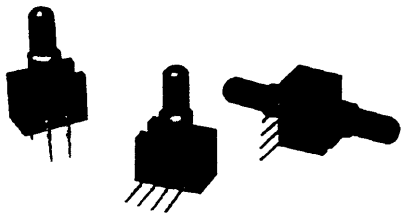
Pressure Sensors

Gage and Differential/Unamplified-Noncompensated

Basic Sensors



FEATURES

- Lowest priced pressure sensor
- Miniature package
- Variety of gage pressure port configurations - easily and quickly modified for your special needs
- Choice of termination for gage sensors
- 2 mA constant current excitation significantly reduces sensitivity shift over temperature*
- Can be used to measure with vacuum or positive pressure

723 - 7753
723 - 7756
731 - 626 / 638
" 640 / 651
" 663 / 675
" 687 / 699
" 705 / 717
" 729 / 730

24PC SERIES PERFORMANCE CHARACTERISTICS at 10.0 ±0.01 VDC Excitation, 25°C

	Min.	Typ.	Max.	Units
Excitation	—	10	12	VDC
Null Offset	-30	0	+30	mV
Null Shift, 25° to 0°, 25° to 50°C	—	±2.0	—	mV
Linearity, P2 > P1, BFSL	—	±0.25	±1.0	%Span
Sensitivity Shift, 25° to 0°, 25° to 50°C	—	±5.0*	—	%Span
Repeatability & Hysteresis	—	±0.15	—	%Span
Response Time	—	—	1.0	msec
Input Resistance	—	5.0 K	—	ohms
Output Resistance	—	5.0 K	—	ohms
Stability over One Year	—	±0.5	—	%Span
Weight	—	2	—	grams

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40° to +85°C (-40° to +185°F)
Storage Temperature	-55° to +100°C (-67° to +212°F)
Shock	Qualification tested to 150 g
Vibration	Qualification tested to 0 to 2 kHz, 20 g sine
Media (P1 & P2)	Limited only to those media which will not attack polyetherimide, silicon and fluorosilicone seal

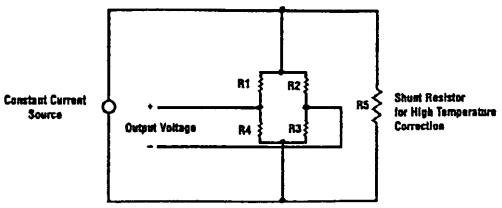
24PC SERIES ORDER GUIDE

Catalog Listing	Pressure Range psi	Span, mV			Sensitivity mV/psi Typ.	Overpressure psi Max.
		Min.	Typ.	Max.		
24PCE Type	0.5	24	35	46	70	20
24PCA Type	1.0	30	45	60	45	20
24PCB Type	5.0	85	115	145	23	20
24PCC Type	15	165	225	285	15	45
24PCD Type	30	240	330	420	11	60
24PCF Type	100	156	225	294	2.25	200
24PCG Type	250	145	212	280	0.85	500

*Non-compensated pressure sensors, excited by constant current instead of voltage, exhibit temperature compensation of Span. Application Note #1 briefly discusses current excitation.

Constant current excitation has an additional benefit of temperature measurement. When driven by a constant current source, a silicon pressure sensor's terminal voltage will rise with increased temperature. The rise in voltage not only compensates the Span, but is also an indication of die temperature.

Constant Current Excitation Schematic



Pressure Sensors

Gage and Differential/Unamplified-Noncompensated

SENSOR SELECTION GUIDE

2 Product Family	4 Circuit Type	PC Pressure Transducer	A Pressure Range	F* Type of Seal	A Type of Port	2 Termination Style	G Pressure Measurement
2 20PC family	4 Noncom-pensated		A 1 psi B 5 psi C 15 psi D 30 psi E 0.5 psi F 100 psi G 250 psi	F Fluorosilicone	A Straight B Barbed C Luer D Modular H M5 Thread I 90° Port J Needle M ¼ - 28 UNF Thread	1 1 x 4 2 2 x 2	G Gage D Differential

Example: 24PCAFA2G
Standard, non-compensated 1 psi sensor with fluorosilicone seal, straight port, 2 x 2 terminals, and Gage pressure measurement.
*Other media seal materials may be available.

