



### 40PC001B2A



*Actual product appearance may vary.*

**Pressure Sensors: Measurement Type: Bi-Directional Gage, Differential; Signal Conditioning: Amplified; Pressure Range:  $\pm 50.0$  mm Hg; Port Style: Straight O-ring interface**

#### Features

- Smallest amplified sensor package
- Minimal PCB space
- Fully signal conditioned
- Operating temperature range from  $-45^{\circ}\text{C}$  to  $125^{\circ}\text{C}$  [ $-49^{\circ}\text{F}$  to  $257^{\circ}\text{F}$ ]
- Silicon piezoresistive technology
- Monolithic design
- 6 Pin DIP package
- Port designed for O-ring interface

#### Potential Applications

##### Medical

- Oxygen and nitrogen gas distribution in hospitals
- Dental chairs
- CPAP (Continuous Positive Airway Pressure) equipment
- Respirators and ventilators
- Blood glucose monitors
- Oxygen conservers
- Oxygen concentrators
- Nebulizers
- Kidney dialysis machines
- Blood cell separators
- Hospital beds

##### Environmental

- Water control valves
- Instrumentation
- Irrigation equipment
- Filter monitoring equipment

##### Industrial Instrumentation

- Robotics
- Pressure valves
- Leak detection
- Air compressors

##### Analytical Instrumentation

- Gas chromatography
- Chemical Analyzers

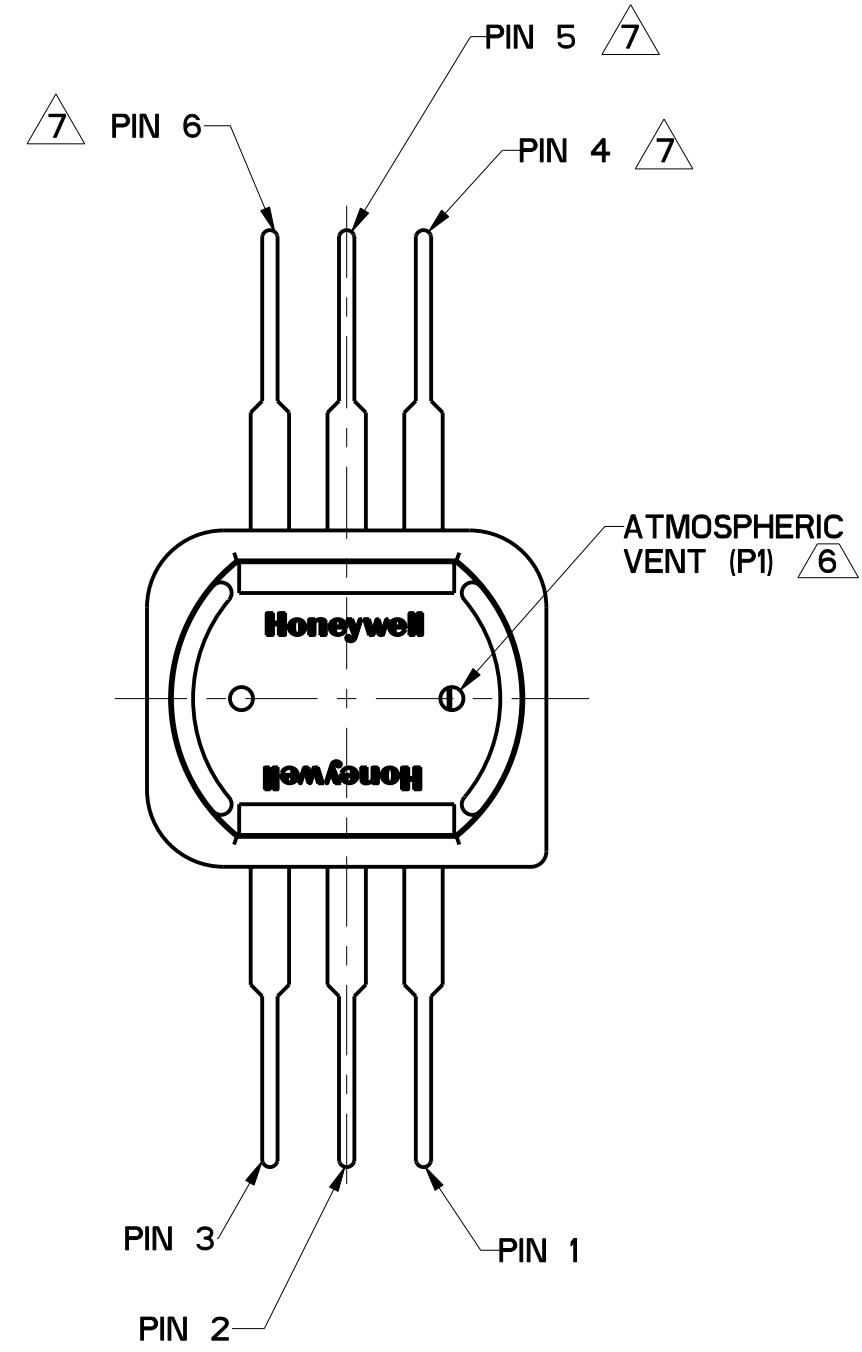
##### Transportation

- Electronic brake systems
- Engine oil level
- Transmission fluid level
- Air conditioning system
- Fuel injection systems

