

# Basyx VAV Controller

## Product Overview

The Basyx VAV assembly provides direct digital control of pressure-independent variable air volume boxes. The VAV unit is a fully assembled controller/actuator combination, and includes a differential pressure sensor for accurate monitoring and control of air flow at very low volumes. The unit controls through a sophisticated PID algorithm which constantly resets air flow requirements by space temperature, thus eliminating constant damper hunting typical of temperature only control units.



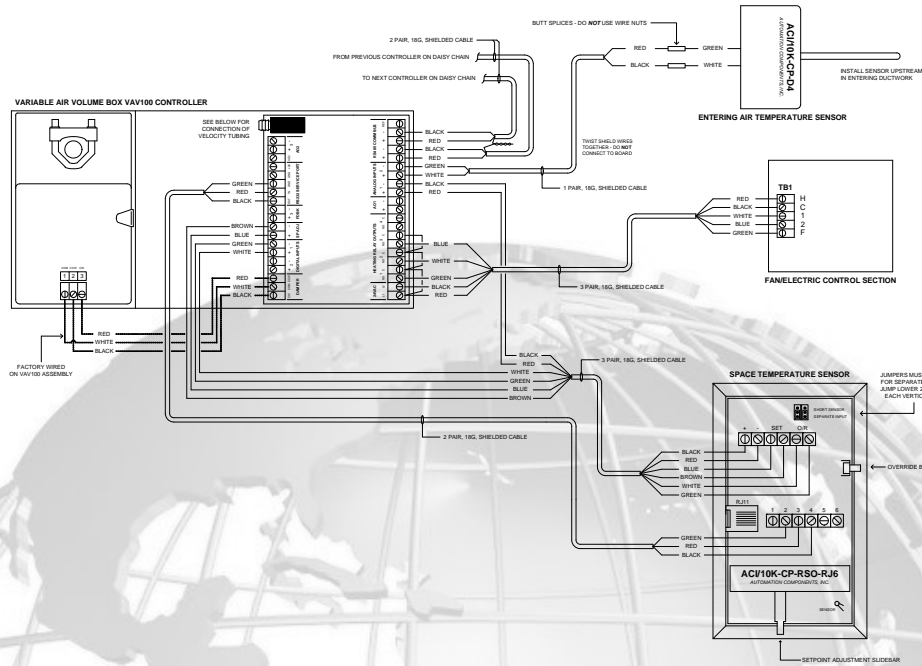
The Basyx VAV controller contains four (4) relay outputs for binary control of fan or heating stages, and one (1) 0-10vdc output for control of modulating reheat valves. In addition, an inexpensive room temperature sensor provides space monitoring as well as setpoint adjustment and override activation. The system may be installed as a stand-alone unit, requiring no connection with other controllers. A Windows based **Setup and Service Program** allows direct connection to the VAV through an RJ11 jack on the room sensor, which facilitates easy setup and manual operation for air balance and system commissioning. The VAV may also be installed as a part of a complete Basyx control and automation system with a maximum configuration of 256 controllers. When connected within the Basyx network, all VAV controllers may be interrogated and programmed through the standard Basyx TriComm interface software, including direct connect, modem connection or intranet/internet interface.

The Basyx VAV system technology allows system firmware to be modified or upgraded through a flash memory configuration, and does not require Eprom changes for system updates. Dual processors enhance the overall operation and capabilities of the unit.

## Features

- “Stand-alone” operation requires no central controller for system operation.
- Complete assembly with integral motor and pressure sensor reduces installation labor.
- Single unit provides control of cooling only, reheat, fan-powered reheat and constant volume terminal units.
- Air flow control through space temperature reset insures the proper air flow within the controlled space - Eliminates the “hunting” of damper and associated air noise commonly found with temperature only based controls.
- On-board pressure differential sensor performs monitoring of air flows and eliminates mounting and wiring of external devices.
- Inexpensive room temperature sensor allows setpoint adjustment and override of the system.
- Four (4) relay outputs and one (1) 0-10vdc analog output provide automatic control of staged heating and reheat valves.
- Unit will operate as a stand-alone unit, requiring no connection to other systems or controllers - Ideal for pneumatic system replacements.
- Windows setup program allows connection directly through the room sensor, makes air balancing and system startup easy.
- Program integrity through flash memory which retains system programming upon a loss of power.
- Flash memory allows firmware upgrades through laptop or telephone connection - No chips to change.
- May be installed as a part of an overall Basyx automation and control system, with a total system capacity of 256 controllers.
- Maximum communications bus length of 4000 feet.
- 24vac power reduces installation cost.

## Typical Wiring Details



## Specifications

Communication:	EIA RS-485 at 57.6K baud on 18AWG shielded, plenum rated cable (recommended Belden 6300FE or equivalent)	
Power Requirements:	Voltage:	24VAC (-10% / 5%), 50/60/Hz
	Current:	3.2VA maximum
	Recommend 5VA transformer sizing for AC power	
Analog Inputs:	(3) 10K ohm thermistor	10,000 ohm type II.
Digital Inputs:	(2) Dry contacts	>= 50ms timing
Analog Outputs:	(1) 0-10VDC	>= 1K ohm drive impedance
Digital Outputs:	(4) Dry contacts:	SPST pilot duty rated 1 amp at 24VAC/24VDC
Environmental Limits:	Temperature:	32°F to 125°F.
	Humidity (non-condensing):	95%
UL Listing:	ANSI/UL 916	
Dimensions:	9.0"W x 5.0"H x 2.5"D	
Shipping Weight:	Approx. 1.95 lbs.	