

Portable reference source

ReferenceMate handheld shaker



Front panel controls

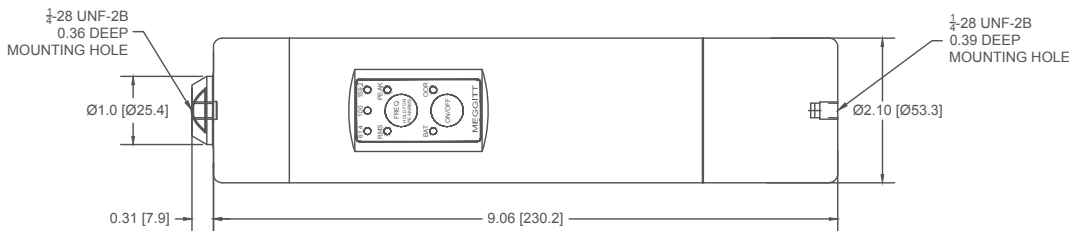


The ReferenceMate portable vibration reference source enables users in the field to easily verify sensor performance and the integrity of the cabling between the sensor and the online system. A built-in reference accelerometer assures that a 1 g test level is maintained for sensors weighing up to 250 grams.

Frequency of operation and measurement type (peak/RMS) are push button selected.

- 61.4 Hz for imperial measurements, where 1 g is equal to 1 inch per second (ips), for verification of acceleration and velocity
- 100.0 Hz to confirm sensor calibration value
- 159.2 Hz for metric measurements, where 1 g is equal to 9.81 m/sec² and 9.81 mm/sec

LEDs notify the user when battery condition falls below operational levels or if the unit is overloaded. For calibration verification, reference test points are provided to verify the output of the internal sensor.



Key features

- 1 g selectable reference source (61.4 Hz, 100.0 Hz or 159.2 Hz)
- Crossover frequencies designed for easy velocity verification
- Verify and adjust entire systems from transducers to measurement equipment
- User selections retained on power off
- Test vibration sensors weighing up to 250 g
- Accessories for every application
- Optional cube for checking triaxial sensor outputs simultaneously
- Standard AA battery operation for field use
- Manufactured in an approved ISO 9001 and AS9100 facility

Certifications



Meggitt Sensing Systems

Additional product lines and services

Piezoelectric accelerometers | Piezoresistive accelerometers | Variable capacitance accelerometers | IEPE and Isotron® accelerometers | 4-20 mA vibration sensors | Cable assemblies | Transmitter modules

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Specifications

Operating frequency	± 1%	61.4 Hz	100.0 Hz	159.2 Hz
Acceleration output¹	± 3%	1.00 g (9.81 m/s ²)	1.00 g (9.81 m/s ²)	1.00 g (9.81 m/s ²)
Velocity output¹		1.00 ips (25.4 mm/s)	0.61 ips (15.6 mm/s)	0.39 ips (9.8 mm/s)
Displacement output¹		2.6 mils (65.9 µm)	0.98 mils (24.8 µm)	0.39 mils (9.8 µm)
Operating cycles, 250 gram load²		1,280	320	240
Mounting thread		1/4-28 female		
Mounting torque, maximum		10 in-lb (112 N-cm)		
Distortion, 100-250 gram load		≤3%		
Load, min - max		none - 8.8 oz (250 g)		
Automatic switch off time		approximately 90 ±10 sec defeatable		
Temperature range	operating	+15 to +130° F (-10 to +55° C)		
	storage	-40 to +248° F (-40 to +120° C)		
Ramp-up time		≤3 sec		
Internal battery		4x AA alkaline batteries		
DC power		6 VDC ±5%, 1A, center positive		
Dimensions		diameter: 2.10 in (5.33 cm), height: 9.25 in (23.50)		
Weight, with batteries		32 oz (900 g)		
Case material		6061 aluminum, black hard-coat anodized		
IP rating		IP54		

¹User selectable: peak or rms

²Using supplied alkaline batteries

Ordering information

REF2510 industrial kit

Handheld shaker	REF2500
AA batteries (4x)	A69203
Calibration sheet	94511
Belt clip	A61164
Wrench	A61088
Carrying case with foam insert	80315-01/80311-01
1/4-28 to 1/4-28 mounting stud	SF6

REF2520 measurement kit

Handheld shaker	REF2500
AA batteries (4x)	A69203
Calibration sheet	94511
Belt clip	A61164
Wrench	A61088
Carrying case with foam insert	80315-01/80311-01
1/4-28 to 1/4-28 mounting stud	SF6
1/4-28 to 10-32 adaptor stud	SF3
1/4-28 to flat plate	42974
1/4-28 to 2-56 mounting base	42976-1
1/4-28 to 6-32 mounting base	42976-3
1/4-28 to 10-32 mounting base	42975-1

Applications

Industrial

- Industrial and manufacturing equipment
- Rotating machinery
- Online monitoring systems
- Cable integrity checks

Measurement

- General laboratory vibration
- Automotive (NVH, component reliability)
- University/research
- Aerospace component reliability
- Defense systems
- Consumer electronics

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smart engineering for
extreme environments

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Optional accessories

REF001 universal mounting kit

1/4-28 to 10-32 adaptor stud	SF3
1/4-28 to 8-32 adaptor plate for 997 and 712 sensors	13249-01
1/4-28 to 10-32 adaptor plate	13249-02
90° adaptor plate for 993 series sensors	13267-01

REF002 metric mounting kit

1/4-28 to M6 adaptor stud	SF6M-1
1/4-28 to M8 adaptor stud	SF6M
1/4-28 to M4 adaptor plate for 997 and 712 sensors	13249-03
1/4-28 to M6 adaptor plate for captive screw sensors	13249-04
1/4-28 to M8 adaptor plate for captive screw sensors	13249-05

Universal AC adaptor, international compatibility REF003

2 pole magnet MD055

Triaxial accelerometer angled adaptor 13268-01



Note: Due to continuous process improvement, specifications are subject to change without notice.
This document is cleared for public release.

Contact

Industrial applications REF2510

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Measurement applications REF2520

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