

**HIGHER  
ACCURACY  
&  
PERFORMANCE**

## Model 269

### Very Low Differential Pressure Transducer High Performance Applications

Unidirectional Range: 0 - 0.1 to 0 - 10.0 in. W.C.

Bidirectional Range:  $\pm 0.05$  to  $\pm 5.0$  in. W.C.

Air or Non-Conducting Gas

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Setra Systems Model 269 pressure transducers sense differential pressure and convert this pressure difference to a proportional electrical output for either unidirectional or bidirectional pressure ranges. The 269 Series is offered with a 4 to 20 mA analog output.

Designed specifically for high performance applications, these transducers are capable of measuring pressures and flows at greater resolutions in critical environments.

The 269 Series transducers are available for air pressure ranges as low as 0.1 in. W.C. full scale. Static standard accuracy is  $\pm 0.25\%$  full scale (terminal-based) in normal ambient temperature environments. The units can be temperature compensated to 0.01% FS/ $^{\circ}$ F thermal error over the temperature range of 20 $^{\circ}$ F to +140 $^{\circ}$ F.

The Model 269 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 2 PSI over-pressure (range dependent) with no damage to the unit. In addition, the parts that make up the sensor have matched thermal coefficients, which promote improved temperature performance and excellent long-term stability.



## Applications

- Critical Environments
- Clean Rooms
- Isolation Rooms
- Room Pressure Monitoring
- Environmental Pollution Control

## Features

- Installation Time Minimized with Din Rail Mounting and Easy-to-Access Pressure Ports and Electrical Connections
- Removable Process Heads Eliminates the Need to Cut Tubes for Easier Installation
- Detachable Terminal Block so Field Wiring Can Remain In-Situ During Calibration
- Calibration Secure - Calibration Key for Making Zero and Span Adjustments
- 2-Wire 4 to 20 mA Analog Output Compatible with Energy Management Systems
- Reverse Wiring Protection
- Internal Regulation Permits Use with Unregulated DC Power Supplies
- Fire Retardant Case (UL 94 V-0 Approved)
- Calibration Certs Available
- 2:1 Turndown Ratio Available
- Meets CE Conformance Standards

**ISO  
9001:  
2000  
Certified**

# Model 269 Specifications

## Performance Data

Accuracy Class (FS)	Code	V	E	G
(at constant temp)		±0.25%	±0.50%	±1.00%
Non-Linearity (Terminal)		±0.15%	±0.35%	±0.75%
(BFSL based)		±0.10%	±0.25%	±0.55%
Hysteresis		±0.05%	±0.05%	±0.10%
Non-Repeatability		±0.05%	±0.05%	±0.05%
Zero Setting Tolerance		±0.04mA	±0.08mA	±0.12mA
Span Setting Tolerance		16±.04mA	16±.08mA	16±.12mA

### Thermal Effects\*

Compensated Range °F	20 to +140
Zero/Span Shift %FS/°F	0.01% 0.02% 0.02%
Maximum Line Pressure	10 psi
Overpressure	Up to 2 psi i(Range Dependent)
Long Term Stability	0.5% FS/1 YR

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

## Performance Data (Cont'd)

Zero Offset	
Position Effect	Range (%FS/G)
(Unit is factory calibrated at 0g effect in the vertical position.)	To 1.0 in. WC 2.50
	To 0.5 in. WC 1.00
	To 1.0 in. WC 0.50
	To 2.5 in. WC 0.22
	To 5.0 in. WC 0.14

## Environmental Data

Temperature	
Operating °F	-20 to +160
Storage °F	-40 to +185

## Physical Description

Case	Fire-Retardant ABS
Mounting	Base Mount or 35mm Din Rail
Electrical Connection	Detachable Screw Terminal Connector
Pressure Fittings	3/16" O.D. Barbed Brass Fittings on Removable Process Head
Zero and Span Adjustments	External Security Key

## 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) = 13.5+ 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.

## Pressure Media

Typically air or similar non-conducting gases.

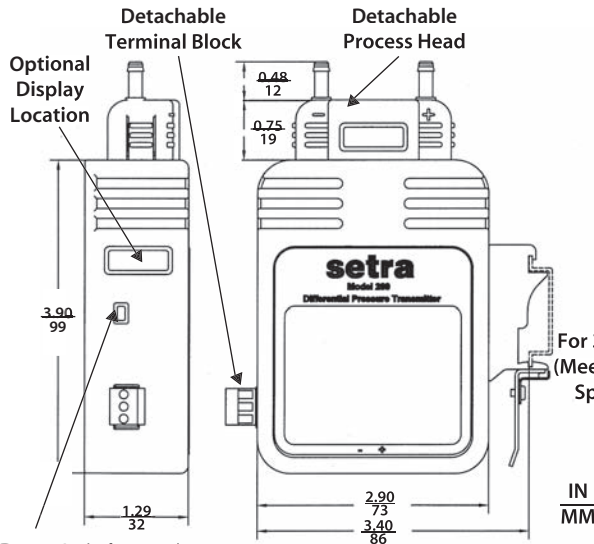
Specifications subject to change without notice.

## Outline Drawings

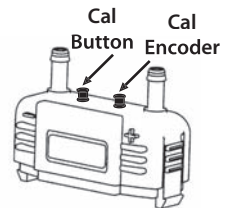
Base Mount Version



Din Rail Version



Security Cal Key



Security Key Accessory  
PN 269425-02  
Needed to Calibrate Transducer

For 35mm Din Rail  
(Meeting EN-50022  
Specifications)

IN  
MM

Optional Turn-Down Switch Location

### Code all blocks in table.

Example: Part No. 26912R5WD11BNGN for a 269 Transducer 0 to 2.5 in. WC Range, 4 to 20 mA Output, Base Mount, No Display, ±1% Accuracy with No Turndown.

2	6	9	1	—	—	—	—	—	—	—	—
Model				Ranges		Output	Mounting Configuration	Display	Accuracy Class	Turndown	
2691 = 269				Differential		11 = 4-20 mA	B = Base Mount D = Din Rail Mount	D = With Display N = No Display	V = ±0.25% FS E = ±0.50% FS G = ±1.0% FS	A = 2 x 1 N = None	
				Bidirectional							
				R05WB = ±0.05 in. WC							
				R01WB = ±0.1 in. WC							
				R25WB = ±0.25 in. WC							
				R05WB = ±0.5 in. WC							
				R01WB = ±1 in. WC							
				R15WB = ±1.5 in. WC							
				R25WB = ±2.5 in. WC							
				R05WB = ±5 in. WC							
				R15LB = ±15 Pa							
				R25LB = ±25 Pa							
				R05LB = ±50 Pa							
				R100LB = ±100 Pa							
				R250LB = ±250 Pa							
				R500LB = ±500 Pa							
				R001KB = ±1 kPa							
				R25KD = 0 to 2.5 kPa							

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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