

Pressure Sensors

Miniature Signal Conditioned

40PC Series



FEATURES

- Smallest amplified sensor package
- Minimal PCB space
- Fully signal conditioned
- Operating temperature range from -45° to $+125^{\circ}\text{C}$
- Silicon piezoresistive technology
- Monolithic design
- 6 Pin DIP package
- Port designed for O-ring interface
- Excellent media compatibility
- Accuracy of 0.2%

PERFORMANCE CHARACTERISTICS

Pressure Range	± 50 mm Hg	0-15 psi	0-100 psi	0-150 psi	0-250 psi
Overpressure, max.	± 170 mm Hg	45 psi	200 psi	300 psi	500 psi
Supply Voltage	5 VDC ± 0.25				
Supply Current	10 mA max.				
Output Source Current	0.5 mA max.				
Output Sink Current	1.0 mA max.				
Operating Temperature	-45° to $+125^{\circ}\text{C}$ (-49° to $+257^{\circ}\text{F}$)				
Storage Temperature	-55° to $+125^{\circ}\text{C}$ (-67° to $+257^{\circ}\text{F}$)				
Hysteresis & Repeatability	0.15% Span, Typ.				
Ratiometricity (at 4.75 to 5.25 Supply Voltage)	$\pm 0.25\%$ Span, Typ.				
Output Load Capacitance	0.05 microtarads, max.				
Full Scale	-50 mm Hg	0.50 VDC Typ.			
	$+50$ mm Hg	4.50 VDC Typ.			
	All other pressure ranges	4.50 VDC Typ.			
Media Compatibility	P1 port	DRY GASES ONLY: Media must be compatible with epoxy based adhesive			
	P2 port	Media must be compatible with glass, silicon, stainless steel, invar, Sn/Ni plating or Sn/Ag solder			



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40PC SERIES ORDER GUIDE

Catalog Listing	Pressure Range psi	Pressure Type	Lead Style
40PC001B1A	± 50 mm Hg	Bi-directional	1-unformed
40PC001B2A	± 50 mm Hg	Bi-directional	2-formed away from port
40PC001B3A	± 50 mm Hg	Bi-directional	3-formed towards port
40PC015G1A	0-15	Gage	1-unformed
40PC015G2A	0-15	Gage	2-formed away from port
40PC015G3A	0-15	Gage	3-formed towards port
40PC100G1A	0-100	Gage	1-unformed
40PC100G2A	0-100	Gage	2-formed away from port
40PC100G3A	0-100	Gage	3-formed towards port
40PC150G1A	0-150	Gage	1-unformed
40PC150G2A	0-150	Gage	2-formed away from port
40PC150G3A	0-150	Gage	3-formed towards port
40PC250G1A	0-250	Gage	1-unformed
40PC250G2A	0-250	Gage	2-formed away from port
40PC250G3A	0-250	Gage	3-formed towards port

Note: For tubing and O-Ring interface recommendations, see the 40PC Application Note in the Reference Section.

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OUTPUT PERFORMANCE CHARACTERISTICS @ 25°C, 5VDC (unless otherwise noted)

Pressure Range	Null (VDC)	Span (VDC)	Sensitivity, Typ.	Linearity, B.F.S.L. (% Span) Max.	Null Shift (% Span) Max.	Span Shift (% Span) Max.	Combined Null and Span Shift (% Span) Max.	
±50 mm Hg	2.50 ± 0.050	4.00 Typ.	40.0 mV/mm Hg	0.80	+25° to +50°C	±1.50	±1.50	—
					+25° to 0°C	±1.50	±1.50	—
					+25° to -18°C	±2.00	±0.75	±2.00
0 to 15 psi	0.50 ± 0.11	4.00 ± 0.11	266.6 mV/psi	0.20	+25° to +63°C	±2.00	±0.75	±2.00
					+25° to -45°C	±2.75	±1.00	±3.00
					+25° to +85°C	±2.75	±1.00	±3.00
					+25° to +125°C	—	—	—
					+25° to -18°C	±1.25	±0.75	±1.50
0 to 100 psi	0.50 ± 0.04	4.00 ± 0.09	40.0 mV/psi	0.10	+25° to +63°C	±1.25	±0.75	±1.50
					+25° to -45°C	±2.00	±1.00	±2.50
					+25° to +85°C	±2.00	±1.00	±2.50
					+25° to +125°C	±3.00	±2.00	±3.00
					+25° to -18°C	±0.75	±0.75	±0.75
0 to 150 psi	0.50 ± 0.04	4.00 ± 0.07	26.6 mV/psi	0.10	+25° to +63°C	±0.75	±0.75	±0.75
					+25° to -45°C	±1.00	±1.00	±1.00
					+25° to +85°C	±1.00	±1.00	±1.00
					+25° to +125°C	±1.50	±1.50	±1.50
					+25° to -18°C	±0.75	±0.75	±0.75
0 to 250 psi	0.50 ± 0.04	4.00 ± 0.07	16.0 mV/psi	0.10	+25° to +63°C	±0.75	±0.75	±0.75
					+25° to -45°C	±1.00	±1.00	±1.00
					+25° to +85°C	±1.00	±1.00	±1.00
					+25° to +125°C	±2.00	±2.00	±3.00
					+25° to -18°C	±0.75	±0.75	±0.75