ACCESSORIES SELECTION GUIDE

Catalog Listing	Description
PC10182	Steel lockring (Included with Port Style A, 1 x 4 terminals only)
PC10949	Single hole plastic bracket (Must be separately ordered)

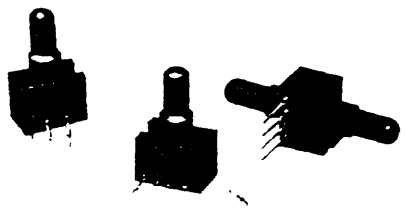
Not all combinations are established. Contact 800 number before final design. The following listings are typically stocked in small quantities.

Pressure Sensors

Gage and Differential/Unamplified-Noncompensated

24PC Series

Basic Sensors



FEATURES

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	Min.	Typ.	Max.	Units
Excitation	---	10	12	VDC
Null Shift, 25° to 0°, 25° to 50°C	---	±0.5	---	mV
Null Offset	-30	0	+30	mV
Linearity, P2 > P1, BFSL	---	±0.25	---	%Span
Sensitivity Shift, 25° to 0°, 25° to 50°C	---	±5.0*	---	%Span
Repeatability & Hysteresis	---	±0.15	---	%Span
Response Time	---	---	1.0	msec
Input Resistance	---	5.0 K	---	ohms
Output Resistance	---	5.0 K	---	ohms
Stability over One Year	---	±0.5	---	%Span
Weight	---	2	---	grams

* Can be significantly reduced with constant current excitation (2 mA).

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40° to +85°C (-40° to +185°F)
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Shock	Qualification tested to 150 g
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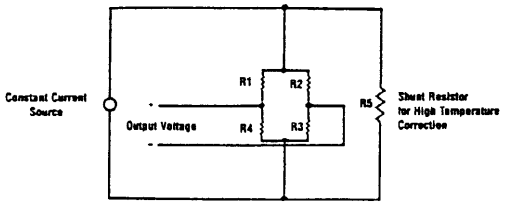
24PC SERIES ORDER GUIDE

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*Non-compensated pressure sensors, excited by constant current instead of voltage, exhibit temperature compensation of Span. Application Note #1 briefly discusses current excitation. 24PC Series sensors were tested over four different current excitation levels. When compared to voltage excitation data, the 2 mA units exhibited an improvement in Span performance over temperature of 7 to 1, without adding any extra components.

Constant current excitation has an additional benefit of temperature measurement. When driven by a constant current source, a silicon pressure sensor's terminal voltage will rise with increased temperature. The rise in voltage not only compensates the Span, but is also an indication of die temperature.

Constant Current Excitation Schematic



For application help call 1-800-537-6945.

Pressure Sensors

Gage and Differential/Unamplified-Noncompensated

24PC Series

SENSOR SELECTION GUIDE

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Example: 24PCAFA2G
Standard, non-compensated 1 psi sensor with fluorosilicone seal, straight port, 2 x 2 terminals, and Gage pressure measurement.
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ACCESSORIES SELECTION GUIDE

Catalog Listing	Description
PC10182	Steel lockring (Included with Port Style A, 1 x 4 terminals only)
PC10949	Single hole plastic bracket (Must be separately ordered)

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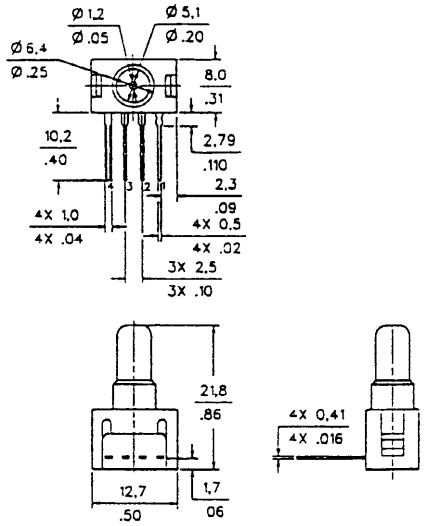
24PC ORDER GUIDE

