



i-Vu® Building Automation System VVT Bypass II

Part Number: OPN-VVTBP-02



The VVT Bypass II controller is used to regulate the supply duct static pressure for a variety of pressure-dependent VVT applications and allows constant volume HVAC equipment to provide zone level temperature control. This advanced controller features a separable, brushless actuator and an integral pressure sensor for reliability and longevity. 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
- Temperature protection minimizes the occurrence of air source heating and/or cooling lockouts based on unacceptable discharge temperatures
- VFD support via 0-10VDC analog output to provide drive speed modulation
- Can drive multiple damper actuators
- Provides automatic pressure sensor calibration

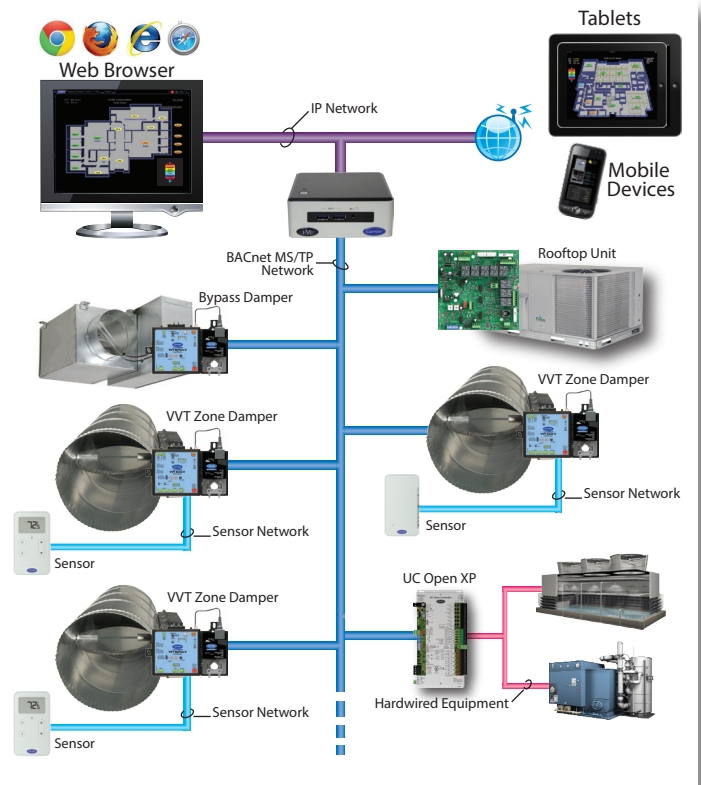
Hardware Features

- Separable brushless actuator and integral pressure sensor
- Designed for vertical or horizontal mounting
- Capable of system or stand-alone operation
- Native BACnet MS/TP or ARCNET communications

System Benefits

- Integrated Carrier airside linkage algorithm for plug-and-play integration with the Carrier VVT system
- Fully plug-and-play with the Carrier i-Vu Building Automation System

The Carrier i-Vu Building Automation System



i-Vu[®] Building Automation System

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Specifications

BACnet Support	Advanced Application Controller (B-AAC), as defined in BACnet 135-2012 Annex L Protocol rev. 9
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: Not used ACTnet Port: For connecting the actuator cable
Separable Actuator	Brushless DC motor, torque 45 inch-pounds (5Nm), runtime 154 seconds for 90 degree travel
Integral Pressure Sensor	Precision low flow AWM series 0–2 in. H ₂ O, sensitive down to ±0.001 in. H ₂ O. Barbed tapered airflow connections accept 3/16 in. (4.75 mm) I.D. tubing. Allows for readings across the 0–2 in. H ₂ O range, accurate to ±5% of full flow at 2 in. H ₂ O
Inputs	1 analog input: DAT (10k thermistor). AI has 10 bit A/D resolution.
Outputs	1 analog output: VFD/Actuator. AO is 0 to 10VDC (5mA maximum) with 8 bit D/A resolution using filtered PWM.
Protection	Power and network connections protected by non-replaceable internal solid state resettable polyswitches. Power, network and I/O connections also protected against voltage transient and surge events lasting no more than 10 msec.
Battery	10-year Lithium CR2032 battery: min of 10,000 hours of trend data retention during power outages
Status Indicators	LED status indicators for BACnet MS/TP communication, run status, error, power, and all digital outputs
Controller Addressing	Rotary DIP switches set BACnet MS/TP or ARCNET MAC address of controller
Listed by	United States: FCC compliant to Title CFR47, Part 15, Subpart B, Class A; UL Listed, File E143900; CCN PAZX, UL 916, Energy Management Equipment; ANZ: RCM Mark AS/NZS 61000-6-3; Canada: UL Listed File E143900, CCN PAZX7, CAN/CSA C22.2 No. 205 Signal Equip., Industry Canada Compliant ICES-003, Class A; CE Mark Compliant with 2014/30/EU, and RoHS Compliant: 2015/863/EU; UKCA Mark compliant with Electromagnetic Compatibility Regulations 2016 – Gov.UK and RoHS for Electrical and Electronic Equipment 2012
Environmental Operating Range	Operating: 32 to 130°F (0 to 54°C) 10 to 90% RH, non-condensing Storage: -24 to 140°F (-30 to 60°C) 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 in. (12.95 cm)
B: 8.93 in. (22.68 cm)
C: 5.87 in. (14.90 cm)

Mounting

D: 7 in. (17.78 cm)
E: 4.89 in. (12.42 cm)
F: 1.04 in. (2.64 cm)
G: 1.46 in. (3.71 cm)
H: 2.55 in. (6.48 cm)
I: 0.58 in. (1.47 cm)

Depth: 2.5 in. (6.4 cm)

Weight: 1.8 lbs (0.82 kg)

Minimum Shaft Diameter: 3/8 in. (.95 cm)

Maximum Shaft Diameter: 1/2 in. (1.27 cm)

Minimum Shaft Length: 1-3/4 in. (4.45 cm)

