



Air Monitor

Precision Airflow Measurement
An ONICON Brand

VELTRON III PRESSURE & AIRFLOW TRANSMITTER

Air Monitor's VELTRON III is a dual-channel pressure and airflow measurement transmitter that can be combined with any differential or static pressure measurement device, providing reliable and accurate measurement needed for today's high-performance buildings.



FACTORY CONFIGURED



ON TIME DELIVERY



BEST CUSTOMER SERVICE

- Building Airflow Distribution Systems •
- Fan Inlet Airflow Measurement • Room Pressurization •

VELTRON III

PRESSURE & AIRFLOW TRANSMITTER



DESCRIPTION

The VELTRON III Pressure & Airflow Transmitter is a multi-functional, dual-channel transmitter specifically designed for HVAC airflow measurement applications. The flexible design can be combined with any differential or static pressure measurement probes, stations, piezo rings, or traverse style fan inlet probes.

The VELTRON III uses an application specific tailored array of precision transducers to provide the best turndown and accuracy needed for today's high-performance buildings. The unique transducer design eliminates the need for periodic re-zeroing common with traditional differential pressure-based technologies.

Each VELTRON III comes individually calibrated with all settings and outputs preconfigured for the application. Outputs include native BACnet or MODBUS and up to four programmable analog outputs for airflow, temperature, velocity, differential pressure, or absolute ambient pressure.

APPLICATIONS

Dual-Channel or Single Channel Systems for:

Building Airflow Measurement:

- Supply Ducted Air Flow
- Return Ducted Air Flow
- Single or Dual Fan Systems
- Summation or Subtraction of Air Flow

Room Pressurization:

- Positive and Negative Space Pressurization
- Fan Discharge Plenum Pressure
- Multiple Room Pressure Average Sensing
- Large Duct Pressure

FEATURES

±3% of Reading Accuracy when combined with Air Monitor probes versus traditional percentage of full scale.

Dual-Channel capability minimizes the need for multiple transmitters. It can be used for a split system by combining or subtracting two flow rates, or a dual system by monitoring two independent flow streams.

Extended Flow Range - using the dual transducer technology, the turndown ratio can be maximized for specific application to ensure optimal performance.

Air Density Compensation - dynamic changes in temperature and barometric pressure can impact readings. Selecting an RTD allows the transmitter to calculate real time air density for ACFM.

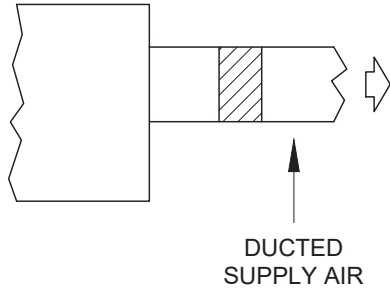
Field Characterization capability to improve the overall performance of the system when installed in non-ideal locations.

Relative Humidity Adjustment - preconfigured RH scenario selections for return & supply air, or custom conditions can be entered for a more precise actual airflow measurement (ACFM) versus traditional DP transmitters which use dry air conditions to perform air flow rate calculations.

BAS/BMS Interface options include up to four programmable analog outputs and one RS485 interface for native BACnet or MODBUS protocols.

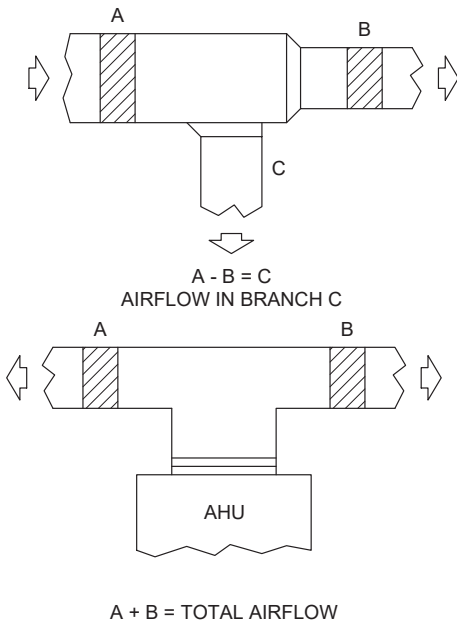
Multiple Enclosure Options to accommodate a variety of installation locations with environmental protection requirements.

