

Model 280

Gauge, Compound & Absolute Pressure Transducer

Setra's Model 280 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 $\pm 0.073\%$ FS giving the 280 superior linearity to competitive sensors that use two-piece welded sensing elements. The 280's design offers customers a low-cost solution for measuring absolute pressure in Test and Measurement applications. The slim design and simple electrical interface allow users to install the unit in many difficult applications. The Model 280 has standard pressure ranges from 25 PSI to 10,000 PSI, including a 3 PSI to 15 PSI range for drop-in replacement for existing pneumatic systems.

High Accuracy For Demanding Applications

The Model 280 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 applications.

Low Cost Absolute Sensor

The Model 280 is Setra's highest 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 for an affordable price without sacrificing quality.

P/I Pressure Range

The Model 280 is Setra's only sensor that offers a 3 PSI to 15 PSI pressure range. This range allows users to drop in the Model 280 into legacy pneumatic systems without the need to alter the existing system, saving both design and installation time on the job.



- High Price-to-Performance Ratio
- Rugged Enough For Harsh Applications
- Stainless Steel Wetted Materials

Model 280 Features:

- $\pm 0.073\%$ FS Accuracy
- High Level Output: 0-5 VDC or 4-20 mA
- Solid Stability For Confident Installations
- Exceptional EMI/RFI Performance Prevents False Shutdown
- User Accessible Zero and Span Adjustments

Applications:

- High Pressure
- General Purpose
- P/I Process Signals
- Hydraulics and Pneumatics

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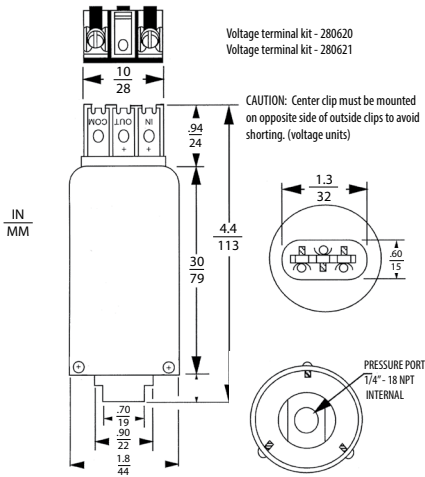
ORDERING INFORMATION

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Model	Pressure Range		Pressure Type		Fitting	Output	Termination	Accuracy	Options ²	
280E= Model 280	015	0 to 15 PSI	001B	0 to 1 Bar	G Gauge	2F 1/4" NPT Female	11 4 to 20 mA	T1 Terminal Strip	W ±0.11% FS 9' ±0.73%	NN None C 11 Point Cal Cert Y Clean For Oxygen
	025P	0 to 25 PSI	1R6B	0 to 1.6 Bar	C Compound		25 0.03 to 5.03 VDC (24 VDC EXC)			
	050P	0 to 50 PSI	004B	0 to 4 Bar	A Absolute		3S 0.03 to 5.03 VDC (12 VDC EXC)			
	100P	0 to 100 PSI	006B	0 to 6 Bar	¹ Not available in 10,000 PSI ² Both boxes must be filled in alphabetical order: • If No options: N + N • If 1 option: Option Code + N • If 2 options: Option Code + Option Code					
	200P	0 to 200 PSI	010B	0 to 10 Bar						
	250P	0 to 250 PSI	016B	0 to 16 Bar						
	500P	0 to 500 PSI	025B	0 to 25 Bar						
	10CP	0 to 1,000 PSI	040B	0 to 40 Bar						
	30CP	0 to 3,000 PSI	060B	0 to 60 Bar						
	50CP	0 to 5,000 PSI	100B	0 to 100 Bar						
	10KP	0 to 10,000 PSI	160B	0 to 160 Bar						
	ZQ2	3-15 PSI	250B	0 to 250 Bar						
			400B	0 to 400 Bar						

