



MODEL (EX)639A91

HIGH-FREQUENCY ICP[®] TRIAXIAL ACCELEROMETER



- Frequency response on all three axes up to 13 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

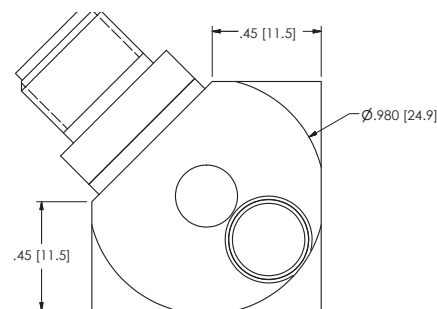
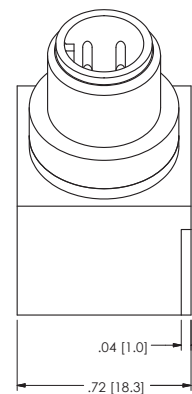
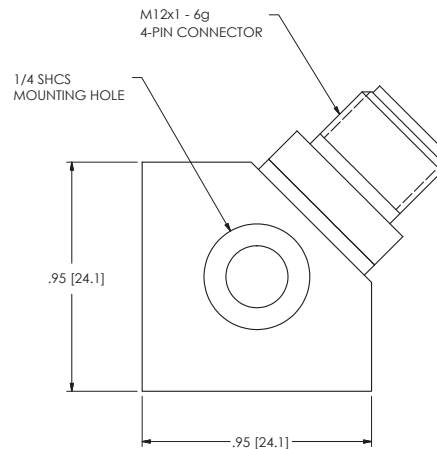
TYPICAL APPLICATIONS

- Gearboxes
- Motors
- Pumps

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.

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 ($\pm 5\%$)	1.5 to 5500 Hz (90 to 330000 cpm)
Frequency Range (± 3 dB)	0.5 to 13000 Hz (30 to 780000 cpm)
Resonant Frequency	≥ 25 kHz (≥ 1500000 cpm)
Broadband Resolution (1 to 10000 Hz)	300 μ g (3000 μ m/s ²)
Non-Linearity	$\leq 1\%$
Transverse Sensitivity	$\leq 5\%$
Environmental	
Overload Limit (Shock)	± 5000 g pk (49050 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 (μ m/sec ²)/ $\sqrt{\text{Hz}}$)
Spectral Noise (10 Hz)	20.0 μ g/ $\sqrt{\text{Hz}}$ (196.0 (μ m/sec ²)/ $\sqrt{\text{Hz}}$)
Spectral Noise (100 Hz)	10.0 μ g/ $\sqrt{\text{Hz}}$ (98.1 (μ m/sec ²)/ $\sqrt{\text{Hz}}$)
Spectral Noise (1 kHz)	3.0 μ g/ $\sqrt{\text{Hz}}$ (29.4 (μ m/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, a division of PCB Piezotronics, Inc. manufactures industrial vibration monitoring instrumentation, such as accelerometers, vibration transmitters and switches that feature rugged stainless steel housings and survive in harsh environments like paper and steel mills, mines, gas turbines, water treatment facilities and power plants. Integrating with portable analyzers and PLC's, IMI instrumentation helps maintenance departments reduce downtime and protect critical machinery. Visit IMI Sensors at www.pcb.com. PCB Piezotronics, Inc. is a wholly owned subsidiary of MTS Systems Corporation. Additional information on MTS can be found at www.mts.com.

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MTS Sensors, a division of MTS Systems Corporation (NASDAQ: MTSC), vastly expanded its range of products and solutions after MTS acquired PCB Piezotronics, Inc. in July, 2016. PCB Piezotronics, Inc. is a wholly owned subsidiary of MTS Systems Corp.; IMI Sensors and Larson Davis are divisions of PCB Piezotronics, Inc.; Accumetrics, Inc. and The Modal Shop, Inc. are subsidiaries of PCB Piezotronics, Inc.