CONFIGURATIONS & INSTALLATIONS



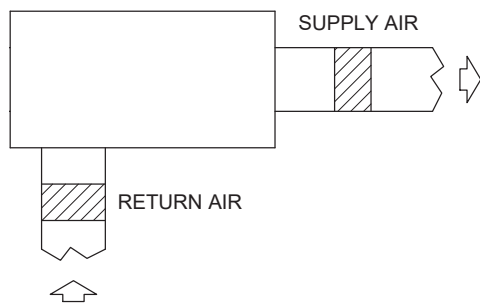
Single Airflow Measurement System

The single channel configuration is used for an individual installation location in a variety of duct configurations, primarily for supply or return airflow. Differential pressure measurement probes are paired with the VELTRON III transmitter to provide a complete airflow measurement system for each application installation.



Dual-Channel – Split Duct Airflow Measurement

The split duct configuration can measure two separate ducts from the same airstream. The measurements can be summed, or the difference can be calculated. This configuration is useful where installation requirements are not ideal in the main duct or the combination of the two take-offs provide better quality data to the BAS/BMS.



Dual-Channel – Dual System Airflow Measurement

The dual system configuration can measure two separate flow rates from individual airstreams. This configuration is an economical solution to minimize the number of transmitters needed while independently calculating airflow for each system.

VELTRON III
PRESSURE & AIRFLOW TRANSMITTER



SPECIFICATIONS*

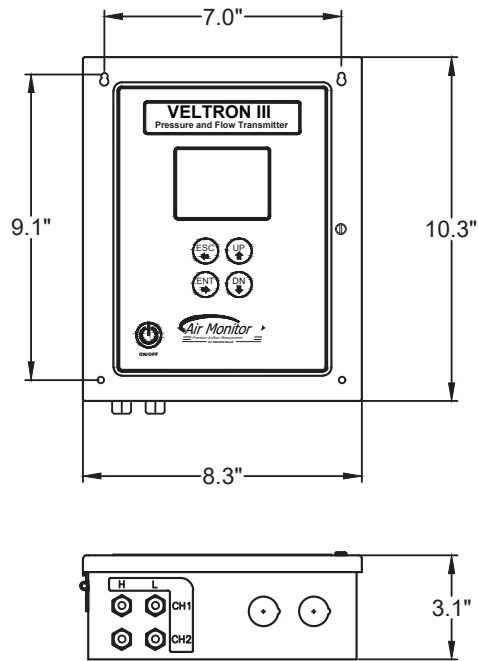
VELTRON III TRANSMITTER		
PERFORMANCE	SYSTEM ACCURACY	±3% of reading when combined with Air Monitor Probes
	PRESSURE ACCURACY	±0.4% of reading from 0.10 to 5.0 in W.C. ±0.75% of reading from 5.0 to 10.0 in W.C.
	TEMPERATURE ACCURACY	±0.1°F at 32°F
	THERMAL OFFSET EFFECTS	±0.2% of reading from (40-130°F)
	RESPONSE TIME	5 ms
OPERATING CONDITIONS	AMBIENT TEMPERATURE	-20°F to 180°F (storage) 0°F to 120°F without heater -40°F to 120°F with heater
	PROCESS AIR TEMPERATURE	-40°F to 120°F
	HUMIDITY	0 to 99% RH, non-condensing
INPUT POWER	24 VAC	15 VA @ 24 VAC; 40 VA with heater
	24 VDC	10 W @ 24 VDC; 35 W with heater
TRANSDUCER DESIGN	AVAILABLE OPTIONS	<ul style="list-style-type: none"> • Single channel, one (1) transducer pair • Dual-channel, two (2) transducer pairs
I/O SIGNALS	ANALOG OUTPUTS	Four (4) analog outputs, selectable based on configuration
	SERIAL COMMUNICATION	RS485, BACnet® MS/TP or MODBUS® RTU
	TEMPERATURE INPUT(S)	One or two 100Ω 3-wire RTDs can be configured
	BAROMETRIC PRESSURE INPUT	Built-in barometric (absolute) pressure sensor for automatic elevation compensation
ELECTRONICS ENCLOSURE	AVAILABLE OPTIONS	<ul style="list-style-type: none"> • Aluminum, NEMA 1 • Poly, NEMA 4X with window • Poly, NEMA 4X, no window • Poly, NEMA 4X, no window with heater
	DISPLAY	3.5" diagonal color graphical FTF LCD
PROGRAMMING	VIA KEYPAD	Menu driven user interface via four (4) push buttons
ELECTRICAL CONNECTIONS	POWER	Removable terminal block for use with 16 to 24 gauge wire
	COMMUNICATIONS	Removable terminal block for use with 16 to 24 gauge wire
	I/O	Removable terminal block for use with 16 to 24 gauge wire
PROCESS CONNECTIONS	AVAILABLE OPTIONS	<ul style="list-style-type: none"> • 1/4" compression, both High and Low signal connections • 3/16" hose barb, both High and Low signal connections