Ordering Example: 280E025PG2F11T1WC - Model 280E, 0 to 25 PSIG, Gauge pressure, 1/4" NPT Female fitting, 4 to 20 mA output, Terminal Strip, ±0.11% FS Accuracy, 11 Point Cal Cert option

DIMENSIONS



GENERAL SPECIFICATIONS

Performance Data		Physical Description	
Accuracy RSS ¹ (at constant temperature)	±0.11% FS	Pressure Fittings	See Ordering Information
Non-Linearity, (BFSL) 25 psig range ²	±0.1% FS ±0.2% FS	Vent	Through strip terminal
Hysteresis	0.08% FS	Electrical Connection	3-Pos Terminal Strip ft.
Non-Repeatability	0.02% FS	Case	Stainless Steel
Response Time	10 milliseconds	Zero/Span Adjustments	Top External Access
Long Term Stability	0.5% FS/1 YR	Weight (approx.)	6 oz
Thermal Effects		Electrical Data (Voltage)	
Compensated Range	-4 to +176°F (-20 to +80°C)	Excitation/Output	12 to 28 VDC Reverse Excitation Protected
Zero Shift	1.0 (0.9)	Power Consumption	<0.15 watts (approx. 5mA @24VDC)
Span Shift	1.5 (1.4)	Output ⁸	0 to 5 VDC ⁹
Pressure Media		Output Impedance	100 ohms
Gases or liquids compatible with 17-4 PH or 15-5 PH Stainless Steel. ³		Circuit	3-Wire (Exc, Out, Com)
Environmental Data		Output Noise	0.0068V RMS
Temperature		Electrical Data (Current)	
Operating ⁴	-40 to +185°F (-40 to +85°C)	Circuit	2-Wire
Storage	-40 to +185°F (-40 to +85°C)	Output ¹⁰	4 to 20 mA ¹¹
Acceleration	10g Maximum ⁷	External Load	0 to 800 ohms
Shock ⁶	200g Operating	Min. Supply Voltage (VDC) = 9 + 0.02 x (Resistance of receiver plus line)	
Vibration ⁷	20g 50-2000 Hz	Max. Supply Voltage (VDC) = 30 + 0.004 x (Resistance of receiver plus line)	

PROOF PRESSURE

PSIG RANGES			BAR RANGES		
Gauge Pressure	Proof Pressure	Burst Pressure	Gauge Pressure	Proof Pressure	Burst Pressure
0-15	30	200	1	2	14
0-25	75	400	1.6	5	28
0-50	150	750	4.0	10	50
0-100	300	1,000	6.0	18	60
0-250	500	2,000	10	30	80
0-500	1,000	3,000	16	32	130
0-1,000	2,000	5,000	25	50	170
0-3,000	4,500	7,500	40	80	240
0-5,000	7,500	10,000	60	120	300
0-10,000	12,500	20,000	100	200	400
3-15	30	200	160	250	500
			250	380	550
			400	600	800
			700	800	1,350

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

¹RSS of Non-Linearity, Non-Repeatability and Hysteresis
²25 psig range accuracy is ±0.22% of Full Scale output
³Hydrogen not recommended for use with 17-4 PH or 15-5 PH stainless steels.
⁴The high temperature limit of the cable is 200°F (95°C)
⁵Shift in output reading <0.05 psi/g typical; pressure port axis only
⁶Mil-Std. 202, Method 213B, Cond. C
⁷Mil-Std. 202, Method 204, Cond. C
⁸Calibrated into a 50K ohm load, operable into a 5000 ohm load or greater
⁹Zero output factory set to 30mV nominal. Span (FS) output factory set to w/in ±50mV.
¹⁰Calibrated at factory with a 24VDC loop supply voltage and 250ohm load.
¹¹Zero output factory set to w/in ±0.08mA. Span (FS) output factory set to w/in ±0.16mA.
 Specifications subject to change without notice.