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# VAV Fan Terminal

Part Number: OPN-VAVB3

The VAV Fan Terminal Zone Controller provides zone level temperature and air quality control for a variety of pressure-independent VAV applications. This advanced controller features an integral actuator for easy installation onto fan-powered or single-duct air terminals. It also features native BACnet communications and plug-and-play connectivity to the Carrier i-Vu Open Control System. The Carrier i-Vu Open Control System combines state-of-the-art Carrier equipment, plug-and-play controllers, and the powerful, web-based i-Vu user interface to form a cohesive, intuitive, and fully-integrated BACnet® Building Automation System.

## Application Features

- Sophisticated factory-engineered and tested control programs provide reliability and energy efficiency
- Pressure independent space temperature control
- Supports modulating hot water, 2-position hot water, single, 2, or 3 stage electric heat, or zone perimeter heat
- Built-in advanced control routines for zone level humidity control or zone level demand control ventilation (ASHRAE 62)
- Adaptive optimal start and PID control for maximum occupant comfort
- Supports Carrier SPT room sensors, which allow for local setpoint adjustment and local overrides
- Quick and easy test & balancing process

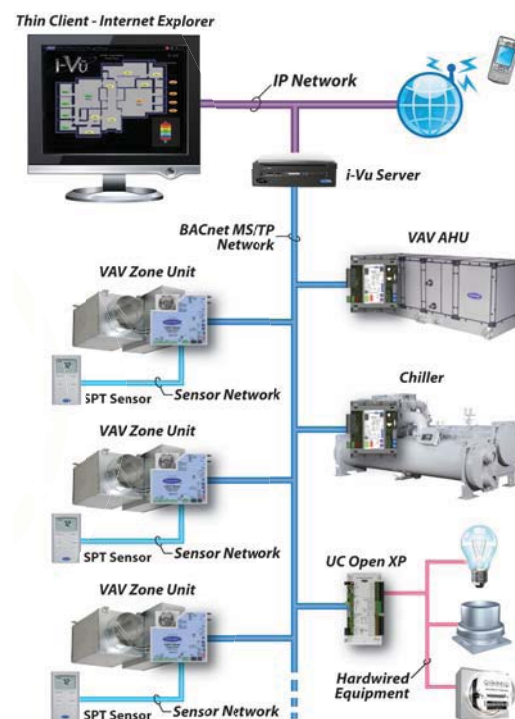
## System Benefits

- Integrated Carrier airside linkage algorithm for plug-and-play integration with Carrier air sources
- Fully plug-and-play with the Carrier i-Vu Open Control System
- Supports demand limiting for maximum energy savings
- Compatible with i-Vu Tenant Billing for tracking tenants' after-hours energy usage

## Hardware Features

- Integral, brushless actuator for reliability and longevity
- Capable of system or stand-alone operation
- Native BACnet MS/TP communications

## The Carrier i-Vu Open Control System

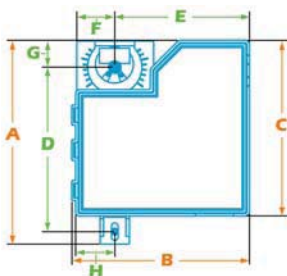


# Specifications

## Part Number: OPN-VAVB3

BACnet Support	Advanced Application Controller (B-AAC), as defined in BACnet 135-2001 Annex L
Communication Ports	<b>BACnet port:</b> EIA-485 port for BACnet MS/TP communications (9600 bps, 19.2 kbps, 38.4 kbps, & 76.8 kbps); <b>Local Access port:</b> For system start-up and troubleshooting using a PC or BACview (115.2 kbps); <b>Rnet port:</b> For connecting SPT room sensors. The Rnet port supports up to 4 SPT Standard sensors and 1 SPT Plus or SPT Pro sensor for averaging or high/low select control.
Integral Actuator	Brushless DC motor, torque 35 inch-pounds (4Nm), runtime 205 seconds for 90 degree travel during control
Integral Pressure Sensor	Precision low flow AWM series 0–2 in. H <sub>2</sub> O, sensitive down to ±0.001 in. H <sub>2</sub> O. Barbed tapered airflow connections accept 3/16 in. (4.75 mm) I.D. tubing. Allows for readings across the 0–2 in. H <sub>2</sub> O range, accurate to ±5% of full flow at 2 in. H <sub>2</sub> O
Inputs	<b>3 analog inputs:</b> RH/CO <sub>2</sub> (0-5V), T55 (10k thermistor), SAT (10k thermistor). AI's have 10 bit A/D resolution. <b>1 binary input:</b> Remote Occupancy (dry contact).
Outputs	<b>1 analog output:</b> Hot Water Valve/Actuator (HWV/ACT). AO is 0 to 10VDC (5mA maximum) with 8 bit D/A resolution using filtered PWM. <b>3 binary outputs:</b> HEAT1, HEAT2, and FAN/HEAT3. Relay contacts rated at 1A max @ 24VAC/VDC, configured normally open.
Protection	Incoming power and network connections are protected by non-replaceable internal solid-state polyswitches that reset themselves when the condition that causes a fault returns to normal. The power, network, input, and output connections are also protected against voltage transient and surge events.
Battery	10-year Lithium CR2032 battery provides a minimum of 10,000 hours of trend data retention during power outages
Status Indicators	LED status indicators for BACnet communication, run status, error, power, and all digital outputs
Controller Addressing	Rotary DIP switches set BACnet MS/TP address
Listed by	UL-916 (PAZX), cUL-916 (PAZX7), FCC Part 15-Subpart B-Class A, CE EN50082-1997, UL94-5VA plenum rated enclosure
Operating Temperature	0 to 130°F (-18 to 54°C) 10 to 90% RH, non-condensing
Storage Temperature	-24 to 140°F (-30 to 60°C) 10 to 90% RH, non-condensing
Power Requirements	24VAC ± 10%, 50-60Hz, 14 VA power consumption (20 VA with BACview), 26VDC (25V min, 30V max), Single Class 2 source only, 100 VA or less

### Dimensions



### Overall

**A:** 7" (17.8cm)  
**B:** 6-1/32" (15.4 cm)  
**C:** 6" (15.2 cm)

Depth: 2-1/2" (6.4 cm)  
Weight: 1.7 lbs (0.77 kg)

Minimum Shaft Diameter: 3/8" (.95 cm)  
Maximum Shaft Diameter: 1/2" (1.27 cm)  
Minimum Shaft Length: 1-3/4" (4.45 cm)

### Mounting

**D:** 5-5/8" (14.3 cm)  
**E:** 4-9/16" (24.3 cm)  
**F:** 1-5/16" (3.3 cm)  
**G:** 7/8" (2.4 cm)  
**H:** 1-5/16" (3.3 cm)



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