



Model DPT 265

Very Low Differential Pressure Transducer

Ranges: 0.25 to 25 in. W.C./ ± 0.1 to ± 5 in. W.C.
Air or Non-Conducting Gas



Setra Systems 265 pressure transducers sense differential or gauge (static) pressures and convert this pressure difference to a proportional electrical output. The 265 is offered with a high level 0-5 VDC output or a 4-20 mA output. It is also offered with 0-5 or 0-10 VDC output in the 24 VAC excitation version.

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 265 Series very low pressure transducers are available for air pressure ranges as low as 0.25 in. WC full scale up to 25 in. WC full scale. Static accuracy is $\pm 1\%$ full scale in normal ambient temperature environments. The units are temperature compensated to less than $\pm 0.033\%$ FS/ $^{\circ}$ F of thermal error over the temperature range of 0 $^{\circ}$ F to +150 $^{\circ}$ F.

The Model 265 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 micro-tig welded tension sensor allows up to 10 PSI overpressure (in either direction) with no damage to the unit. In addition, the sensor parts have thermally matched coefficients, which promote improved temperature performance and excellent long-term stability.

Pressure Ranges

Unidirectional Pressure	Bidirectional Pressure
0 to 0.25 in. WC	0 to ± 0.1 in. WC
0 to 0.5 in. WC	0 to ± 0.25 in. WC
0 to 1 in. WC	0 to ± 0.5 in. WC
0 to 2.5 in. WC	0 to ± 1 in. WC
0 to 5 in. WC	0 to ± 2.5 in. WC
0 to 10 in. WC	0 to ± 5 in. WC
0 to 25 in. WC	
Proof Pressure for all ranges: 10 PSI	

NOTE: Setra quality standards including ISO 9001 are based on ANSI-Z540-1. The calibration of this product is NIST traceable.

U.S. Patent Nos. 5442962, 6019002, 6014800 and other Patents Pending.

Applications

- Heating, Ventilating and Air Conditioning (HVAC)
- Energy Management Systems
- Variable Air Volume and Fan Control (VAV)
- Environmental Pollution Control
- Static Duct and Clean Room Pressures
- Oven Pressurization and Furnace Draft Controls

Benefits

- 10 PSI Proof Pressure on All Ranges
- 24 VDC or 24 VAC Excitation
- High Level 0-5 VDC, 0-10 VDC or 2-Wire 4-20 mA Analog Outputs Are Compatible with All Energy Management Systems
- Fully Protected Against Reverse Wiring
- Internal Regulation Permits Use with Unregulated DC Power Supplies
- 1% Accuracy Improves Variable Air Volume System Performance.
- Fire Retardant Case (UL 94 V-0 Approved)
- Meets CE Conformance Standards

setra
ISO-9001 Certified

800-257-3872
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Model DPT 265 Specifications

Performance Data

Accuracy RSS^{*}
(at constant temp.) ±1.0% FS

Non-Linearity (BFSL) ±0.98% 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

Warm-up Shift ±0.1% FS Total

Position Effect***

Range	Zero Offset (%FS/G)
To 0.5 in. WC	0.60
To 1.0 in. WC	0.50
To 2.5 in. WC	0.22
To 5.0 in. WC	0.14

*RSS of Non-Linearity, Non-Repeatability and Hysteresis

**Units calibrated at nominal 70°F. Maximum thermal error computed from this datum.

***Unit is factory calibrated at 0g effect in the vertical position.

Environmental Data

Temperature

Operating* °F (°C) 0 to +150 (-18 to +65)

Storage °F (°C) -40 to +185 (-40 to +85)

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

Physical Description

Case Fire Retardant Glass Filled Polyester (UL 94 V-0)

Approved)

Electrical Connection Screw Terminal Strip

Pressure Fittings 1/4" Fitting

Weight 3 ounces

Electrical Data (Voltage)

Circuit 3-Wire (Com, Out, Exc)

Excitation/Output* 9 to 30 VDC/ 0 to 5 VDC**

9 to 30 VAC/ 0 to 5 VDC

12 to 30 VAC/0 to 10 VDC**

Bidirectional output at zero pressure:

2.5 VDC (±50 mV)

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 (±25 mV for optional accuracies).
Span (Full Scale) output factory set to within ±50mV (±25 mV for optional accuracies).

optional accuracies).

