Pressure Sensors
0 - 5 psi Through 0 - 300 psi

**SCC Series**

**FEATURES**
- Low Cost Sensor Element
- Internal Temperature Compensation
- Differential or Gauge Pressures

**TYPICAL APPLICATIONS**
- Pneumatic Controls
- Automotive Diagnostics
- Medical Equipment
- Dental Equipment
- Environmental Controls

**EQUIVALENT CIRCUITS**

The SCC Series offers an extremely low cost sensor element with a temperature stable output when driven with a constant current source. These integrated circuit sensors were designed for extremely cost sensitive applications where precise accuracy over a wide temperature range is not required. This series is intended for use with non-corrosive, non-ionic working fluids such as air, dry gases and the like.

Absolute devices have an internal vacuum reference and an output voltage proportional to applied pressure. The differential devices allow application of pressure to either side of the diaphragm and devices are thereby available to measure both differential and gauge pressures.

This product is packaged either in SenSym’s standard low cost chip carrier “Button” package or a metal TO5 Package. Both packages are designed for applications where the sensing element is to be integral to the OEM equipment. These packages can be o-ring sealed, epoxied, and/or clamped onto a pressure fitting. A closed bridge four-pin SIP configuration is provided for electrical connection to the button package. The TO5 Package offers a five-pin open bridge configuration.

Contact your local SenSym ICT representative, the factory, or go to Sensym ICT’s Web site at www.sensym-ict.com for additional details.

⚠️ **WARNING**

PERSONAL INJURY
DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.
Failure to comply with these instructions could result in death or serious injury.

⚠️ **WARNING**

MISUSE OF DOCUMENTATION
- The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.
Failure to comply with these instructions could result in death or serious injury.
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PRESSURE SENSOR CHARACTERISTICS

Maximum Ratings (For All Devices)
- Supply Current, $I_S$: 1.5 mA
- Temperature Ranges:
  - Compensated: 0°C to 50°C
  - Operating: -40°C to 85°C
  - Storage: -55°C to 125°C
- Humidity: 0 to 100% RH
- Lead Temperature (Soldering 2-4 Seconds): 250°C
- Common-Mode Pressure: 150 psi

PERFORMANCE CHARACTERISTICS

(Individual Models) $I_S$-1.0 mA, $T_A$-25°C

<table>
<thead>
<tr>
<th>Part#</th>
<th>Operating Pressure Range</th>
<th>Maximum Over Pressure</th>
<th>Accuracy(2)</th>
<th>Effect(3,8) On Span (0°C to 50°C)</th>
<th>Effect(4,8) On Offset (0°C to 50°C)</th>
<th>Full-Scale Span(8) (mV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCC05(D,G)</td>
<td>0-5 psid (g)</td>
<td>20 psi</td>
<td>0.50%</td>
<td>30 µV/°C</td>
<td>1.50%</td>
<td>30-50</td>
</tr>
<tr>
<td>SCC15A</td>
<td>0-15 psia</td>
<td>30 psia</td>
<td>0.50%</td>
<td>40 µV/°C</td>
<td>1.50%</td>
<td>40-95</td>
</tr>
<tr>
<td>SCC15(D,G)</td>
<td>0-15 psid (g)</td>
<td>30 psi</td>
<td>0.50%</td>
<td>40 µV/°C</td>
<td>1.50%</td>
<td>40-95</td>
</tr>
<tr>
<td>SCC30(D,G)</td>
<td>0-30 psid (g)</td>
<td>60 psi</td>
<td>0.50%</td>
<td>60 µV/°C</td>
<td>1.50%</td>
<td>60-150</td>
</tr>
<tr>
<td>SCC100A</td>
<td>0-100 psia</td>
<td>150 psi</td>
<td>0.50%</td>
<td>30 µV/°C</td>
<td>1.50%</td>
<td>85-225</td>
</tr>
<tr>
<td>SCC100(D,G)</td>
<td>0-100 psig</td>
<td>150 psig</td>
<td>0.50%</td>
<td>90 µV/°C</td>
<td>1.50%</td>
<td>85-225</td>
</tr>
<tr>
<td>SCC300A</td>
<td>0-300 psia</td>
<td>450 psia</td>
<td>0.50%</td>
<td>50 µV/°C</td>
<td>1.50%</td>
<td>50-120</td>
</tr>
</tbody>
</table>

PERFORMANCE CHARACTERISTICS

(All Models) $I_S$-1.0 mA, $T_A$-25°C

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zero Pressure Offset(5)</td>
<td>-30.0</td>
<td>-10.0</td>
<td>20.0</td>
<td>mV</td>
</tr>
<tr>
<td>Combined, Pressure Non-Linearity,</td>
<td></td>
<td>-0.25</td>
<td>0.50</td>
<td>%FSO</td>
</tr>
<tr>
<td>Pressure Hysteresis, Repeatability(2)</td>
<td></td>
<td>-</td>
<td>-</td>
<td>mV</td>
</tr>
<tr>
<td>Long-Term Stability of Offset and Span(6)</td>
<td></td>
<td>-0.10</td>
<td>-</td>
<td>mV</td>
</tr>
<tr>
<td>Response Time (10% to 90%) (7)</td>
<td>-0.10</td>
<td>-</td>
<td>-</td>
<td>mSec</td>
</tr>
<tr>
<td>Input Impedance</td>
<td>4.00</td>
<td>5.00</td>
<td>6.50</td>
<td>kΩ</td>
</tr>
<tr>
<td>Output Impedance</td>
<td>4.00</td>
<td>5.00</td>
<td>6.50</td>
<td>kΩ</td>
</tr>
</tbody>
</table>

ELECTRICAL CONNECTIONS

![Electrical Connections Diagram]
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SPECIFICATION NOTES

Note 1: Reference Conditions: T_A = 25°C, Supply Current = 1.0mA, Common Mode Line Pressure = 0 psig, Pressure Supplied to P1 unless otherwise noted.