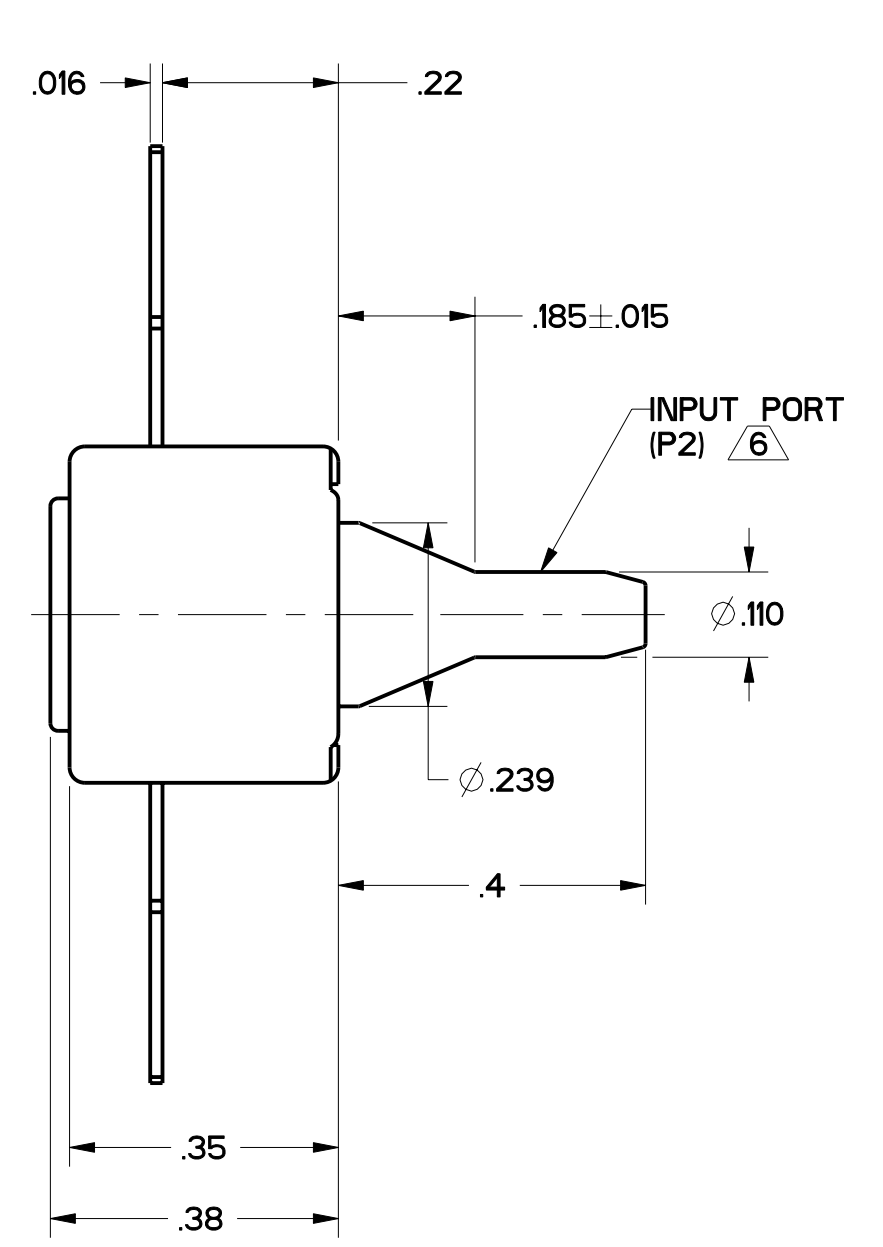
#### Description

The cost-effective 40PC Series miniature pressure sensor is the smallest amplified pressure sensor manufactured by Honeywell. The fully calibrated and temperature-compensated sensor is very robust, covering a wide range of temperature extremes. Additionally, the 40PC Series is compatible with a broad array of media, from dry air and water to refrigerant coolants and engine fuel. The 0.5 Vdc to 4.5 Vdc analog output voltage signal is linearly proportional to input pressure. These devices operate on a single end supply voltage of 5.0 Vdc.

