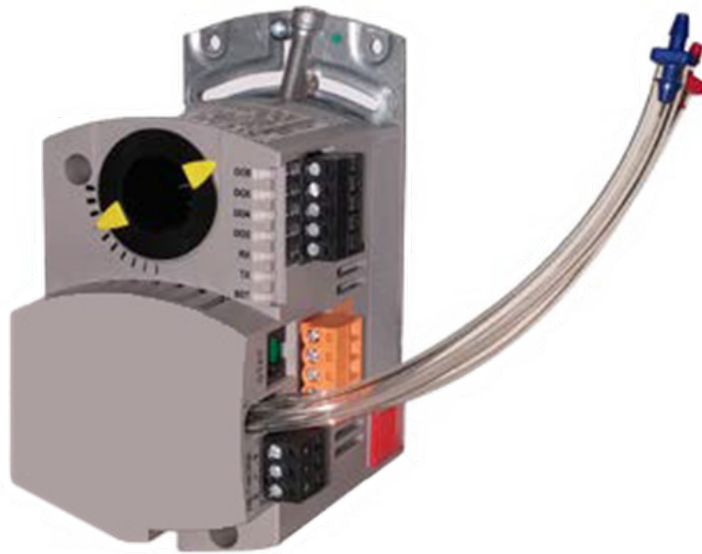


DAIKIN VAV CONTROLLER

BACNET® MS/TP NETWORK INTEGRATION

VAV Model 250802400



Introduction	3
BACnet Agency Conformance	3
Hazard Identification	3
Reference Documents	3
Software Applications	3
BACnet Device Object	3
Network Configuration	4
Getting Started	4
Network Setup with WCIS	4
Typical Points Required for BAS Integration	5
BACnet Data Points	6
Troubleshooting	15
Technical Support	16
WCIS VAV Software	17
Download and Setup	17
BACnet PICs	19
Daikin VAV BACnet Controller	19
Product Description	19
Device Object Properties	19
Revision History	20

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Introduction

This manual describes how to integrate the Daikin VAV controller to a BAS (building automation system) using the BACnet MS/TP network protocol.

The controller is used in pressure-independent Variable Air Volume (VAV) applications. It provides DDC (direct digital control) as both a damper actuator and an equipment controller in a single device. It can operate as a stand-alone DDC room controller or it can be integrated via BACnet for network control.

The controller provides all input, output, system, and local communication connections. The VAV applications supported by the controller are described in [Table 1](#).

BACnet Agency Conformance

The VAV controller is BTL listed as a BACnet Application Specific Controller (B-ASC). This means it supports standard, interoperable BACnet objects and services. Integrators can discover, read, and command the points using any BACnet-compliant BAS.

It is designed and tested according to the BACnet Testing Laboratory (BTL) requirements of the BACnet Standard as stated in the Protocol Implementation and Conformance Statement. Refer to [BACnet PICs](#) section.

It is assumed that the user is familiar with BACnet integration. Contact the Daikin Applied Controls Customer Support group at (800)-432-1342 or CTLTechSupport@daikinapplied.com for additional assistance, if necessary.

Hazard Identification

DANGER

Danger indicates a hazardous situation, which will result in death or serious injury if not avoided.

WARNING

Warning indicates a potentially hazardous situations, which can result in property damage, personal injury, or death if not avoided.

CAUTION

Caution indicates a potentially hazardous situations, which can result in minor injury or equipment damage if not avoided.

NOTICE

Notice indicates practices not related to physical injury.

NOTE: Indicates important details or clarifying statements for information presented.

Reference Documents

Company	Number	Title	Source
Daikin Applied	OM 1063	Daikin VAV Controller Operations Manual	www.DaikinApplied.com
	IM 1037	Daikin VAV Controller Installation and Maintenance Manual	
	IM 1040	VAV Box Controller Start-up	
	IM 1037	VAV Controller Installation Manual	
	OM 1038	BACnet VAV Actuator Room Sensor 2508031	
	OM 1039	BACnet VAV Actuator Room Sensor 2508032	

Software Applications

This document supports the latest version of software used for the VAV controller application types shown in [Table 1](#).

Table 1: VAV Controller Applications

Application	Application Description
Number	Application Description
6630	VAV Cooling Only
6631	VAV Cooling or Heating
6632	VAV with Electronic Reheat or Baseboard Radiation
6633	VAV with Hot Water Reheat¹
6634	VAV Series Fan Powered with Electric Reheat
6635	VAV Series Fan Powered with Hot Water Hot Water Reheat¹
6636	VAV Parallel Fan Powered with Electric Reheat
6637	VAV Parallel Fan Powered with Hot Water Hot Water Reheat¹
6684	Slave Mode

¹Also applies to terminal units with SCR electric heat.

BACnet Device Object

The unit controller incorporates standard BACnet object types (i.e., object types defined in the BACnet Standard) according to the BACnet Standard.

Standard Object Types Supported

Supported Object Type	Read-only	Read/Write
Analog Input	x	
Analog Output		x
Binary Input	x	
Binary Output		x

Each BACnet compatible device can only have a single BACnet Device Object.

CAUTION

If another device in the network already has this object identifier, you must change the instance number of one device object so that all devices in the network have a unique object identifier.

Network Configuration

This section explains how to set up, address, and change the VAV controller device properties for BACnet communication.


The VAV software (Window Controller Interface Software (WCIS) is required in order to set network device properties for network integration. WCIS installation and setup instructions are found in the [WCIS VAV Software section](#) of this manual. Also refer to the Daikin website [Daikin VAV Controller Operation Manual OM 1063](#) under Resources & Downloads/ Installation And Operation Manuals for more information about controller software and configuration.

The BAS or field panel can be used to configure the rest of the BACnet parameters. The full list of BACnet points supported by each VAV controller application is described in [Table 4](#).

When commissioning the VAV for BACnet communications, it is important to consider writeable configuration values vs normal (read-only) operational commands.

Read/Write objects (AO, BO) such as setpoints, are typically configuration values that store data in the controller's permanent EEPROM/Flash Memory. The controller retains these values in memory upon reboot.

Read only objects (AI, BI) such as sensor inputs, are not written to EEPROM.

 CAUTION
Writing to EEPROM/Flash memory is an operation that has a finite limit. For this reason, the number of writes made to these BACnet objects must be limited to avoid damage to the controller hardware.

Getting Started

1. Open the WCIS software. If not installed, see download and setup in the [WCIS VAV Software](#) section.
2. From WCIS, verify the following before making changes:
 - a. The unique Port ID Number is correct.
 - b. The controller Application Number is correct (see [Table 1](#)).

Network Setup with WCIS

The following section explains the VAV controller addressing and device properties configuration process.

Device Properties Are set in WCIS:

- All network parameters - MAC address, Device Instance, Baud Rate, Max Masters, and others must be configured using the WCIS software, not from the BAS.

Recommended MAC/MS/TP Address Range: 1–127

- While the device supports 0–255, the controller's valid addressing for normal operation is 1–127.

Max Master: Default 127, recommended to leave at 127 unless the trunk is segmented.

Baud Rate Default: 38,400

Confirm Unique Device Instance Number to avoid address collisions.

Always write changes using WCIS → **Write**, and Refresh if verifying existing parameters.

Table 2: Network Device Setup and Configuration Options

Device Property	Default ¹	Range	Required
APPLICATION	6637	See Table 4	Yes
CTRL ADDRESS (MAC or MS/TP Address)	255	0-255	Yes
Instance Number	3101014		
Object Name	VAV 5.04		Yes
Device Description	VAV14	Variable	
Device Location	VAV14	Variable	
Maximum Master Address (Max Masters)	127	1-127	
Baud Rate	38400		
MMI Baud Rate	1200		Yes
Initial Value Priority	15	1-15 Available	
Metric Units	Not Checked	Imperial Metric	
Slave Mode	Not Checked	Master Slave	

¹For assistance with BACnet configuration or to change network defaults, Contact Daikin Applied Controls Customer Support at 866-462-7829 or Cttechsupport@daikinapplied.com.

