



## Model DPT 264

### Very Low Differential Pressure Transducer

Unidirectional Ranges: 0 - 0.1 to 0 - 100 in. W.C.

Bidirectional Ranges: 0 -  $\pm 0.1$  to 0 -  $\pm 50$  in. W.C.

Air or non-conducting gas



Setra Systems 264 pressure transducers sense differential or gauge (static) pressure and convert this pressure difference to a proportional electrical output for either unidirectional or bidirectional pressure ranges. The 264 Series is offered with a high level analog 0 to 5 VDC or 4 to 20 mA output.

Used in Building Energy Management Systems, these transducers are capable of measuring pressures and flows with the accuracy necessary for proper building pressurization and air flow control.

The 264 Series transducers are available for air pressure ranges as low as 0.1 in. W.C. full scale to 100 in. W.C. full scale. Static standard accuracy is  $\pm 0.5\%$  full scale in normal ambient temperature environments, but higher accuracies are available. The units are temperature compensated to 0.033% FS/ $^{\circ}$ F thermal error over the temperature range of  $0^{\circ}$ F to  $+150^{\circ}$ F.

The Model 264 utilizes an improved all stainless steel micro-tig welded sensor. The tensioned stainless steel diaphragm and insulated stainless steel electrode, positioned close to the diaphragm, form a variable capacitor. Positive pressure moves the diaphragm toward the electrode, increasing the capacitance. A decrease in pressure moves the diaphragm away from the electrode, decreasing the capacitance. The change in capacitance is detected and converted to a linear DC electrical signal by Setra's unique electronic circuit.

The tensioned sensor allows up to 10 PSI overpressure (in either direction) with no damage to the unit. In addition, the parts that make up the sensor have thermally matched coefficients, which promote improved temperature performance and excellent long term stability.

NOTE: Setra quality standards are based on ANSI-Z540-1. The calibration of this product is NIST traceable.

U.S. Patent nos. 4093915; 4358814; 4434203

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## Applications

- Heating, Ventilating and Air Conditioning (HVAC)
- Energy Management Systems
- Variable Air Volume and Fan Control (VAV)
- Environmental Pollution Control
- Lab and Fume Hood Control
- Oven Pressurization and Furnace Draft Controls

## Benefits

- 10 PSI Overpressure on All Ranges.
- $\pm 0.5\%$  FS Standard Accuracy (Optional  $\pm 0.25\%$  FS Accuracy).
- Installation Time Minimized with Snap Track Mounting and Easy-To-Access Pressure Ports and Electrical Connections.
- 0 to 5 VDC or 2-wire 4 to 20 mA Analog Outputs Are Compatible with Energy Management Systems.
- Reverse Wiring Protection.
- Internal Regulation Permits Use with Unregulated DC Power Supplies.



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800-257-3872

# Model DPT 264 Specifications

## Performance Data

Accuracy* RSS(at constant temp)	±0.5% FS**
Non-Linearity,BFSL	±0.48% FS
Hysteresis	0.10% FS
Non-Repeatability	0.05% FS

### Thermal Effects

Compensated Range °F(°C)	0 to +150 (-18 to +65)
Zero/Span Shift %FS/°F(°C)	0.033 (0.06)
Maximum Line Pressure	10 psi
Overpressure	10 psi in Positive or Negative Direction.

Position Effect	Range	Zero Offset (%FS/G)
(Unit is factory calibrated at 0g effect in the vertical position.)	0 to 0.1 in. WC	.21
	0 to 1.0 in.WC	.22
	0 to 5 in.WC	.14
	0 to 10 in. WC	.12

\* RSS of Non-Linearity,Hysteresis, and Non-Repeatability.  
 \*\*Note: See ordering information below for optional accuracies.

Specifications subject to change without notice.

## Environmental Data

Temperature	
Operating* °F (°C)	0 to +175 (-18 to +79)
Storage °F (°C)	-65 to +250 (-54 to +121)

\* Operating temperature limits of the electronics only. Pressure media temperatures may be considerably higher.

## Physical Description

Case	Fire-Retardant Glass Filled Polyester
Mounting	Four screw holes on removable zinc plated steel base. Designed for 2.75" snap track.
Electrical Connection	Screw Terminal Strip
Pressure Fittings	3/16" O.D. barbed brass pressure fitting for 1/4" push-on tubing.
Zero and Span Adjustments	Accessible on top of case
Weight (approx.)	10 ounces

## Pressure Media

Typically air or similar non-conducting gases.