Note 2: Accuracy is the sum of Pressure Hysteresis and Pressure Non-Linearity. Pressure Hysteresis is the maximum output difference at any point within the operating pressure range for increasing and decreasing pressure. Pressure Non-Linearity refers to the best straight line fit as measured for the offset, full-scale and 1/2 full-scale pressure at 25°C.

Note 3: This is the maximum temperature shift for span when measured between 0°C and 50°C relative to the 25°C reading. Typical temperature coefficients for span and resistance are -2200 ppm/°C and 2200 ppm/°C respectively.

Note 4: This is the maximum temperature shift for offset when measured at 0°C and 50°C divided by the temperature difference.

Note 5: Full-Scale Span is the algebraic difference between and the output voltage at full-scale pressure and the output at zero pressure.

Note 6: Maximum difference in output at any pressure with the operating pressure range and temperature within 0°C to 50°C after:
  a) 100 temperature cycles, 0°C to 50°C.
  b) 1.0 million pressure cycles, 0 psi to Full-Scale Span.

Note 7: Response time for a 0 psi to Full-Scale Span pressure step change. 10% to 90% rise time.

Note 8: Temp. effect on span and offset are guaranteed by design. Therefore these parameters are not 100% tested.

Note 9: The SCC100D devices can only be used in a forward gauge mode. Application of more than 30 psig to the back side of any of the SCC Series devices can result in device failure. On the SCC100GD2 pressure can only be applied to the back side of the die. No pressure is accessible from the front/top side of the die.

Note 10: The zero pressure offset is +30 to -20mV max for parts SCCxxxGD2 and SCCxxxDD4 devices.

PACKAGE OUTLINES

Button Package
Nipple Package
N Housing Package
D2 Dip Package
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**SCC Series**

**WARRANTY/REMEDY**

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Contact your local sales office for warranty information. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace without charge those items it finds defective. **The foregoing is Buyer’s sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose.**

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application. For application assistance, current specifications, or name of the nearest Authorized Distributor, contact a nearby sales office.

Or call:
1-800-537-6945 USA
1-800-737-3360 Canada
1-815-235-6847 International

**FAX**
1-815-235-6545 USA

**INTERNET**
www.honeywell.com/sensing
info.sc@honeywell.com

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**DD4 Dip Package**

**AD4 Dip Package**

**TO5 Package**

**TO39 Package**

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**ORDERING INFORMATION**

To order, use the following part number(s)

<table>
<thead>
<tr>
<th>Pressure Range</th>
<th>Sensor in Button Package</th>
<th>Sensor in “N” Package</th>
<th>Sensor in TO5 Package (Open Bridge)</th>
<th>Sensor in Ported Package</th>
<th>Sensor In DIP Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 5 psid or psig</td>
<td>SCC05D</td>
<td>SCC05DN</td>
<td>SCC05GSO</td>
<td>SCC05DP1</td>
<td>SCC05DD2, SCC05DD4</td>
</tr>
<tr>
<td>0 to 15 psid or psig</td>
<td>SCC15D</td>
<td>SCC15DN</td>
<td>SCC15GSO</td>
<td>SCC15DP1</td>
<td>SCC15DD2, SCC15DD4</td>
</tr>
<tr>
<td>0 to 30 psid or psig</td>
<td>SCC30D</td>
<td>SCC30DN</td>
<td>SCC30GSO</td>
<td>SCC30DP1</td>
<td>SCC30DD2, SCC30DD4</td>
</tr>
<tr>
<td>0 to 100 psig</td>
<td>SCC100D</td>
<td>SCC100DN</td>
<td>SCC100GSO</td>
<td>--</td>
<td>SCC100DD2, SCC100DD4</td>
</tr>
<tr>
<td>0 to 15 psia</td>
<td>SCC15A</td>
<td>SCC15AN</td>
<td>SCC15AHO</td>
<td>SCC15AP1</td>
<td>SCC15AD2</td>
</tr>
<tr>
<td>0 to 30 psia</td>
<td>SCC30</td>
<td>SCC30AN</td>
<td>SCC30AHO</td>
<td>SCC30AP1</td>
<td>SCC30AD2</td>
</tr>
<tr>
<td>0 to 100 psia</td>
<td>SCC100A</td>
<td>SCC100AN</td>
<td>SCC100AHO</td>
<td>--</td>
<td>SCC100AD2</td>
</tr>
<tr>
<td>0 to 300 psia</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>SCC300AHO</td>
<td>--</td>
</tr>
</tbody>
</table>