



VAV-B-P BACnet

Variable Air Volume Controller with Belimo Bracket Box, Pressure Pickup & BACnet Protocol

With over 30 years in the industry, Computrols has established a solid reputation as a leader in automation systems from hardware to software. For VAV applications, Computrols provides the most flexible products available. The VAV-B-P BACnet provides BACnet communications protocol and BTL certification for a complete VAV solution.



Product Highlights

Position Indicator

Provides a visual indication of position.

Manual Override

Pushbutton to allow manual positioning on the damper.

Convenient Package

Controller and motor assembly mount directly to VAV boxes in one step.

Easily Addressable

Two DIP switches (0-9) allow simple addressing.

Removable Screw Terminals

Allows for quick replacement.

Status Indicators

Bright on-board LEDs assist in troubleshooting.

Precise Pressure Measurement

0-5" pressure pickup provides accurate control for sensitive low-volume applications.

Orientation Independent

Unlike many VAV controllers, our controller and pressure pickup can be mounted in any orientation without loss of accuracy.

Multiple Actuator Support

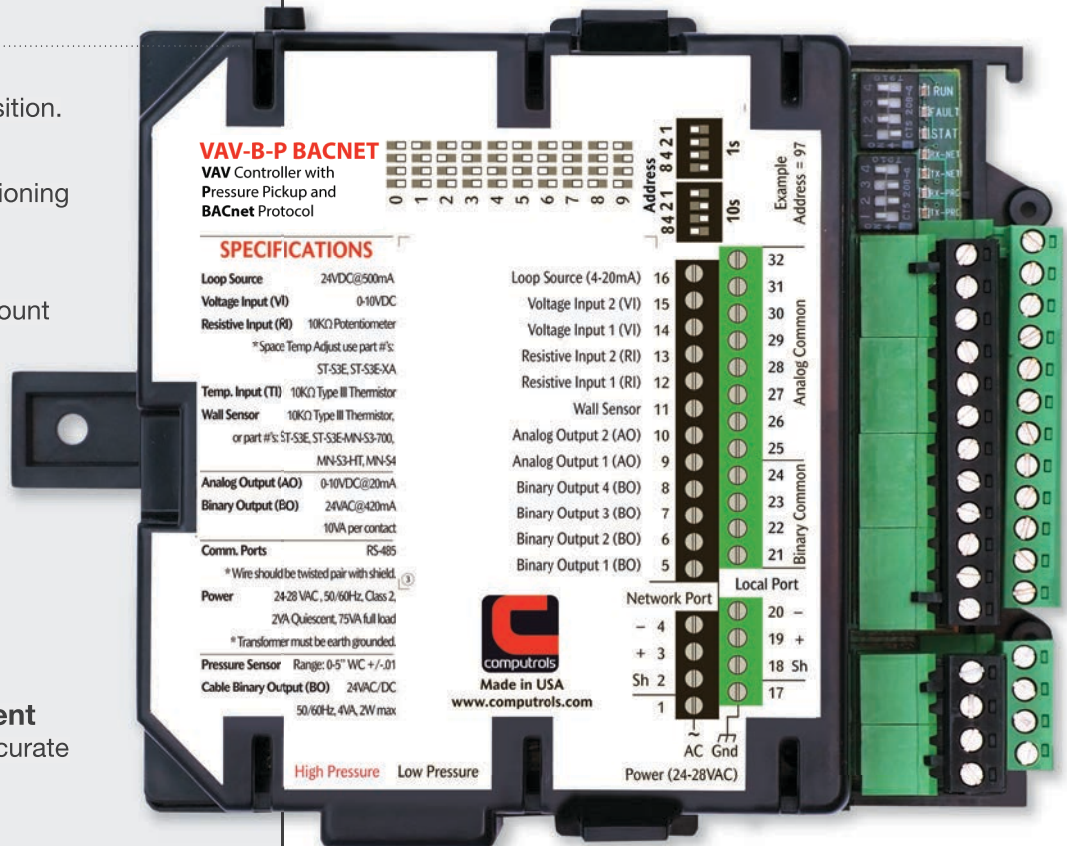
Add an optional damper actuator using either analog or binary outputs. Voltage or resistive inputs for precise damper positioning.

Flexible Sensor Capability

Supports 10K Type III thermistors or a selection of digital display wall stats.

Simple Configuration

Quickly configure all parameters using our stand-alone configuration tool - free to Distribution Partners.