Change the BACnet MAC Address

To change the MAC or MS/TP address of the controller:

1. Select Setpoint 1, CTRL ADDRESS ([Figure 1](#)).
2. Change the desired address number and select OK. Note this value must be between 1-127, although the Value Range is 0-255 ([Figure 2](#)).

Figure 1: MAC Address Field in WCIS

#	Description	Current	Status	Units	Priority
{1}	CTRL ADDRESS	255	-N-		NONE
{2}	APPLICATION	6637	-N-		NONE
{3}	RMTMP OFFSET	-31.75	-N-	DEG F	NONE

Figure 2: Change MAC (MS/TP) Address

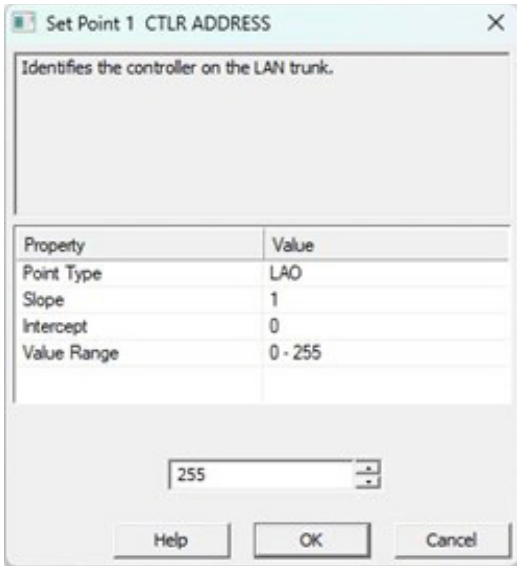


Figure 3: Select Device Properties in WCIS

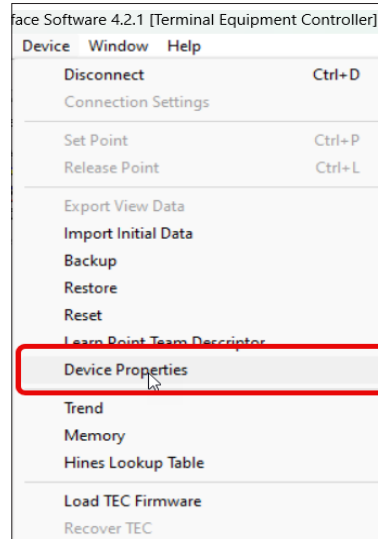
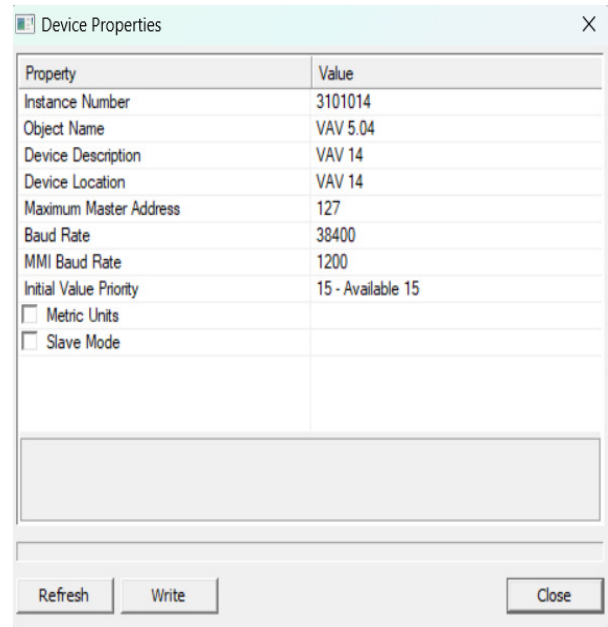


Figure 4: Device Properties in WCIS



Change Device Properties

1. Select Device Properties from the drop-down menu (Figure 3).
2. Change desired values of parameters from the Device Properties options shown in Figure 4.

NOTE: Device Instance Number, Baud Rate, and Max Masters are required for startup/commissioning the controller for network control. Other parameters, such as device descriptors, are recommended but not required.

3. Click the Write button, and then click Close.
 - a. To restore previous values, click the Refresh button and then proceed to make any further changes.
4. The WCIS application writes the information to the controller, and is now ready to communicate to the network.

Typical Points Required for BAS Integration

¹This is a quick start guide for setting up and configuring the VAV controller for BAS communication. The minimum points used to verify the controller is addressed correctly, communicating, reading temperature, and delivering airflow as expected are described in the Table 3 checklist. See Table 4 for all BACnet points supported by the 6631–6637 applications.

Table 3: Startup and Commissioning BAS Points Checklist

Category	Point/Object Name	Controller Address (Table 4)
Addressing and Application	CTLR ADDRESS APPLICATION	01 02
Temperature Setpoints	ROOM TEMP CTL TEMP CTL STPT DAY CLG STPT DAY HTG STPT	04 78 92 06 07
Airflow Control	FLOW FLOW STPT	75 93
Airflow Min/Max Limits	CLG FLOW MIN CLG FLOW MAX HTG FLOW MIN HTG FLOW MAX CTL FLOW MIN CTL FLOW MAX	31 32 33 34 76 77
Heating and Cooling Mode	HEAT.COOL	05
Occupancy Mode	DAY.NGT	29
Occupancy Override	NGT OVRD DI OVRD SW (Switch Status)	21 19
Damper Command/Position	DMPR COMD DMPR POS	48 49
Fan (If Applicable)	FAN	46
Reheat Staging (If Applicable)	HEAT STAGE 1 (DO3) HEAT STAGE 2 (DO4) HEAT STAGE 3 (DO5) DO6	43 44 45 46
Valves	VLV COMD/POS VLV1 COMD/POS	52/53 52/53
Diagnostics	CHK OUT CHK STATUS ERROR STATUS	66 70 99

BACnet Data Points

This section describes the BACnet MS/TP points supported by the VAV controller. A description of each point in the database, including the controller address and VAV application(s) supported for each BACnet object, is summarized in [Table 4](#).

CAUTION

Writing to EEPROM/Flash memory is an operation that has a finite limit. For this reason, the number of writes made to these BACnet objects must be limited to avoid damage to the hardware.

Table 4: BACnet Point List with Descriptions and Applications

BACnet Object Name	Controller Address	Object Type/ Instance	Read/ Write Access	Range In Units	Default	Description	Used in Controller Application ²
CTLR ADDRESS	01	AO:1	R/W	0-255	255	Identifies the controller on the communication trunk.	All
APPLICATIONOFF	02	AO:2	R/W	0-32767	6684	Identification number of the program running in the controller.	All
RMTMP OFFSET	03	AO:3	R/W	-31.75-32°F -35.41-0°C	0.0°F 0.0°C	Compensates for deviations between the value of ROOM TEMP and the actual room temperature. This corrected value is displayed in CTL TEMP. RMTMP OFFSET + ROOM TEMP = CTL TEMP	All
ROOM TEMP¹	04	AI:4	R	48-111.75°F 8.89-44.31°C	74.0°F 23.33°C	Actual reading from the room temperature sensor.	All

When setting up the VAV controller for BACnet communication, it is important to consider writeable configuration values vs normal (read-only) operational commands. Read/Write objects (AO, BO) such as setpoints, are typically configuration values that store data in the controller's permanent EEPROM/Flash Memory. The controller retains these values in memory upon reboot.

Read-only objects (AI, BI) are not written to EEPROM. These represent real-time sensor inputs (temperature, airflow, and humidity, for example). The controller does not retain these operational input values in memory.

In summary:

EEPROM = YES for any AO or BO that is writable (R/W)

EEPROM = NO for all AI and BI objects (R-only)

Bundled vs. Unbundled BACnet Points

Unbundled

Unbundled points are shown in bold ([Table 4](#)).

These points can be individually exposed to a field panel or the BAS for direct command or monitoring.

NOTE: For supervisory systems that support unbundling, only expose the objects needed for scheduling, alarms, or analytics to reduce network traffic and avoid excess write operations.

Bundled

Bundled points are not shown in bold ([Table 4](#)).

These points are standard, built-in BACnet objects generated by the VAV controller application. They are maintained in the controller logic. They are exposed as read-only points to the field panel or BAS.

