PCB PIEZOTRONICS
AN AMPHENOL COMPANY

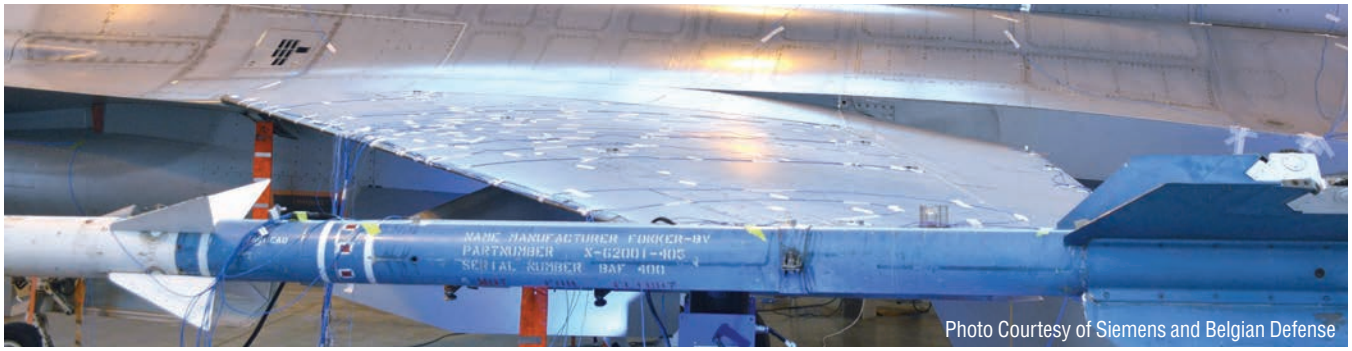
Photo Courtesy of Siemens and Belgian Defense

SERIES **740XXX**

REUSABLE PIEZOELECTRIC ICP® STRAIN SENSOR

- Frequency response from 0.5 Hz to 100 kHz
- ICP® amplified output for low noise operation over long cable lengths
- Reusable mounting with super glue
- Integral cable, no soldering required
- Low mass of 0.5 grams

TYPICAL APPLICATIONS

- Ground Vibration Testing
- Modal Analysis
- Transfer Path Analysis
- Active Vibration Control

CE

FOR DYNAMIC TESTING OF AIRCRAFT, DEFENSE VEHICLES AND COMPONENTS

Reusable ICP® Piezoelectric strain sensors can be used in modal analysis to assess structural integrity of aircraft during ground vibration testing and flight testing to determine high stress levels. They may also be used for measurement of strain-displacement relationships and load predictions.

Often used to supplement accelerometers, the small size of Series 740 strain sensors minimizes interference with aerodynamic properties of aircraft for flight test measurements. For applications where low strain levels occur, series 740 piezoelectric ICP® strain sensors generate output ten thousand times larger than the output of a resistive strain gauge. Its high sensitivity provides up to ±5 volts output at ±100 micro-strain.

The sensor mounts fast and easy to painted metals, composites, plastics and other materials in the field with gel-type super glue, and may be reused multiple times or reapplied if alignment is not correct on the first application. Removal is simplified with a debonding agent and supplied removal tool. The strain sensor is also supplied with a calibration certificate.

SPECIFICATIONS		
Model Number	**740B02**	**740M04**
Performance		
Sensitivity (±20%)	50 mV/με	5 mV/με
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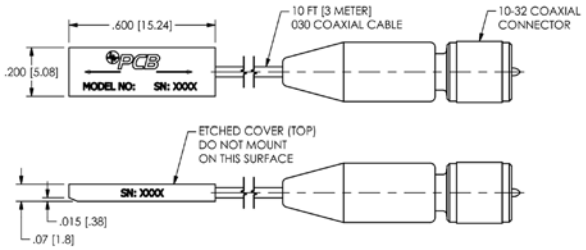
Measurement Range	100 pk με	900 pk με
Frequency Range	0.5-100000 Hz	0.5-100000 Hz
Broadband Resolution	0.6 nε	5.0 nε
Non-Linearity	≤1 %	≤1.5 %
Transverse Sensitivity	≤5 %	≤5 %
Environmental		
Overload Limit (Shock)	±10000 g pk	±10000 g pk
	±98000 m/s² pk	±98000 m/s² pk
Temperature Range	-65 to +250 °F	-65 to +250 °F
	-53 to +121 °C	-53 to +121 °C
Acceleration Sensitivity	0.001 με/g	0.001 με/g
Electrical		
Excitation Voltage	20-30 VDC	20-30 VDC
Constant Current Excitation	2-20 mA	2-20 mA
Output Impedance	<100 Ohm	<100 Ohm
Output Bias Voltage	8-14 VDC	8-14 VDC
Discharge Time Constant	1-3 sec	1-3 sec
Spectral Noise (1 Hz)	210 pε/√Hz	1900 pε/√Hz
Spectral Noise (10 Hz)	70 pε/√Hz	600 pε/√Hz
Spectral Noise (100 Hz)	20 pε/√Hz	200 pε/√Hz
Spectral Noise (1 kHz)	5 pε/√Hz	60 pε/√Hz
Spectral Noise (10 kHz)	1 pε/√Hz	15 pε/√Hz
Physical		
Sensing Element	Quartz	Quartz
Housing Material	Titanium	Titanium
Sealing	Epoxy	Epoxy
Size - W x L x H	0.2 x 0.6 x 0.07 in	0.2 x 0.6 x 0.07 in
Weight	0.5 gm	0.5 gm
Electrical Connector	10-32 Plug	10-32 Plug
Electrical Connection Position	Side	Side
Mounting	Adhesive	Adhesive
Cable Length	10 ft	10 ft
	3 m	3 m
Cable Type	030 Coaxial	030 Coaxial
Accessories		
Removal Tool	039A07 (Supplied)	039A07
Quick Bonding Gel	080A90 (Supplied)	080A90
Piezoelectric Strain Sensor Calibration Certificate	ACS-15 (Supplied)	ACS-15



Model 039A07

Removable Tool

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