

VELTRON DPT

Ultra-Low Range
Pressure & Flow Transmitter



Accurate airflow measurement for demanding applications



AIR MONITOR
CORPORATION

VELTRON DPT

Performance Specifications

Transmitter

Type.

Differential Pressure, Flow

Accuracy.

±0.5% of Natural Span, including non-linearity, hysteresis, deadband, and non-repeatability.

Ranges.

<u>Natural Spans</u>	<u>Bi-Polar Natural Spans</u>
0 to 25.00 IN w.c.	-10.00 to 10.00 IN w.c.
0 to 10.00 IN w.c.	- 5.00 to 5.00 IN w.c.
0 to 5.00 IN w.c.	- 2.00 to 2.00 IN w.c.
0 to 2.00 IN w.c.	- 1.00 to 3.00 IN w.c.
0 to 1.00 IN w.c.	- 0.50 to 0.50 IN w.c.
0 to 0.50 IN w.c.	- 0.25 to 0.25 IN w.c.
0 to 0.25 IN w.c.	- 0.10 to 0.10 IN w.c.

Stability.

±0.5% of Natural Span for six months.

Vibration Effect.

±0.05% of Natural Span/5G to 60 Hz.

Temperature Effect.

Zero. 0.015% of Natural Span/°F.
Span. 0.015% of Natural Span/°F.

Mounting Position Effect.

Zero shift only; corrected through transmitter manual zeroing.

Span and Zero Adjustment.

Via multi-turn potentiometers located inside the field wiring end cap.

Zero Elevation and Suppression.

Maximum zero elevation. 100% of calibrated span.
Requires an optional bi-polar transducer.
Maximum zero suppression. 60% of calibrated span.

Damping.

Standard. 1.25 seconds to 98% Full Span step.
Adjustable. 0.25 to 10 seconds via socketed resistor.

Overpressure and Static Pressure Limit.

25 psig.

Temperature Limits.

-20 to 180°F Storage.
+32 to 140°F Operating.

Humidity Limits.

0-95% RH, non-condensing.

Indication

Display.

Optional 3½ digit LCD.

Input/Output

Input.

Differential pressure (high and low).

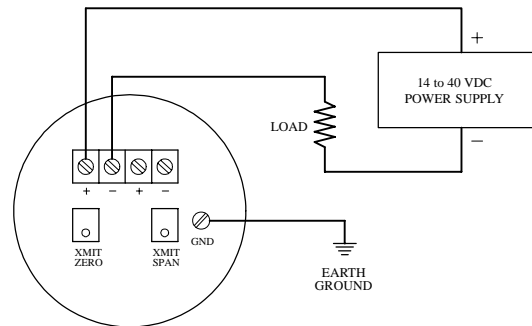
Output.

4-20mA DC, linear to pressure or flow (requires optional square root function).

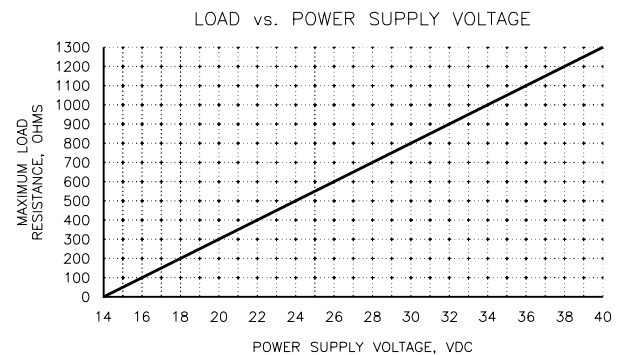
Power

Power Supply.

14-40VDC. Two wire basic configuration.



Load Limitations.

