PCB PIEZOTRONICS
AN AMPHENOL COMPANY

MODEL **HV356A03**

HIGH-VOLTAGE TRIAXIAL ICP® ACCELEROMETER

- Electrically insulated for use up to 2,000 VDC
- 10 mV/g sensitivity with a 500 g measurement range
- TEDS-enabled for streamlined channel setup
- Custom cable lengths and connector configurations

CE

FOR HIGH-VOLTAGE EV BATTERY AND DRIVE SYSTEMS

The HV356A03 is a triaxial ICP® accelerometer built for the unique demands of measuring energized high-voltage electric vehicle systems. The non-conductive housing enables direct contact measurements on components energized up to 2,000 VDC, providing inherent protection for both data acquisition and technicians.

This model maintains the proven performance of the 356 Series with shear-mode ceramic sensing elements that provide stable frequency response, low noise, and high shock limits — while allowing for direct measurement of high voltage energized EV systems. Building on these strengths, the HV356A03 adds features such as a rugged polymer housing for high voltage isolation and double jacketed integral cable for increased abrasion resistance. TEDS-enabled options simplify channel identification, and optional cable lengths support the variety of layouts found in EV battery modules and drive system assemblies. The HV356A03 provides compact, reliable, and electrically insulated vibration data for development, power electronics testing, and durability validation.

SPECIFICATIONS		
Model Number	**HV356A03**	
	English	**SI**
Performance		
Sensitivity (±10%)	10 mV/g (±20%)	1.02 mV/(m/s²) (±20%)
Measurement Range	±500 g pk	±4905 m/s² pk
Frequency Range (± 5 %)	2 to 6800 Hz (y or z axis) 2 to 4200 Hz (x axis)	
Resonant Frequency	≥ 45 kHz	
Broadband Resolution (1–10,000 Hz)	0.003 g rms	0.03 m/s² rms
Non-Linearity	≤ 1%	
Transverse Sensitivity	≤ 6%	
TEDS	Yes	
Environmental		
Overload Limit (Shock)	±5000 g pk	±49,050 m/s² pk
Temperature Range (Operating)	-65 to +250 °F	-54 to +121 °C
Electrical		
Excitation Voltage	22 to 30 VDC	
Constant Current Excitation	2 to 20 mA	
Output Impedance	≤ 200 Ohm	
Output Bias Voltage	9 to 16 VDC	
Discharge Time Constant	0.24 to 1.0 sec	
Settling Time (within 10% bias)	≤ 3 sec	
Spectral Noise (1 Hz)	1200 µg/√Hz	11,772 (µm/s²)/√Hz
Spectral Noise (10 Hz)	300 µg/√Hz	2,943 (µm/s²)/√Hz
Spectral Noise (100 Hz)	100 µg/√Hz	981 (µm/s²)/√Hz
Spectral Noise (1 kHz)	30 µg/√Hz	294 (µm/s²)/√Hz
Electrical Isolation	≥ 2,000 VDC	
Physical		
Sensing Element	Ceramic	
Sensing Geometry	Shear	
Housing Material	Polymer	
Sealing	Hermetic	
Size (H × L × W)	0.34 × 0.34 × 0.34 in	8.64 × 8.64 × 8.64 mm
Weight	0.06 oz	1.7 gm
Connector	¼-28 4-pin	
Connection Position	Side	
Cable Termination	¼-28 4-Pin Jack	
Cable Length	10.00 ft	3.0 m
Cable Type	034 4-Conductor Shielded	
Mounting	Adhesive	

TYPICAL APPLICATIONS

Internal EV battery system vibration measurement

Inverter and drive-control component vibration testing

Electrified powertrain, motor, and gearbox monitoring

Energized high-voltage component vibration evaluation

Vibration studies during EV development and validation

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