NOTE: Bundled points improve performance by keeping most control logic and data handling inside the VAV controller, reducing BAS polling and write traffic. Because fewer objects are externally exposed, the BAS generates less network load, and the controller avoids unnecessary writes to non-volatile (EEPROM) memory.

Table 3: BACnet Point List with Descriptions and Applications, Continued

BACnet Object Name	Controller Address	Object Type/ Instance	Read/ Write Access	Range In Units	Default	Description	Used in Controller Application ²
HEAT.COOL ¹	05	BO:5	R/W	0=Cool 1=Heat	Cool	Current mode of operation for applications that can be in either a heating mode or a cooling mode.	All except 6630, 6684
DAY CLG STPT	06	AO:6	R/W	48-111.75°F 8.89-44.31°C	74.0°F 23.33°C	The temperature setpoint in degrees that the controller maintains during day periods in cooling mode if a room temperature sensor setpoint dial is not present or is not used. See STPT DIAL.	All except 6684
DAY HTG STPT	07	AO:7	R/W	48-111.75°F 8.89-44.31°C	70°F 21.11°C	The temperature setpoint in degrees that the controller maintains during day periods in heating mode if a room temperature sensor setpoint dial is not present or is not used. See STPT DIAL.	All except 6630, 6684
NGT CLG STPT	08	AO:8	R/W	48-111.75°F 8.89-44.31°C	82°F 27.78°C	The temperature setpoint in degrees that the controller maintains during the night periods in cooling mode.	All except 6684
NGT HTG STPT	09	AO:9	R/W	48-111.75°F 8.89-44.31°C	65°F 18.33°C	The temperature setpoint in degrees that the controller maintains during the night periods in heating mode.	All except 6630, 6684
DEW POINT ¹	10	AO:10	R/W	-40-1598.35°F -40-870°C	-40.0°F -40.0°C	Dew point temperature calculation using room temperature (CTL TEMP) and room humidity (RM RH).	All except 6684
RM STPT MIN	11	AO:11	R/W	48-111.75°F 8.89-44.31°C	55°F 12.78°C	The minimum temperature setpoint in degrees that the controller can use from the setpoint dial. This overrides any temperature setpoint from the setpoint dial that falls below this minimum.	All except 6684
RM STPT MAX	12	AO:12	R/W	48-111.75°F 8.89-44.31°C	90°F 32.22°C	The maximum temperature setpoint in degrees that the controller can use from the setpoint dial. This overrides any temperature setpoint from the setpoint dial that falls above this maximum.	All except 6684
RM STPT DIAL ¹	13	AI:13	R	48-111.75°F 8.89-44.31°C	74.0°F 23.33°C	The temperature setpoint in degrees from the room temperature sensor (not available on all temperature sensor models). This setpoint will be used for control in day mode (heating or cooling) when enabled by STPT DIAL.	All
STPT DIAL	14	BO:14	R/W	0=NO 1=YES	NO	YES indicates that there is a room setpoint dial on the room temperature sensor and it should be used as the temperature setpoint for control in day/occupied mode. NO indicates that the appropriate preset setpoint will be used as the temperature setpoint for control in day/occupied heating or cooling mode. Valid input: YES or NO.	All except 6684
AUX TEMP AI 3 ¹	15	AI:15	R	37.5-165°F 3.06-73.9°C	74.0°F 23.33°C	Actual reading from a 10K Ω thermistor connected to the controller's AI 3 input. When a thermistor is connected at AI 3, DI 3 is not available. See DI 3.	All except 6631
SUPPLY TEMP ¹	15	AI:15	R	37.5-165°F 3.06-73.9°C	74.0°F 23.33°C	Actual reading from a 10K Ω thermistor connected to the controller's AI 3 input. The controller uses this value to determine whether it is in heating or cooling mode.	6631
FLOW START	16	AO:16	R/W	0-102%	0%	Determines how the damper modulation will be sequenced while in heating mode. When HTG LOOPOUT is above this value, then FLOW STPT starts to increase.	All except 6630, 6631, 6684
FLOW END	17	AO:17	R/W	0-102%	0%	Determines how the damper modulation will be sequenced while in heating mode. When HTG LOOPOUT is below this value, then FLOW STPT starts to decrease.	All except 6630, 6631, 6684
WALL SWITCH	18	BO:18	R/W	0=NO 1=YES	NO	YES indicates that the controller is to monitor the status of a wall switch that is connected to DI 2. NO indicates that the controller will not monitor the status of a wall switch, even if one is connected. Valid input: YES or NO.	All
DI OVRD SW ¹	19	BI:19	R	0=OFF 1=ON	OFF	Actual indication of the status of the override switch (not physically available on all temperature sensor models) at the room temperature sensor. ON indicates that the switch is being pressed. OFF indicates that the switch is released. Valid input: ON or OFF.	All

Table 3: BACnet Point List with Descriptions and Applications, Continued

BACnet Object Name	Controller Address	Object Type/ Instance	Read/ Write Access	Range In Units	Default	Description	Used in Controller Application ²
OVRD TIME	20	AO:20	R/W	0-255	0	The amount of time in hours that the controller will operate in day/occupied mode when the override switch is pressed while the controller is in night/unoccupied mode.	All except 6684
NGT OVRD¹	21	BO:21	R/W	0=Day 1=Night	Night	Indicates the mode that the controller is operating in with respect to the override switch. NIGHT indicates that the switch has not been pressed and the override timer is not active. DAY indicates that the switch has been pressed and the override timer is active. The controller then uses a day mode temperature setpoint. This point is only in effect when DAY. NGT indicates night mode.	All except 6684
REHEAT START	22	AO:22	R/W	0-102%	0%	Determines how the reheat modulation will be sequenced while in heating mode. When HTG LOOPOUT is above this value, then the reheat modulates upward.	All except 6630, 6631, 6684
REHEAT END	23	AO:23	R/W	0-102%	100%	Determines how the reheat modulation will be sequenced while in heating mode. When HTG LOOPOUT is below this value, then the reheat modulates downward.	All except 6630, 6631, 6684
DI 4¹	24	BI:24	R/W	0=OFF 1=ON	OFF	Actual status of a contact connected to the controller at DI 4. ON indicates that the contact is closed; OFF indicates that the contact is open. If a wall switch is used, it is connected to DI4. See WALL SWITCH.	All
DI 3¹	25	BI:25	R/W	0=OFF 1=ON	OFF	Actual status of a contact connected to the controller at AI 3/DI 3. ON indicates that the contact is closed; OFF indicates that the contact is open. When a contact is connected at DI 3, AI 3 is not available. See AUX TEMP AI 3.	All
SERIES OFF	26	AO:26	R/W	0-102%	20%	When flow rises above this value, the series fan will turn on.	6634, 6535
SERIES OFF	26	AO:26	R/W	0-102%	20%	This point is present, but not used in this application.	6636
SERIES OFF	27	AO:27	R/W	0-102%	10%	When flow drops below this value and other conditions have been met, the series fan will turn OFF.	6634, 6535
SERIES OFF	27	AO:27	R/W	0-102%	10%	This point is present, but not used in this application.	6636
PARALLEL ON	28	AO:28	R/W	0-102%	20%	When flow drops below this value and other conditions have been met, the parallel fan will turn on.	6636, 6637
PARALLEL ON	28	AO:28	R/W	0-102%	20%	This point is present, but not used in this application.	6634
DAY.NGT¹	29	BO:29	R/W	0=Day 1=Night	Night	Indicates the mode in which the controller is operating. Day temperature setpoints are used in day mode. Night temperature setpoints are used in night mode. This point is normally set by the field panel.	All
PARALLEL OFF	30	AO:30	R/W	0-102%	30%	When flow rises above this value, the parallel fan will turn OFF.	6636, 6637
PARALLEL OFF	30	AO:30	R/W	0-102%	30%	This point is present, but not used in this application.	6634
CLG FLOW MIN	31	AO:31	R/W	0-131068 CFM 0-61857.2 L/s	220 CFM 103.83 L/s	The minimum amount of air in CFM (LPS) to be supplied to the space in cooling mode.	All except 6684
CLG FLOW MAX	32	AO:32	R/W	0-131068 CFM 0-61857.2 L/s	2200 CFM 1038.28 L/s	The maximum amount of air in CFM (LPS) to be supplied to the space in cooling mode.	All except 6684
HTG FLOW MIN	33	AO:33	R/W	0-131068 CFM 0-61857.2 L/s	220 CFM 103.83 L/s	The minimum amount of air in CFM (LPS) to be supplied to the space in heating mode.	All except 6630, 6684
HTG FLOW MAX	34	AO:34	R/W	0-131068 CFM 0-61857.2 L/s	2200 CFM 1038.28 L/s	The maximum amount of air in CFM (LPS) to be supplied to the space in heating mode.	All except 6630, 6684
AIR VOLUME¹	35	AI:35	R	0-131068 CFM 0-61857.2 L/s	0 CFM 0.0 L/s	Actual amount of air in CFM (LPS) currently passing through the air velocity sensor.	All
FLOW COEFF	36	AO:36	R/W	0-2.55	1	Calibration factor for the airflow sensor.	All

