

AccuSense™ Model ASM

High Accuracy Pressure Transducer



AccuSense™ Model ASM with SecureCal™ Accessory

FEATURES

- High Accuracy: $\pm 0.05\%$ FS (End-Point)
- Low Thermal Error Over Wide Temperature
- Compact Design (1.3" Diameter)
- Optional Overpressure Protection up to 10x Proof Pressure
- Low Thermal Error
- Secure & Simple Field Calibration
- Rugged Stainless Steel Construction
- Multiple Configurations Available
- CE Mark & EU RoHS Compliant

APPLICATIONS

- Engine Test Stands
- Particle Test & Analysis
- Industrial (High Accuracy)
- Dynamometers
- Research & Development
- Refrigeration Testing

DESCRIPTION

The AccuSense™ Model ASM is a high performance pressure transducer designed for industrial applications requiring high accuracy. The all stainless steel construction, groove design, and hydrophobic porous plug protect the recessed air vent from contaminants in industrial environments. The patented resonant variable capacitance sensor is laser welded, providing high accuracy and stability.

The electronics platform enables outstanding performance over environmental temperature ranges.

As part of the AccuSense™ product family, Model ASM's zero and span settings are securely set through use of SecureCal™ accessory making for secure and stable calibration settings. Excellent stability, and secure calibration makes it ideal for high performance industrial, laboratory, and test cell applications.

SPECIFICATIONS

Performance Data		Physical Description		Electrical Data	
Zero Offset Position Effect	<0.05%/G (Ranges ≥ 100 psi) <0.1%/G (Ranges ≤ 50 psi)	Electrical Terminations	6-Conductor Cable, Pigtail 6-Pin Bayonet Connector	Excitation Range	9 to 30VDC (5VDC & 4-20 mA output) 15 to 30VDC (10VDC output)
Long-term Stability	<0.10% FS/Year, Typical	Dimensions	See reverse side	Current Consumption	<23 mA
Response Time to Pressure Input (From 100% to 10% of pressure range)	<10 ms for Voltage Output <80 ms for Current Output	Moisture/Splash Resistance	NEMA 4X (IP65)	Warm-up, Environmental	Within $\pm 0.02\%$ FS after 15 min warm-up time
Unit factory calibrated in vertical position (pressure port downward)		Weight	9 oz. (254 g)	Miswiring	Reverse Excitation Protection
Environmental Data		Pressure Fittings	See Ordering Information	Signal Output Ranges	0 to 5 VDC, 0 to 10VDC (4-wire), 4-20mA (2-wire)
Temperature Calibrated °F (°C)	-4 to +140 (-20 to +60)	Case Materials	Stainless Steel	Regulatory Data	CE Compliant & RoHS Compliant
Operating	-40 to +185 (-40 to +85)	Sensor Description		Pressure Media	
Storage	-40 to +185 (-40 to +85)	Wetted Materials	17-4 PH Stainless Steel	Clean, dry gases compatible with 17-4 PH stainless steel. Note: Hydrogen not recommended for use with 17-4 PH stainless steel.	
Vibration	10g from 1 kHz to 2kHz	Life Cycle Rating	>10 ⁶ Pressure Cycles		
Higher or lower limits available (consult factory).					

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

Specifications subject to change without notice

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ORDERING INFORMATION

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Model		Pressure Ranges		Type	Pressure Port		Output		Elec. Termination		Accuracy		Option	
ASM1	ASM	PSI	BAR	G	Gauge	1F	1/8" NPT Female	2B	0 to 5 VDC	03	3 ft, 1m Std Cable	A	00	None, Standard
	Z01P	0 to 14.7 PSI	Z01B -1 BAR	C	Compound	1M	1/8" NPT Male	2C	0 to 10 VDC	B3	Std 6-Pin Male Bayonet Connector, Std Wiring			
	O15P	0 to 15 PSI	001B 1 BAR	A	Absolute	2F	1/4" NPT Female	11	4 to 20 mA					
	O25P	0 to 25 PSI	002B 2 BAR	V	Vacuum*	2M	1/4" NPT Male			B4	6-Pin Male Bayonet Connector, Optional Wiring (See Wiring Code Table)	C		
	O50P	0 to 50 PSI	005B 5 BAR	*Z01 Range Only		J7	7/16-20 SAE Male			B5				
	100P	0 to 100 PSI	010B 10 BAR							B6				
	150P	0 to 150 PSI	020B 20 BAR							B7				
	250P	0 to 250 PSI	040B 40 BAR											
	300P	0 to 300 PSI	050B 50 BAR											
	500P	0 to 500 PSI	070B 70 BAR											
	750P	0 to 750 PSI									D			
	10CP	0 to 1000 PSI										D		