## Electrical Data (Voltage)

Circuit	3-Wire (Com, Exc, Out)
Excitation	9 to 30 VDC
Output*	0 to 5 VDC**

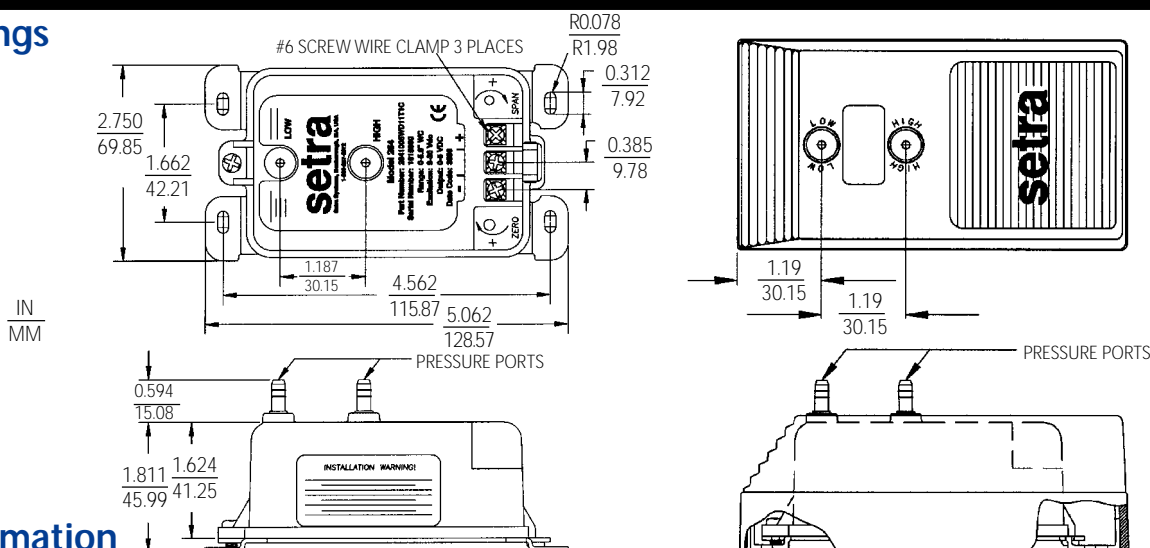
Bidirectional output at zero pressure: 2.5 VDC\*\*  
 Output Impedance 100 Ohms  
 \*Calibrated into a 50K ohm load, operable into a 5000 ohm load or greater.  
 \*\*Zero output factory set to within ±50mV.  
 \*\*\*Span (Full Scale) output factory set to within ±50mV.

## Electrical Data (Current)

Circuit	2-Wire
Output*	4 to 20mA**
Bidirectional output at zero pressure:	12mA**
External Load	0 to 800 ohms
Minimum supply voltage (VDC) = 9+ 0.02 x (Resistance of receiver plus line).	
Maximum supply voltage (VDC) = 30+ 0.004 x (Resistance of receiver plus line).	

\*Calibrated at factory with a 24 VDC loop supply voltage and a 250 ohm load.  
 \*\*Zero output factory set to within ±0.16mA.  
 \*\*Span (Full Scale) output factory set to within ±0.16mA.

## Outline Drawings



## Ordering Information

Input Range (Inches of WC)	Product Codes for ±0.5% Accuracy		Input Range (Inches of WC)	Product Codes for ±0.25% Accuracy	
	0 to 5 VDC Output	4 to 20 mA Output		0 to 5 VDC Output	4 to 20 mA Output
0 to 0.1	DPT2640-OR1D	DPT2641-OR1D	0 to 0.1	DPT2640-OR1D-A	DPT2641-OR1D-A
0 to 0.25	DPT2640-R25D	DPT2641-R25D	0 to 0.25	DPT2640-R25D-A	DPT2641-R25D-A
0 to 0.5	DPT2640-OR5D	DPT2641-OR5D	0 to 0.5	DPT2640-OR5D-A	DPT2641-OR5D-A
0 to 1	DPT2640-001D	DPT2641-001D	0 to 1	DPT2640-001D-A	DPT2641-001D-A
0 to 2.5	DPT2640-2R5D	DPT2641-2R5D	0 to 2.5	DPT2640-2R5D-A	DPT2641-2R5D-A
0 to 5	DPT2640-005D	DPT2641-005D	0 to 5	DPT2640-005D-A	DPT2641-005D-A
0 to 10	DPT2640-010D	DPT2641-010D	0 to 10	DPT2640-010D-A	DPT2641-010D-A
0 to 25	DPT2640-025D	DPT2641-025D	0 to 25	DPT2640-025D-A	DPT2641-025D-A
0 to 50	DPT2640-050D	DPT2641-050D	0 to 50	DPT2640-050D-A	DPT2641-050D-A
0 to 100	DPT2640-100D	DPT2641-100D	0 to 100	DPT2640-100D-A	DPT2641-100D-A
-0.1 to 0.1	DPT2640-OR1B	DPT2641-OR1B	-0.1 to 0.1	DPT2640-OR1B-A	DPT2641-OR1B-A
-0.25 to 0.25	DPT2640-R25B	DPT2641-R25B	-0.25 to 0.25	DPT2640-R25B-A	DPT2641-R25B-A
-0.5 to 0.5	DPT2640-OR5B	DPT2641-OR5B	-0.5 to 0.5	DPT2640-OR5B-A	DPT2641-OR5B-A
-1 to 1	DPT2640-001B	DPT2641-001B	-1 to 1	DPT2640-001B-A	DPT2641-001B-A
-2.5 to 2.5	DPT2640-2R5B	DPT2641-2R5B	-2.5 to 2.5	DPT2640-2R5B-A	DPT2641-2R5B-A
-5 to 5	DPT2640-005B	DPT2641-005B	-5 to 5	DPT2640-005B-A	DPT2641-005B-A

Add DPT-CAL-REPORT for Calibration Certificate

Note: All units provided with a Calibration Certificate