Table 3: BACnet Point List with Descriptions and Applications, Continued

BACnet Object Name	Controller Address	Object Type/ Instance	Read/ Write Access	Range In Units	Default	Description	Used in Controller Application ²
MTR3 COMD ¹	37	AO:37	R/W	0-102%	0%	The value to which the Motor 3 actuator is commanded in percent of full value.	6630, 6631, 6632, 6684 ¹
VLV2 COMD ¹	37	AO:37	R/W	0-102%	0%	The value to which the valve 2 actuator is commanded in percent of full travel for applications using a second water valve.	6633
MTR3 POS ¹	38	AO:38	R/W	0-102%	0%	The current position of the Motor 3 actuator in percent of full travel. This value is calculated based on motor run time.	6630, 6631, 6632, 6684 ¹
VLV2 POS ¹	38	AO:38	R/W	0-102%	0%	The current position of Valve 2 in percent of full travel. This value is calculated based on valve run time.	6633
MTR3 TIMING	39	AO:39	R/W	0-511	130	The time required for the Motor 3 actuator to travel from the full closed position to the full open position.	All except 6634, 6635, 6636, 6637
NGT FLOW MIN	40	AO:40	R/W	0-131068 CFM 0-61857.2 L/s	0 CFM 0.0 L/s	Optional air flow setpoint to be used for CTL FLOW MIN in NIGHT mode.	All except 6684
DO 1 ¹	41	BO:41	R/W	0=OFF 1=ON	OFF	Digital output 1 controls a 24 VAC load with an ON or OFF status. If Motor 1 is enabled, DO 1 is coupled with DO 2 to control an actuator.	All
DO 2 ¹	42	BO:42	R/W	0=OFF 1=ON	OFF	Digital output 2 controls a 24 VAC load with an ON or OFF status. If Motor 1 is enabled, DO 2 is coupled with DO 1 to control an actuator.	All
DO 3 ¹	43	BO:43	R/W	0=OFF 1=ON	OFF	Digital output 3 controls a 24 VAC load with an ON or OFF status. If Motor 2 is enabled, DO 3 is coupled with DO 4 to control an actuator.	All except 6632, 6634, 6636
HEAT STAGE 1 ¹	43	BO:43	R/W	0=OFF 1=ON	OFF	This point is DO 3 in applications with electric reheat. This digital output controls the contact for the first stage of heating and has a status of ON or OFF.	6632, 6634, 6636
DO 4 ¹	44	BO:44	R/W	0=OFF 1=ON	OFF	Digital output 4 controls a 24 VAC load with an ON or OFF status. If Motor 2 is enabled, DO 4 is coupled with DO 3 to control an actuator.	All except 6632, 6634, 6636
HEAT STAGE 2 ¹	44	BO:44	R/W	0=OFF 1=ON	OFF	This point is DO 4 in applications with electric reheat. This digital output controls the contact for the second stage of heating and has a status of ON or OFF.	6632, 6634, 6636
DO 5 ¹	45	BO:45	R/W	0=OFF 1=ON	OFF	Digital output 5 controls a 24 VAC load with an ON or OFF status. If Motor 3 is enabled, DO 5 is coupled with DO 6 to control an actuator.	6630, 6631, 6633, 6684
DO 5 ¹	45	BO:45	R/W	0=OFF 1=ON	OFF	Digital output 5 controls a 24 VAC load with an ON or OFF status.	6636, 6637
HEAT STAGE 3 ¹	45	BO:45	R/W	0=OFF 1=ON	OFF	This point is a digital output used to control the contact for the third stage of heating and has a status of ON or OFF.	6632, 6634, 6636
DO 6 ¹	46	BO:46	R/W	0=OFF 1=ON	OFF	Digital output 6 controls a 24 VAC load with an ON or OFF status. If Motor 3 is enabled, DO 6 is coupled with DO 5 to control an actuator. In applications with CAL MODULE set to YES, this digital output controls the Autozero Module to calibrate the controller's internal air velocity transducer.	All except 6634, 6635, 6636, 6637
FAN ¹	46	BO:46	R/W	0=OFF 1=ON	OFF	This point is a digital output used to control the fan. ON indicates that the DO is energized; OFF indicates that the DO is de-energized.	6634, 6635, 6636, 6637
VENT DMD MIN ¹	47	AO:47	R/W	0-131068 CFM 0-61857.2 L/s	0 CFM 0.0 L/s	Optional air flow setpoint (commandable) to be used with the larger of CLG FLOW MIN in cooling or HTG FLOW MIN in heating for CTL FLOW MIN in DAY mode.	All except 6684
DMPR COMD ¹	48	AO:48	R/W	0-102%	0%	The value to which the damper motor is commanded in percent of full travel.	All except 6684
MTR1 COMD ¹	48	AO:48	R/W	0-102%	0%	The value to which the Motor 1 actuator is commanded in percent of full travel.	6684
DMPR POS ¹	49	AO:49	R/W	0-102%	0%	The current position of the damper motor in percent of full travel. This value is calculated based on motor run time.	All except 6684

