

Model 760 Vactron™ Series Capacitance Manometer - Absolute Pressure Transducer

Gases Compatible with Inconel® or Inconel/Stainless Steel

Absolute Pressures: 0 - 1 to 0 - 1000 Torr, 0 - 1 to 0 - 1000 mbar/hPa
0 - 02 to 0 - 20 psia, 0 - 02 to 0 - 100 kPa



Setra's Vactron Model 760 capacitance manometer is an absolute pressure transducer designed for accurate and repeatable vacuum measurements. Various full scale ranges are available from 1 Torr up to 1000 Torr. The units of measurement can be specified in Torr, mBar/hPa, kPa or psia.

The Model 760 operates from a ± 15 VDC power supply and provides a 0-10 VDC or 0-5 VDC signal output that is linear with pressure and independent of gas composition. The electrical connection can be either the industry standard 15 pin D-sub or 6 position terminal strip connector.

Superior EMI/RFI performance is achieved by the use of a metal case, in conjunction with surge and ESD suppression components and RFI filtering on the inputs and outputs. The Model 760 has an integrated sliding cover that provides easy access to multi-turn potentiometers for fine zero and span adjustments. Inconel® is used for all wetted materials allowing the Model 760 to be used with corrosive gases. A wide range of pressure and vacuum fittings are available.

The high accuracy pressure sensing element used in the Model 760 is the Vactron™ sensor, which has been developed from Setra's patented variable capacitance sensor. A centrally located feed-through assembly supports a circular electrode in close proximity to the back surface of the diaphragm. Together the electrode and diaphragm form a variable capacitor within a small reference vacuum chamber maintained at very low pressure. As the pressure increases, the diaphragm deflects and the gap between the electrode and diaphragm decreases, causing an increase in the capacitance. This change in capacitance is detected and converted to a highly accurate linear DC electronic signal by Setra's unique custom integrated circuit, which utilizes a patented charge balance principle.

Excellent zero stability and barometric insensitivity are achieved through an innovative sensor design. The Model 760 sensor contains no fragile or complex parts found in similar ceramic based capacitance manometers.

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

U.S. Patent nos. 4093915

Inconel is a registered trademark of Special Metal Corporation, Huntington, WV, USA.

Applications

- Semiconductor Process Tools and Equipment
- Laboratory and R&D
- Test and Measurement
- Metrology
- Analytical Chemistry Systems

Benefits

- Excellent Thermal Stability
- Superior EMI/RFI Performance
- Low Cost
- Small/Compact Size
- Inconel® Wetted Parts for Corrosion Resistance
- Various Fittings and Electrical Connections
- Meets CE Conformance Standards

*When it comes to a product to rely on - choose the Model 760.
When it comes to a company to trust - choose Setra*



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800-257-3872

Model 760 Specifications

Performance Data

Accuracy	
Code A	±0.25% of reading
Code B	±0.15% of reading*

*1 Torr range only available with ±0.25% of reading.

Thermal Effects

Compensated Range °C(°F)	0 to +50 (+32 to +122)
Zero Shift	±0.005% FS/°C
Span Shift	±0.027% Rdg/°C

Thermal Effects (1 Torr Range)

Compensated Range °C(°F)	0 to +50 (+32 to +122)
Zero Shift	±0.015% FS/°C
Span Shift	±0.010% FS/°C

Resolution Infinite, limited only by output noise level (0.01% FS)

Proof Pressure	45 psia
Time Constant	<20 ms

Environmental Data

Temperature	
Operating	0 to +50 °C
Storage	-40 to +80 °C

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

Physical Description

Case	Aluminum Alloy
Electrical Connection	15 pin D-sub Connector or 6 Position Screw Terminal
Pressure Fittings	See Ordering Information
Cavity Volume ¹	<6 cm ³
Zero/Span Adjustments	Multi-Turn Potentiometers (Located under sliding cover.)
Weight	260 grams (9 oz.)

1. Maximum cavity volume includes the 0.5" OD tube volume of 4.28 cm.

Electrical Data

Circuit	4-Wire
Excitation	±15 VDC regulated ±5%
Output*	0-10 VDC or 0-5 VDC
Power Consumption	<0.5 Watts (<15 mA)