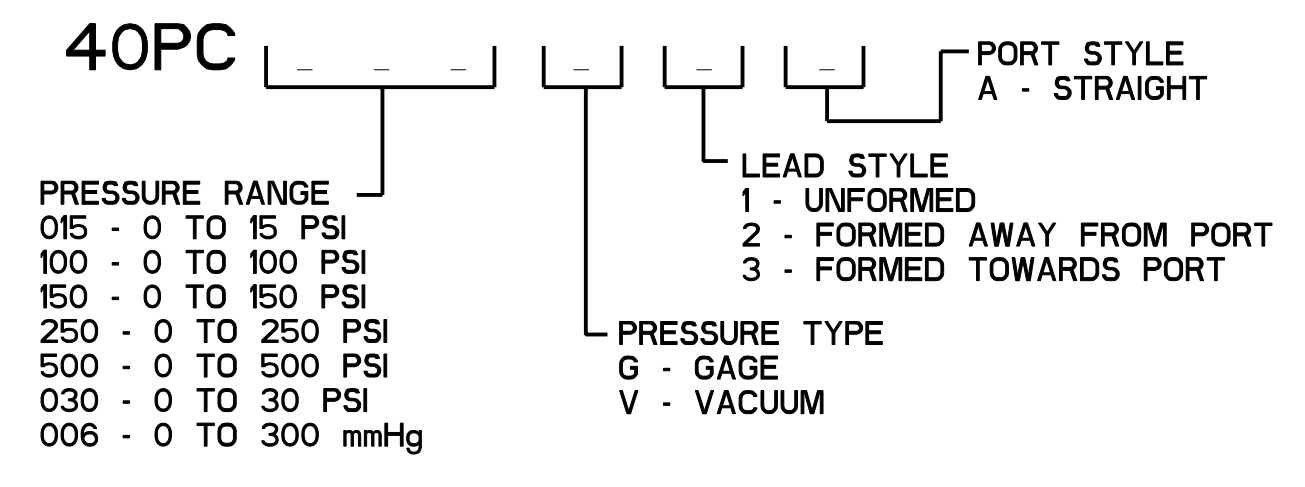
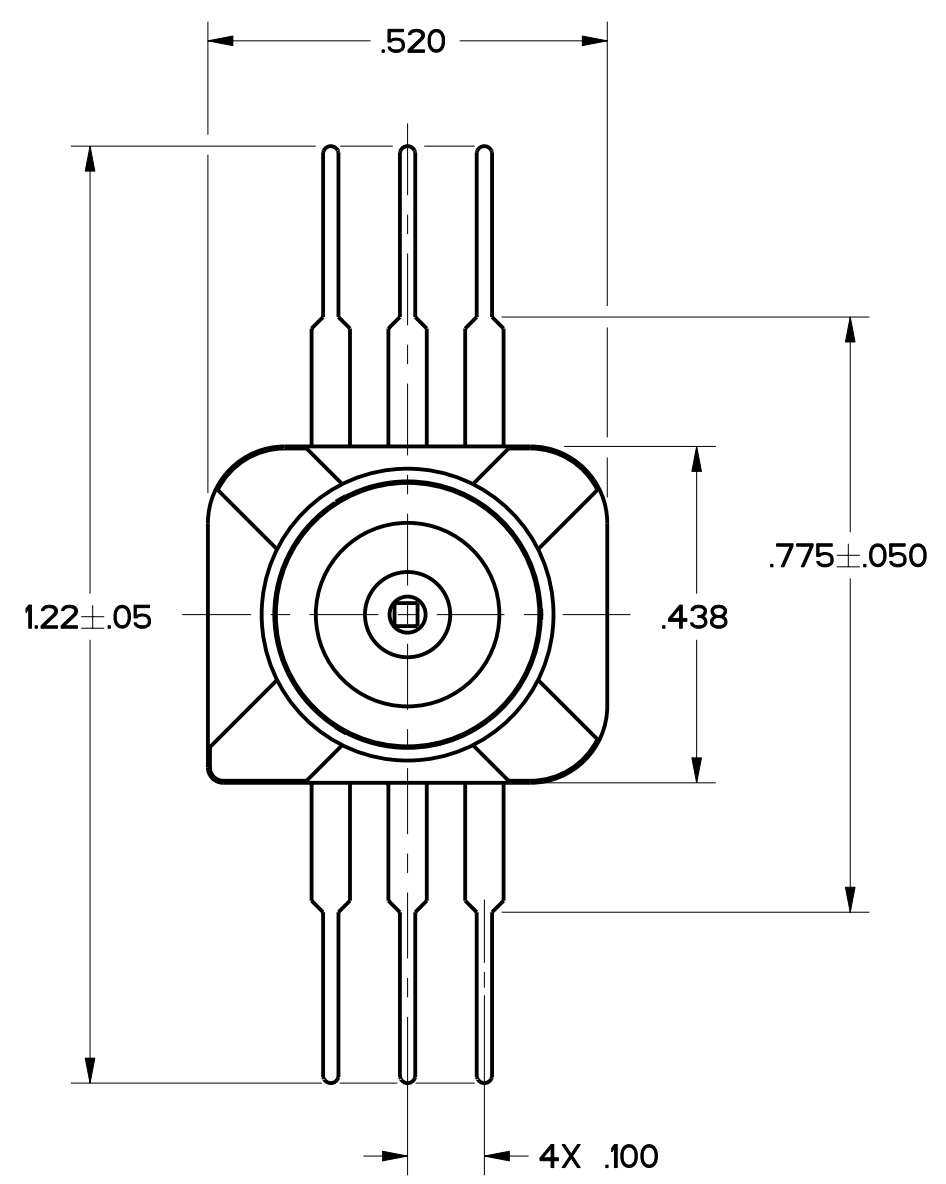
Product Specifications	
Measurement Type	Differential, Bidirectional Gage
Signal Conditioning	Amplified
Pressure Range	± 50.0 mm Hg
Maximum Overpressure	± 170 mm Hg
Supply Voltage	5.0 Vdc ± 0.25 Vdc
Compensated	Yes
Output Calibration	Yes
Response Time	1 ms max.
Termination	PCB; Leads formed away from port
Port Style	Straight for O-ring interface
Package Style	Honeywell - Monolithic
Linearity	0.80% span max.
Typical Sensitivity	40 mV/mm Hg
Full Scale Span	4.0 Vdc typ.
Null Offset	2.50 Vdc typ.
Repeatability & Hysteresis Error	± 0.15 % span typ.
Shock	Qualification tested to 150 g
Vibration	MIL-STD-202 Method 213 (150 g half sine 11 ms)
Operating Temperature Range	-45 °C to 125 °C [-49 °F to 257 °F]
Compensated Temperature Range	-45 °C to 125 °C [-49 °F to 257 °F]
Storage Temperature Range	-55 °C to 125 °C [-67 °F to 257 °F]
Media Compatibility	Port 1: Dry gases only. Media must be compatible with epoxy-based adhesive. Port 2: Wetted materials. Media must be compatible with glass, silicon, stainless steel, invar, Sn/Ni plating and Sn/Ag solder.
UNSPSC Code	411121
UNSPSC Commodity	411121 Transducers
Availability	Global
Series Name	40PC



