NEW 0.25% ACCURACY

VELTRON DPT 2500-*plus*

Microprocessor Based
Ultra-Low Differential Pressure and Flow Transmitter

Accurate airflow measurement for demanding applications

AIR MONITOR CORPORATION

VELTRON DPT 2500-*plus*

with Automatic Zeroing Circuit

The VELTRON DPT 2500-*plus* transmitter is furnished with an automatic zeroing circuit capable of electronically adjusting the transmitter zero at predetermined time intervals while simultaneously holding the transmitter output signal.

The automatic zeroing circuit eliminates all output signal drift due to thermal, electronic or mechanical effects, as well as the need for initial or periodic transmitter zeroing. For transmitters operating in a moderately steady temperature location (thus no thermally induced span drift), this automatic zeroing function essentially produces a "self-calibrating" transmitter. The automatic zeroing circuit will re-zero the transmitter to within 0.1% of its operating span; for a transmitter with a 0.02 IN w.c. operating span, this represents a zeroing capability within 0.00002 IN w.c.

To permit manual calibration of the VELTRON DPT 2500-*plus*, an electronic switch is provided to permit manual positioning of the zeroing valve.

Performance Specifications

Transmitter

Ranges.

Natural Spans	Bi-Polar Natural Spans
0 to 25.00 IN w.c.	
0 to 10.00 IN w.c.	–10.00 to 10.00 IN w.c.
0 to 5.00 IN w.c.	– 5.00 to 5.00 IN w.c.
0 to 2.00 IN w.c.	– 2.00 to 2.00 IN w.c.
0 to 1.00 IN w.c.	– 1.00 to 3.00 IN w.c.
0 to 0.50 IN w.c.	– 0.50 to 0.50 IN w.c.
0 to 0.25 IN w.c.	– 0.25 to 0.25 IN w.c.
0 to 0.10 IN w.c.	– 0.10 to 0.10 IN w.c.
0 to 0.05 IN w.c.	– 0.05 to 0.05 IN w.c.

Accuracy.
0.25% of Natural Span, including non-linearity, hysteresis, deadband, and non-repeatability.

Span Rangeability.
The calibrated span can be down ranged to 40% of the Natural Span.

Stability.
±0.5% of Natural Span for six months.

Transducer Response Time.
0.5 second to reach 98% of a step change.

Temperature Effect.
Zero. None; corrected by AUTO-zero.
Span. 0.015% of Full Span/^{0}F.

Mounting Position Effect.
None; corrected by AUTO-zero.

Span and Zero Adjustment.
Digital, via internally located push-buttons.

Automatic Zeroing.
Accuracy. Within 0.1% of calibrated span.
Frequency. Every 1 to 24 hours on 1 hour intervals.

Low Pass Filtration.
Response time to reach 98% of a step change is adjustable from 0.5 to 250.0 seconds.

Max Zero Elevation.
100% of Natural Full Span. Requires bi-polar transducer.

Max Zero Suppression.
50% of Natural Full Span. Requires bi-polar transducer.

Overpressure and Static Pressure Limit.
25 psig.

Temperature Limits.
–20 to 180^{0}F Storage; +40 to 140^{0}F Operating.

Humidity Limits.
0-95% RH, non-condensing.

Display.
Backlit, graphical LCD providing single line of data display.

Analog Output.
Single transmitter output individually configurable via jumpers for 0-5VDC, 0-10VDC, or 4-20mADC.

Power Supply.
24VAC (16-28VAC) or 24VDC (16-40VDC).

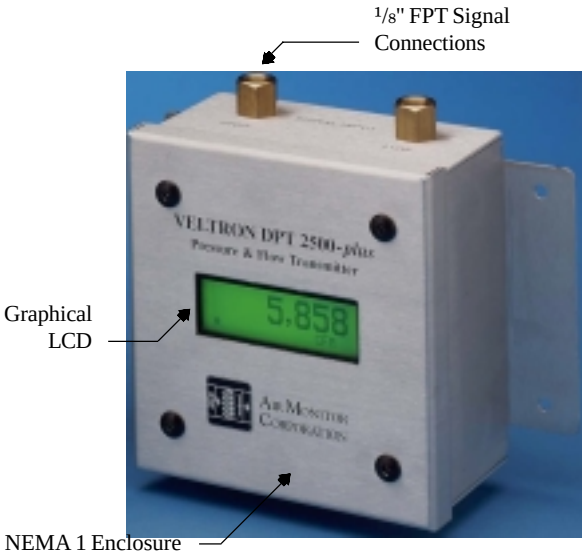
Power Consumption.
8VA at 24VAC; 6VA at 24VDC.

Circuit Protection.
Power input is isolated, fused, and reverse polarity protected.

Ultra-Low Differential Pressure & Flow Transmitter

Construction Features

VELTRON DPT 2500-*plus* – NEMA 12



VELTRON DPT 2500-*plus* – NEMA 1

Features

Accuracy. The VELTRON DPT 2500-*plus* is designed to maintain an accuracy of 0.25% of Natural Span. For a span of 0 to 0.05 IN w.c., this accuracy is equivalent to an output accuracy of ±0.000125 IN w.c. differential pressure or ±0.1.12 FPM velocity at span.

