AccuSense™
Model ASL
High Accuracy Low Differential Pressure Transducer

Setra's Model ASL is the highest accuracy transducer for measuring low differential pressure in the AccuSense™ product line. Its ±0.07% 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 ASL’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 ASL offers class leading overpressure capability and multiple pressure and electrical fittings to accommodate a wide range of applications.

High Accuracy For Demanding Applications
The Model ASL differential 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 ASL is designed and built to withstand demanding applications. The laser welded sensor construction, designed with positive and negative overpressure stops, enables the sensor to resist overpressure conditions up to 100X in all pressure ranges.

Secure and Fast Calibration & Service
The Model ASL is ideal for the Test & Measurement industry because it adheres to the stringent accuracy requirements. In order to make adjustments, the ASL 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 ASL Features:
- High Accuracy: ±0.07% FS
- End Point Method Linearity
- High Overpressure Capability: >100X Range
- Low Thermal Error
- Excellent Stability: <0.15% FS/YR
- Calibrate Using SecureCal™ Calibration Key
- High Line Pressure Capability
- Unidirectional & Bidirectional Models Available

Applications:
- Filter Pressure
- Leak Detection Systems
- Exhaust Pressure
- Medical Instrumentation
- Part Integrity Testing
- Test Stands
- Wind Tunnels
- Industrial High Accuracy
## AccuSense™ Model ASL

**High Accuracy Low Differential Pressure Transducer**

### ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Model</th>
<th>Pressure Ranges</th>
<th>Process/Reference Port</th>
<th>Output</th>
<th>Elec. Termination</th>
<th>Accuracy</th>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASL1</td>
<td>Model ASL</td>
<td>Differential</td>
<td>Bidirectional/Differential</td>
<td>1F</td>
<td>0 to 5 VDC</td>
<td>&lt;±0.07% FS RSS</td>
</tr>
<tr>
<td></td>
<td>0 to 2.5” W.C.</td>
<td>0 to 1 PSI</td>
<td>Female/Barb</td>
<td>1.01MB</td>
<td>±0.5 mBar</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>0 to 5” W.C.</td>
<td>0 to 2.5 PSI</td>
<td>Female/Barb</td>
<td>1.01MB</td>
<td>±5 mBar</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>0 to 10” W.C.</td>
<td>0 to 5 PSI</td>
<td>Female/Barb</td>
<td>0.025MB</td>
<td>±25 mBar</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>0 to 30” W.C.</td>
<td>0 to 10 PSI</td>
<td>Female/Barb</td>
<td>0.025MB</td>
<td>±100 mBar</td>
<td>A</td>
</tr>
</tbody>
</table>

#### 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

### GENERAL SPECIFICATIONS

#### Performance Data

- **Internal Volumes**: Positive Port 0.63 cu. in., Reference Port 0.75 cu. in.
- **Operable Line Pressure**: Vacuum to 250 PSI max
- **Maximum Volume Change at FS**: 0.002 cu. in.
- **Long-term Stability**: <0.1% FS/Year, Typical
- **Response time to Pressure Input**: From 100% to 10% of pressure range

#### Environmental Data

- **Temperature Calibrated °F (°C)**: -4 to +140 (-20 to +60)
- **Operating Temp. °F (°C)**: -40 to +124 (-40 to +85)
- **Storage Temp. °F (°C)**: -40 to +185 (-40 to +85)
- **Long-term Stability**: <0.15% FS/Year, Typical
- **Response time to Pressure Input**: From 100% to 10% of pressure range

#### Electrical Data

- **Line Pressure Effect**: 2% FS/100 PSIG
- **Zero Offset Positive Effect**: <0.1% FS
- **Zero Offset Tol.**: <±0.1% FS Typical
- **Current Consumption**: <23 mA (5VDC & 10VDC Versions)
- **Unit factory calibrated in vertical position (pressure port download)**

#### Physical Description

- **Warm-up, Environmental**: Within ±0.02% FS after 15 min warm-up time
- **Electrical Terminations**: 6-Conductor Cable, Pigtail 6-Pin Bayonet Connector
- **Signal Output Ranges**: 0 to 5 VDC, 0 to 10 VDC (4-wire), 4-20mA (2-wire)

#### Accuracy Data

- **Weight**: 13 oz. (360 g)
- **Accuracy Code A**
- **Moisture/Splash Resistance**: NEMA 4X (IP65)
- **Pressure Fittings**: See Ordering Information
- **Span Setting Tol.**: <±0.1% FS
- **Case Materials**: Stainless Steel
- **Non-Linearity, End point**: <±0.03% FS Typical
- **Pressure Media**: Non-repeatable
- **Clean, dry gases compatible with 300 series stainless steel and 17-4 pH Stainless steel.

#### Approvals

- **CE, RoHS**: Thermal Total Error Band <±0.25% FS Typical <±0.5% max (-20°C to +60°C)

1. Burst Pressure: The maximum pressure that may be applied to the positive pressure port without rupturing the diaphragm or reference pressure containment.
2. Proof Pressure: The maximum recoverable pressure that may be applied without charging performance beyond specification: ±0.5% Zero Shift, Typical.
3. FS: Root Sum Square of endpoint linearity, Hysteresis and Non-repeatable accuracy at constant temperature.

US Patent # 6,789,429