LEAD PIN OUT		
Vout	GND	Vs
3	2	1



LEAD STYLE 1



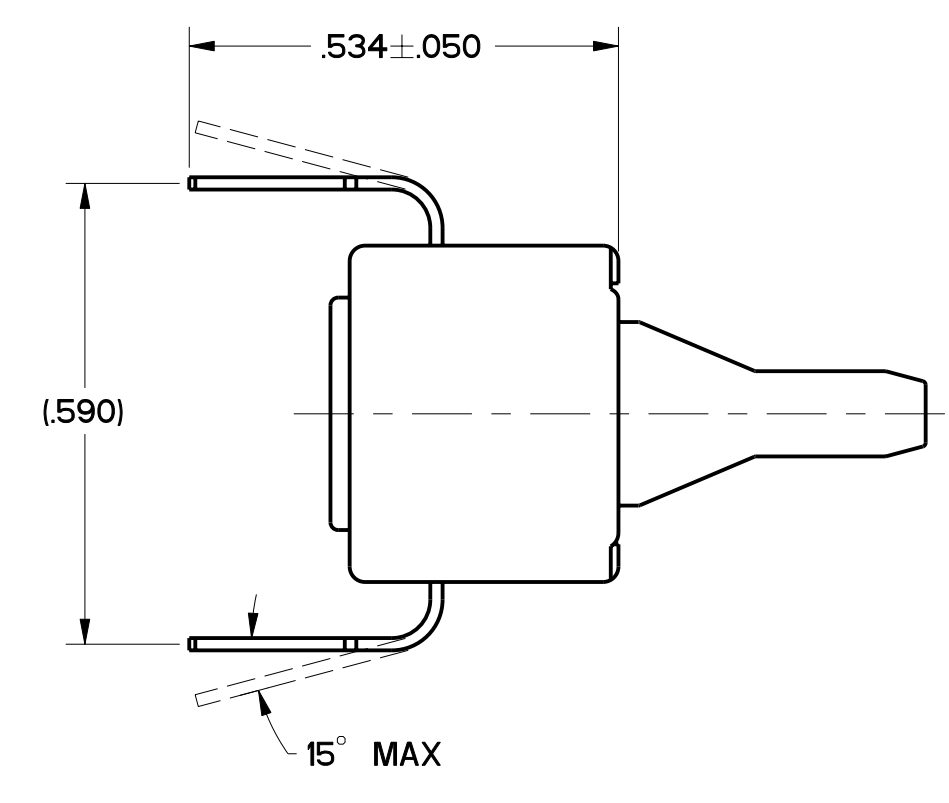
NOTES

- ① TEMPERATURE ERROR IS THE MAXIMUM DEVIATION FROM 25° PERFORMANCE OVER THE ENTIRE TEMPERATURE RANGE SHOWN
- ② ACCURACY IS DEFINED AS THE 25C, RSS ERRORS FOR LINEARITY, HYSTERESIS AND REPEATABILITY
- ③ TOTAL ACCURACY IS THE MAXIMUM DEVIATION FROM THE 25C REFERENCE TRANSFER FUNCTION AT ANY PRESSURE OR TEMPERATURE OVER THE SPECIFIED RANGES
- ④ OUTPUT CAN BE SHORTED TO THE POSITIVE TERMINAL OR THE GROUND TERMINAL
- ⑤ PRODUCT 100% TESTED AT THE -45 TO +85°C RANGE ONLY
- ⑥ INPUT MEDIA:  
 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
- ⑦ PINS 4, 5 OR 6 ARE INTERNAL DEVICE CONNECTIONS, DO NOT CONNECT TO EXTERNAL CIRCUITRY OR GROUND
- ⑧ PRODUCT TESTED AT 250 PSI