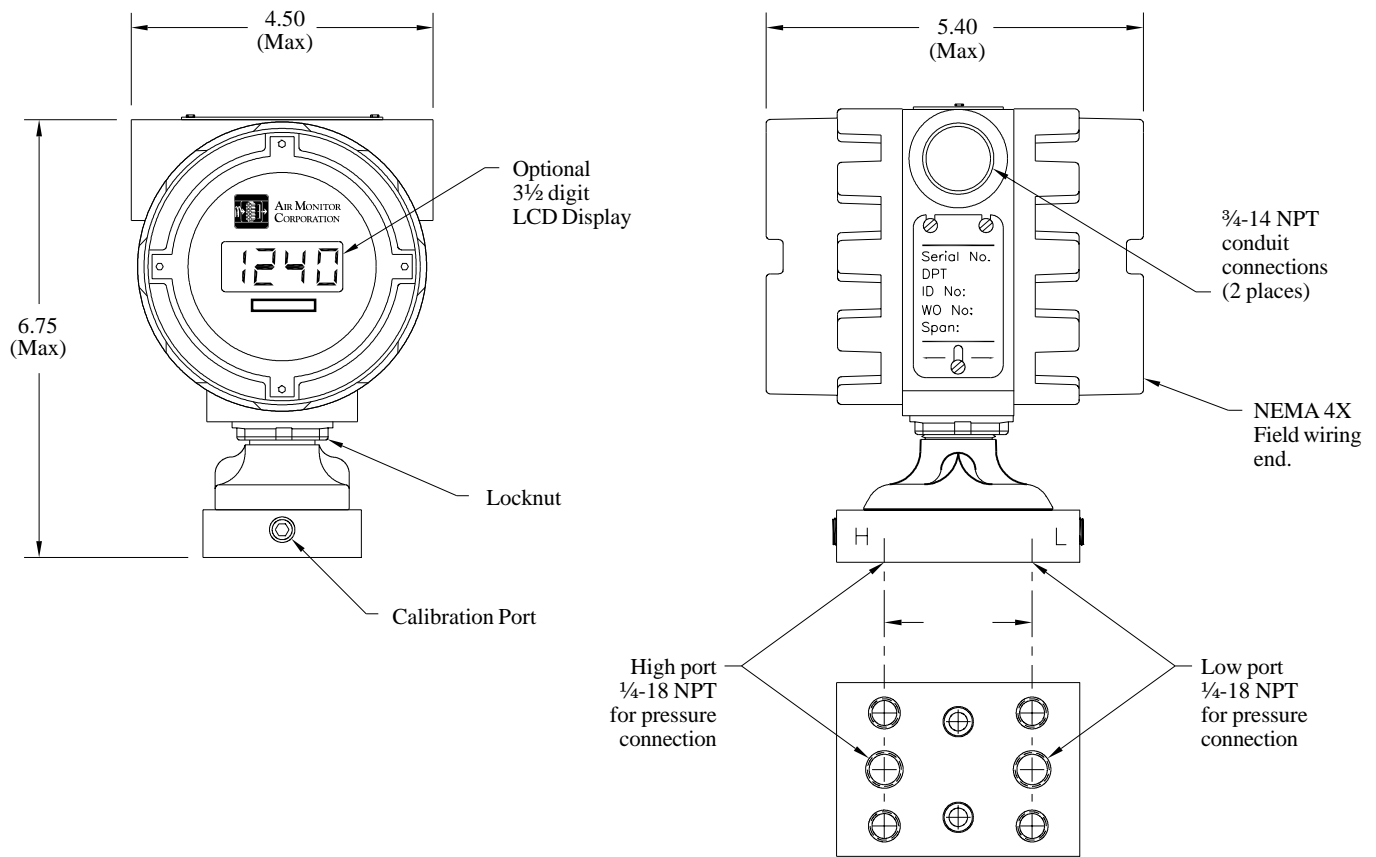


Circuit Protection.

Power input is reverse polarity protected.

Ultra-Low Differential Pressure & Flow Transmitter

Construction Features



Performance Specifications

Accuracy. The VELTRON DPT is designed to maintain an accuracy of $\pm 0.5\%$ of Natural Span. For a span of 0 to 0.10 IN w.c., this is equivalent to an output accuracy of ± 0.0005 IN w.c. differential pressure or ± 6.33 FPM velocity.

Primary Signal Noise Filter. To eliminate background noise and pulsations from the flow signal, the VELTRON DPT is equipped with a user selectable low pass filter.

