

Model 266

Low Differential Pressure Transducer

Available in Pascal and Inches of WC Ranges
Air or Non-Conducting Gas



Setra Sensing 266 pressure transducers sense differential or gauge (static) pressure and converts this pressure difference to a proportional electrical output. The 266 is offered with a high level 0-10 VDC and 0 -5 VDC output or a 4-20 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 266 Series very low pressure transducers are available for air pressure ranges as low as 0 to ± 50 Pa full scale up to 5 kPa full scale. Static accuracy is $\pm 1\%$ full scale in normal ambient temperature environments. The units are temperature compensated to less than $\pm 0.06\%$ FS/ $^{\circ}$ C ($\pm 0.033\%$ FS/ $^{\circ}$ F) of thermal error over the temperature range of -18 to $+65$ $^{\circ}$ C (0° F to $+150^{\circ}$ F).

The Model 266 utilizes an 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 69 kPa overpressure (in either direction) with no damage to the unit. In addition, the sensor parts have matched thermal coefficients, which promote improved temperature performance and excellent long-term stability.

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

Pascals		Pressure Ranges		Inches of WC	
Unidirectional Pressure	Bidirectional Pressure	Unidirectional Pressure	Bidirectional Pressure	Unidirectional Pressure	Bidirectional Pressure
0 to 50 Pa	0 to ± 50 Pa	0 to 0.25 in. WC	0 to ± 0.25 in. WC	0 to 0.25 in. WC	0 to ± 0.25 in. WC
0 to 100 Pa	0 to ± 100 Pa	0 to 0.5 in. WC	0 to ± 0.5 in. WC	0 to 0.5 in. WC	0 to ± 0.5 in. WC
0 to 250 Pa	0 to ± 250 Pa	0 to 1 in. WC	0 to ± 1 in. WC	0 to 1 in. WC	0 to ± 1 in. WC
0 to 500 Pa	0 to ± 500 Pa	0 to 2.5 in. WC	0 to ± 2.5 in. WC	0 to 2.5 in. WC	0 to ± 2.5 in. WC
0 to 1000 Pa	0 to ± 2500 Pa	0 to 5 in. WC	0 to ± 5 in. WC	0 to 5 in. WC	0 to ± 5 in. WC
0 to 2500 Pa		0 to 10 in. WC	0 to ± 10 in. WC	0 to 10 in. WC	0 to ± 10 in. WC
0 to 5000 Pa		0 to 25 in. WC		0 to 25 in. WC	

Contact your Local Setra Distributor for Technical Assistance
or Call Setra at +1-978-263-1400

Applications

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

Benefits

- 24 VDC/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 Retardent Case (UL 94 V-0 Approved)
- Meets CE Conformance Standards



Model 266 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 °C(°F)	-18 to +65 (0 to +150)
Zero/Span Shift %FS/°C(°F)	±0.06 (±0.033)
Maximum Line Pressure	69 kPa

Overpressure (DP on either side):

Range	Overpressure
<250 Pa	14 kPa
250 up to 625 Pa	35 kPa
>625 Pa	69 kPa

Warm-up Shift ±0.1% FS Total

Position Effect***

Range	Zero Offset (%FS/G)
To 250 Pa	0.6
To 1.3 kPa	0.14
To 7.5 kPa	0.06

*RSS of Non-Linearity, Non-Repeatability and Hysteresis
 **Units calibrated at nominal 20°C. Maximum thermal error computed from this datum.

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

Environmental Data

Temperature	
Operating °C (°F)	-18 to +65 (0 to +150)
Storage °C (°F)	-40 to +85 (-40 to +185)

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

Physical Description

Case	Fire Retardent Glass Filled Polyester (UL 94 V-0 Approved)
Electrical Connection	Screw Terminal Strip
Pressure Fittings	6.2 mm
Weight	150 grams (5.3 oz.)

Electrical Data (Voltage)

Circuit	3-Wire (Com, Out, Exc)
Excitation/Output*	12 to 30 VDC/VAC / 0 to 10 VDC**
	9 to 30 VDC/VAC / 0 to 5 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).

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).	

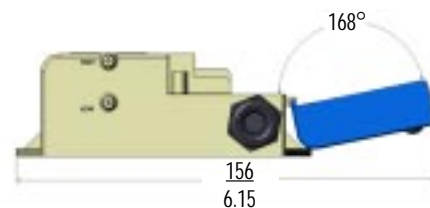
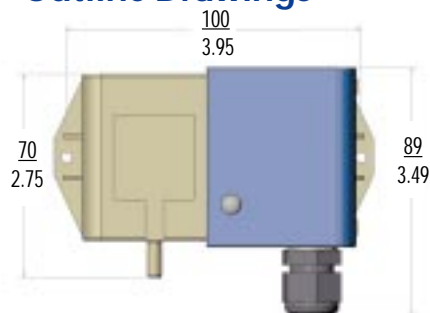
*Calibrated at factory with a 24 VDC loop supply voltage and a 250 ohm load.
 **Zero output factory set to within ±0.16mA (±0.08 mA for optional accuracies).
 Span (Full Scale) output factory set to within ±0.16mA (±0.08 mA for optional accuracies).

Pressure Media

Typically air or similar non-conducting gases.

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. 2661100LD11T1C for a 266 Transducer 0 to 100 Pa Range, Unidirectional, 4 to 20 mA Output, Terminal Strip Electrical Connection, and ±1%

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Model 2661 = 266		Ranges		Excitation/Output		Elec. Termination		Accuracy
		<u>Pascals</u>		AC = 24 VDC/VAC / 0-10 VDC		T1 = Terminal Strip		C = ±1% FS
		050LD = 0 to 50	050LB = 0 to ±50	AB = 24 VDC/VAC / 0-5 VDC				
		100LD = 0 to 100	100LB = 0 to ±100	11 = 24 VDC / 4-20 mA				
		250LD = 0 to 250	250LB = 0 to ±250					
		500LD = 0 to 500	500LB = 0 to ±500					
		10CLD = 0 to 1000	10CLB = 0 to ±1000					
		25CLD = 0 to 2500	25CLB = 0 to ±2500					
		50CLD = 0 to 5000						
		<u>Inches of WC</u>						
		025WD = 0 to 0.25	025WB = 0 to ±0.25					
		005WD = 0 to 0.5	005WB = 0 to ±0.5					
		001WD = 0 to 1	001WB = 0 to ±1					
		250WD = 0 to 2.5	250WB = 0 to ±2.5					
		50CWD = 0 to 5	50CWB = 0 to ±5					
		10CWD = 0 to 10	10CWB = 0 to ±10					
		25CWD = 0 to 25						
		D = Unidirectional						
		B = Bidirectional						

Please contact your Local Setra Distributor 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.