AccuSense™ Model ASM

High Accuracy Pressure Transducer

Setra's Model ASM is the highest accuracy transducer for measuring gauge, absolute, compound and vacuum pressure in the AccuSense™ product line. Its ±0.05% FS accuracy is calibrated using the "End Point Method", which improves linearity when compared to competitive transducers which use the "Best Fit Straight Line Method" of calibration. The ASM's calibration is tamper proof by utilizing a SecureCal™ calibration key, which eliminates inadvertent adjustments, while allowing authorized users to adjust the sensor's calibration coefficients for a true sensor calibration. The design of the ASM offers class leading overpressure capability and multiple pressure and electrical fittings for a wide range of applications.

High Accuracy For Demanding Applications

The Model ASM pressure transducer uses a resonant variable capacitance sensor. This sensor is linearized and thermally compensated through a computerized curve fitting algorithm that optimizes the sensor's linearity for maximum accuracy in demanding applications.

Robust Design & Construction for Reliable Service

The Model ASM is designed and built to withstand demanding applications. The laser welded sensor construction, designed with a positive overpressure stop, enables the sensor to resist overpressure conditions up to 10X in all pressure ranges.

Secure and Fast Calibration & Service

The Model ASM is ideal for the Test & Measurement industry because it adheres to the stringent accuracy requirements. In order to make adjustments, the ASM utilizes the SecureCal™ calibration key, providing secure calibration. The SecureCal™ provides the ability to calibrate zero and span coefficients through a simple push button and rotary adjustment dial. The SecureCal™ also offers the option to restore factory defaults for fail-safe sensor calibration.

- **Reliable Testing Data**
- **Minimize Downtime**
- **Reduce Calibration Time**

Model ASM Features:

- High Accuracy: ±0.05% FS
- End Point Method Linearity
- Low Differential Pressure Ranges
- High Overpressure Capability: >10X Range
- Low Thermal Error
- Excellent Stability: <0.15% FS/YR
- Calibrate Using SecureCal™ Calibration Key
- High Line Pressure Capability
- Unidirectional & Bidirectional Models Available

Applications:

- Engine Test Stands
- Particle Test & Analysis
- Industrial (High Accuracy)
- Manifold Pressure
- Refrigeration Testing

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ORDERING INFORMATION

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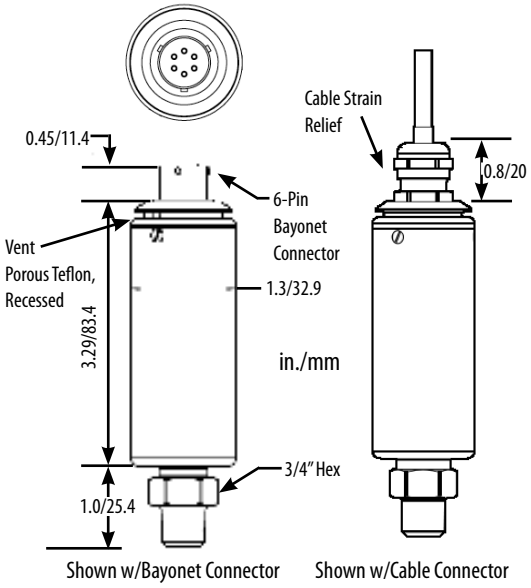
Model	Pressure Ranges				Type		Pressure Port		Output		Elec. Termination		Accuracy		Option	
ASM1= Model ASM	PSI		BAR		G	Gauge	1F	1/8" NPT Female	2B	0 to 5 VDC	03	3 ft, 1m Std Cable	A	<±0.05% FS RSS <0.25% TEB	00	None, Standard
	Z01P	0 to -14.7	Z01B	-1	C	Compound	1M	1/8" NPT Male	2C	0 to 10 VDC	B3	Std 6-Pin Male Bayonet Connector, Std Wiring	B	<±0.10% Reading <0.25% TEB	01	High Overpressure (See Table)
	015P	0 to 15	001B	1	A	Absolute	2F	1/4" NPT Female	11	4 to 20 mA			C	<±0.1% FS RSS <0.5% TEB		
	025P	0 to 25	002B	2	V	Vacuum[1]	2M	1/4" NPT Male			B4 B5 B6 B7	6-Pin Male Bayonet Connector, Optional Wiring (See Op Instructions)	D	<±0.1% FS RSS <1.5% TEB		
	050P	0 to 50	005B	5	[1]Z01 Range Only		J7	7/16-20 SAE Male								
	100P	0 to 100	010B	10												
	150P	0 to 150	020B	20												
	250P	0 to 250	040B	40												
	300P	0 to 300	050B	50												
	500P	0 to 500	068B	68												
	750P	0 to 750														
	10CP	0 to 1000														

Example: Part No. ASM1015PG1F2B03A00= ASM Transducer, 0 to 15 PSI pressure range, Gauge, 1/8" NPT Female Pressure Port, 0 to 5 VDC Output, 3ft Cable, ±0.05% FS accuracy, No options

ACCESSORIES:
See data sheet for more information on Setra's SecureCal™ Calibration Key.
6-Pin Bayonet Connector Assembly w/ Strain Relief. Order Separately: Part No. 600751

See data sheet for more information on Setra's SecureCal™ Calibration Key .