Square Root Function (optional). When equipped with the square root option, the VELTRON DPT can provide an output signal linear to velocity or volume.

High Turndown Ratio Operation. The VELTRON DPT, with its high level of accuracy, can maintain linear output signals on applications requiring velocity or pressure turndown of 5 to 1.

Continuous Display of Process (optional). The VELTRON DPT can be equipped with a 3 1/2 digit LCD display to provide a continuous readout of the measured process in engineering units (Inches w.c., SCFM, lbs/hr, etc.).

Hazardous Locations. The VELTRON DPT is Factory Mutual and CSA approved for the following:

- Explosion Proof: Class 1, Division 1, Groups B, C, D.
- Dust Ignition Proof: Class II, III, Division 1, Groups E, F, G.
- Suitable for indoor and outdoor NEMA Type 4X hazardous locations.

Enclosure. The VELTRON DPT is packaged in a NEMA Type 4X enclosure with standard industrial process connections.

VELTRON DPT

Physical Specifications

Process Connections. Industry standard ¼"-NPT ports on 2½" centers on bottom of base.

Electrical Connections. Dual ¾" conduit connections. Terminal strip for field wiring and test points.

Electrical Enclosure. NEMA Type 4X aluminum body with Neoprene gaskets.

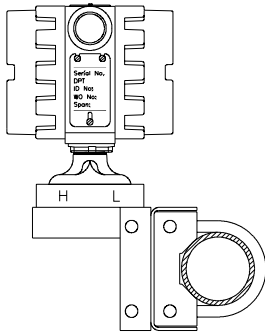
O-Rings. BUNA N.

Paint. Polyurethane with epoxy primer.

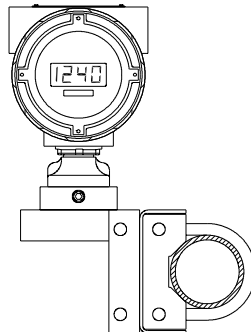
Mounting. Flat and angle mounting brackets for 2" pipe.

Weight. 9.4 lbs.

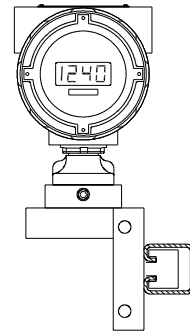
Mounting Configurations with Standard Brackets



Angle Mount to Horizontal Pipe

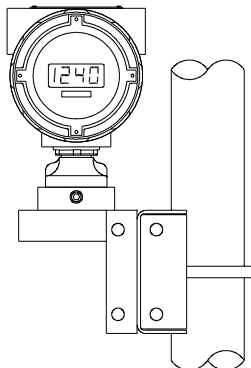


Vertical Mount to Horizontal Pipe

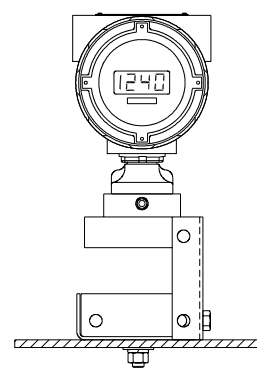


Mount to Horizontal Channel

Note: Mounting bracket kit includes ⅜-16 U-bolt, nuts, and washers for 2" Schedule 40 pipe, plus 4 bolts and washers to attach the transmitter to the mounting bracket.



Vertical Mount to Vertical Pipe



Mount to Flat Surface

Suggested Specification

The transmitter shall be capable of receiving flow signals (total and static pressure) from an airflow station or probe array, and produce an output linear and proportional to static or velocity pressure.

(Optional) The transmitter will include a means of performing an internal square root of the process signal to provide an output signal linear to velocity or volume.

(Optional) The transmitter shall contain an integral LCD capable of indication of the process during normal operating mode.

The transmitter will be available in multiple Natural Spans covering the range of 0.10 IN w.c. to 10.0 IN w.c. with an accuracy of ±0.5% of Natural Span. The transmitter shall be capable of maintaining linear output signals on applications requiring 5 to 1 velocity or pressure turndown.

The transmitter shall be the VELTRON DPT as manufactured by Air Monitor Corporation, Santa Rosa, California.

