Carrier

TruVu

i-Vu® Building Automation System
TruVu™ Dual IP Zone Controller

Part Number: TV-VAVB3-E2

i Vu

The TruVu dual IP zone controller provides zone level control for a variety of pressure independent VAV and pressure dependent VVT applications. This completely programmable advanced controller features an integrated actuator for easy installation onto fan-powered or single-duct air terminals. It ships with Carrier factory engineered and tested applications for single zone and fan powered terminal control. The daisy chained BACnet IP communications deliver 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, humidity and air quality control
- Supports modulating hot water, 2-position hot water, single, 2, or 3 stage electric heat, or zone perimeter heat
- Supports two simultaneous application control programs for customized application solutions
- Standard library of control programs available for most VAV equipment and zone applications
- Programmable zone level control of terminal units, fan coils, lighting, exhaust fans and more using Snap graphical programming
- Supports advanced control routines for zone level humidity control or zone level demand control ventilation (ASHRAE® 62.1)
- Supports Carrier communicating sensors which are available in a variety of zone and equipment sensing combinations
- Supports Carrier TruVu touchscreen interfaces for managing and troubleshooting the connected equipment easily and for occupant engagement
- Conforms to the BACnet Advanced Application Controller (B-AAC) Standard Device and BACnet Broadcast Management Device (B-BMD), as defined in BACnet 135-2001 2012 Annex L and tested to Protocol Revision 15

Hardware Features

- Integrated 45 in-lb 154 second actuator for reliability and longevity
- Dual 10/100 Mbps, BACnet IP and DCHP IP addressing
- Native BACnet IP or MS/TP communications
- Supports home run, daisy chain and ring IP network topologies
- Capacitor-backed real-time clock keeps time in the event of power failure or network interruption for up to three days
- Controls up to 9 points (3 binary outputs, 4 universal inputs and 2 analog output) plus up to 2 Act Net Smart Actuators
- USB port for local device updates, hard-wired, and wireless service connections
- Reversible airflow connections allows for error free tube installation

System Benefits

- Integrated Carrier airside linkage algorithm for plug-and-play integration with Carrier air sources
- Fully plug-and-play with the i-Vu building automation system
- Supports demand limiting for maximum energy savings
- Supports dual duct applications when used with Carrier's VAV Zone II secondary terminal controller

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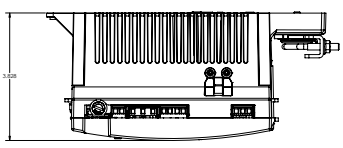
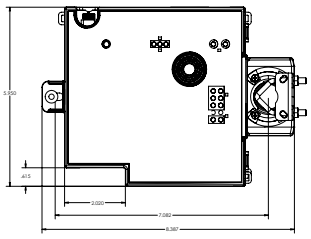
Specifications

BACnet Support		Conforms to the BACnet Advanced Application Controller (B-AAC) and BACnet Broadcast Management Device (B-BBMD) standard device profiles, as defined in BACnet 135-2012 Annex L Protocol rev. 14
Power Requirements		24Vac +/- 15% , 50 - 60Hz, 50VA | 24Vdc +/- 10%, 18W. (75VA / 35W if additional Act Net devices are connected)
Communication	BAS Primary Port	Dual 10/100 BaseT Ethernet ports with built-in fail safe, supporting direct connection or daisy chain topology natively using BACnet/IP (non-routing)
	Serial Port 1	EIA-485 port for BACnet MS/TP communications (9600 bps to 115.2 kbps)
	Rnet Port	12Vdc @ 260mA supports the following: Up to 10 ZS sensors (mix ZS zone, ZS duct, ZS immersion and ZS outdoor sensors), i-Vu Equipment Touch, or TruVu ET Displays (external power required)
	Act Net Port	Supports up to 2 Act Net communicating i-Vu smart valves
	2 USB Ports	For TruVu ET Display support |configuration | wireless service access | firmware updates and controller recovery via USB drive
Inputs	Universal	4 Universal Inputs electronically configurable to any of the following types: Dry | Pulse Counting |Thermistor | 0-10 Vdc
Outputs	Analog	2 Analog Outputs 10Vdc (D/A Resolution 12 bits) | PWM 12Vdc @ 80Hz
	Digital	3 Digital outputs (Dry Contact) Rated @30Vac/Vdc @ 1.4 Amp. Configured normally open
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. H_2O, sensitive down to ±0.001 in. H_2O. Barbed tapered airflow connections accept 3/16 in. (4.75 mm) I.D. tubing. Allows for readings across the 0–2 in. H_2O range, accurate to ±3% of reading. Reversible connections
Real Time Clock		Real-time clock keeps track of time in the event of a power failure for at least 3 days
Status Indicators		LED status indicators for IP and S1 communications, run status, error, power, all outputs, and locator LEDs for controller identification and actuator rotation feedback
Memory		4 GBs eMMC Flash memory and 256 MB DDR3 DRAM. User data is archived to non-volatile flash memory when parameters are changed, every 90 seconds
Compliance		**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 122ºF (0 to 50ºC) 10 to 95% RH, non-condensing **Storage:** -24 to 140ºF (-30 to 60ºC) 0 to 90% RH, non-condensing
Plastic		Fire-retardant plastic ABS, UL94-5VA
Dimensions		**Width:** 8.367 in. (21.25 cm) **Length:** 5.95 in. (15.11 cm) **Depth:** 3.828 in. (9.72 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)

For more information, contact your local Carrier Controls Expert.

Controls Expert Locator:
www.carrier.com/controls-experts

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