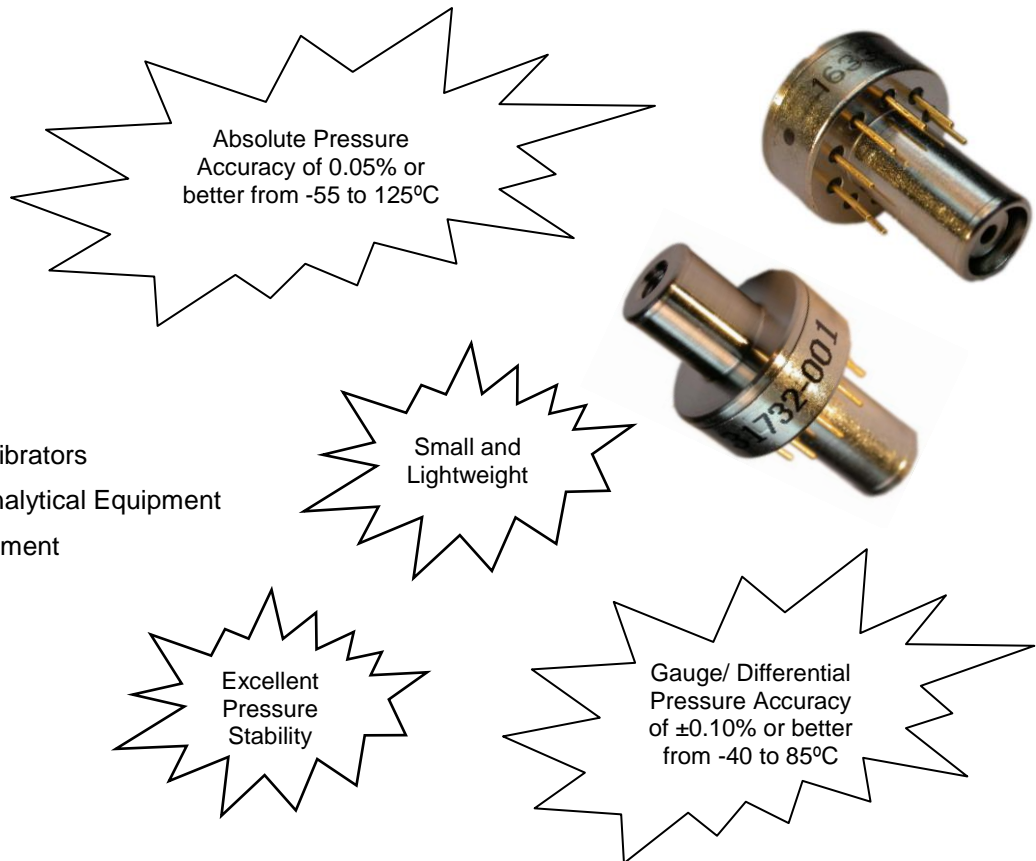


Integrated Pressure Sensor IPS

Honeywell's Integrated Pressure Sensor (IPS) provides a high level millivolt pressure output with excellent stability. The core of the IPS is a proven Honeywell silicon piezoresistive pressure sensor with both pressure and temperature sensitive elements. The IPS is small and lightweight and can be easily mounted onto circuit boards. With the application of signal conditioning electronics and digital correction, the IPS offers highly accurate and stable pressure readings over a wide temperature range.

APPLICATIONS:

- Air Data Computers
- Altimeters
- Cabin Air Pressure
- Engine Test Systems
- Flight Test Systems
- Meteorology
- Flow and Pressure Calibrators
- Instrumentation and Analytical Equipment
- Research and Development



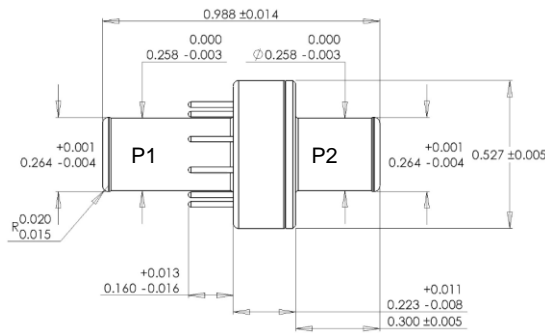
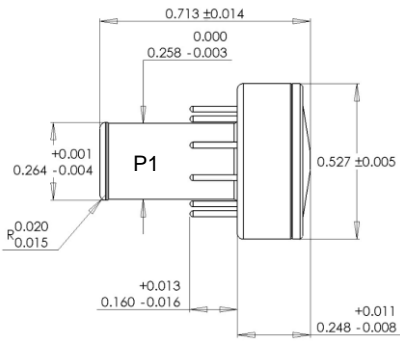
FEATURES AND BENEFITS

ISO-9001
ISO-14001

- | | |
|--|--|
| <ul style="list-style-type: none"> ▶ High Accuracy Over a Wide Temperature Range
±0.05% FS capability (absolute)
±0.10% FS capability (gauge/differential) ▶ Accurate Temperature Compensation ▶ Small, Lightweight, Versatile | <ul style="list-style-type: none"> ▶ High Accuracy Capability with use of Appropriate Signal Conditioning and Digital Correction. ▶ On-chip Temperature Bridge - enhances temperature compensation accuracy. ▶ Volume: ~ 0.16 in³ (2.6 cm³) - absolute
 ~ 0.22 in³ (3.6 cm³) – gauge/differential Lightweight: ~ 6.7 grams – absolute
 ~ 7.5 grams – gauge/differential Media Interface: Handles most dry gas media. |
|--|--|

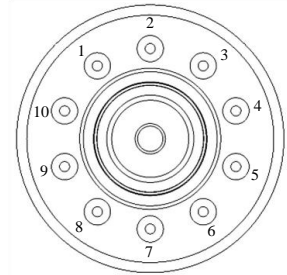
IPS

DIMENSIONS (Inches)



SENSOR PINOUT

(As seen from port P1)
Pin 1 Designation: Ink mark on outside of package.



