

# BACnet VAV

## Programmable VAV DDC Controller

The OPEN General BACnet programmable VAV controller is native BACnet, universal stand alone VAV direct digital controller specifically designed for use in variable air volume systems.

### NATIVE BACNET COMMUNICATIONS

The building automation system controller communicates native RS485 MS/TP BACnet field bus protocol compatible to the latest ANSI/ASHRAE 135.1 Standard. As a native BACnet controller, The OPEN General VAV programmable DDC controller has the capability to communicate amongst other vendors BACnet compliant DDC hardware on the same MS/TP field bus.

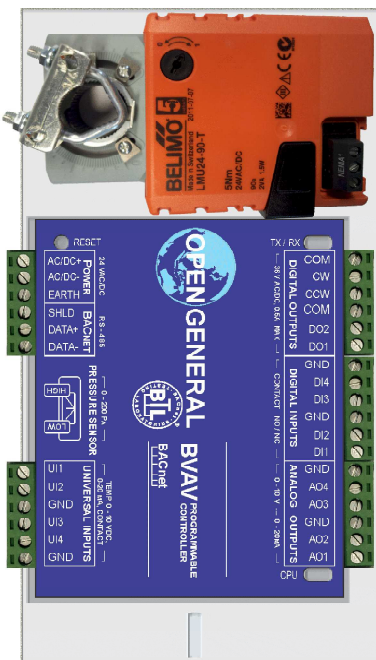
### INPUT/OUTPUT DENSITY

The OPEN General BACnet VAV programmable controller delivers high performance Input/Output capabilities.

Universal Inputs	4 + Velocity
Digital Inputs	4
Analogue Outputs	4 + Actuator
Digital Outputs	4

### Features

- \* BTL Certified
- \* Universal Power Supply Range (24-36 VDC, 24VAC)
- \* Integrated Damper Actuator
- \* On Board Velocity Sensor
- \* On Board Real Time Clock
- \* Flash memory programmability
- \* One Communication Port
  - RS485 BACnet MSTP
- \* Pre configured application specific software to cover a complete range of VAV personalities.
- \* Programmable operation allows spare input/output points to be programmed for other functionality.
- \* On board BACnet node hardware switches for manual address setting.
- \* Compatible with OPEN XPRESS web operator interface



### INTEGRATED DAMPER ACTUATOR

The OPEN General BACnet programmable VAV controller features an integrated damper actuator that is powered directly from the controller and pre-wired ready for installation directly onto the VAV box damper shaft. The damper actuator features brushless constant torque motor that offers superior and extended operational life in comparison to other DC brush type motors.

### ON BOARD VELOCITY SENSOR

The OPEN General BACnet programmable VAV controller features an accurate on board differential pressure sensor to allow for precise air flow velocity measurement.

### FLASH MEMORY

The OPEN General BACnet VAV programmable controllers operating system and application programs are stored in flash memory. Flash memory technology permanently burns the memory image into the silicon of the chip very much like a USB memory stick. With flash memory technology battery backup is no longer required for the controller because when the controller loses power memory is still retained. In addition to this, Flash memory technology allows easy installation of the latest controller operating system and application programs via remote download from the main operator workstation.