Electrical Data (Current)

Circuit 2-Wire

Output* 4 to 20 mA**

Bidirectional output at zero pressure: 12 mA

Electrical Load 0 to 800 Ohms

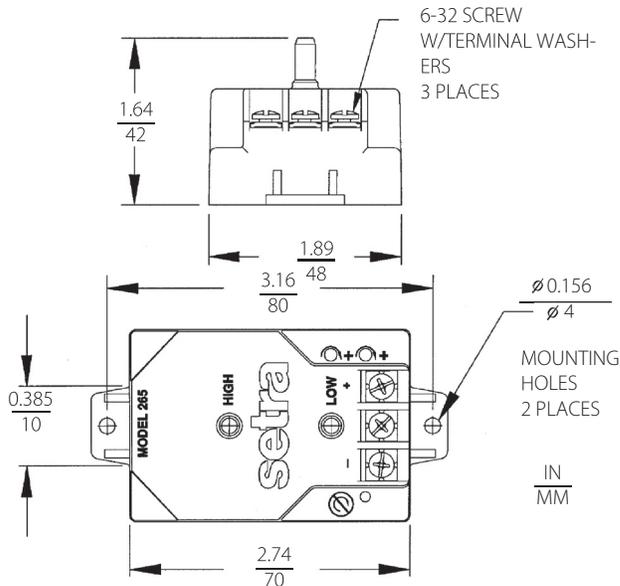
Minimum loop supply voltage (VDC) = 9 + 0.02 x (Resistance of receiver plus line).

Maximum loop 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 (±0.08 mA for optional accuracies).
Span (Full Scale) output factory set to within ±0.16mA (±0.08 mA for optional accuracies).

Specifications subject to change without notice.
Application of some available options may impact standard specifications.

OUTLINE DRAWINGS



ORDERING INFORMATION

Input Range (Inches of WC)	Excitation			
	0-5 VDC	4-20 mA	0-10 VDC/VAC	0-5 VDC/VAC
0 to 0.25	DPT2650-R25D	DPT2651-R25D	DPT2652-R25D-AC	DPT2650-R25D-AC
0 to 0.5	DPT2650-0R5D	DPT2651-0R5D	DPT2652-0R5D-AC	DPT2650-0R5D-AC
0 to 1	DPT2650-001D	DPT2651-001D	DPT2652-001D-AC	DPT2650-001D-AC
0 to 2.5	DPT2650-2R5D	DPT2651-2R5D	DPT2652-2R5D-AC	DPT2650-2R5D-AC
0 to 5	DPT2650-005D	DPT2651-005D	DPT2652-005D-AC	DPT2650-005D-AC
0 to 10	DPT2650-010D	DPT2651-010D	DPT2652-010D-AC	DPT2650-010D-AC
0 to 25	DPT2650-025D	DPT2651-025D	DPT2652-025D-AC	DPT2650-025D-AC
-0.1 to 0.1	DPT2650-0R1B	DPT2651-0R1B	DPT2652-0R1B-AC	DPT2650-0R1B-AC
-0.25 to 0.25	DPT2650-R25B	DPT2651-R25B	DPT2652-R25B-AC	DPT2650-R25B-AC
-0.5 to 0.5	DPT2650-0R5B	DPT2651-0R5B	DPT2652-0R5B-AC	DPT2650-0R5B-AC
-1 to 1	DPT2650-001B	DPT2651-001B	DPT2652-001B-AC	DPT2650-001B-AC
-2.5 to 2.5	DPT2650-2R5B	DPT2651-2R5B	DPT2652-2R5B-AC	DPT2650-2R5B-AC
-5 to 5	DPT2650-005B	DPT2651-005B	DPT2652-005B-AC	DPT2650-005B-AC
0 to 25 with Conduit Enclosure				DPT2650-2R5DACC