Table 3: BACnet Point List with Descriptions and Applications, Continued

BACnet Object Name	Controller Address	Object Type/ Instance	Read/ Write Access	Range In Units	Default	Description	Used in Controller Application ²
MTR1 POS ¹	49	AO:49	R/W	0-102%	0%	The current position of Motor 1 in percent of full travel. This value is calculated based on motor run time. See MTR1 TIMING.	6684 ¹
AI 4 ¹	50	AI:50	R	37.5-165°F 3.06-73.9°C	74.0°F 23.33°C	Actual reading from a 10K or 100K Ω thermistor connected to the controller's AI 4 input (long board). When a sensor is connected at AI 4, DI 4 is not available.	All
MTR1 TIMING	51	AO:51	R/W	0-511 Sec	95 Sec	The time required for the Motor 1 actuator to travel from full closed to the full open position.	All
MTR2 COMD ¹	52	AO:52	R/W	0-102%	0%	The value to which the Motor 2 actuator is commanded in percent of full travel (for use as an auxiliary slave point).	6630, 6631, 6684 ¹
VLV COMD ¹	52	AO:52	R/W	0-102%	0%	The value to which the valve actuator is commanded in percent of full travel for applications using a water valve.	6636, 6637
VLV1 COMD ¹	52	AO:52	R/W	0-102%	0%	The value to which the valve 1 actuator is commanded in percent of full travel for applications using a water valve.	6633
MTR2 POS ¹	53	AO:53	R/W	0-102%	0%	The current position of the Motor 2 actuator in percent of full travel (for use as an auxiliary slave point). This value is calculated based on motor run time. See MTR2 TIMING.	6630, 6631, 6684
VLV POS ¹	53	AO:53	R/W	0-102%	0%	The current position of the valve in percent of full travel for applications using a water valve. This value is calculated based on motor run time.	6635, 6637
VLV1 POS ¹	53	AO:53	R/W	0-102%	0%	The current position of valve 1 in percent of full travel for applications using a water valve. This value is calculated based on motor run time.	6633
STPT SPAN	54	AO:54	R/W	0-63.75°F -17.78-17.62°C	0.0 0.0	The configuration value for room units to function in warmer/cooler adjustments. A value of 0 allows room units to function in standard/ absolute temperature setpoint mode.	6631, 6632, 6634, 6636
MTR2 TIMING	55	AO:55	R/W	0-511 Sec	130 Sec	The time required for the Motor 2 actuator to travel from full closed to the full open position.	All except 6632, 6634, 6636
DMPR ROT ANG	56	AO:56	R/W	0-255	90	The number of degrees the damper is free to travel.	All except 6684
DPR1 ROT ANG	56	AO:56	R/W	0-255	90	The number of degrees that damper 1 is free to travel.	6684 ¹
DPR2 ROT ANG	57	AO:57	R/W	0-255	90	The number of degrees that damper 2, the hot duct damper, is free to travel.	6684 ¹
MTR SETUP	58	AO:58	R/W	0-255	0	The configuration setup code for Motors 1 and 2. This enables the motors individually and sets each motor to be either direct or reverse acting. NOTE: When a motor is enabled, its associated DOs are enabled.	All
DO DIR.REV	59	AO:59	R/W	0-255	0	The configuration setup code for DOs. Allows the DOs to be direct or reverse acting (enabled equals energized or disabled equals de-energized).	All
HEAT FLOW	60	AO:60	R/W	0-102%	20%	The flow required before the electric heat will be enabled.	6632
COOL TEMP	61	AO:61	R/W	37.5-165°F 3.06-73.9°C	65°F 18.33°C	The discharge air temperature where the controller will switch from heating to cooling mode. Used only in applications with SUPPLY TEMP (15).	6631
HEAT TEMP	62	AO:62	R/W	37.5-165°F 3.06-73.9°C	80°F 26.67°C	The discharge air temperature where the controller will switch from cooling to heating mode. Used only in applications with SUPPLY TEMP (15).	6631
CLG P GAIN	63	AO:63	R/W	0-63.75	20.0 36.0	The proportional gain value for the cooling temperature control loop.	All except 6684
CLG I GAIN	64	AO:64	R/W	0-1.023	0.01 0.02	The integral gain value for the cooling temperature control loop.	All except 6684
CLG D GAIN	65	AO:65	R/W	0-510	0 0.0	The derivative gain value for the cooling temperature control loop.	All except 6684

Table 3: BACnet Point List with Descriptions and Applications, Continued

BACnet Object Name	Controller Address	Object Type/ Instance	Read/ Write Access	Range In Units	Default	Description	Used in Controller Application ²
CHK OUT ¹	66	BO:66	R/W	0=OFF 1=ON	OFF	The procedure tests all of the necessary I/O and ensures the controller has the ability to operate within the set airflow range, between CLG FLOW MIN and CLG FLOW MAX.	All
HTG P GAIN	67	AO:67	R/W	0-63.75	10.0 18.0	The proportional gain value for the heating temperature control loop.	All except 6630, 6684
HTG I GAIN	68	AO:68	R/W	0-1.023	0.01 0.02	The integral gain value for the heating temperature control loop.	All except 6630, 6684
HTG D GAIN	69	AO:69	R/W	0-510	0 0.0	The derivative gain value for the heating temperature control loop.	All except 6630, 6684
CHK STATUS ¹	70	AO:70	R/W	-32767	-1	Displays the results of CHK OUT (66).	All
FLOW P GAIN	71	AO:71	R/W	0-51.15	0	The proportional gain value for the flow control loop.	All except 6684
FLOW I GAIN	72	AO:72	R/W	0-1.023	0.01	The integral gain value for the flow control loop.	All except 6684
FLOW D GAIN	73	AO:73	R/W	0-510	0	The derivative gain value for the flow control loop.	All except 6684
FLOW BIAS	74	AO:74	R/W	0-102%	50%	The biasing of the flow control loop.	All except 6684
FLOW ¹	75	AO:75	R/W	0-1023.75%	0%	Indicates the amount of air currently passing the air velocity sensor. The value is calculated as a percentage based on where the value of AIR VOLUME is in the range between 0 and CTL FLOW MAX.	All except 6684
CTL FLOW MIN ¹	76	AO:76	R/W	0-131068 CFM 0-61857.2 L/s	220 CFM 103.82 L/s	The active minimum flow used as a limit for the flow control loop. This value is the same as CLG FLOW MIN if the controller is in cooling mode, or is the same as HTG FLOW MIN if the controller is in heating mode, unless it is overridden.	All except 6684
CTL FLOW MAX ¹	77	AO:77	R/W	0-131068 CFM 0-61857.2 L/s	2200 CFM 1038.82 L/s	The active maximum flow used as a limit for the flow control loop. This value is the same as CLG FLOW MAX if the controller is in cooling mode, or is the same as HTG FLOW MAX if the controller is in heating mode unless, it is overridden.	All except 6684
CTL TEMP ¹	78	AO:78	R/W	48-111.75°F 8.89-41.39°C	74°F 23.3°C	The temperature used as input for the temperature control loops. This value is the same as the value in ROOM TEMP and RM TEMP OFFSET unless it is overridden.	All except 6684
CLG LOOPOUT ¹	79	AO:79	R/W	0-102%	0%	The cooling temperature control loop output value in percent.	All except 6684
HTG LOOPOUT ¹	80	AO:80	R/W	0-102%	0%	The heating temperature control loop output value in percent.	All except 6630, 6684 ¹
AVG HEAT OUT ¹	81	AO:81	R/W	0-409%	0%	This point is used to determine what stages of electric heat are used for a given loop output value. The ranges for the value are determined by the number of stages used: 0 to 100 for 1 stage of electric heat, 0 to 200 for 2 stages of electric heat, and 0 to 300 for 3 stages of electric heat. With electric heat, this value is equal to: HTG LOOPOUT × STAGE COUNT.	6632, 6634, 6636
STAGE MAX	82	AO:82	R/W	0-102%	90%	The value, in percent, which the heating loop must exceed for the electric heat to be on for the full duty cycle (STAGE TIME).	6632, 6634, 6636
STAGE FAN	83	AO:83	R/W	0-102%	10%	The valve must be opened greater than this value before the fan will turn on.	6636, 6637
STAGE MIN	83	AO:83	R/W	0-102%	10%	The value at which the heating loop must go below for the electric heat to be OFF for the full duty cycle (STAGE TIME).	6632, 6634, 6636
AOV 1 ¹	84	AO:84	R/W	0-10.23 VDC	0 VDC	(Optional) Analog output (0-10 VDC). May be used to control a water valve (6633, 6635, 6637) by setting Motor 2 in MTR SETUP to "Not Configured." This disables the corresponding DO control.	All

