



Model (EX)639A91

HIGH-FREQUENCY ICP® TRIAXIAL ACCELEROMETER



- Frequency response on all three axes up to 10 kHz (± 3 dB)
- Extremely small footprint (0.95 inch by 0.95 inch excluding the side exit connector)
- Made to withstand the harshest environments with case-isolated housing of 316L stainless steel and rugged four-pin M12 connector
- Available in hazardous area approved version

Save time and money by taking three simultaneous vibration measurements.

IMI Sensors offers the market's smallest, truly-industrial triaxial ICP® accelerometer with high frequency response (Model [EX]639A91). The sensor offers the time and money-saving benefits of a triaxial accelerometer, packaged in an extremely small, industrial-grade housing. With this sensor, there is no space too small for triaxial measurements.

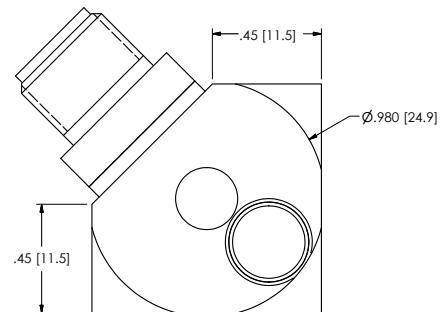
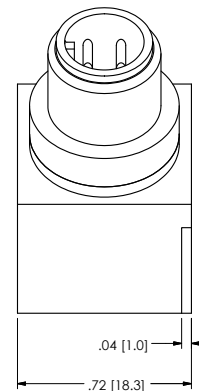
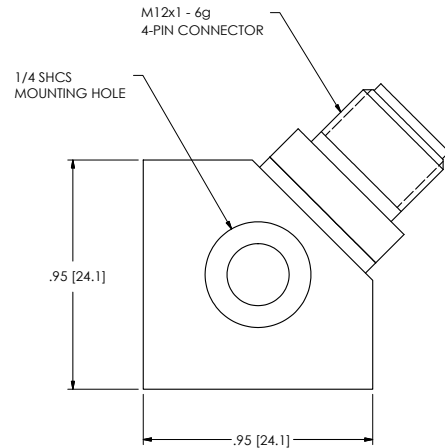
Typical Applications

- Gearboxes
- Motors
- Pumps





SPECIFICATIONS		
	IMPERIAL	METRIC
Performance		
Sensitivity ($\pm 10\%$)	100 mV/g	10.2 mV/(m/s ²)
Measurement Range	± 50 g pk	± 491 m/s ² pk
Frequency Range ($\pm 5\%$)	8.0 to 5,500 Hz	480 to 330,000 cpm
Frequency Range (± 3 dB)	0.5 to 10,000 Hz	30 to 600,000 cpm
Resonant Frequency	≥ 25 kHz	$\geq 1,500,000$ cpm
Broadband Resolution (1 to 10,000 Hz)	300 μ g	3,000 μ m/s ²
Non-Linearity	$\leq 1\%$	
Transverse Sensitivity	$\leq 5\%$	
Environmental		
Overload Limit (Shock)	$\pm 5,000$ g pk	49,050 m/s ² pk
Temperature Range (Operating)	-65 to + 250 °F	-54 to + 121 °C
Enclosure Rating	IP68/IP69K	
Hazardous Area Approval	CSA- AEx/Ex ia T4 Ga Class 1, Divisions 1 and 2 (EX only)	
Electrical		
Excitation Voltage	18 to 30 VDC	
Constant Current Excitation	2 to 20 mA	
Output Impedance	<150 Ohm	
Output Bias Voltage	8 to 12 VDC	
Discharge Time Constant	≥ 0.32 sec	
Settling Time (within 10% of bias)	< 2 sec	
Spectral Noise (1 Hz)	90.0 μ g/ $\sqrt{\text{Hz}}$	883.0 ($\mu\text{m}/\text{sec}^2$)/ $\sqrt{\text{Hz}}$
Spectral Noise (10 Hz)	20.0 μ g/ $\sqrt{\text{Hz}}$	196.0 ($\mu\text{m}/\text{sec}^2$)/ $\sqrt{\text{Hz}}$
Spectral Noise (100 Hz)	10.0 μ g/ $\sqrt{\text{Hz}}$	98.1 ($\mu\text{m}/\text{sec}^2$)/ $\sqrt{\text{Hz}}$
Spectral Noise (1 kHz)	3.0 μ g/ $\sqrt{\text{Hz}}$	29.4 ($\mu\text{m}/\text{sec}^2$)/ $\sqrt{\text{Hz}}$
Electrical Isolation (Case)	$\geq 10^8$ Ohm	
Physical		
Sensing Element	Ceramic	
Sensing Geometry	Shear	
Housing Material	316L Stainless Steel	
Sealing	Hermetic	
Mounting Thread	1/4-28 Male	
Mounting Torque	2 to 5 ft-lb	2.7 to 6.8 N-m
Electrical Connector	4-Pin, M12	
Electrical Connection Position	Side	
Size (H x L x W)	.72 in x .95 in x .95 in	18.3 mm x 24.1 mm x 24.1 mm
Weight	3.0 oz	85 g



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IMI SENSORS designs and manufactures a full line of accelerometers, sensors, vibration switches, vibration transmitters, cables and accessories for predictive maintenance, continuous vibration monitoring, and machinery equipment protection. Products include rugged industrial ICP[®] accelerometers, 4-20 mA industrial vibration sensors and transmitters for 24/7 monitoring, electronic and mechanical vibration switches, the patented Bearing Fault Detector, high temperature accelerometers to +1300 °F (+704 °C), 2-wire Smart Vibration Switch, and the patented Reciprocating Machinery Protector. CE approved and intrinsically safe versions are available for most products.

THE INDUSTRY'S ONLY COMMITMENT TO TOTAL CUSTOMER SATISFACTION.

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