

Model Number

740B02

## UNIAXIAL ICP® STRAIN SENSOR

Revision: G

ECN #: 22938

	ENGLISH	SI	
<b>Performance</b>			
Sensitivity ( $\pm 20\%$ )	50 mV/ $\mu\epsilon$	50 mV/ $\mu\epsilon$	[3]
Measurement Range	100 pk $\mu\epsilon$	100 pk $\mu\epsilon$	
Frequency Range	0.5 to 100,000 Hz	0.5 to 100,000 Hz	[4]
Bandwidth Resolution (1 to 10,000 Hz)	0.6 n $\epsilon$	0.6 n $\epsilon$	[1]
Non-Linearity	$\leq 1\%$	$\leq 1\%$	[5]
Transverse Sensitivity	$\leq 5\%$	$\leq 5\%$	[1]
<b>Environmental</b>			
Overload Limit (Shock)	$\pm 10,000$ g pk	$\pm 98,000$ m/s <sup>2</sup> pk	
Temperature Range	-65 to +250 °F	-53 to +121 °C	
Acceleration Sensitivity	0.001 $\mu\epsilon$ /g	0.0001 $\mu\epsilon$ /(m/s <sup>2</sup> )	[2][1]
<b>Electrical</b>			
Excitation Voltage	20 to 30 VDC	20 to 30 VDC	
Constant Current Excitation	2 to 20 mA	2 to 20 mA	
Output Impedance	<100 ohm	<100 ohm	
Output Bias Voltage	8 to 14 VDC	8 to 14 VDC	
Discharge Time Constant	1 to 3 sec	1 to 3 sec	
Spectral Noise (1 Hz)	210 p $\epsilon$ /√Hz	210 p $\epsilon$ /√Hz	[1]
Spectral Noise (10 Hz)	70 p $\epsilon$ /√Hz	70 p $\epsilon$ /√Hz	[1]
Spectral Noise (100 Hz)	20 p $\epsilon$ /√Hz	20 p $\epsilon$ /√Hz	[1]
Spectral Noise (1 kHz)	5 p $\epsilon$ /√Hz	5 p $\epsilon$ /√Hz	[1]
Spectral Noise (10 kHz)	1 p $\epsilon$ /√Hz	1 p $\epsilon$ /√Hz	[1]
<b>Physical</b>			
Sensing Element	Quartz	Quartz	
Housing Material	Titanium	Titanium	
Sealing	Epoxy	Epoxy	
Size (Width x Length x Height)	0.2 in x 0.6 in x 0.07 in	5.1 mm x 15.2 mm x 1.8 mm	
Weight	0.02 oz	0.5 gm	[1]
Electrical Connector	Integral Cable	Integral Cable	
Electrical Connection Position	Side	Side	
Cable Termination			
Mounting	Adhesive	Adhesive	
Cable Length	10 ft	3 m	
Cable Type	030 Coaxial	030 Coaxial	

## OPTIONAL VERSIONS

Optional versions have identical specifications and accessories as listed for the standard model except where noted below. More than one option may be used.

## NOTES:

- [1] Typical.  
 [2] Measured perpendicular to sensing axis.  
 [3] Calibrated on steel bar.  
 [4] Based on cable drive of 100 ft at 30 pF/ft 20 mA excitation.  
 [5] Zero-based, least-squares, straight line method.  
 [6] See PCB Declaration of Conformance PS023 for details.

## SUPPLIED ACCESSORIES:

- Model 039A07 Removal Tool (1)  
 Model 080A90 Quick Bonding Gel (1)  
 Model ACS-15 Piezoelectric Strain Sensor Calibration Certificate. (1)

Entered: JET	Engineer: AEX	Sales: WX	Approved: MB	Spec Number:
Date: 10/5/05	Date: 10-5-05	Date: 10/5/05	Date: 10/5/05	9599



[6]

All specifications are at room temperature unless otherwise specified.  
 In the interest of constant product improvement, we reserve the right to change specifications without notice.

ICP® is a registered trademark of PCB Group, Inc.

**PCB PIEZOTRONICS™**  
 VIBRATION DIVISION

3425 Walden Avenue, Depew, NY 14043

Phone: 716-684-0001  
 Fax: 716-685-3886  
 E-Mail: vibration@pcb.com