Example: Part No. ASM1015PG1FZB03A00= 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

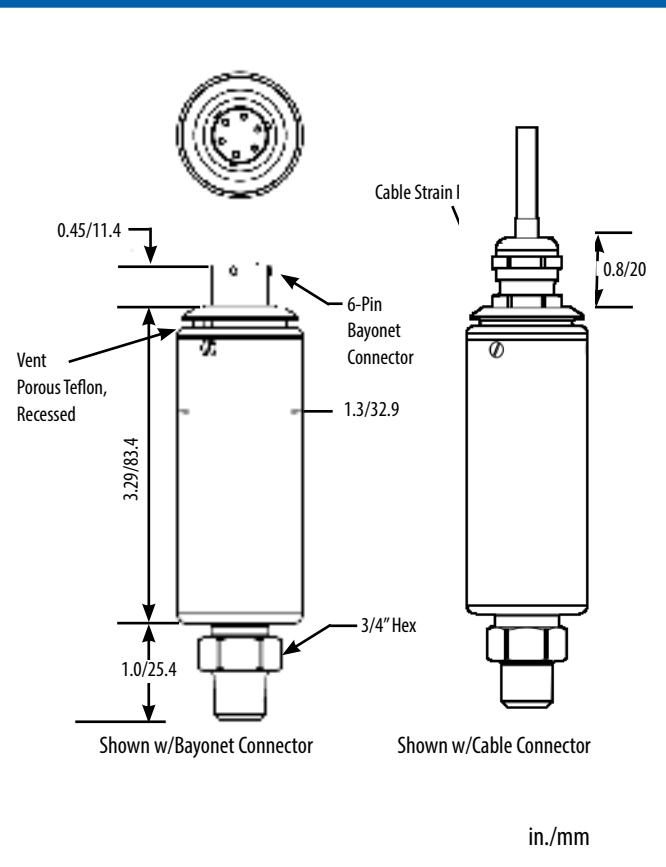


6-Pin Bayonet Connector Assembly w/Strain Relief Order Separately: Part No: 600751

ACCURACY DATA	Accuracy Code			
	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

*RSS: Root Sum Square of endpoint linearity, Hysteresis and Non-repeatability at constant temperature.
 ** % of Reading accuracy achieved down to 20% of pressure range when zero offset is removed. Below 20% of pressure range uncertainty is ±0.03% FS.

DIMENSIONS



SSPASM RevD 5/2013

WIRING CODES

Electrical Connection		Wire Color	Code B3* (Standard)	Code B4 Option	Code B5 Option	Code B6 Option	Code B7 Option
Current	Voltage		Bayonet Connector Pinout	Bayonet Connector Pinout	Bayonet Connector Pinout	Bayonet Connector Pinout	Bayonet Connector Pinout
+ EXC	+ EXC	Red	A	A	A	C	A
- EXC	- EXC	Black	D	B	B	D	C
NA	+ Sig Out	Green	B	C	D	A	F
NA	- Sig Out	White	C	D	C	B	E
Reserved for communication with SecureCal™ calibration module							
SecureCal™		Blue	E	E	E	E	B
SecureCal™		Brown	F	F	F	F	C

PRESSURE RANGES

Full Scale Range (PSI)	Burst Pressure* (PSI)	Std Proof Pressure* 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)

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