



SimplyVAV

BAC-8x0x

VAV Controller-Actuators (5 x 8)



SEE ALSO: www.SimpleVAV.com for much more information.

The SimplyVAV series of controllers are an easy and unique approach to operating a wide variety of VAV terminal units. The integrated actuators, internal airflow sensors, and variety of application programs make these BACnet Application Specific controllers ideal for either new or retrofit installations.

The easy to install controller automatically detects sensors as they are connected without special programming or software tools. The controllers feature simple, menu driven setup choices. No special programming skills or software tools are required to choose applications, enter setpoints, set network addressing, and balance airflow. All options can be set by using only an STE-8001 sensor which can be installed as the permanent room sensor or temporarily connected as a technician's service tool.

The SimplyVAV controllers are ideal for new installations or upgrades of older, less efficient controllers:

- Staged, modulated, floating, or time proportional reheat
- Series or parallel fan control
- Single or dual duct application

All models are native BACnet Application Specific Controllers that are ready to connect to a BACnet MS/TP network. Device instance, MAC address, and baud rate are set from an STE-8001 without special software.

With easy system integration, SimplyVAV controllers that are part of a BACnet building automation system provide system diagnostic indicators. Through the MS/TP network, the controllers signal demands for higher static duct pressure, cooler or warmer supply air, and when to start air handler units.

Models

BAC-8001	VAV Cooling/Heating, 40 in.-lb., 90 sec. actuator
BAC-8005	VAV Fan and Reheat, 40 in.-lb., 90 sec. actuator
BAC-8007	VAV Dual Duct, 40 in.-lb., 90 sec. actuator
BAC-8205	VAV Fan and Reheat, Position, 40 in.-lb., 60 sec. actuator

Main Features

Inputs

- All inputs are factory-set and do not require field programming
- Inputs accept industry-standard 10K ohm thermistors sensors
- Sensors (see Accessories) are automatically detected
- Input overvoltage protection up to 24 VAC, continuous
- 12-bit analog-to-digital conversion

Triac Outputs

- Optically isolated triac output
- Maximum switching 24 VAC at 1 A for each output (3 A total)

Analog Outputs

- Short-circuit protected, with 12-bit analog-to-digital conversion
- Output voltage 0–10 VDC, 30 mA per output (30 mA total)

Integrated Air Flow Sensor

- Differential pressure 0–2 inches of water (0–500 Pa) range
- Barbed connections for 1/4 inch FR tubing

Integrated Actuator

- 40 in.-lb. (4.5 N•m) torque with angular rotation of 0 to 95° (adjustable end stops at 45 and 60° rotation)
- Motor timing (90° at 60 Hz) of 60 sec. (BAC-8205), 90 sec. (BAC-8001), or 108 sec. (BAC-8005/8007)
- Directly mounts on 3/8 to 5/8 inch (9.5 to 16 mm) round or 3/8 to 7/16 inch (9.5 to 11 mm) square damper shafts

Approvals

- UL 916 Energy Management Equipment
- FCC Class B, Part 15, Subpart B and complies with Canadian ICES-003 Class B
- CE compliant
- BACnet Testing Laboratory listed as Application Specific Controller
- SASO PCP Registration KSA R-103263

Installation

- Supply voltage: 24 VAC (–15%, +20%), 50/60 Hz, 5 VA, Class 2 only
- Case material: gray and black flame retardant plastic

Accessories

Airflow Sensors

KIT-8001	SSS-1002 sensor, tubing, and adaptors
SSS-10x2	3-5/32 in. length (80 mm)
SSS-10x3	5-13/32 in. length (137 mm)
SSS-10x4	7-21/32 in. length (195 mm)
SSS-10x5	9-29/32 in. length (252 mm)

Temperature and Motion Sensors

STE-8001W80	SimplyVAV sensor and digital display (see STE-8x01W80 Digital Temperature and Motion Sensors on page 20)
STE-8201W80	SimplyVAV sensor and digital display with motion sensor
STE-6010W80	Temperature sensor with modular connector
STE-6014W80	Temperature sensor with modular connector and rotary setpoint dial
STE-6017W80	Temperature sensor with modular connector, rotary setpoint dial, and override button

Dual Duct Actuator

TSP-8001	VAV actuator w/ air flow inputs (for dual duct)
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STE-8x01W80 Digital Temperature and Motion Sensors



(Shows removable installation information label on cover)

The SimplyVAV digital sensors are wall-mounted, temperature sensors for use with SimplyVAV series controllers (see [BAC-8x0x VAV Controller-Actuators \(5 x 8\) on page 19](#)). Key features of these integrated operator interfaces include the following:

- Plug-and-play functionality with SimplyVAV series controllers
- Large LCD display
- Simple three-button interface
- Continuous display of temperature and time
- Optional motion sensor to detect space occupancy and control temperature setback
- Use as a service tool to configure and balance SimplyVAV controllers

Models

STE-8001W80	SimplyVAV digital temperature sensor, without motion sensor
STE-8201W80	SimplyVAV digital temperature sensor, with motion sensor

Accessories

HMO-1161W80	4 x 4 inch backplate, white (for mounting on a 4 x 4 inch electrical box)
HPO-1161	Foam insulating gasket

Main Features

Display

- Multifunctional LCD
- 1.88 x 1.25 in. (48 x 32 mm)

Connection

- Connector type Eight-wire RJ-45 modular jack
- Cable type Standard Ethernet cable up to 75 feet (22.9 meters)

- Compatibility SimplyVAV controllers
- Power Supplied by the connected controller

Materials and Mounting

- Mounting Surface mount directly to any flat surface or to a 2 x 4 inch or 4 x 4 inch handy-box (mounting on a 4 x 4 inch box requires an HMO-1161W80 mounting backplate)

- Weight 2.8 ounces (80 grams)
- Material Flame retardant plastic

Temperature Sensor

- Type Thermistor
- Accuracy $\pm 0.36^\circ\text{F}$ ($\pm 0.2^\circ\text{C}$)
- Resistance 10,000 ohms at 77° F (25° C)
- Operating range 48 to 96° F (8.8 to 35.5° C)

Environmental Limits

- Operating Temp. 34 to 125° F (1.1 to 51.6° C)
- Shipping -40 to 140° F (-40 to 60° C)
- Humidity 0 to 95% relative humidity non-condensing

Motion Sensor

- Detector type Passive infrared
- Range Up to 33 feet (10 meters)

Approvals

- CE compliant
- FCC Class B, Part 15, Subpart B and complies with Canadian ICES-003 Class B
- SASO PCP Registration KSA R-103263