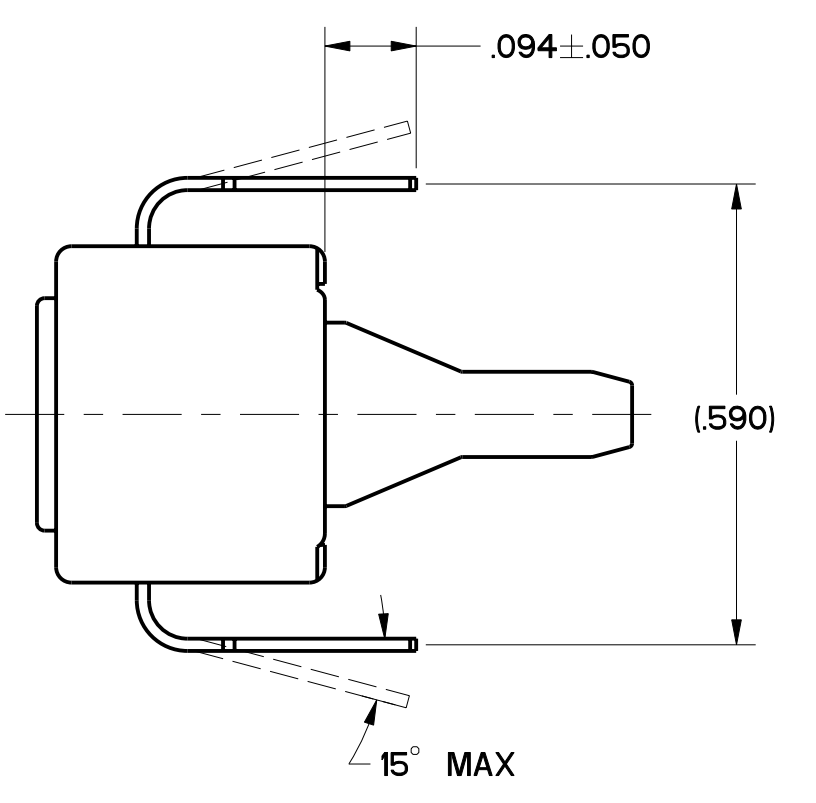
GENERAL CHARACTERISTICS

PRESSURE RANGE	SEE CHART
OVERPRESSURE	SEE CHART
TEMPERATURE RANGES	
STORAGE	-55° TO +125° C
OPERATING	-45° TO +125° C
SUPPLY VOLTAGE	5.0 Vdc (NOM) ±.25 Vdc
SUPPLY CURRENT	10mA MAX
SHORT CIRCUIT LIMIT	④
OUTPUT SOURCE CURRENT	0.5 mA MAX
OUTPUT SINK CURRENT	10 mA MAX
OUTPUT CAPACITANCE	0.01µ F MAX
DRIVE CAPABILITY	
RATIOMETRICITY	±.025% SPAN TYP
OUTPUT PERFORMANCE AT 25°C AND 5.00±.01 VDC SUPPLY UNLESS NOTED	
NULL (0 PSIG)	SEE CHART
FULL SCALE	4500 Vdc TYP
SPAN	SEE CHART
SENSITIVITY	SEE CHART
HYSTERESIS & REPEATABILITY	0.15% SPAN TYP
TEMPERATURE ERROR / ①	
NULL SHIFT	
25° TO -18° C	±.075% SPAN MAX
25° TO +63° C	±.200% SPAN MAX
25° TO +45° C	±.100% SPAN MAX
25° TO +85° C	±.100% SPAN MAX
25° TO +125° C	±.25% SPAN MAX
SPAN SHIFT	
25° TO -18° C	±.200% SPAN MAX
25° TO +63° C	±.075% SPAN MAX
25° TO +45° C	±.225% SPAN MAX
25° TO +85° C	±.125% SPAN MAX
25° TO +125° C	±.25% SPAN MAX
COMBINED NULL AND SPAN SHIFT	
25° TO -18° C	±.150% SPAN MAX
25° TO +63° C	±.200% SPAN MAX
25° TO +45° C	±.175% SPAN MAX
25° TO +85° C	±.100% SPAN MAX
25° TO +125° C	±.25% SPAN MAX
LINEARITY (B.F.S.L)	0.30% SPAN MAX
ACCURACY (25C) RSS / ②	±.04% SPAN
TOTAL ACCURACY / ③	-18 TO +63° C: ±.25% SPAN MAX; -45 TO +85° C: ±.40% SPAN MAX; -45 TO +125° C: ±.225% SPAN MAX