VAV-B-P BACNET

VAV Controller with Pressure Pickup and BACnet Protocol

Address 0 1 2 3 4 5 6 7 8 9

SPECIFICATIONS

Loop Source 24VDC@500mA
 Voltage Input (VI) 0-10VDC
 Resistive Input (RI) 10KΩ Potentiometer
 * Space Temp Adjust use part #'s: ST-S3E, ST-S3E-XA
 Temp. Input (TI) 10KΩ Type III Thermistor
 Wall Sensor 10KΩ Type III Thermistor, or part #'s: ST-S3E, ST-S3E-MN-S3-700, MN-S3-HIT, MN-S4
 Analog Output (AO) 0-10VDC@20mA
 Binary Output (BO) 24VAC@420mA
 10VAC per contact
 Comm. Ports RS-485
 * Wire should be twisted pair with shield.
 Power 24-28 VAC, 50/60Hz, Class 2, 2VA Quiescent, 75VA full load
 * Transformer must be earth grounded.
 Pressure Sensor Range: 0-5" WC +/-0.01
 Cable Binary Output (BO) 24VAC/DC 50/60Hz, 4VA, 2W max

Loop Source (4-20mA) 16
 Voltage Input 2 (VI) 15
 Voltage Input 1 (VI) 14
 Resistive Input 2 (RI) 13
 Resistive Input 1 (RI) 12
 Wall Sensor 11
 Analog Output 2 (AO) 10
 Analog Output 1 (AO) 9
 Binary Output 4 (BO) 8
 Binary Output 3 (BO) 7
 Binary Output 2 (BO) 6
 Binary Output 1 (BO) 5

Network Port
 - 4
 + 3
 Sh 2
 1
 Local Port
 20 -
 19 +
 18 Sh
 17

High Pressure Low Pressure

VAV-B-P BACnet

Variable Air Volume Controller with Belimo bracket box, Pressure Pickup and BACnet Protocol

A BTL certified product



Hardware Specifications

| | |
|--------------------------------|--|
| Power Supply Input | 24VAC \pm 20% 50/60Hz Class 2 transformer |
| Power Requirements | 75VA full load |
| Analog Input Types | Five total: Four resistance (10K Type III thermistor), one voltage 0-10VDC input. Space Temp/S3 Stat is configurable for use with MN-S3-700 display stat option. |
| Analog Output Types | Two selectable voltage source output as either 0-10VDC @20mA max analog output. |
| Loop Source | Fixed 24VDC @ 100mA max loop source. |
| Binary Output Types | Four 24VAC triac controlled outputs (750 mA max per output). |
| Damper Outputs | One 24VAC triac controlled damper output for "built-in" floating damper. |
| Actuator Inputs | One resistive input or use with 10K potentiometer feedback or one 0-10V voltage feedback input. |
| Actuator Outputs | Torque Rating: 45 lb.-in. (5 N-m) Stroke: Full adjustable from 0° to 90° Timing: Approximately 2 minutes at 60 Hz (3.6 minutes at 50 Hz) for 90° rotation @ 24 VAC Position Indicator: Provides a visual indication of position. Manual Override: Push button to allow manual positioning on the damper. Damper Linkage: 1/2" (12.75 mm) or 3/8" (9.5 mm) diameter round shaft extending 7/8" (22.23 mm) minimum from terminal box. |
| Velocity Pressure Input | Operating Range: 0.00 to 5.00 in. of W.C. Control Range: 0.01 to 5.00 in. of W.C. Accuracy: \pm 5% @ 1.00 in. of W.C. Sensor Type: Factory calibrated Micro-machine silicon sensor (differential pressure). Tubing Connections: Barb fittings for 0.170" I.D. FRPE polyethylene tubing or 1/4" O.D./0.125 I.D. tygon tubing (high and low pressure taps). |
| Electrical Connections | Pluggable terminal blocks, capable of accommodating 12-30 AWG wire. |
| Communication Ports | BACnet MS/TP (RS-485) baud rates: 9600, 19200, 38400 |
| Power Requirements | 24VAC \pm 20% 50/60Hz Class 2 transformer |

Hardware Specifications (continued)

| | |
|-----------------------|---|
| Dimensions | 4-13/16" W x 8-7/8" L x 2-5/8" H |
| Ambient Limits | Operating Temperature: 32 to 158 °F Shipping and Storage: -40 to 160 °F Humidity: 5 to 95% RH, non-condensing |
| Ambient Limits | Surface mount. Conforms to NEMA-1 requirements. Meets UL94-5V flammability for plenum application use. |

Parts & Accessories

| Part Number | Description |
|---------------------|---|
| VAV-B-BACnet | VAV controller with Belimo bracket box and BACnet protocol |
| MN-S3-700 | LCD room temperature sensor (200 feet maximum distance from controller). |
| MN-S3-HT | LCD room temperature and humidity sensor (200 feet maximum distance from controller). |
| MN-S4 | LCD room temperature sensor (200 feet maximum distance from controller) with 3-speed fan control. |
| MN-COMM | Commissioning program for the MN series wall stats. |
| ST-COMM | Commissioning program for the MN series wall stats. |
| TERM-COMM | Commissioning program for the MN series wall stats. |
| ST-S3E | Space temperature sensor. |
| ST-S3E-XA | Space temperature sensor with set point adjustment. |
| ST-D3-XH | Duct temperature sensor. |
| VP1 | Voltage to pressure transducer (3-18 PSI). |
| PV3 | Differential pressure transmitter (Specify 0-1", 0-2", or 0-5" W.C.) |
| DCM24-44 | 0-10VDC 44 in.-lb. actuator mfg. by Delta. |