SPECIFICATIONS

Performance Specifications⁽¹⁾

Accuracy Capability:

±0.05%FS absolute (from -55 to 125°C)
±0.10%FS gauge, differential (from -40 to 85°C)

Temperature Range:

Operating -55 to 125°C (-67 to 257°F), absolute
Operating -40 to 85 °C (-40 to 185°F), gauge/differential
Storage: -65 to 150°C (-85 to 302°F), absolute
Storage: -55 to 125°C (-67 to 257°F), gauge/differential

Long Term Stability:

0.02% FS max per year

Mechanical Specifications

Pressure Ranges and Type:

See Ordering Information at right

Media Compatibility⁽²⁾: Suitable for non-condensing, non-corrosive, and non-combustible gases.

Weight: 6.7 grams (absolute)
7.5 grams (gauge/differential)

Electrical Specifications⁽³⁾

Excitation: 5 ± 0.05 VDC

Pressure Bridge: 10kΩ nominal (VEX1 – GND)

Temperature Bridge: 20kΩ nominal (VEX2 – GND)

Pressure & Temperature Output (volts):

PSI	Vpress @ Pmin		Vpress @ Pmax		Vpress Span	
	Min	Max	Min	Max	Min	Max
2 psig	0	1	1.25	3	0.75	2
2 psid	1	2	2.5	3.5	1	2.5
5 psig	0	1	1.25	3	0.75	2.25
5 psid	0.75	1.75	2.5	4	1.25	3.25
20 psig	0	0.75	2.5	4.75	2	4.5
20 psid	1	2	2.5	4	1	2.5
20/50 psia	0.15	2.25	2.75	4.85	1.5	5
	Vtemp @ Tmin		Vtemp @ Tmax		Vtemp Span	
2/5/20 psig/d	0.5	2.25	1.5	4	0.75	2.25
20/50 psia	0.15	-	-	4.85	1.25	-

Environmental Features⁽⁴⁾

Overpressure: 3x FS

Burst Pressure: 3x FS

Mechanical Shock: DO-160E Section 7.0, Category A, Figure 7.2, Operational Standard

Thermal Shock: Storage Temperature Cycling per JESD22-104, Section 5.0: -55°C to +125°C

Vibration: DO-160E Section 8, Category H, Aircraft Type 2, Aircraft Zones 1 & 2

RoHS Compliant (2002/05/EC): Yes

ORDERING INFORMATION

IPS Integrated Pressure Sensor

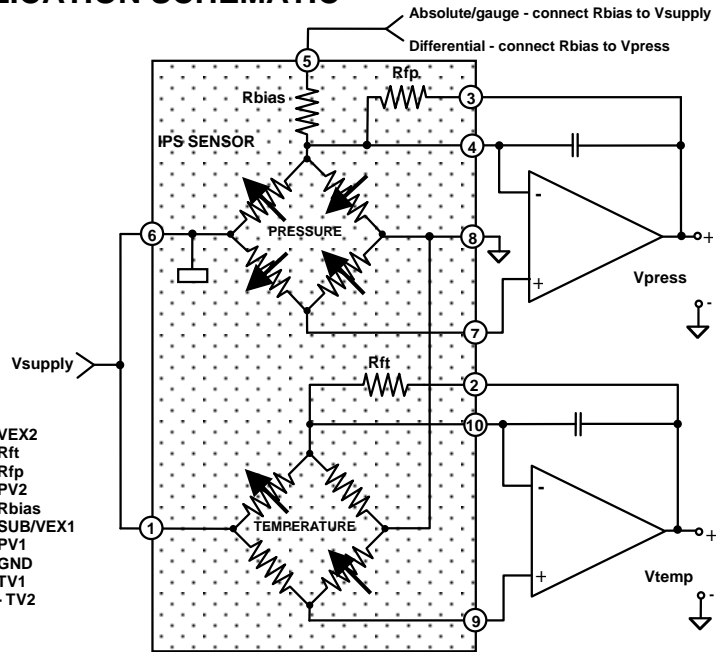
IPS	FULL SCALE PRESSURE RANGE		P1 Pressure	P2 Pressure
	Absolute	Gauge/Differential		
0002	N/A	2 PSIG/D	0 (vacuum) to FS	N/A
0005	N/A	5 PSIG/D	Reference to FS	Reference
0020	20 PSIA	20 PSIG/D	+FS to -FS rel. to P2	+FS to -FS rel. to P1
0050	50 PSIA	N/A		

TYPE	P1 Pressure	P2 Pressure
A	Absolute	N/A
G	Gauge/Differential	Reference

Example:

IPS 0020 A

APPLICATION SCHEMATIC



⁽¹⁾ Accuracy achievable with appropriate signal conditioning and digital correction. ⁽²⁾ The IPS pressure port should be protected from any cleaning solutions/processes. Ultrasonic cleaning should not be used as it may degrade the internal connects. ⁽³⁾ Per application schematic. ⁽⁴⁾ As tested in Integrated Pressure Transducer (IPT) configuration.

Find out more

For more information on Honeywell's Precision Pressure Transducers visit us online at www.honeywell.com/pressuresensing or contact us at 1-800-323-8295 or 763-954-2474. Customer Service Email: ssec.customer.service@honeywell.com.

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Form # 900392

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