CATALOG LISTING	LEAD STYLE	PRESSURE RANGE	OVER-PRESSURE	SENSITIVITY	NULL (0 PSIG) VDC	SPAN VDC
40PC015G1A	1	0 TO 15 PSI	45 PSI	266.6 mV/PSI TYP	.500±.110	4.000±.110
40PC015G2A	2	0 TO 15 PSI	45 PSI	266.6 mV/PSI TYP	.500±.110	4.000±.110
40PC015G3A	3	0 TO 15 PSI	45 PSI	266.6 mV/PSI TYP	.500±.110	4.000±.110
40PC100G1A	1	0 TO 100 PSI	200 PSI	40.0 mV/PSI TYP	.500±.040	4.000±.090
40PC100G2A	2	0 TO 100 PSI	200 PSI	40.0 mV/PSI TYP	.500±.040	4.000±.090
40PC100G3A	3	0 TO 100 PSI	200 PSI	40.0 mV/PSI TYP	.500±.040	4.000±.090
40PC150G1A	1	0 TO 150 PSI	300 PSI	26.6 mV/PSI TYP	.500±.040	4.000±.070
40PC150G2A	2	0 TO 150 PSI	300 PSI	26.6 mV/PSI TYP	.500±.040	4.000±.070
40PC150G3A	3	0 TO 150 PSI	300 PSI	26.6 mV/PSI TYP	.500±.040	4.000±.070
40PC250G1A	1	0 TO 250 PSI	500 PSI	16.0 mV/PSI TYP	.500±.040	4.000±.070
40PC250G2A	2	0 TO 250 PSI	500 PSI	16.0 mV/PSI TYP	.500±.040	4.000±.070
40PC250G3A	3	0 TO 250 PSI	500 PSI	16.0 mV/PSI TYP	.500±.040	4.000±.070
40PC500G1A	1	0 TO 500 PSI	1000 PSI	8.0 mV/PSI TYP	.500±.040	4.000±.090
40PC500G2A	2	0 TO 500 PSI	1000 PSI	8.0 mV/PSI TYP	.500±.040	4.000±.090
40PC500G3A	3	0 TO 500 PSI	1000 PSI	8.0 mV/PSI TYP	.500±.040	4.000±.090
40PC015V1A	1	0 TO -15 PSI	30 PSI	266.6 mV/PSI TYP	.500±.040	4.0±1
40PC015V2A	2	0 TO -15 PSI	30 PSI	266.6 mV/PSI TYP	.500±.040	4.0±1
40PC015V3A	3	0 TO -15 PSI	30 PSI	266.6 mV/PSI TYP	.500±.040	4.0±1
40PC030G1A	1	0 TO 30 PSI	60 PSI	133.3 mV/PSI TYP	.500±.040	4.000±.080
40PC030G2A	2	0 TO 30 PSI	60 PSI	133.3 mV/PSI TYP	.500±.040	4.000±.080
40PC030G3A	3	0 TO 30 PSI	60 PSI	133.3 mV/PSI TYP	.500±.040	4.000±.080
40PC006G1A	1	0 TO 300 mmHg	650 mmHg	13.33 mV/mmHg	.500±.050	4.000±.050
40PC006G2A	2	0 TO 300 mmHg	650 mmHg	13.33 mV/mmHg	.500±.050	4.000±.050
40PC006G3A	3	0 TO 300 mmHg	650 mmHg	13.33 mV/mmHg	.500±.050	4.000±.050



LEAD STYLE 2



LEAD STYLE 3

**CAUTION**  
ELECTROSTATIC SENSITIVE DEVICES  
DO NOT OPEN OR HANDLE EXCEPT AT A STATIC FREE WORKSTATION

**ESD SENSITIVITY: CLASS 1**

THIRD ANGLE PROJECTION

SCALE: 4 : 1

DO NOT SCALE PRINT

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE

ONE PLACE (.0) ±.030  
 TWO PLACE (.00) ±.015  
 THREE PLACE (.000) ±.005  
 ANGLES °

WEIGHT