

AccuSense™ Model ASL

High Accuracy Differential Pressure Transducer



AccuSense™ Model ASL with SecureCal™ Calibration Key

FEATURES

- High Accuracy: $\pm 0.07\%$ FS
- Low Differential Pressure Ranges
- Unidirectional & Bidirectional Types
- High Over-Pressure Capability
- Low Thermal Error
- Excellent Stability
- Secure & Simple Field Calibration
- High Line Pressure Capability
- Rugged Stainless Steel Construction
- Multiple Configurations Available
- CE Mark & EU RoHS Compliant

APPLICATIONS

- Test Stands
- Wind Tunnels
- Leak Detection Systems
- Pharmaceutical
- Medical Instrumentation
- Energy Management
- Clean Rooms
- Industrial, High Accuracy
- Environmental Testing
- General R&D

DESCRIPTION

The AccuSense™ Model ASL is a high performance pressure transducer designed for low differential pressure measurements of air or other clean gases. Setra's variable capacitance technology is industry tested and preferred in applications that demand reliability, repeatability and accuracy.

Model ASL's exceptional linearity and thermal compensation is achieved through computerized factory calibration and curve fitting algorithm. The sensor's rugged construction and factory conditioning enable high overpressure capability and stability to ensure a highly robust and reliable measurement.

As part of AccuSense™ product family, Model ASL'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	
Internal Volumes	Positive Port 0.03 cu. in. Reference Port 0.75 cu. in.	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)
Operable Line Pressure	Vacuum to 250 psi max	Dimensions	See reverse side	Current Consumption	<23 mA (5VDC & 10VDC Versions)
Maximum Volume Change at FS	0.002 cu. in.	Weight	13 oz. (360 g)	Miswiring	Reverse Excitation Protection
Long-term Stability	<0.15% FS/Year, Typical	Moisture/Splash Resistance	NEMA 4X (IP65)	Warm-up, Environmental	Within $\pm 0.02\%$ FS after 15 min warm-up time
Response Time to Pressure Input (From 100% to 10% of pressure range)	<10 ms for Voltage Output <100 ms for Current Output	Pressure Fittings	See Ordering Information	Signal Output Ranges	0 to 5 VDC, 0 to 10VDC (4-wire), 4-20mA (2-wire)
		Case Materials	Stainless Steel	Regulatory Data	CE Compliant & RoHS Compliant
Line Pressure Effect	2% FS/100 psig	Environmental Data		Pressure Media	
Zero Offset Position Effect	<0.1%/G	Temperature Calibrated	-4 to +140°F (-20 to +60°C)	Clean, dry gases compatible with 300 series stainless steel and 17-4 pH stainless steel	
Unit factory calibrated in vertical position (pressure port downward)		Operating	-40 to +185°F (-40 to +85°C)		
		Storage	-40 to +185°F (-40 to +85°C)		
		Higher or lower limits available (consult factory)			

US Patent # 6,789,429

Specifications subject to change without notice

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ORDERING INFORMATION

ASL1 - - - - -

Model	Pressure Ranges*		Process/Reference Port		Output	Elec. Termination		Accuracy	Option	
ASL1 ASL	Differential	Bidirectional/Differential	1F	1/8" NPT Female / Barb	2B	0 to 5 VDC	03	3 ft, 1m Std Cable	A <±0.07% FS RSS	00 None, Standard
	002WD 0 to 2"W.C.	001WB ±1"W.C.	FF	1/8" NPT Female / 1/8" NPT Female	2C	0 to 10 VDC	B3	Std 6-Pin Male Bayonet Connector, Std Wiring	01 High Overpressure (See Table Below)	
	2R5WD 0 to 2.5"W.C.	002WB ±2"W.C.	1M	1/8" NPT Male / Barb	11	4 to 20 mA				
	005WD 0 to 5"W.C.	005WB ±5"W.C.	J7	7/16-20 SAE Male / Barb						
	010WD 0 to 10"W.C.	015WB ±15"W.C.								
	030WD 0 to 30"W.C.	001PB ±1 PSID								
	040WD 0 to 40"W.C.	005MB ±5 mBar								
	001PD 0 to 1 PSID	010MB ±10 mBar								
	005MD 0 to 5 mBar	025MB ±25 mBar								
	010MD 0 to 10 mBar	050MB ±50 mBar								
	025MD 0 to 25 mBar									
	050MD 0 to 50 mBar									
	100MD 0 to 100 mBar									