Table 3: BACnet Point List with Descriptions and Applications, Continued

BACnet Object Name	Controller Address	Object Type/ Instance	Read/ Write Access ²	Range In Units	Default	Description	Used in Controller Application ³
SWITCH LIMIT	85	AO:85	R/W	0-102%	5.20%	The active temperature control loop output must be less than this value to switch between cooling mode and heating mode. Actual switch over depends on SWITCH DBAND being exceeded and is subject to SWITCH TIME being expired.	All except 6630, 6631, 6684
SWITCH TIME	86	AO:86	R/W	0-255 Min	10 Min	The time, in minutes, before the heat/cool mode can change over when the other parameters are appropriate.	All except 6630, 6631, 6684
CAL MODULE	87	BO:87	R/W	0=YES 1=NO	NO	YES indicates that the Autozero Modules are enabled to calibrate the air velocity transducers. The dampers will not be used for Calibration. NO indicates that Autozero Modules are disabled and that the air velocity transducers will be calibrated by closing the dampers. Valid input: YES or NO.	All except 6634, 6635, 6636, 6637
STAGE COUNT	88	AO:88	R/W	0-255	1	The number of electric heating stages used by the application. DOs associated with unused stages may be used as spare DOs.	6632, 6634, 6636
VALVE COUNT	88	AO:88	R/W	0-255	1	The number of heating valves available.	6633
STAGE TIME	89	AO:89	R/W	0-255 Min	10 Min	The cycle time in minutes for the electric reheat stages. For example, if there are three stages of electric heat and STAGE TIME = 10 minutes, STAGE COUNT = 3, and AVG HEAT OUT = 150% then, Stage 1 is on for 10 minutes (100% of the time), Stage 2 is on for 5 minutes (50% of 10 minutes) and OFF for 5 minutes, and Stage 3 is OFF.	6632, 6634, 6636
SWITCH DBAND	90	AO:90	R/W	0-63.75°F -17.78-17.74°C	1.0°F -17.22°C	The temperature range in degrees which is compared to the difference between CTL TEMP and CTL STPT. The difference must exceed this value for temperature control mode to change over. Changeover is also subject to the active temperature control loop output being below SWITCH LIMIT and SWITCH TIME being expired.	All except 6630, 6631, 6684
CTL STPT ¹	92	AO:92	R/W	48-111.75°F 8.89-41.39°C	74°F 23.3°C	The actual setpoint value being used as input for the active temperature control loop.	All except 6684
FLOW STPT ¹	93	AO:93	R/W	0-255.75%	0	The setpoint of the flow control loop.	All except 6684
CAL AIR ¹	94	BO:94	R/W	0=NO 1=YES	NO	YES commands the controller to go through Calibration sequence for the air velocity transducers. YES is also displayed when the Calibration sequence is started automatically. CAL AIR automatically returns to NO after the Calibration sequence is completed. Valid input: YES or NO.	All
CAL SETUP ¹	94 ⁴	AO:95	R/W	0-255	4	The configuration setup code for the Calibration sequence Options.	All
CAL TIMER	96	AO:96	R/W	0-255 Hrs	12 Hrs	Time interval between the Calibration sequence initiations if a timed Calibration Option is selected in CAL SETUP.	All
DUCT AREA	97	AO:97	R/W	0-6.375 Sq.Ft 0- 0.0929 Sq.M	1.0 Sq.Ft 0.09292 Sq.M	Area, in square feet (square meters), of the duct where the air velocity sensor is located. This is a calculated value (calculated by the field panel or computer being used) that depends on duct shape and size. It is used in calculating all points in units of CFM, CF, LPS and L. Valid input: .025 ft2 (.002 m2) through 6.375 ft2 (.5923 m2).	All
LOOP TIME	98	AO:98	R/W	0-255 Sec	5 Sec	The time, in seconds, between control loop calculations.	All except 6684
ERROR STATUS ^{1,5}	99	AO:99	R/W	0-255	0	The status code indicating any errors detected during controller power up. A status of 0 indicates there are no problems.	All
AOV 1 CLOSE ¹	102	AO:102	R/W	0-10.23 Volts	0 Volts	The voltage output from the AO that commands the water valve to close. Valid input: 0 through 10.23 Volts	6633, 6635, 6637

Table 3: BACnet Point List with Descriptions and Applications, Continued

BACnet Object Name	Controller Address	Object Type/ Instance	Read/ Write Access ²	Range In Units	Default	Description	Used in Controller Application ³
AOV 1 OPEN¹	103	AO:103	R/W	0-10.23 Volts	10 Volts	The voltage output from the AO that commands the water valve to open. Valid input: 0 through 10.23 Volts	6633, 6635, 6637
SENSOR SEL	124 ³	AO:124	R/W	0-255	0	Room unit configuration point and thermistor type selection, values are additive.	All
RM CO2¹	125	AI:125	R	0-8191 PPM	1000 PPM	This point may be used in a control strategy as occupancy increases (Co2 levels increase) in the room being controlled.	All
RM RH¹	126	AI:126	R	0-102%	50%	Room humidity when room unit is provided with humidity sensing.	All
PPCL STATE^{1,2}	127	BO:127	R/W	0= EMPTY 1=LOADED	EMPTY	This point is an indicator that customized programming has been added in addition to the normal control strategy of the application being used. This point is read as LOADED or EMPTY. A status of LOADED indicates that there is PComputerL programming in the controller, and it is providing unique control to meet a customer's job specification. A status of EMPTY indicates that no unique programming is present.	All

IMPORTANT NOTES:

¹The BACnet Object Name (points) shown in boldface indicate that the point is "unbundled". This means it can be individually exposed to a the field panel or supervisory BAS for direct command or monitoring. All non-bold points remain "bundled" within the controller application.

²Points not in boldface may also be written to FLASH/EEPROM (non-volatile memory) in the controller. Writing to Flash memory is an operation that has a finite limit. For this reason, the number of writes made to these BACnet objects should be limited.

³Applications 6633, 6635, and 6637 also support units with SCR electric heat.

Table 3: Application-Specific Notes**¹Slave Mode, Application 6684**

NOTE: The first power-up defaults to Application 6684 (Slave Mode) and the unit will not control until an application is selected: (Address→Application→CHK OUT). Also see [Troubleshooting](#).

Application 6684 is the default (slave) mode application for the BACnet Actuating Terminal Equipment Controller (ATEC) (550-430PA or 550-431PA). Slave mode is the default application that displays when power is first applied to the controller. Slave mode provides no control. Instead, it allows the operator to perform equipment checkout before a control application is put into effect and to set some basic controller parameters (CTRLR ADDRESS, APPLICATION, and so on.).

²PPCL STATE, All Applications

Applies to point 127, PPCL STATE. The point displays LOADED or EMPTY as described below.

- LOADED = PComputerL - programming is present in the controller. A new application number must be assigned (12000 through 12999).
- EMPTY = NO PComputerL - programming is present. The maximum number of PComputerL dynamic points is 15.

³Thermistor Inputs, All Applications

Applies to point 124, SENSOR SEL.

- Default for either input is 10K.
- To enable 100K Ω thermistor input, see [Table 5](#) for values.

Table 5: Address Point 124 Thermistor Input Values

SENSOR SEL Value (Additive) ¹	Description (Includes Values to Enable Feature)
1	Select Digital Room Unit (for temperature sensing and setpoint dial)
2	Relative Humidity (RH) sensing
4	Co ₂ sensing
8	100K Ω thermistor on AI 3 (or input is 10K 0)
16	100K Ω thermistor on AI 4 (or input is 10K 0)

¹An additive value means that the thermistor input value uses the sum of all sensor values. For example, a user may select 1, 2, and 4 if the sensor performs all three functions. This returns a value of 7 for point 124, SENSOR SEL.

4 Calibration Air Velocity, All Applications

Applies to point 94, CAL AIR. See [Table 6](#) for Calibration Options.

Table 6: Address Point 94 Calibration Setup Values

CAL SETUP Options	Description
0	Calibration occurs ONLY when the point CAL AIR is set to YES.
1	Calibration occurs when the field panel commands a Day/ Night mode changeover. Actual Calibration is subject to a time delay of 0, 1, 2, or 3 minutes. This delay is determined by the point CTLR ADDRESS divided by 4. The remainder is the time delay in minutes. Example: If CTLR ADDRESS = 11, then the controller will wait 3 minutes (11 + 4 = 2 R3) after it receives the Day/ Night mode changeover command before beginning the Calibration routine.
2	Calibration occurs immediately after the override switch is pressed.
4 (Factory Default Value)	Calibration occurs on the time interval set in the point CAL TIMER. Example: If CAL TIMER= 12, then the calibration period is 12 hours. Actual Calibration is subject to a time delay based on the value of CTLR ADDRESS. See the example in Option 1 in this table.

5 Error Status Messages, All Applications

Applies to point 99, ERROR STATUS.

Follow these steps to clear an error condition in VAV controller using the Controller Interface Software (CIS). Refer to [Table 7](#) for error messages.

1. Connect the portable operator's terminal to the TEC.
2. Using CIS, initialize the controller by pressing the <F2> function key.

Table 7: Address Point 99 Error Status Descriptions

Error Status	Description
0	Everything is operating properly.
128	The controller electronics interface for the room temperature sensor has failed. This may occur because of a defective room temperature sensor or invalid setpoint readings. Initialize the controller to clear this error condition.
64	An analog to digital (A10D) converter failure has occurred. This condition may occur because of a defective room temperature sensor or invalid set point readings. The controller may correct this condition automatically. If not, then clear the controller to clear this error condition.
16	The Electronically Erasable Programmable Read-only Memory (EEPROM) has failed a write test Initialize the controller to correct this error condition.

NOTE: The point ERROR STATUS (point 99) indicates one of the values in the table above.

