Model 205

Gauge & Absolute Pressure Transducer

Setra' s Model 205 is a high accuracy transducer for measuring gauge, absolute and compound pressure offering superior performance at an affordable price. Its single piece machined capacitance sensor enables accuracies up to ±0.073% FS giving the 205 superior linearity to competitive sensors that use two-piece welded sensing elements. The 205's compact design offers customers a space saving solution for measuring pressure in Test and Measurement applications. The 205 has standard pressure ranges from 25 PSI to 5,000 PSI to cover the most common pressure sensing applications.

High Accuracy For Demanding Applications

The Model 205 pressure transducer's variable capacitance design uses a single piece machined sensor, eliminating failures from insufficient welds. The sensor is linearized and thermally compensated during manufacturing to optimize the sensor's linearity for maximum accuracy in demanding Test & Measurement and OEM applications.

Small Footprint

The Model 205's design offers high performance in a small package. The sensor is only 1.75" wide by 2" tall, allowing OEMs and test stand engineers to reduce the overall design footprint of the end product.

High Performance Sensor

The Model 205 offers high price-to-performance sensor for measuring absolute pressure. The simple configurable design enables the transducer to be configured for an absolute reference by adding a hermetically sealed pressure reference cap to the existing sensor design, allowing the price to remain affordable without sacrificing quality.

- **High Price-to-Performance Ratio**
- **Fast Dynamic Response**
- **Excellent Stability**

Model 205 Features:

- ±0.073% FS Accuracy
- 5 VDC Output
- High Cycle Life
- Fast Response, Less than 1 ms
- Solid One-Piece Stainless Steel Sensor
- Fast Warm-Up
- Meets CE Conformance Standards

Applications:

- High Accuracy General Purpose
- R&D Test and Measurement
- Dynamometers
- Engine Test Cells

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ORDERING INFORMATION

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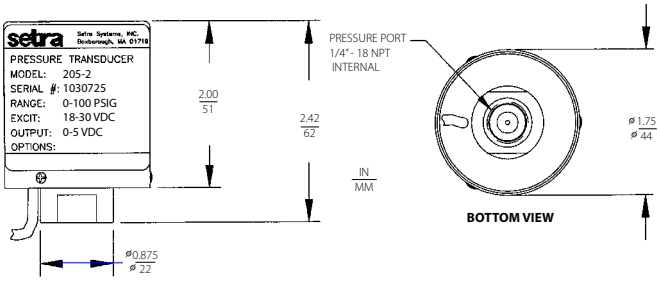
Model	Pressure Range		Units		Pressure Type		Fitting		Output		Termination		Accuracy		Options[2]	
2051=Model 205	025	25 PSI	P	PSI	G	Gauge	2F	1/4" NPT Internal	2B	0 to 5 VDC	02	2' Cable	W	±0.11% FS	NN	None
	050	50 PSI			A	Absolute			27	1 to 5 VDC	10	10' Cable	9[1]	±0.073%	C	11 PT Cal. Certificate
	100	100 PSI									25	25' Cable			D	Mate with Datum
	250	250 PSI									XX	Consult factory for other lengths			F	Nema 4 Enclosure
	500	500 PSI													L	Etched SS Tag
	10C	1000 PSI													Y	Clean for Oxygen SVC
	30C	3000 PSI													3	-65 to 250 °F Compensated Range
	50C	5000 PSI														

[1]Option 710
[2]Both boxes must filled in alphabetical order:
- If No options: N + N
- If 1 option: Option Code + N
- If 2 options: Option Code + Option Code

Ordering Example: 2051025PG2F2B02WNN - Model 205, 0 to 25 PSI, Gauge pressure, 1/4" NPT Internal fitting, 0 to 5 VDC output, 2' Cable Length, ±0.11% FS Accuracy, no options.

DIMENSIONS



PROOF PRESSURE

Standard Pressure Ranges (PSI)	Proof Pressure (PSI)	Burst Pressure Rating (PSI)	Approx. Natural Frequency
0-25	50	150	2.0
0-50	75	200	2.5
0-100	150	500	3.5
0-250	375	1000	5.0
0-500	750	1500	8.0
0-1000	1250	3000	11.0
0-3000	3750	4500	15.0
0-5000	6000	7500	25.0

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

GENERAL SPECIFICATIONS

Performance Data		Physical Description	
Accuracy RSS [1] (at constant temperature)	±0.11% FS	Case	Stainless Steel
Non-Linearity, (BFSL)	±0.10% FS	Electrical Connection	2ft. Multiconductor Cable
Hysteresis	0.05% FS	Pressure Fitting	1/4" - 18 NPT Internal
Non-Repeatability	0.02% FS	Weight	4 ounces
Thermal Effects [2]		**Environmental Data**	
Compensated Range °F(°C)	+32 to +150 (0 to +650)	Temperature	
Zero Shift %FS/°F (%FS/°C)	±0.02 (±0.036)	Operating °F(°C) [4]	0 to +175 (-18 to +79)
Span Shift %FS/°F (%FS/°C)	±0015 (±0.027)	Storage °F(°C)	-65 to +250 (-54 to +121)
Warm-Up Shift	0.5% FS (0.1% FS residual shift after 5 minutes)	Vibration	2g from 5 Hz to 500 Hz
Response Time	1 Millisecond	Shock	50g
Static Acceleration Effect	0.05 psig	Accceleration	10g Maximum
Pressure Media		**Available Options**	
Gases or liquids compatible with 17-4 PH and 15-5 PH Stainless Steel.[3]		Elelctrical Options	
Electrical Data (Voltage)		Option #602	Special Output 1-5 VDC
Circuit	4-Wire (+Exc, -Exc, +Out, -Out)	Performance Options	
Excitation	18 to 30 VDC	Option #702	Extended Compensated Temperature -65°F to +250°F (-55°C to +121°C). Results in 2x the standard thermal effect error.
Output [5]	0 to 5 VDC [6]		
Output Impedance	400 ohms		
Output Noise	100 Microvolts RMS (0 Hz to 10 KHz)	Mechanical Options	
		Option #803-#825	Up to 25 ft. of cable can be supplied. Specify cable length when ordering (i.e. 805 for 5 ft. cable). Consult factory for cable lengths longer than 25 ft.
		Option #865	NEMA4 Weatherproof Enclosure
		Calibration Certificate Option	
		Option #901	11-Point Calibration Certificate

[1] RSS of Non-Linearity, Hysteresis and Non-Repeatability.
[2] Units calibrated at nominal 70°F. Maximum thermal error is computed from this datum.
[3] Hydrogyn not recommended for use with 17-4 PH or 15-5 PH Stainless Steels.
[4] Operating temperature limits of the electronics only. Pressure media temperatures may be considerably higher or lower.
[5] Calibrated into a 50K ohm load.
[6] Zero output factory set to within ±50mV. Span (Full Scale) output factory set to within ±50mV.
NOTE: Both output leads are nominally 1.6 VDC above the negative excitation lead at zero pressure. Either negative excitation or negative output should be connected to case (ground). But both leads cannot be connected to case (ground). Unit is calibrated at the factory with the negative excitation connected to case (ground).

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