There's an increasing demand for lower pressure sensing capabilities in industrial and medical markets. From HVAC and gas flow, to continuous positive airway pressure (CPAP), ventilation, and patient monitoring applications, the ability to detect small pressure changes is critical. This demand requires pressure sensors to be highly accurate and provide long-term stability in robust, compact packages.

SMI pressure sensors from TE Connectivity (TE) offer some of the lowest pressure sensing ranges available. These sensors enable ultra-low and low pressure sensing using piezoresistive technology with signal processing to provide a compensated output. Optimized for miniature devices, SMI pressure sensors are packaged in a compact, robust housing. The lightweight design of these sensors enables medical devices to become more compact and portable, and large industrial equipment to be made smaller and smarter.

**MEDICAL**
**INDUSTRIAL**

**DESIGN-IN QUESTIONS**
- What value pull-up resistor is needed for I²C digital output?
- Can you use 3.3V option with a 5V power supply?
- What is the wash protocol?
- What is the solder temperature and protocol?
# SMI Low Pressure Sensors

## Ultra-Low Pressure Capabilities
- Highly sensitive sensing elements detect minimal changes in pressure down to 125 Pa (0.5 inH₂O)

## Precise Measurements with Adaptable Output Signal
- Dual output signal (digital and analog)
- Up to 1% FS total error band
- Long-term stability confirms accurate measurements over time

## Minimal Footprint
- Small, lightweight unibody package design
  - Vertical or horizontal porting options ease system integration

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### Table: SMI Low Pressure Sensors

<table>
<thead>
<tr>
<th>Series</th>
<th>Max Pressure Range</th>
<th>Pressure Type</th>
<th>Output</th>
<th>Accuracy</th>
<th>Supply Voltage</th>
<th>Compensated Temperature Range*</th>
<th>Package Configurations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultra-Low Pressure</td>
<td></td>
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<tr>
<td><strong>SM9000</strong></td>
<td>125 to 600 Pa</td>
<td></td>
<td>16-bit I²C</td>
<td>±1.0% FS (after Autozero)</td>
<td>3.3 or 5 V</td>
<td>-20 to +85°C</td>
<td>JEDEC SOIC-16 Dual Vertical or Horizontal</td>
</tr>
<tr>
<td>Low Pressure</td>
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<tr>
<td><strong>SM7000</strong></td>
<td>0.07 to 0.29 PSI</td>
<td>Differential or Gage</td>
<td>16-bit I²C</td>
<td>±1.0% FS (Digital)</td>
<td>3.3 or 5 V</td>
<td>-20 to +85°C</td>
<td>JEDEC SOIC-16 Single or Dual Vertical or Horizontal</td>
</tr>
<tr>
<td><strong>SM6000</strong></td>
<td>0.3 to 0.79 PSI</td>
<td></td>
<td></td>
<td>±1.5% FS (Analog)</td>
<td>3.3 or 5 V</td>
<td>-20 to +85°C</td>
<td>JEDEC SOIC-16 Single Vertical</td>
</tr>
<tr>
<td><strong>SM5000</strong></td>
<td>0.8 to 2.49 PSI</td>
<td></td>
<td></td>
<td></td>
<td>3.3 or 5 V</td>
<td>-20 to +85°C</td>
<td>SOIC-16 Dual Vertical</td>
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<tr>
<td>Medium Pressure</td>
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<tr>
<td><strong>SM4000</strong></td>
<td>2.5 to 14.9 PSI</td>
<td></td>
<td>16-bit I²C and / or Amplified Analog</td>
<td>±1.0% FS (Digital)</td>
<td>3.3 or 5 V</td>
<td>-20 to +85°C</td>
<td>SOIC-16 Single Vertical</td>
</tr>
<tr>
<td><strong>SM1000</strong></td>
<td>15 to 30 PSI</td>
<td></td>
<td></td>
<td></td>
<td>3.3 or 5 V</td>
<td>-20 to +85°C</td>
<td>SOIC-10 Single Vertical</td>
</tr>
</tbody>
</table>

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*Standard configuration, further ranges available

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**ULTRA-LOW PRESSURE CAPABILITIES**
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**PRECISE MEASUREMENTS WITH ADAPTABLE OUTPUT SIGNAL**
- Dual output signal (digital and analog)
- Up to 1% FS total error band
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**MINIMAL FOOTPRINT**
- Small, lightweight unibody package design
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