Catalog Listing
24PCAFA1D
24PCAFA1G
24PCBFA1D
24PCBFA1G
24PCCFA1D
24PCCFA1G
24PCDFA1D
24PCDFA1G
24PCEFA1D
24PCEFA1G
24PCFFA1G
24PCFFM1G
24PCGFA1G
24PCGFFM1G

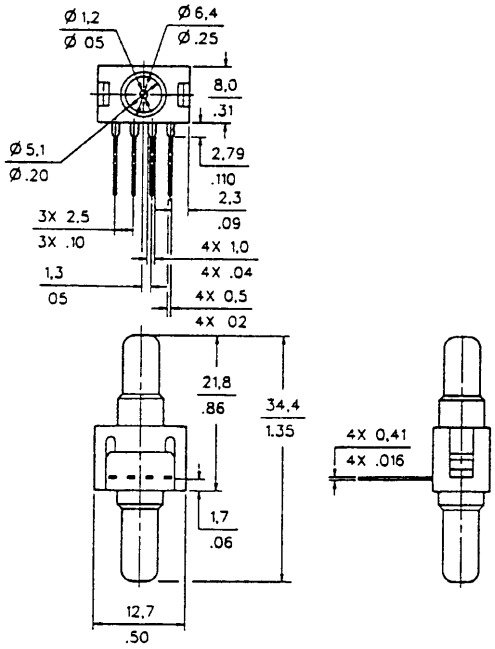
MOUNTING DIMENSIONS (for reference only)

GAGE SENSOR
Pressure is applied to port P2.
Port P1 vents to ambient pressure.

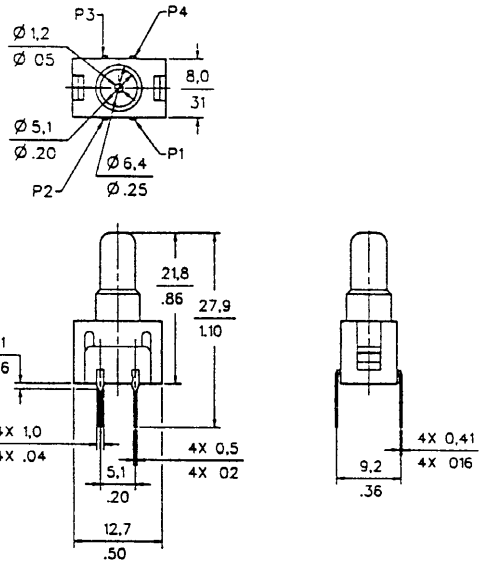
"1 x 4" Termination (Style 1), Port Style A, Straight
Pin 1 is notched, and is shown at the right of the package.
Pin 2 is next to pin 1, etc.



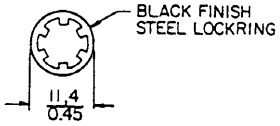
DIFFERENTIAL SENSOR
Straight Port, 1 x 4 termination (Style 2) ONLY
Port P1 is near terminals.



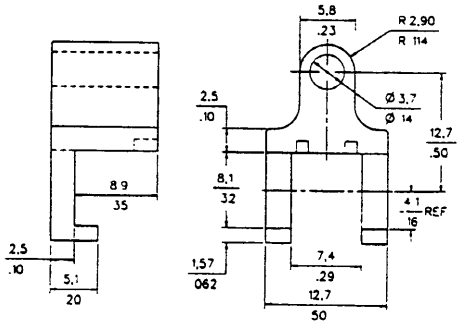
"2 x 2" Termination (Style 2), Port Style A, Straight
Pin 1 is notched, and is shown at lower right corner.
Pins 2, 3 and 4 are clockwise.



ACCESSORIES
Lockring (included with A port)
PC10182



Single hole Plastic Bracket (purchase separately)
PC10949



Dual Port Plastic Bracket (purchase separately)
PC15015