Continuous Display of Process. The VELTRON DPT 2500-*plus* is equipped with a backlit, graphical LCD for use during the configuration and calibration process, and to display the transmitter output during normal operating mode. During normal operation, the LCD displays the transmitter output with 0.45 inch high characters.

Analog Communication. Output signal can be individually configured for 0-5VDC, 0-10VDC, or 4-20mADC by means of jumpers.

Electronic Respanning. The VELTRON DPT 2500-*plus* operating span can be electronically selected anywhere between the Natural Span and 40% of Natural Span, without having to perform recalibration involving an external pressure source.

Primary Signal Noise Filter. To eliminate background noise and pulsations from the flow signal, the VELTRON DPT 2500-*plus* is equipped with a user selectable digital low pass filter.

Microprocessor Based Functionality. The VELTRON DPT 2500-*plus*' on-board microprocessor performs the functions of operating parameter selection, transmitter configuration, input/output and display signal scaling, and transducer calibration.

High Turndown Ratio Operation. The VELTRON DPT 2500-*plus*, with its high level of accuracy and automatic zeroing circuitry, can maintain linear output signals on applications requiring velocity turndown of 10 to 1.

Multiple Operating Power Selections. Standard input power supplied to the VELTRON DPT 2500-*plus* can be either 24VAC or 24VDC via automatic selection.

Enclosure. The VELTRON DPT 2500-*plus* is furnished in a NEMA 1 aluminum enclosure with internal wire terminations. For harsh environments, the VELTRON DPT 2500-*plus* is available with a NEMA 12 steel enclosure with bulkhead signal connection fittings, quick release latch, conduit connection port, and internal tubing, wiring, and terminal strip. The enclosure is also furnished with an oil-resistant gasket and integral mounting plate.

VELTRON DPT 2500-*plus*

Physical Specifications

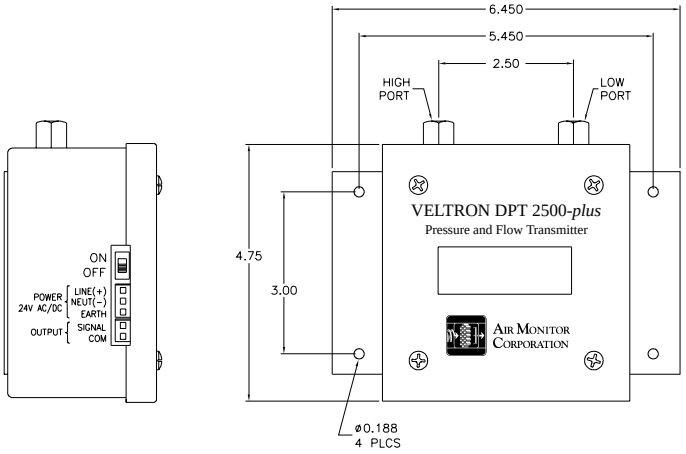
Signal Connections.
High and low pressure, 1/8" FPT.

Electrical Connections.
Internal terminals.

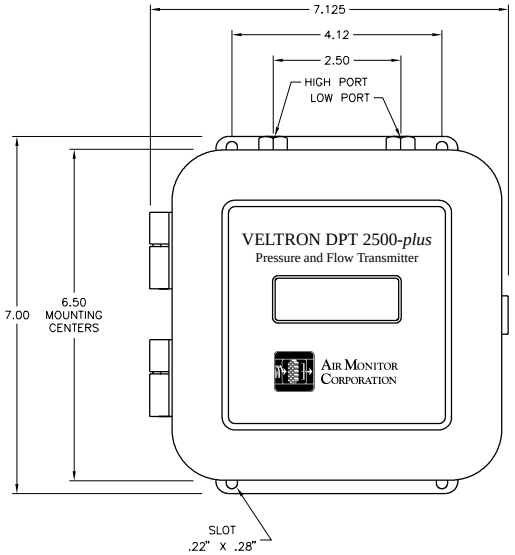
Enclosure.
NEMA 1 aluminum enclosure. NEMA 4 & 12 optional.

Weight.
4.1 lbs.

Dimensional Specifications



VELTRON DPT 2500-*plus* – NEMA 1



VELTRON DPT 2500-*plus* – NEMA 12

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 scaled for air volume, velocity, differential pressure, etc.

The transmitter shall contain an integral multi-line digital display for use during the configuration and calibration process, and to display one transmitter output during normal operating mode. All transmitter configuration, parameter setting, zero and span calibration, plus display formatting and scaling will be performed digitally in the on-board microprocessor via input pushbuttons.

The transmitter will be available in multiple natural spans covering the range of 0.05 IN w.c. to 25.0 IN w.c. with an accuracy of 0.25% of natural span. The transmitter shall be furnished with a transducer automatic zeroing circuit and be capable of maintaining linear output signals on applications requiring 10 to 1 velocity turndown.

The transmitter shall be the VELTRON DPT 2500-*plus* as manufactured by Air Monitor Corporation, Santa Rosa, California.

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AIR MONITOR CORPORATION

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