Troubleshooting

In order to perform many of the troubleshooting steps described in this section or to change the application/configuration of the VAV actuator, a WCIS cable software is required. See [WCIS VAV Software](#) section for software file access, connection and user instructions.

For help with WCIS software, contact Daikin Applied Controls Customer Support at 866-462-7829 or Ctltechsupport@daikinapplied.com.

Automated Fault Detection and Diagnostics (Checkout)

The controller has a built-in checkout procedure that performs a basic fault detection and diagnostic routine. It can be manually initiated at any time after the controller has been installed. This procedure tests all of the necessary I/O and ensures the controller can operate within the set airflow range, between CLG FLOW MIN and CLG FLOW MAX.

To perform the checkout procedure, set CHK OUT to YES. When the procedure has completed, CHK OUT returns to NO and the results display in CHK STATUS. See [Table 6](#) for the description associated with each value of CHK STATUS.

Table 8: CHK STATUS Values and Associated Descriptions

CHK STATUS Values	Description
-1	Checkout procedure has not been run since last controller initialization.
0	No errors found.
1	Room temperature sensor (RTS) failed.
2	Room setpoint dial failed (If STPT DIAL is set to YES).
4	Air velocity sensor (AVS) failed.
8	Controller could not reach CLG FLOW MIN or below.
16	Controller could not reach CLG FLOW MAX or above.
32	Controller did not read low (zero) flow when damper closed.

NOTE: Multiple failures are added together and displayed as one value. For example, if the room temperature sensor failed (1) and the controller could not reach CLG FLOW MAX, CHK STATUS displays 17.

CHK STATUS Code Descriptions and Troubleshooting Steps

1. Room temperature sensor failed - CHK STATUS= 1

- The cable for the room temperature sensor may be unplugged or loose. Check both ends to ensure the cable is securely seated.
- Connect directly to the controller through the room temperature sensor connection on the controller and check whether communication is possible.
 - If communication is successful, the issue may be related to the room temperature sensor or its cable.
 - If communication is not possible, it may be hardware or communication issues with the controller.

2. Room setpoint dial failed - CHK STATUS= 2

- The cable for the room temperature sensor may be unplugged or loose. Check both ends to confirm the cable is securely seated.
- The controller may be incorrectly set to use a setpoint dial with a sensor that does not have the dial. If the sensor has no dial, change STPT DIAL from YES to NO.
- Connect directly to the controller through the room temperature sensor connection on the controller and check whether communication is possible.
 - If communication is successful, the issue may be related to the room temperature sensor or its cable.
 - If communication is not possible, it may be hardware or communication issues with the controller.

3. Air velocity sensor failed - CHK STATUS = 4

- The sensor tubing may be blocked, leaking, or disconnected. Check for pinched, disconnected, or cracked sensor tubing. Correct as needed.
- The tubing connections for the air velocity sensor may be reversed. Re-pipe if HI and LO connections are incorrect.
- The sensor or the controller may be faulty.

4. Controller could not reach CLG FLOW MIN or below-CHK STATUS= 8

- The actuator on the controller may be loose on the damper shaft. Follow these torque guidelines:
 - 70 ± 5 inch pounds -Solid metal! shaft
 - 37 ± 2 inch pounds - plastic, graphite, composite, or hollow metal shafts (hollow metal shafts require an insert to prevent shaft damage).
- The tubing for the air velocity sensor may be pinched, disconnected, or cracked. Check the tubing and correct as needed.
- The tubing connections for the air velocity sensor may be reversed. Re-pipe if HI and LO connections are incorrect.
- The box sizing information may be incorrect. Check the values of the following BACnet points and correct as needed:

DUCTAREA
FLOW CoEFF
CLG FLOW MIN
CLG FLOW MAX

- e. The Motor Setup information may be incorrect. Check the values of the following points and correct as needed:

MTRSETUP
MTR1 TIMING
DMPR ROT ANG

- f. The air velocity sensor may need Calibration. Set CAL AIR to YES to run the Calibration sequence. When CAL AIR returns to NO, indicating that the sequence is finished, run the checkout procedure again to see whether the problem has been corrected.
- g. The VAV box may not have been balanced correctly.

5. The controller could not reach CLG FLOW MAX or above - CHK STATUS= 16

- a. Check for the problems described for CLG FLOW MIN (CHK STATUS= 8)
- b. The box may be starved for air. Check the unit state of the central air handler to see if it is OFF. If it is on, check the duct static pressure. If it is within a desirable range, the issue is with the VAV box and not the air handler.

6. The controller did not read low (zero) flow when damper closed - CHK STATUS= 32

- a. Check for the problems described For CLG FLOW MIN (CHK STATUS= 8)
- b. The damper shaft may not be secured correctly to the actuator on the controller so that when the actuator is fully closed, the damper does not completely shut Off airflow.
- a. Airflow calibration (at zero) may need to be performed ensuring the damper is fully closed and/or the air handling unit is Off.

Additional Comments

The controller, as shipped from the factory, keeps all associated equipment Off. The controller and its equipment are released to application control at start-up.

If the temperature swings in the room are excessive or if there is trouble in maintaining the setpoint, contact Daikin Technical Support.

Technical Support

For additional assistance, Contact Daikin Applied Controls Customer Support at 866-462-7829 or Ctltechsupport@daikinapplied.com.

WCIS VAV Software

Download and Setup

This section describes how to install and configure the Window Controller Interface Software (WCIS) for the VAV controller. Use WCIS to set the BACnet MAC Address, Device Properties, and other network-related parameters not available via the BAS.

Required Tools

- Computer with Windows 10 or newer
- WCIS software v4.2.1 or newer
- WCIS (MMI) cable
- USB to serial adapter for the WCIS cable (if needed)
- All software updated and drivers installed

System Requirements

- COM Port or USB-to-Serial COM port adapter to communicate with the device
- WCIS (MMI) cable, Siemens PN 540-143
- 100 MB hard disk space, plus 6 MB additional temporary disk space available during installation

Follow these steps to configure the WCIS software for your computer.

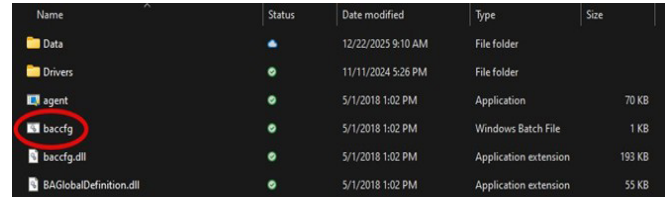
1. Acquire the WCIS software and download to the computer. The software is available on Daikin's website: [WCIS VAV Software Configuration Tool](#).
2. Connect a computer loaded with the WCIS software to the controller. Use the RJ-11 to serial port (PN:250804701) for a computer with direct connection. If the computer does not have a serial port, use a standard USB to serial cable (Figure 5).
3. Open the file and proceed.

Figure 5: WCIS (MMI) Cable and USB Adapter



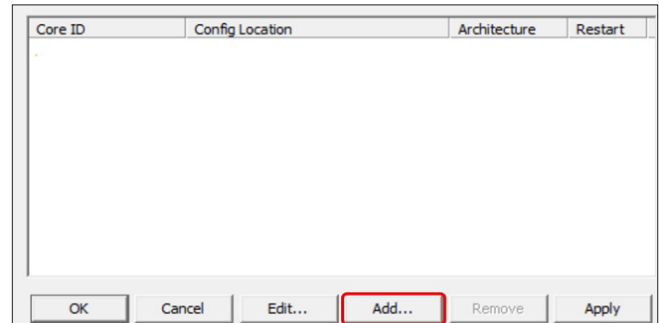
4. Once the software is installed, open and find the install file, baccfg.bat. (Figure 7).
 - a. Double-click on the baccfg.bat file in the dialog window.

