensor Failure	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 1 Failure Reset or Power Cycle.	1
BV	267	Diagnostic: Compressor 1 Suction Temperature Sensor Failure	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 1 Failure Reset or Power Cycle.	1
BV	270	Diagnostic: Compressor 2 Discharge Pressure Sensor Failure	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 1 Failure Reset or Power Cycle.	1
BV	271	Diagnostic: Compressor 2 Froststat	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 2 Failure Reset or Power Cycle.	1
BV	272	Diagnostic: Compressor 2 High Pressure Shutdown	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 2 Failure Reset or Power Cycle.	1
BV	273	Diagnostic: Compressor 2 High Superheat	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 2 Failure Reset or Power Cycle.	1
BV	274	Diagnostic: Compressor 2 Low Superheat	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 2 Failure Reset or Power Cycle.	1
BV	275	Diagnostic: Compressor 2 Safety Circuit Alarm	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 2 Failure Reset or Power Cycle.	1
BV	276	Diagnostic: Compressor 2 Suction Pressure Sensor Failure	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 2 Failure Reset or Power Cycle.	1
BV	277	Diagnostic: Compressor 2 Suction Temperature Sensor Failure	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 2 Failure Reset or Power Cycle.	1
BV	280	Diagnostic: Compressor 3 Discharge Pressure Sensor Failure	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 3 Failure Reset or Power Cycle.	1

Table 10. Alarm Objects (continued)

Point Type	Point Instance	Point Name	Description	Notification Class
BV	281	Diagnostic: Compressor 3 Froststat	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 3 Failure Reset or Power Cycle.	1
BV	282	Diagnostic: Compressor 3 High Pressure Shutdown	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 3 Failure Reset or Power Cycle.	1
BV	283	Diagnostic: Compressor 3 High Superheat	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 3 Failure Reset or Power Cycle.	0
BV	284	Diagnostic: Compressor 3 Low Superheat	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 3 Failure Reset or Power Cycle.	0
BV	285	Diagnostic: Compressor 3 Safety Circuit Alarm	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 3 Failure Reset or Power Cycle.	1
BV	286	Diagnostic: Compressor 3 Suction Pressure Sensor Failure	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 3 Failure Reset or Power Cycle.	1
BV	287	Diagnostic: Compressor 3 Suction Temperature Sensor Failure	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 3 Failure Reset or Power Cycle.	1
BV	290	Diagnostic: Compressor 4 Discharge Pressure Sensor Failure	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 4 Failure Reset or Power Cycle.	1
BV	291	Diagnostic: Compressor 4 Froststat	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 4 Failure Reset or Power Cycle.	1
BV	292	Diagnostic: Compressor 4 High Pressure Shutdown	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 4 Failure Reset or Power Cycle.	1
BV	293	Diagnostic: Compressor 4 High Superheat	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 4 Failure Reset or Power Cycle.	0
BV	294	Diagnostic: Compressor 4 Low Superheat	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 4 Failure Reset or Power Cycle.	0
BV	295	Diagnostic: Compressor 4 Safety Circuit Alarm	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 4 Failure Reset or Power Cycle.	1
BV	296	Diagnostic: Compressor 4 Suction Pressure Sensor Failure	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 4 Failure Reset or Power Cycle.	1
BV	297	Diagnostic: Compressor 4 Suction Temperature Sensor Failure	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Comp 4 Failure Reset or Power Cycle.	1
BV	320	Diagnostic: Dirty Condenser Tee Filter	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Filter Alarm Reset or Power Cycle.	2
BV	321	Diagnostic: Software High Duct Static Alarm	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Filter Alarm Reset or Power Cycle.	1
BV	322	Diagnostic: Condenser Water Flow Loss	Open = Normal Closed = Failure Non latching Diagnostic, clears automatically	1



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Table 10. Alarm Objects (continued)

Point Type	Point Instance	Point Name	Description	Notification Class
BV	329	Local Auto Stop	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Supply Fan Failure Reset or Power Cycle.	1
BV	331	Supply Fan 1 Failure	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Supply Fan Failure Reset or Power Cycle.	1
BV	336	Supply Fan 2 Failure	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Supply Fan Failure Reset or Power Cycle.	1
BV	341	Supply Fan 3 Failure	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Supply Fan Failure Reset or Power Cycle.	1
BV	346	Supply Fan 4 Failure	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Supply Fan Failure Reset or Power Cycle.	1
BV	351	Supply Fan 5 Failure	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Supply Fan Failure Reset or Power Cycle.	1
BV	356	Supply Fan 6 Failure	Open = Normal Closed = Failure Latching Diagnostic. Cleared with Supply Fan Failure Reset or Power Cycle.	1



Additional Resources

Use the following documents and links as additional resources:

- www.bacnetinternational.org
- Tracer SC System Controller Installation and Setup (BAS-SVX31-EN)
- BACnet Best Practices and Troubleshooting Guide (BAS-SVX51-EN)
- Tracer Graphical Programming 2 (TGP2) Editor Online Help
- Tracer Graphical Programming (TGP2) Application Guide (BAS-APG008-EN)
- Tracer TU Online Help
- Tracer TU Service Tool Getting Started Guide (TTU-SVN01-EN)
- Tracer UC600 Installation Instructions (X39641178-01)
- Tracer XM30 Expansion Module Installation Instructions (X39641148-01)
- Tracer XM32 Expansion Module Installation Instructions (X39641174-01)
- Tracer Expansion Module Installation, Operation, and Maintenance (BAS-SVX046-EN)
- Tracer™ UC600 Programmable Controller Installation, Operation, and Maintenance Manual (BAS-SVX45A-EN)
- Modular Self Contained Installation, Operation, and Maintenance (PKG-SVX027A-EN)
- Tracer UC600 Product Data Sheet (BAS-PRD016)

For further assistance, contact your local Trane sales office.

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