*Other ranges and engineering units are available (ex: Pa, kPa)

Example: Part No. ASL1001WB1F2B03A00 = ASL Transducer, ±1"W.C. Pressure Range, 1/8" NPT Female Reference Port, 0 to 5 VDC Output, 3 Foot Cable, <±0.07% FS RSS Accuracy, No Options

Pressure Ranges	Burst Pressure	Standard Proof Pressure Option Code "00"	High Proof Pressure Option Code "01"
0 to 2.5 in. WC, 5 mBar	200 psi, 15 Bar	±10 psi, ±700 mBar	±75 psi, ±5 Bar
0 to 5 in. WC, 10 mBar	300 psi, 20 Bar	±20 psi, ±1 Bar	±100 psi, ±7 Bar
0 to 10 in WC, 25 mBar	300 psi, 20 Bar	±30 psi, ±2 Bar	±150 psi, ±10 Bar
0 to 30 in. WC, 1 psi, 100 mbar	300 psi, 20 Bar	±50 psi, ±4 Bar	±150 psi, ±10 Bar

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

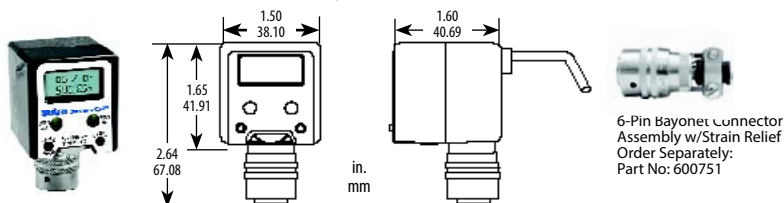
ACCURACY DATA

	Accuracy Code
	A
Accuracy	<±0.07% FS RSS*
Non-Linearity, End-Point	<±0.03% FS Typical
Hysteresis	<0.03% FS Typical
Non-Repeatability	<±0.02% FS Typical
Span Setting Tol.	<±0.1% FS
Zero Offset Tol.	<±0.1% FS Typical
Thermal Total Error Band	<±0.25% FS Typ. <±0.5% max (-20°C to 60°C)

*RSS: Root Sum Square of endpoint linearity, Hysteresis and Non-repeatability at constant temperature.

ACCESSORIES

SecureCal™ Calibration Key



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

SEC1 - - - - - 03R - 00

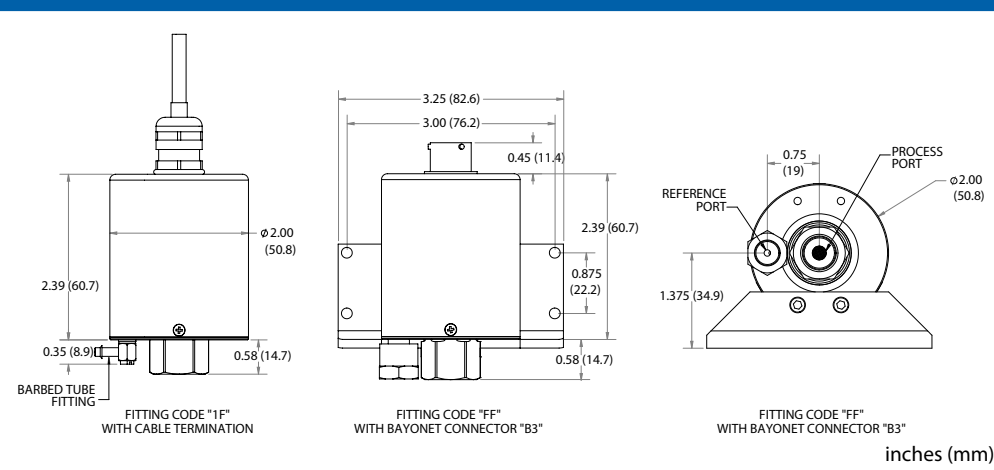
Model	Input	Connection to ASL		Connection to Power Supply	Options
SEC1	SEC	V	Voltage (0-5VDC & 0-10VDC)	TBR	Removable Terminal Block, Rear
		C	Current (4-20mA)	B3B	Std 6-Pin Bayonet, Female, B3 Wiring

WIRING CODES

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

*Other wiring options available

DIMENSIONS



FITTING CODE "1F" WITH CABLE TERMINATION

FITTING CODE "FF" WITH BAYONET CONNECTOR "B3"

FITTING CODE "FF" WITH BAYONET CONNECTOR "B3"

inches (mm)