PERFORMANCE SPECIFICATIONS, TEMPERATURE/ACCURACY

Temperature Range	Total Accuracy (% Span) Max.			
	0 to 15 psi	0 to 100 psi	0 to 150 psi	0 to 250 psi
25°C	±0.4 (RSS)	±0.2 (RSS)	±0.2 (RSS)	±0.2 (RSS)
-18° to +63°C	±4.0	±2.5	±2.0	±2.0
-45° to +85°C	±4.0	±2.5	±2.0	±2.0
-45° to +125°C		±3.0	±2.5	±3.0

Note 1: Accuracy at 25°C is defined as RSS error for linearity, hysteresis, and repeatability.

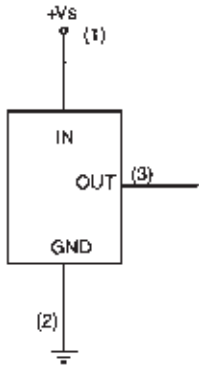
Note 2: Total accuracy is the maximum deviation from the 25°C reference transfer function at any pressure or temperature over the specified ranges. This calculation includes null, span, linearity, hysteresis, repeatability, null shift, and span shift.

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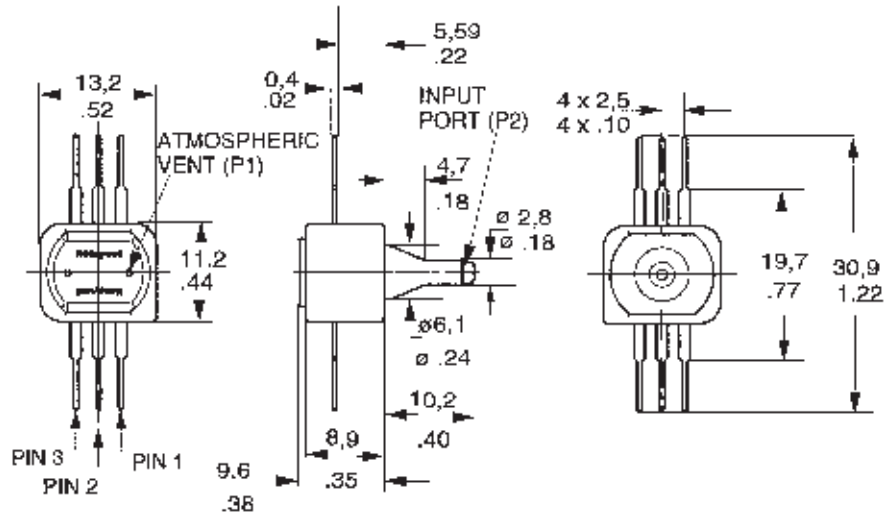
ELECTRICAL CONNECTION



NOTES:

1. Square corner marks pin 1 (Vs).
2. Output is short circuit protected.

MOUNTING DIMENSIONS (for reference only) mm/In.



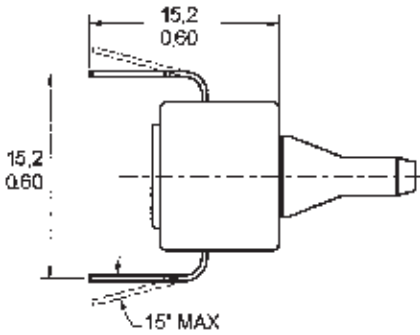
Lead Style 1

NOTE:

- P1 - DRY GASES ONLY: Media must be compatible with epoxy based adhesive.
 P2 - Media must be compatible with glass, silicon, stainless steel, invar, Sn/Ni plating or Sn/Ag solder.

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Lead Style 2



Lead Style 3

