

FULLY PROGRAMMABLE VAV TERMINAL UNIT CONTROLLER

WITH INTEGRATED DAMPER MOTOR

OVERVIEW

The HVAC building automation controls market requires a flexible, cost-effective VAV terminal unit DDC controller with integrated damper motor.

Efficient Building Automation Corporation's Circon™ VAV-332-IMV with many advanced features, increases occupant comfort levels, while optimizing energy efficiency. It comes complete with an integral damper motor, and one of the most accurate and reliable differential pressure sensors available.

APPLICATIONS

The VAV-332-IMV can be used for any single duct, pressure independent or dependent VAV control application. It accommodates series or parallel fan powered units or units without fans. For heating, the VAV-332-IMV supports three stages of electric reheat, and modulating or floating valve control for hot water heat.

To optimize energy efficiency, the VAV-332-IMV has several applications. The time-of-day schedule can adapt its control sequence to occupied, unoccupied or standby setpoints, the optimum start feature allows the zone to be efficiently conditioned for comfort prior to occupancy, and when used with a supervisory controller, the VAV-332-IMV allows implementation of ASHRAE standard 62.1-specified Ventilation Rate and IAQ procedures, and demand limiting sequences.

A versatile side loop provides three styles of control for a wide range of equipment including unit heater, baseboard heater, exhaust fan, lighting and more. The side loop together with other I/O saves the cost of additional controllers for simple applications

EBAC's no-cost Windows®-based configuration software for the VAV-332-IMV is fully compatible with Echelon Corporation's LNS® and Tridium® Inc.'s Niagara^{AX} platforms.

ORDERING INFORMATION

Part number: 10-0438



FEATURES

- LonMark Certified, with easy-to-use LNS plug-ins for seamless integration into interoperable LonWorks® networks
- Fast and easy-to-use Tridium Niagara^{AX} wizards for seamless integration into interoperable Niagara networks
- Nine VAV terminal unit control sequences allows use in any VAV application
- Easily mounts directly on VAV terminal unit damper shaft
- 1 resistive input for space temperature with/without override, and 3 universal inputs
- 3 digital outputs and 1 analog output
- Works with single speed fan motors or energy-efficient variable speed fan motors with ECM technology
- Demand controlled ventilation feature allows occupant-based ventilation rate control
- A side loop provides independent control for additional simple HVAC equipment
- Onboard soft clock, scheduling and trending decrease costs and increase flexibility
- Transmits alarms for local or remote annunciation



CIRCON

SPECIFICATIONS

I/O CAPABILITY

1 Space Temperature Input:	10 kΩ thermistor, Precon curve: Type II model 24 or Type III model 3
3 Universal Inputs:	Digital (dry contact), resistive (10 kΩ thermistor), or voltage(0-10 VDC)
1 Pressure Sensor:	0.013"-1.75" H2O (3.2-438 Pa)
3 Digital Outputs:	Isolated triac, 800 mA max. – 30 mA min., at 24 VAC, short-circuit protected, auto-reset
1 Analog Output:	0-10 VDC at 100 mA, short-circuit protected, auto-reset

COMMUNICATIONS

Transceiver:	Echelon Free Topology Transceiver (FTT-10A @ 78 kbps)
Wire Type:	AWG22 to AWG16 stranded (use twisted pair wiring and copper conductors for network)
Neuron®:	3150, 10 MHz

POWER SUPPLY

Controller and Motor:	24 VAC, 50-60 Hz, at 12 VA
Fuse:	2.5 A slow-blow (Bussman GMD-2.5A, Littlefuse 23902.5A)
External Loads:	1.2 A (absolute maximum) available to power external loads

MECHANICAL

Operating Temperature:	32°F to 122°F (0°C to 50°C)
Relative Humidity:	5% to 95% RH (non-condensing)
Weight:	1 lb. 11 oz. (780 grams)
Enclosure Dimensions:	9" x 5.28" x 2.125" (229mm x 134mm x 54mm)
Enclosure Material:	Polylac PA-776+, FR/ABS; approval UL 94-5V
Wire Type:	AWG22 to AWG16 stranded
Mounting:	Directly on shaft with one screw

DAMPER MOTOR

Model:	Belimo LMB-24- 3-T with stall protected brushless DC motor and push button clutch
Torque:	45 in-lb (5.14 Nm)
Power Supply:	Supplied from VAV-332-PRG
Running Time:	95 seconds
Angle of Rotation:	95 degrees from adjustable
Fits Shaft Diameter:	5/15" to 23/32" (8.5mm to 18.2mm)

AGENCY LISTINGS AND REGULATORY COMPLIANCE

Class II device (when powered by a class II supply)
 CSA 22.2 #205-M1983, #950-M89
 UL916 certification for Energy Management Equipment
 Part 15, Class A of the FCC Rule for Radio Frequency Devices
 EMC Directive 89/336/EEC
 LonMark 3.4 Certified, Functional Profile: 8502 SCC-VAV



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