DIMENSIONS



PROOF PRESSURE

Full Scale Range (PSI)	Burst Pressure[1] (PSI)	Std Proof Pressure[2] Option Code "00"	High Proof Pressure Option Code "01"
0 to 15	3,000	30 (2x)	150 (10x)
0 to 25	3,000	50 (2x)	250 (10x)
0 to 50	8,000	100 (2x)	500 (10x)
0 to 100	10,000	200 (2x)	1,000 (10x)
0 to 150	10,000	300 (2x)	1,200 (8x)
0 to 200	10,000	400 (2x)	1,200 (6x)
0 to 300	10,000	600 (2x)	1,500 (5x)
0 to 500	10,000	800 (1.5x)	2,000 (4x)
0 to 750	10,000	1,200 (1.5x)	2,250 (3x)
0 to 1000	10,000	1,500 (1.5x)	3,000 (3x)

[1] Burst Pressure: The maximum pressure that may be applied to the positive pressure port without rupturing the sensing element.
[2] Proof Pressure: The maximum recoverable pressure that may be applied without changing performance beyond specification:
±0.5% Zero Shift, Typical

GENERAL SPECIFICATIONS

Performance Data	
Zero Offset Position Effect	<0.05%/G (Ranges ≥100 psi) <0.1%/G (Ranges ≤50 psi)
Long-term Stability	<0.10% FS/Year, Typical
Response Time to Pressure Input (From 100% to 10% of pressure range)	<10 ms for Voltage Output <80 ms for Current Output
Unit factory calibrated in vertical position (pressure port downward)	

Environmental Data	
Temperature Calibrated °F (°C)	-4 to +140 (-20 to +60)
Operating	-40 to +185 (-40 to +85)
Storage	-40 to +185 (-40 to +85)
Vibration	10g from 1 kHz to 2kHz
Higher or lower limits available (consult factory).	

Electrical Data	
Excitation Range	9 to 30VDC (5VDC & 4-20 mA output) 15 to 30VDC (10VDC output)
Current Consumption	<23 mA
Warm-up, Environmental	Within ±0.02% FS after 15 min warm-up time
Miswiring	Reverse Excitation Protection
Signal Output Ranges	0 to 5 VDC, 0 to 10VDC (4-wire), 4-20mA (2-wire)
Regulatory Data	CE Compliant & RoHS Compliant

Approvals
CE, RoHS

[1]RSS of Non-Linearity, Hysteresis, and Non-Repeatability.
[2]Units calibrated at nominal 70°F. Max thermal error computer from this datum.
[3]Operating temperature limits of the electronics only.
[4]Calibrated into a 50K ohm load, operable into a 5000 ohm load or greater

US Patents # 6,532,834; 6,718,827

Physical Description	
Electrical Terminations	6-Conductor Cable, Pigtail 6-Pin Bayonet Connector
Dimensions	See reverse side
Moisture/Splash Resistance	NEMA 4X (IP65)
Weight	9 oz. (254 g)
Pressure Fittings	See Ordering Information
Case Materials	Stainless Steel

Sensor Description	
Wetted Materials	17-4 PH Stainless Steel
Life Cycle Rating	>10^6 Pressure Cycles

Pressure Media
Gases or liquids compatible with17-4 pH stainless steel. Note: Hydrogen not recommended for use with 17-4 PH stainless steel.

Accuracy Data				
	A	B	C	D
Accuracy RSS*: End-Point Typ. (BFSL)	<±0.05% FS (<±0.04% FS)	<±0.1% Reading**	<±0.1% FS (<±0.07% FS)	
Non-Linearity: End-Point Typ. (BFSL)	<±0.025% FS (±0.015% FS)		<±0.05% FS (<±0.03% FS)	
Hysteresis	<0.03% FS Typ.		<±0.03% FS Typ.	
Non-Repeatability	<±0.02% FS Typ.		<±0.02% FS Typ.	
Span Setting Tol.	<±0.05% FS		<±0.01% FS	
Zero Offset Tol.	<±0.05% FS Typ.		<±0.01% FS	
Thermal Total Error Band (-20°C to 60°C)	<±0.25% FS Typ.		<±0.5% FS	<±1.5% FS

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