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
i-Vu® Building Automation System  
VAV Zone II Single Duct  
Part Number: OPN-VAVB1-02

<table>
<thead>
<tr>
<th><strong>BACnet Support</strong></th>
<th>Advanced Application Controller (B-AAC), as defined in BACnet 135-2012 Annex L Protocol rev. 9</th>
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| **Communication Ports** | **BACnet port:** EIA-485 port for BACnet MS/TP communications (9600 bps, 19.2 kbps, 38.4 kbps, & 76.8 kbps) or ARCNET 156 kbps;  
**Local Access port:** For system start-up and troubleshooting (115.2 kbps);  
**Rnet port:** For connecting Carrier communicating room sensors and Carrier’s touchscreen user interface.  
**ACTnet Port:** For connecting the actuator cable |
| **Separable Actuator** | Brushless DC motor, torque 45 inch-pounds (5Nm), runtime 154 seconds for 90 degree travel during control |
| **Integral Pressure Sensor** | Precision low flow AWM series 0–2 in. H₂O, sensitive down to ±0.001 in. H₂O. Barbed tapered airflow connections accept 3/16 in. (4.75 mm) I.D. tubing. Allows for readings across the 0–2 in. H₂O range, accurate to ±5% of full flow at 2 in. H₂O |
| **Inputs** | 3 analog inputs: RH/CO₂ (0-5V), T55 (10k thermistor), SAT (10k thermistor). Al’s have 10 bit A/D resolution. 1 binary input: Remote Occupancy (dry contact). |
| **Outputs** | 1 analog output: Hot Water Valve/Actuator (HWV/ACT). AO is 0 to 10VDC (5mA maximum) with 8 bit D/A resolution using filtered PWM. 1 binary output: HEAT1. Relay contact 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 lasting no more than 10 msec. |
| **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 or ARCNET address |
| **Listed by** | UL-916 (PAZX), cUL-916 (PAZX7), FCC Part 15-Subpart B-Class A, CE EN50082-1997, UL94-5VA plenum rated enclosure |
| **Environmental Operating Range** | Operating: 32 to 130°F (0 to 54ºC) 10 to 90% RH, non-condensing  
Operating Range: -24 to 140°F (-30 to 60ºC) 0 to 90% RH, non-condensing |
| **Power Requirements** | 24VAC ± 10%, 50-60Hz, 14 VA power consumption, 26VDC (25V min, 30V max), Single Class 2 source only, 100 VA or less |
| **Dimensions** | **Overall**  
A: 5.10” (12.95 cm)  
B: 8.93” (22.68 cm)  
C: 5.87” (14.90 cm)  
**Mounting**  
D: 7.00” (17.78 cm)  
E: 4.89” (12.42 cm)  
F: 1.04” (2.64 cm)  
G: 1.46” (3.71 cm)  
H: 2.55” (6.48 cm)  
I: 0.58” (1.47 cm)  
**Depth:** 2.5” (6.4 cm)  
**Weight:** 1.8 lbs (0.82 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) |

For more information, contact your local Carrier Controls Expert.  
Controls Expert Locator:  
www.carrier.com/controls-experts

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