Low Cost, Precision, Stainless Steel Sensor
0–5 psig, 0–15 psig, 0–30 psig,
0–100 psig, 0–150 psig,
0–300 psig, 0–500 psig
Corrosive Liquids or Gases

SSX05G, SSX15G, SSX30G,
SSX100G, SSX150G,
SSX300G, SSX500G
PRESSURE SENSORS

Features
■ Low Cost
■ Rugged — Stainless Steel
■ 0.30% Accuracy
■ Wide Temperature Operation
■ Factory Calibrated and Temperature
  Compensated to Within ±1%
■ Reliable Semiconductor Technology

Applications
■ Energy Management
■ Process Control
■ Robotics
■ Sewage and Water Treatment
■ Hydraulics
■ Off-Road Vehicles
■ Agricultural Vehicles

Description
The stainless steel SSX “G” Series devices were developed for pressure applications that involve measurement of a hostile media in harsh environments. These rugged devices are factory calibrated and temperature compensated for operation from 0 to +70°C and with slightly reduced performance, will operate over the range from −40°C to +125°C. This precise laser trimmed factory calibration and temperature compensation allows for field interchangeability without recalibration for most applications.

The SSX “G” devices each provide a closely trimmed full scale output when operated from a 12 V supply. However, the output of the bridge is ratiometric and operation from any DC supply from +5 V to +30 V is acceptable.

These devices use the latest in silicon technology to provide accurate, reliable and repeatable pressure sensing that is stable with time and temperature. The stainless steel case and connector cable give these parts excellent resistance to EMI and RFI. The devices feature a ½” female NPT fitting to allow easy connection to a variety of standard male pressure connection fittings.

The SSX “G” Series devices are rugged and reliable transducers for use in a wide variety of pressure sensing applications where corrosive liquids or gases are monitored. Contact your local Sensym representative or the Sensym factory for further details.

Electrical Connection

Ordering Information
To order, use the following part numbers:

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Operating Pressure Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSX05G</td>
<td>0–5 psig</td>
</tr>
<tr>
<td>SSX15G</td>
<td>0–15 psig</td>
</tr>
<tr>
<td>SSX30G</td>
<td>0–30 psig</td>
</tr>
<tr>
<td>SSX100G</td>
<td>0–100 psig</td>
</tr>
<tr>
<td>SSX150G</td>
<td>0–150 psig</td>
</tr>
<tr>
<td>SSX300G</td>
<td>0–300 psig</td>
</tr>
<tr>
<td>SSX500G</td>
<td>0–500 psig</td>
</tr>
</tbody>
</table>

**Functional Specifications:** Service: Liquid, gas or vapor compatible with 304 stainless steel.\(^1\)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Operating Pressure Range</th>
<th>Maximum Over Pressure</th>
<th>Full-Scale Output (Nominal)</th>
<th>Power Supply</th>
<th>Temperature Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSX05G</td>
<td>0–5 psig</td>
<td>20 psig</td>
<td>50 mV</td>
<td>5 V\textsubscript{dc} to 30 V\textsubscript{dc}</td>
<td>Storage: (-55°C) to (+125°C)</td>
</tr>
<tr>
<td>SSX15G</td>
<td>0–15 psig</td>
<td>30 psig</td>
<td>90 mV</td>
<td></td>
<td>Operating: (-40°C) to (+125°C)</td>
</tr>
<tr>
<td>SSX30G</td>
<td>0–30 psig</td>
<td>60 psig</td>
<td>90 mV</td>
<td></td>
<td>Burst Pressure: 1000 psig</td>
</tr>
<tr>
<td>SSX100G</td>
<td>0–100 psig</td>
<td>200 psig</td>
<td>100 mV</td>
<td></td>
<td>Humidity Limit: 0 – 100% RH</td>
</tr>
<tr>
<td>SSX150G</td>
<td>0–150 psig</td>
<td>300 psig</td>
<td>90 mV</td>
<td></td>
<td>Vibration: 2g from 5Hz to 500Hz</td>
</tr>
<tr>
<td>SSX300G</td>
<td>0–300 psig</td>
<td>450 psig</td>
<td>60 mV</td>
<td></td>
<td>Shock: 50g</td>
</tr>
<tr>
<td>SSX500G</td>
<td>0–500 psig</td>
<td>600 psig</td>
<td>100 mV</td>
<td></td>
<td>Case: Stainless Steel</td>
</tr>
</tbody>
</table>

**Wetted Materials:** 304 Stainless Steel

**Performance Specifications:** \( V^+ = 12 V, T_A = 25°C \). Specifications are typical unless otherwise noted.

- **Accuracy:** \(< \pm 0.30\% \text{ FS at constant temperature} \)
- **Non-linearity:** \(< \pm 0.10\% \text{ FS} (< \pm 0.50\% \text{ FSO max}) \)
- **Repeatability:** \(< \pm 0.20\% \text{ FS} \)

**Thermal Effects:**
- Null: \( 0.01 \text{ typ} 0.02 \text{ (max) } \% \text{ FS / °C} \)
- Span: \( 0.01 \text{ typ} 0.03 \text{ (max) } \% \text{ FS / °C} \)

**Thermal Effects:**
- \(-40°C\) to \(0°C\), \(+70°C\) to \(+125°C\)
- Null: \( 0.02\% \text{ FS / °C} \)
- Span: \( 0.02\% \text{ FS / °C} \)

**Zero Pressure Output:** \( 0 \pm 500 μV \text{ (max)} \)

**Full Scale Output:** Nominal \( \pm 1 \text{ mV (max)} \)

- **Power Consumption:** 0.04 Watts
- **Excitation Voltage:** \( 12 \text{ V}\textsubscript{dc} \) nominal. Any supply voltage between 5 to 30 \text{ V}\textsubscript{dc} can be used.
- **Input Impedance:** 40kΩ
- **Output Impedance:** 4.0kΩ
- **Output Noise:** \(< 0.01\% \text{ FSO, at } 0.11 \text{ Hz} < f < 1 \text{ kHz} \)
- **Response Time:** 1.0 ms

- **Offset Stability:** \( \pm 0.1\% \text{ FSO} \)
- **Span Stability:** \( \pm 0.1\% \text{ FSO} \)
- **Common-Mode Voltage:** \( 6.0 \text{ V}\textsubscript{dc} \pm 0.2 \text{ V} \)

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**Note 1:** For questions regarding media compatibility, please contact the SenSym factory.
**Note 2:** Accuracy is sum of non-linearity, and repeatability.
**Note 3:** Temperature tested and guaranteed at 70°C\textsubscript{rel} relative to 25°C. All specifications are shown relative to 25°C.
**Note 4:** Span guaranteed at 12 V\textsubscript{dc}. Output is ratiometric to supply voltage.
**Note 5:** Change in output after 1 year or 1 million pressure cycles.
**Note 6:** This is the common-mode voltage of the output drivers for V\textsubscript{g} = 12 V\textsubscript{dc}.

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**Outline Drawing**

**Weight:** 3 oz. (85.1 g)

**Electrical Connection:** 4 conductor cable

**Optional Male Pipe Fitting:** See Section 11

**Tolerances, unless otherwise noted**
- \( \pm 0.01 \) For Two Decimal Places
- \( \pm 0.005 \) For Three Decimal Places