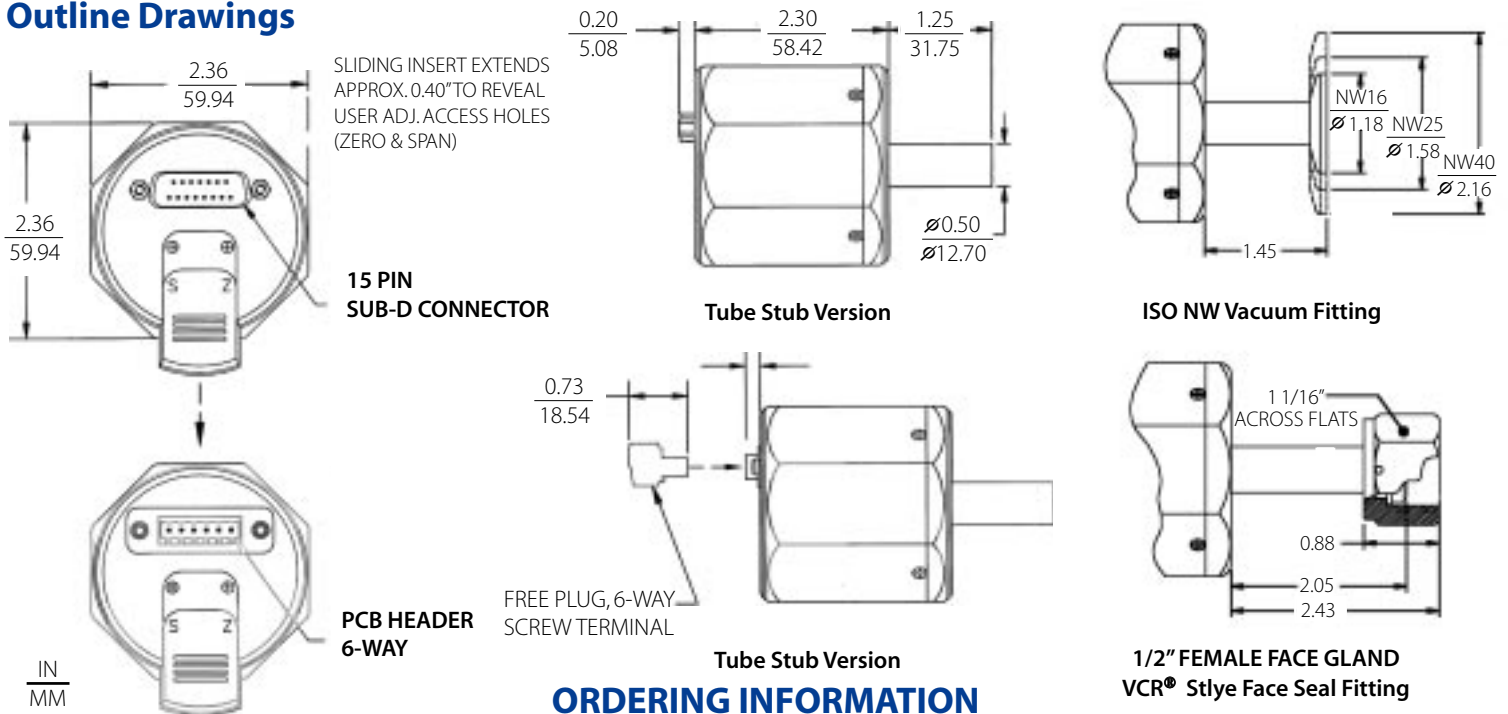
*Calibrated into a 50K ohm load, operable into a 10000 ohm load or greater.

Pressure Media

Gases compatible with Inconel® or Inconel/Stainless Steel. Inconel wetted material is for 0.5" tube option only. Other fitting options will add Stainless Steel.

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

Outline Drawings



ORDERING INFORMATION

Code all blocks in table.

Example: Part No. 7601010TAN17CD2A for a 760 Transducer, 10 Torr Range, ISO NW16 Fitting, 0 to 10 VDC Output, 15 pin D-sub Connector with ±0.25% Reading Accuracy.

7	6	0	1	-		-	A	-		-		-		-		
Model 7601 = 760					Pressure Range			Absolute	Type of Fitting			Output		Electrical Connection		Accuracy Standard
					001T = 1 Torr* 010T = 10 Torr 020T = 20 Torr 100T = 100 Torr 10CT = 1000 Torr 001M = 1 Millibar/hPa* 010M = 10 Millibar/hPa 100M = 100 Millibar/hPa 10CM = 1000 Millibar/hPa R02P = .02 PSIA* 002P = 2 PSIA 020P = 20 PSIA 0R1K = 0.1 kPa* 001K = 1 kPa 010K = 10 kPa 100K = 100 kPa				4T = 0.5" OD Tube N1 = ISO NW16 N2 = ISO NW25 N4 = ISO NW40 D8 = 8 VCR®, Female swivel Optional 17 = Mini Conflat® 18 = 2.75" Conflat® 4S = 0.50 Swagelok® T6 = Tri-clover 1.50"			7C = 0-10 VDC 7B = 0-5 VDC		D2 = 15 pin D-sub T2 = 6 Position Screw Terminal		A = ±0.25% of reading Optional B = ±0.15% of reading
Note: VCR and Swagelok are registered trademarks of Swagelok Marketing Co., Solon, OH. Conflat is a registered trademark of Varian Associates, Lexington, MA. Inconel is a registered trademark of Inco-Alloys International Inc., Huntington, WV.																

*Note: Order with ±0.25% of Reading, only.

Please contact factory for versions not shown.

While we provide application assistance on all Setra products both personally and through our literature, it is the customer's responsibility to determine the suitability of the product in the application.

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