



ICP® Accelerometers with M12 Connector

Designed for connector consistency in industrial, permanent-mount vibration monitoring

Highlights

- Consistent worldwide specifications ensure that M12 connectors on different equipment and cabling are mutually compatible, thereby reducing installation and service time.
- Screw locking mechanism provides connection even when subjected to shock or vibration.
- Sealed housing provides reliability in harsh industrial and weather environments.
- IP68, IP69K enclosure rating ensures resistance to moisture and foreign debris/dust.
- Keyway prevents mismatching.
- Hexagon locking sleeve facilitates hand tightening or torquing of connections.
- Use in conjunction with 507QSXX cable assembly for an IP69K-rated sensor kit for washdown zones.



IMI Sensors has developed three single-axis (Models 601A92, 602D91 and 603C91) and one triaxial (Model [EX]639A91) ICP® accelerometers with an M12 connector. The connector has become an industry standard in industrial control and instrumentation applications for its consistency in specifications, as governed by the International Electrotechnical Commission's Standard 61076-2-101.

Typical Applications

Common in process and industrial applications for the vibration monitoring of:

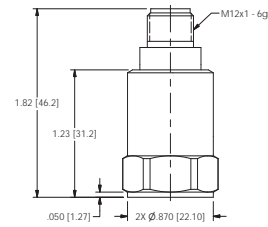
- Motors
- Mixers
- Pumps
- Conveyors
- Gearboxes



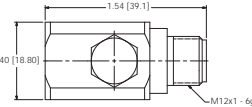
ICP® Accelerometers with M12 Connector
Models 601A92, 603C91, 602D91 and 639A91



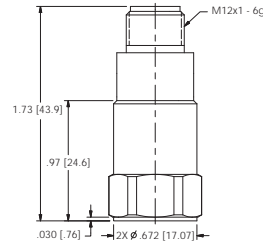
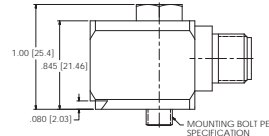
Technical Specifications				
Model Number	601A92	602D91	603C91	(EX)639A91
Performance				
Sensitivity (± 20%)	500 mV/g	100 mV/g		
	51 mV/(m/s ²)	10.2 mV/(m/s ²)		
Measurement Range	± 10 g pk	± 50 g pk		
	± 98 m/s ² pk	± 490 m/s ² pk		
Frequency Range (± 5%)	0.47 to 4,000 Hz	N/A		8.0 to 5,500 Hz
Frequency Range (± 10%)	0.33 to 5,000 Hz	N/A		
Frequency Range (± 3 dB)	0.17 to 10,000 Hz	0.5 to 8,000 Hz	0.5 to 10,000 Hz	
Resonant Frequency	16 kHz	25 kHz		
Broadband Resolution (1 to 10,000 Hz)	35 µg	350 µg	300 µg	
	343 µm/sec ²	3,434 µm/sec ²	3,000 µm/sec ²	
Non-Linearity	±1%			
Environmental				
Overload Limit (Shock)	± 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			
Electrical				
Settling Time (within 1% of bias)	≤ 10.0 sec	≤ 3.0 sec	≤ 2.0 sec	
Discharge Time Constant	≥ 1.0 sec	≥ 0.3 sec	≥ 0.32 sec	
Excitation Voltage	18 to 28 VDC			
Constant Current Excitation	2 to 20 mA			
Output Impedance	< 150 ohm			
Output Bias Voltage	8 to 12 VDC			
Spectral Noise (10 Hz)	3.0 µg/√Hz	8.0 µg/√Hz	20.0 µg/√Hz	
Spectral Noise (100 Hz)	0.7 µg/√Hz	5.0 µg/√Hz	10.0 µg/√Hz	
Spectral Noise (1 kHz)	0.5 µg/√Hz	4.0 µg/√Hz	3.0 µg/√Hz	
Electrical Isolation (Case)	>10 ⁹ ohm			
Physical				
Sensing Element and Geometry	Shear Ceramic			
Housing Material	316L Stainless Steel			
Sealing	Welded Hermetic			
Mounting Thread	1/4-28 Female	1/4-28 Male	1/4-28 Female	1/4-28 Male
Mounting Torque	2 to 5 ft-lbs			
	2.7 to 6.8 Nm			
Electrical Connector	4-pin M12			
Electrical Connector Position	Top	Side	Top	Side
Weight	2.80 oz	2.61 oz	1.95 oz	3.00 oz
	80 g	74 g	55 g	85 g



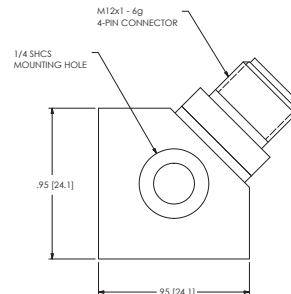
601A92



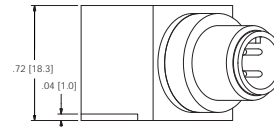
602D91



603C91



(EX)639A91



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ISO 9001 CERTIFIED ■ A2LA ACCREDITED to ISO 17025

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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.

Visit www.imi-sensors.com to locate your nearest sales office.