* SPECIFICATIONS subject to change without notice.

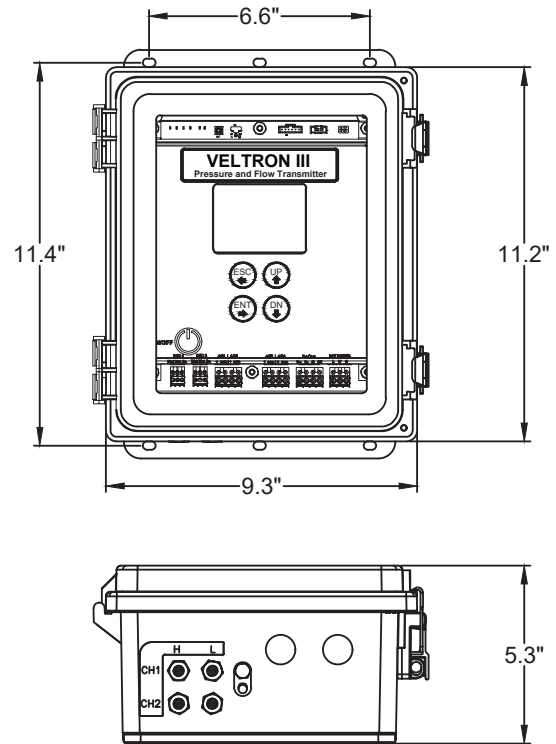
VELTRON III PRESSURE & AIRFLOW TRANSMITTER

DIMENSIONS

NEMA 1 ENCLOSURE



NEMA 4X ENCLOSURE



MODEL SELECTION GUIDE

VELTRON III/ABCD-EFGH

A = Model Configurations

- 2 = Single Channel, Single System
- 6 = Dual-Channel, Split System
- 8 = Dual-Channel, Dual (Separate) Systems

B = Enclosure

- 1 = NEMA 1 Aluminum Enclosure
- 2 = NEMA 4X Poly Enclosure with window
- 3 = NEMA 4X Poly Enclosure, no window
- 4 = NEMA 4X Poly Enclosure, no window with heater

C = Feature Set (Based on model configuration)

- 1 = 24 VAC/DC Power, Four (4) Analog Outputs, RS485 Serial Communication
- 2 = 24 VAC/DC Power, Four (4) Analog Outputs, RS485 Serial Communication and One (1) 100Ω 3 Wire RTD
- 3 = 24 VAC/DC Power, Four (4) Analog Outputs, RS485 Serial Communication and Two (2) 100Ω 3 Wire RTD