# VAV SPECIFICATIONS

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<p style="text-align: center;"><b>INPUTS</b></p> <p><b>FOUR UNIVERSAL:</b> Voltage 0 - 10VDC Current: 0-20ma Temperature: -34°C to 110°C (-29.2°F to 230°F) Digital: Voltage Free Contact Counter: 10ms min pulse width</p> <p><b>FOUR DIGITAL:</b> On/Off: Voltage Free Contact Counter: 1ms min pulse width</p> <p><b>INPUT ACCURACY:</b> Digital: 0.1 sec for pulse width modulation Analogue: 12 bit</p>	<p style="text-align: center;"><b>BACNET FEATURES</b></p> <p>BACnet Objects</p> <ul style="list-style-type: none"> <li>* Analog Input</li> <li>* Analog Output</li> <li>* Analog Value</li> <li>* Binary Input</li> <li>* Binary Output</li> <li>* Binary Value</li> <li>* Event Enrollment</li> <li>* Notification Class</li> <li>* Loop</li> <li>* Schedules</li> <li>* Trend Logs</li> <li>* See PIC statement for details</li> </ul>
<p style="text-align: center;"><b>OUTPUTS</b></p> <p><b>FIVE ANALOGUE:</b> Voltage 0-10 VDC (10 mA maximum) Current 0-20ma</p> <p><b>FOUR DIGITAL:</b> Six single pole single throw (SPST) Form A Relays .Maximum Contact Switch 1A, 24VAC/ VDC</p> <p><b>OUTPUT ACCURACY:</b> Digital: 0.1 sec for pulse width modulation Analogue: 12 bit</p>	<p style="text-align: center;"><b>PROGRAMMABLE FEATURES</b></p> <p>VAV Canned Program profiles</p> <ul style="list-style-type: none"> <li>* VAVNR - No Reheat</li> <li>* VAVOR - One Reheat Valve, 1 Zone Temp</li> <li>* VAVTR - Two Reheat Valves, 2 Zone Temps</li> <li>* VAVNRF - No Reheat, Fan Assisted</li> <li>* VAVDD - Dual Duct</li> <li>* VAVFCU - VAV + FCU</li> </ul>
<p style="text-align: center;"><b>AIR FLOW SENSOR</b></p> <p><b>RANGE:</b> 0 to 1" WC (0-249 Pa)mo LMU24-90 Brushless</p> <p><b>RESOLUTION:</b> 005" WC (1.25 Pa) @ 23°C (73°F)</p> <p><b>ACCURACY:</b> ± 0.05" WC (12.5 Pa) @ 23°C (73°F)</p>	<p style="text-align: center;"><b>CONNECTIONS</b></p> <p><b>SUPPLY VOLTAGE:</b> Removable connector</p> <p><b>BACNET MSTP:</b> Removable connector</p> <p><b>INPUTS &amp; OUTPUTS:</b> Removable connector</p>
<p style="text-align: center;"><b>ACTUATOR</b></p> <p><b>MOTOR:</b> Belimo LMU24-90 Brushless</p> <p><b>TORQUE:</b> 35 in-lb, 4Nm</p> <p><b>ANGLE OF ROTATION:</b> 95° adjustable</p> <p><b>SHAFT CONNECTION:</b> Diameter 5/16-3/4"; 8.5-18.2mm</p> <p><b>POWER:</b> 24VAC/ DC 2VA</p>	<p style="text-align: center;"><b>ELECTRICAL</b></p> <p><b>SUPPLY VOLTAGE:</b> Auto-sensing 24VAC,50/60Hz, 24-36VDC (+10% -20% )</p> <p><b>POWER CONSUMPTION:</b> 6.5 VA</p> <p><b>REAL TIME CLOCK:</b> Capacitive power backup provides up to 1 year real time clock operation on loss of power</p>
<p style="text-align: center;"><b>COMMUNICATIONS</b></p> <p><b>MS/TP RS485:</b> BACnet protocol, RS485, MS/TP, 127 nodes max</p> <p><b>COMMUNICATIONS:</b> 9600, 19.2K baud, 38.4K baud, 57.6K baud, 76.8K baud</p> <p><b>BUS LENGTH:</b> 1,220m (4,000 ft) or 32 nodes on same network leg. RS485 repeaters allow extension to longer distances</p> <p><b>BUS MEDIA:</b> Twisted shielded pair</p> <p><b>COMMUNICATIONS:</b> 9600, 19.2K baud, 38.4K baud, 57.6K baud, 76.8K baud</p> <p><b>BUS LENGTH:</b> 1,220m (4,000 ft) or 32 nodes on same network leg. RS485 repeaters allow extension to longer distances</p> <p><b>BUS MEDIA:</b> Twisted shielded pair</p>	<p style="text-align: center;"><b>MECHANICAL</b></p> <p><b>OPERATING ENVIRONMENT:</b> -30°C to 62°C (-22°F to 143.6°F), 10-95% RH (non condensing)</p> <p><b>SIZE:</b> 157H X 190W X 68D mm</p> <p><b>WEIGHT:</b> 626 grams</p> <p><b>MOUNTING:</b> Back Plate Screw Mount</p>
	<p><b>AGENCY LISTINGS</b></p> 