



# i-Vu® Building Automation System VAV Zone II Single Duct

Part Number: OPN-VAVB1-02



*The i-Vu® Building Automation System provides everything you need to access, manage, and control your building, including the powerful i-Vu user interface, plug-and-play BACnet controllers, and state-of-the-art Carrier equipment.*

The VAV Zone II Single Duct controller provides zone level temperature and air quality control for a variety of pressure-independent VAV applications. This advanced controller features a separable actuator for easy installation onto single duct air terminals. It also features native BACnet communications and plug-and-play connectivity to the Carrier i-Vu 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, single-position hot water, single-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 communicating room sensors, which allow for local setpoint adjustment and local overrides
- Quick and easy test & balancing process

## System Benefits

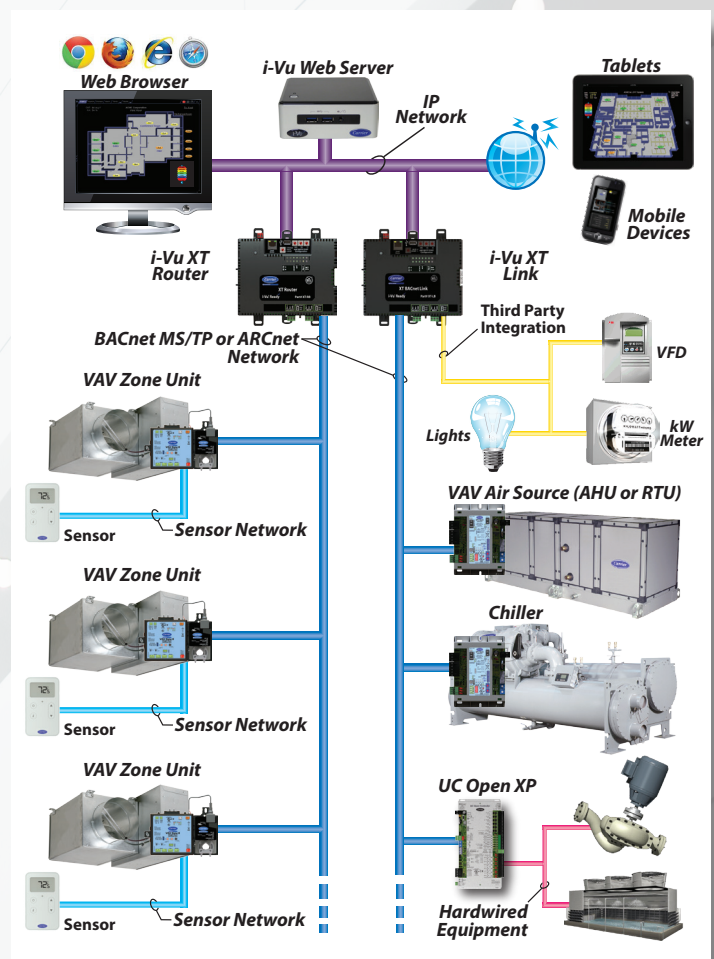
- Integrated Carrier airside linkage algorithm for plug-and-play integration with Carrier air sources
- Fully plug-and-play with the Carrier i-Vu Building Automation System
- Supports demand limiting for maximum energy savings
- Compatible with i-Vu Tenant Billing for tracking tenants' after-hours energy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

## Hardware Features

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



## The Carrier i-Vu Open Control System





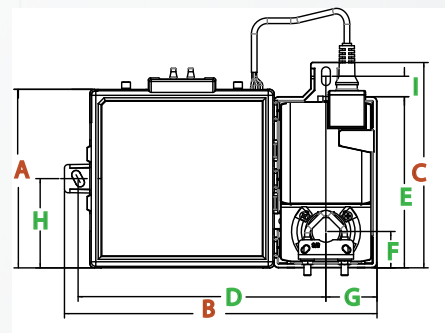
# i-Vu® Building Automation System

## VAV Zone II Single Duct

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<b>BACnet Support</b>	Advanced Application Controller (B-AAC), as defined in BACnet 135-2012 Annex L Protocol rev. 9
<b>Communication Ports</b>	<b>BACnet port:</b> EIA-485 port for BACnet MS/TP communications (9600 bps, 19.2 kbps, 38.4 kbps, & 76.8 kbps) or ARCNET 156 kbps; <b>Local Access port:</b> For system start-up and troubleshooting (115.2 kbps); <b>Rnet port:</b> For connecting Carrier communicating room sensors and Carrier's touchscreen user interface. <b>ACTnet Port:</b> For connecting the actuator cable
<b>Separable Actuator</b>	Brushless DC motor, torque 45 inch-pounds (5Nm), runtime 154 seconds for 90 degree travel during control
<b>Integral Pressure Sensor</b>	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
<b>Inputs</b>	<b>3 analog inputs:</b> RH/CO2 (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).
<b>Outputs</b>	<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>1 binary output:</b> HEAT1. Relay contact rated at 1A max @ 24VAC/VDC, configured normally open.
<b>Protection</b>	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 lasting no more than 10 msec.
<b>Battery</b>	10-year Lithium CR2032 battery provides a minimum of 10,000 hours of trend data retention during power outages
<b>Status Indicators</b>	LED status indicators for BACnet communication, run status, error, power, and all digital outputs
<b>Controller Addressing</b>	Rotary DIP switches set BACnet MS/TP or ARCNET address
<b>Listed by</b>	UL-916 (PAZX), cUL-916 (PAZX7), FCC Part 15-Subpart B-Class A, CE EN50082-1997, UL94-5VA plenum rated enclosure
<b>Environmental Operating Range</b>	<b>Operating:</b> 32 to 130°F (0 to 54°C) 10 to 90% RH, non-condensing <b>Storage:</b> -24 to 140°F (-30 to 60°C) 0 to 90% RH, non-condensing
<b>Power Requirements</b>	24VAC ± 10%, 50-60Hz, 14 VA power consumption, 26VDC (25V min, 30V max), Single Class 2 source only, 100 VA or less

<b>Dimensions</b>	<b>Overall</b>	<b>Mounting</b>
	<b>A:</b> 5.10" (12.95 cm) <b>B:</b> 8.93" (22.68 cm) <b>C:</b> 5.87" (14.90 cm)	<b>D:</b> 7.00" (17.78 cm) <b>E:</b> 4.89" (12.42 cm) <b>F:</b> 1.04" (2.64 cm) <b>G:</b> 1.46" (3.71 cm) <b>H:</b> 2.55" (6.48 cm) <b>I:</b> 0.58" (1.47 cm)
	<b>Depth:</b> 2.5" (6.4 cm) <b>Weight:</b> 1.8 lbs (0.82 kg) <b>Minimum Shaft Diameter:</b> 3/8" (.95 cm) <b>Maximum Shaft Diameter:</b> 1/2" (1.27 cm) <b>Minimum Shaft Length:</b> 1-3/4" (4.45 cm)	



CONTROLS EXPERT

Tested. Certified. Factory Authorized.

For more information, contact  
your local Carrier Controls Expert.  
Controls Expert Locator:  
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