



# Portable 1g Handheld Shaker



Verifies Sensor Performance & Calibration at the Machine

## Highlights

- Can perform up to 1,600 operating cycles in field without loss of battery power
- Calibrates permanently mounted accelerometers at the machine
- Confirms operation of cables, switching devices and monitoring systems
- Meets NIST traceability requirements
- Outputs 1g pk or rms; operates at 159.2 Hz
- Accepts sensors up to 250 gm (8.8 oz)



## Applications

- Accelerometer verification
- Verifies system performance
- Suitable for all industries
- Practical alternative to factory calibration
- Can be used to check complete measurement systems



Model 699A02

IMI Sensors Model 699A02 is a portable, battery-powered, handheld shaker for verifying the output of industrial vibration sensors and confirming operation of interconnecting cables, switching devices, and monitoring systems. The unit delivers a controlled, 1 g rms or 1 g peak acceleration to test accelerometers and vibration sensors weighing up to 250 grams, and is ideal for field troubleshooting predictive maintenance and condition based monitoring systems.

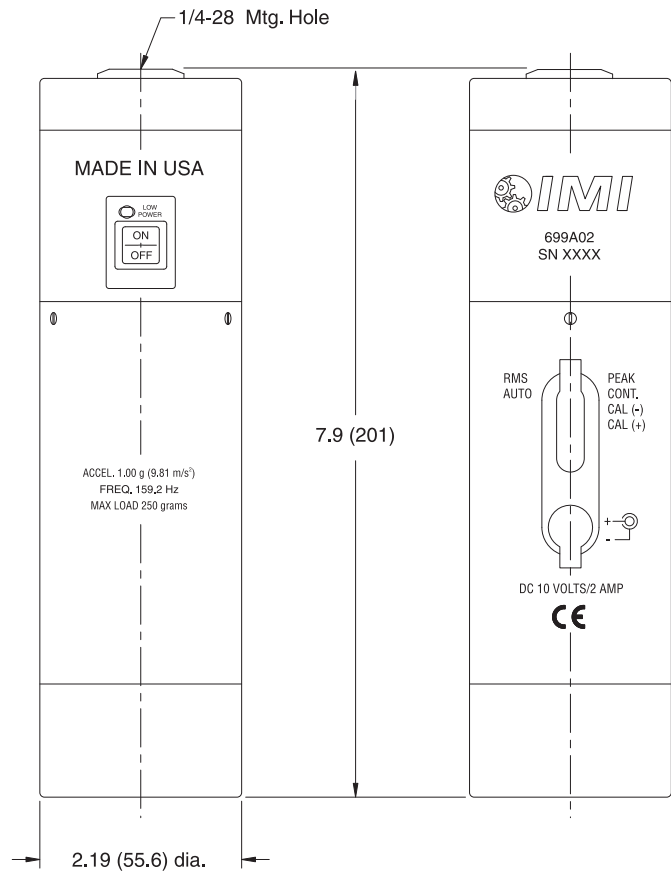
It is simply not practical to periodically remove dozens, possibly 100's, of permanently mounted, low-cost sensors from operating plant machinery and return them for factory recalibration. A more practical approach is to watch for unusual changes in your normally collected data, and when an unexpected change is encountered, test the accelerometer at the machine using a portable shaker. This method has the added benefit of allowing the vibration analyst to check a complete measurement system, including sensor, cable, junction box, and data collector.

Additional features include an auto shut-off to preserve battery life, an external power jack for extended operation, mechanical stops for overload protection, a durable carrying pouch with belt loop, and ability to perform up to 1,600 operating cycles in the field without loss of battery power.



# Model 699A02 Portable Handheld Shaker

Model 699A02		
Dynamic Performance	English	SI
Frequency	159.2 Hz	9,552 cpm
Acceleration ( $\pm 3\%$ ) [1]	1 g rms	9.81 m/s <sup>2</sup> rms
Velocity	0.39 in/sec rms	9.81 mm/s rms
Displacement	0.39 mil rms	9.81 $\mu$ m rms
Transverse amplitude	$\leq 3\%$	
Distortion (0 to 250 gram load) [2]	$< 7\%$	
Environmental		
Operating temperature range	+15 to +130 °F	-10 to +55 °C
Electrical		
Ramp-up time	$\leq 3$ seconds	
Power required	(4) AA Batteries (supplied)	
Optional external power	10 volts (2.4 A)	
Automatic switch-off time	1 to 2.5 minutes	
Battery life (250 gram load)	2.3 hours	
Operating cycles (250 gram load)	90 cycles	
Mechanical		
Size (Diameter x Height)	2.2 x 7.8 in	56 x 200 mm
Weight (with batteries)	31 oz	900 gm
Mounting thread	1/4-28 UNF-2B	
Maximum mounting torque [3]	10 in-lb	112 N-cm
Maximum load	8.8 oz	250 gm
Accessories		
Supplied	2 Model 081A40 Mounting Studs (1/4-28 to 1/4-28) 1 Model 081A08 Mounting Stud (10-32 to 1/4-28) 1 Model M081A19 Mounting Stud (1/4-28 to M6 x 1) 1 Model 080A136 Calibration Mass - For sensors weighing less than 75 grams 1 Model 073A15 Battery Pack 1 Carrying Case 1 Storage Box	
Optional	Model 073A16 DC Power Supply	
Optional Versions:	M - Metric Acceleration 10.0 m/s <sup>2</sup> (1.02 g) rms ( $\pm 3\%$ )	
Notes		
[1] Factory set to 1 g rms, switch selectable to 1 g pk. [2] Worst case. Value decreases as load decreases. [3] Test sensor should be hand tightened (without tools).		

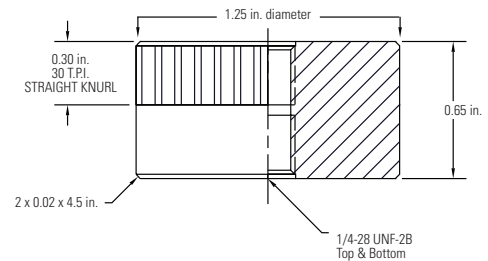


## Supplied Accessory

### Calibration Mass

For sensors weighing less than 75 grams

### Model 080A136



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ISO 9001:2000 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<sup>®</sup> 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 +900 °F (+482 °C), 2-wire Smart Vibration Switch, and the patented Reciprocating Machinery Protector. CE approved and intrinsically safe versions are available for most products.

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