D = Process Connection

- 2 = 1/4" Compression Fittings
- 3 = 3/16" Hose Barb Fittings

E = Channel One Transducers

- A = Uni-Directional Transducer
- B = Bi-Directional Transducer (measures negative pressure for static pressure measurement devices)* - **Coming Soon**

F = Channel One Pressure Range

- 1 = Maximum Operating Pressure low/high pair: 0.1" & 1" w.c. (250 Pa)
- 2 = Maximum Operating Pressure low/high pair: 0.2" & 2" w.c. (500 Pa)
- 3 = Maximum Operating Pressure low/high pair: 0.4" & 5" w.c. (1250 Pa)
- 4 = Maximum Operating Pressure low/high pair: 1" & 10" w.c. (2500 Pa)
- 5 = Maximum Operating Pressure low/high pair: 2" & 20" w.c. (5000 Pa) - **Coming Soon**

G - Channel Two Transducers (requires A = 6 or 8)




- 0 = None (Requires A=2)
- A = Uni-Directional Transducer
- B = Bi-Directional Transducer (measures negative pressure for static pressure measurement devices)* - **Coming Soon**

H = Channel Two Pressure Range (requires A = 6 or 8)

- 0 = None (Requires A=2)
- 1 = Maximum Operating Pressure low/high pair: 0.1" & 1" w.c. (250 Pa)
- 2 = Maximum Operating Pressure low/high pair: 0.2" & 2" w.c. (500 Pa)
- 3 = Maximum Operating Pressure low/high pair: 0.4" & 5" w.c. (1250 Pa)
- 4 = Maximum Operating Pressure low/high pair: 1" & 10" w.c. (2500 Pa)
- 5 = Maximum Operating Pressure low/high pair: 2" & 20" w.c. (5000 Pa) - **Coming Soon**

*Refer to DPT 2500-plus for Bi-Directional Transducers prior to VELTRON III release.

VELTRON III COMPATIBLE SENSORS

	<p>FAN-E Airflow Measuring Station Multi-point, self-averaging, Pitot traverse station with integral air straightner-equalizer honeycomb cell. Capable of continuously measuring fan discharges or ducted airflow with an accuracy of 2% or better.</p> <p>AMCA CERTIFIED in accordance with Standard 610 for airflow measurement station performance.</p>
	<p>VOLU-probe Airflow Traverse Probes & Stations Multi-point, self-averaging, Pitot Fechheimer airflow traverse probes and stations with integral airflow direction correcting design ensures accurate measurement. Various mounting configurations to fit every application.</p> <p>AMCA CERTIFIED in accordance with Standard 610 for airflow measurement station performance.</p>
	<p>VOLU-probe/FI Fan Inlet Probes Multi-point, self-averaging, Pitot Fechheimer airflow probes with integral airflow direction correcting design.</p> <p>For mounting directly in the inlet cones or bellmouth of centrifugal or vane-axial fans to measure fan capacities within 3% of actual flow.</p>
	<p>S.A.P. Static Air Probe Available in four separate mounting configurations, the S.A.P. family of static pressure sensors generate a steady, non-pulsating output of room, space, or plenum pressure.</p> <p>S.A.P. sensors are available in aluminum or stainless steel construction.</p>
	<p>S.O.A.P. Static Outside Air Probe Designed for accurate and instantaneous sensing of outside static air pressure levels.</p>
	<p>STAT-probe Static Pressure Travers Probe measures static pressure in locations having limited straight duct runs with an accuracy of 3% or better.</p>
	<p>Aluminum LO-Flo Flow traverse station that combines honeycomb air straightner-equalizers with proven multi-point, self-averaging Pitot technology to get 2% of actual airflow readings.</p>