Figure 6: Open the WCIS Dialog Page



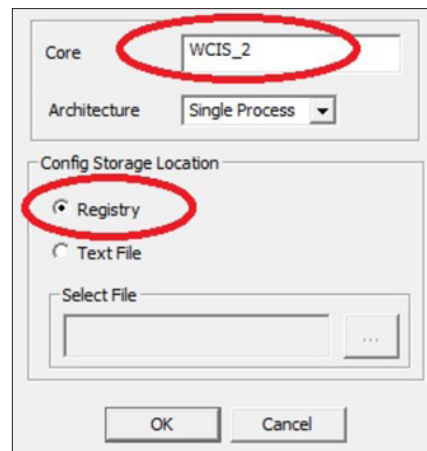
5. Click Add from the following dialog window (Figure 7).

Figure 7: Add the WCIS Software Configurations



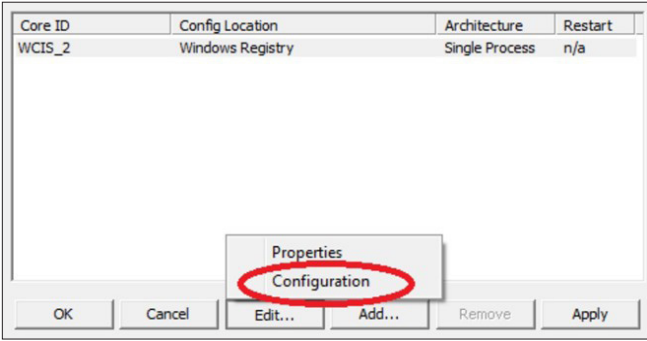
6. Verify the selections shown in Figure 8 are correct and click OK.

Figure 8: Confirm WCIS Software Setup



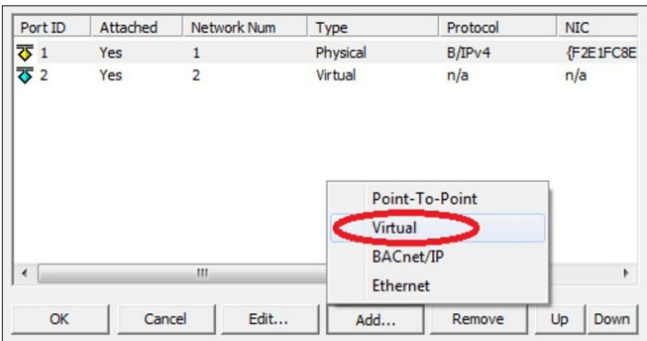
7. Select the WCIS_2 row (Figure 9)
8. Select "Edit..."
9. Select "Configuration" to get the dialog page shown in Figure 10.

Figure 9: Select WCIS_2 and Configure



10. Select “Add...” and then “Virtual.” The dialog box in Figure 11 then appears.

Figure 10: Configure WCIS for Virtual Option



- Verify the Port ID is 10 and the “Attached” option box is checked (Figure 11).
- Set the Network Number. This must be unique (i.e. not shared by another device on the BACnet network) and click OK.
- Click OK twice to close the dialog page (Figure 12).

Figure 11: Port ID and Network Number

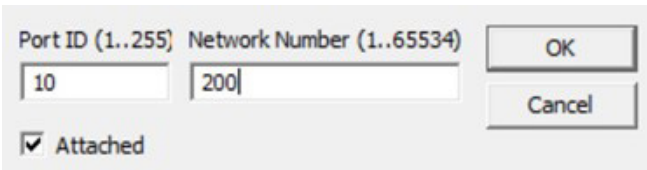
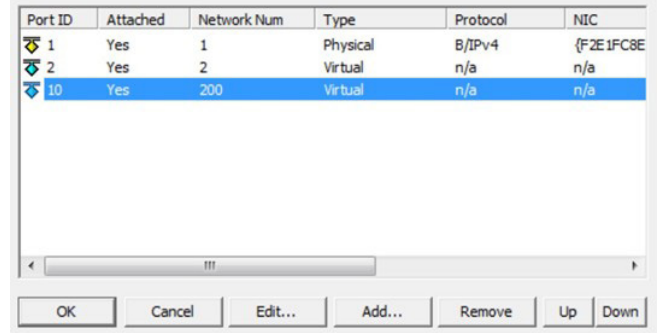
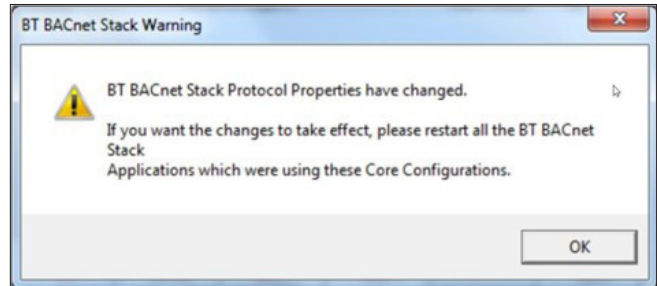


Figure 12: Verify and Close Configurations



14. Select OK in the pop-up message shown below (Figure 13). Note the warning does not apply and no restart is needed.

Figure 13: Warning Message



The WCIS software setup is complete and can be used to configure the BACnet Address and other Device Properties as described in the Network Configuration section.

BACnet PICS

Daikin VAV BACnet Controller

This section contains the Protocol Implementation Conformance Statement (PICS) for the VAV actuator controller as required by ANSI/ASHRAE Standard 135-2001b, BACnet: A Data Communication Protocol for Building Automation and Control Networks.

Date	August 2005
Vendor Name	Siemens
Product Name	BACnet Terminal Box Controller (BTEC)
Product Model Number	550-430/ 550-431
Software Version	1.2
BACnet Firmware Version	BV13 1.0

Product Description

The controller is an integral part of Daikin equipment controls systems. The controller can operate stand-alone or can be networked to perform complex HVAC control, monitoring, and energy management functions. This controller communicates using BACnet MS/TP.

Device Object Properties

Object Types

The unit controller incorporates standard BACnet object types (i.e., object types defined in the BACnet Standard) according to the BACnet Standard. Standard Object Types Supported

Supported Object Type	Read-only	Read/Write
Analog Input	x	
Analog Output		x
Binary Input	x	
Binary Output		x

BACnet Standardized Device Profile

The VAV controller supports the BACnet Interoperability Building Blocks (BIBBS) included in the BACnet Application Specific Controller (B-ASC) profile.

- BACnet Operator Workstation (B-OWS)
- BACnet Building Controller (B-BC)
- BACnet Advanced Application Specific Controller (B-AAC)
- BACnet Application Specific Controller (B-ASC)
- BACnet Smart Sensor (B-SS)
- BACnet Smart Actuator (B-SA)

BACnet Interoperability Building Blocks (BIBBS) Supported

Table 9: BACnet BIBBs Supported

Supported BIBBs	BIBB Name
DS-RP-B B	Data Sharing-Read Property-B
DS-RPM-B	Data Sharing-Read Property Multiple-B
DS-WP-B	Data Sharing-Write Property-B
DM-DDB-B	Device Management-Dynamic Device Binding-B
DM-DOB-B	Device Management-Dynamic Object Binding-B
DM-DCC-B	Device Management-Device Communication Control-B
DM-RD-B	Device Management-Reinitialize Device-B
DM-BR-B	Device Management-Backup and Restore-B
DM-OCB-B	Device Management-Object Creation and Deletion-B
CPT	Confirmed Private Transfer (Auto Discovery) ²
UPT	Unconfirmed Private Transfer ²

¹Applies to ATEC VAV Controller Model: BTEC/PTEC

²Not supported in Application 6634, Slave Mode

Data Link Layer Options

- BACnet IP, (Annex J)
- BACnet IP, (Annex J), Foreign Device
- MS/TP master (Clause 9), baud rate(s): 9600, 19200, 38400 & 76800
- MS/TP slave (Clause 9), baud rate(s): 9600, 19200, 38400 & 76800

Segmentation Capability

- Segmented requests supported Window Size: 1
- Segmented responses supported Window Size: 1

Networking Options

- Yes Static Device Binding
- No

Character Sets Supported

- ANSI X3.4
- IBM®/Microsoft® DBCS
- ISO 8859-1
- ISO 10646 (UCS-2)
- ISO 10646 (UCS-4)
- JIS C 6226

NOTE: Support for multiple character sets does not imply they can be supported simultaneously.

Revision History

Revision	Date	Changes
ED 19157	April 2026	Initial release.

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