





Model 9110D

PORTABLE VIBRATION CALIBRATOR

Benefits

- Field validation of vibration sensors, proximity probes, and related monitoring equipment
- Battery-powered for up to 18 hours
- Rugged and portable
- Internal memory and USB flash drive output
- Easy certificate of calibration
- Complete turnkey system

Applications

- 4-20 mA loop velocity vibration transmitters
- Eddy current probes / proximity probes
- Moving coil vibration sensors
- Condition monitoring system, process control, DCS. and SCADA
- Portable vibration meters and analyzers

The 9110D Portable Vibration Calibrator is the ideal tool for checking accelerometers, velocity transducers, and proximity probes over a wide operating frequency and amplitude range. The unit is a compact, battery-powered, and completely self-contained vibration reference source, which can be conveniently used to calibrate individual sensors, vibration switches, and data collectors, as well as to validate the entire measurement channel of a condition monitoring or recording system. An integral precision quartz reference accelerometer and closed-loop level control gives the 9110D enhanced stability and superior vibration calibration over an extended 5 Hz to 10 kHz frequency range. Packaged in a rugged Pelican® Storm case, the 9110D is always ready for travel to test sites, bringing laboratory accuracy to the field.

Additional features include an ICP® or voltage test sensor input for direct connection and readout of the most common types of accelerometers and velocity transducers. The test sensor sensitivity is calculated and displayed on the screen in real time. The unit's internal memory capability can store up to 500 calibration records, and data can be easily transferred to a computer through a USB flash drive. This allows for the creation and printing of ISO 17025-compliant, customizable calibration certificates and reports using the supplied Excel® worksheet template.

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More Product Information at www.modalshop.com/vibration-calibrator





MODEL 9110D SPECIFICATIONS				
Performance	US	SI		Sensor Info Model Number Serial Number Manufacture:
requency Range (operating, 100 gram payload)	5 Hz to 10 kHz	300 to 600k CPM		ID Number: Amplitude
laximum Amplitude (100 Hz with no payload)	3112 to 10 1112	300 to 00011 01 111	-	2000.0
Acceleration	20 g pk	196 m/s² pk		P 1000.0
Velocity	15 in/s pk	380 mm/s pk		0.0
Displacement	50 mils pk-pk	1270 µm pk-pk	_ ا	Data Table
Maximum Payload ^[1]	800 grams	1210 μπ ρκ-ρκ	1 1 1 3	(mils p- .0013 .9932 .0059
Accuracy of Readout	ooo grains		3.97 5.00 6.00 7.02	81 89 85 83
Acceleration (10 Hz to 10 kHz)	±3 % ^[2]		7.99 8.9023 9.904	
Acceleration (10 Hz to 10 Hz)	±5 % ^[2]			
· · · · · · · · · · · · · · · · · · ·	±3 %			
Velocity (10 Hz to 1000 Hz)	±3 %		-	Ī
Displacement (30 Hz to 150 Hz)			_	
Amplitude Linearity (100 gram payload, 100 Hz) Waveform Distortion (100 gram payload, 30 Hz to 2 kHz)	< 1 % up to 10 g pk < 5 % THD (typical) u	p to 5 g pk		
Jnits of Readout				
Acceleration (peak and RMS)	g	m/s ²		
Velocity (peak and RMS)	in/s	mm/s		
Displacement (peak to peak)	mils	μm		
Frequency	Hz	СРМ		
Physical	112	CI IVI		
est Sensor In	Voltage or ICP®			
Bias Fault Indication (ICP® Sensors)	Yes			
External Source In (max.)	1 VAC RMS		Accessory Pou	ıch
Externat Source in (max.)	10 mV/g (nominal),		PD-1320-01	1
Monitor Reference Out	buffered internal refe	erence	9100-PS01	U
Internal Battery (sealed solid gel lead acid)	12 VDC, 4 amp hours		081B20	1/
Charging Adaptor	110 VAC-240 VAC, 50		081A08	10
Input Power Rating	18 VDC, 1 A			Мс
Operating Battery Life ^[3]			080A118	Ba
100 gram payload (100 Hz, 1 g pk)	18 hours			US
100 gram payload (100 Hz, 10 g pk)	1 hour		9110-USB	W
Memory Size	Up to 500 calibration records		Optional Acce	ssor
Points Per Record	30 calibration data points		9100-MNTKIT	M
			9105D	Tr
Sensor Information	Model number, serial number, sensitivity direction (x, y, z), user notes		9100-MPPA01	-
USB Port	Export to flash drive		9100-PPA01	Prox
		···/		+

CSV (comma-separated values)

0 °C-50 °C

8.2 kg

22 x 30.5 x 28 cm

32 °F-122 °F

18 lb

1/4-28

8.5 x 12 x 10 in

- [1] Operating range reduced at higher payloads. Reference manual for full details.
 [2] Calculated by measuring the % difference between the known sensitivity of a reference accelerometer as calibrated by laser primary system per ISO 16063-11 and the measured sensitivity of same reference accelerometer when tested at the same points.
- [3] As shipped from factory in new condition.

9100-PPA02

9100-PS01

9100-PS02

9100-BAT01

[4] Microsoft Excel® required.



Sensor Mounting Platform Thread Size

Export File Format

Weight

Operating Temperature

Dimensions (H x W x D)

www.modalshop.com 3149 E Kemper Rd, Cincinnati, OH 45241 USA Phone: +1 513.351.9919 | Email: info@modalshop.com The Modal Shop, Inc. offers structural vibration and acoustic sensing systems and services for various applications in design and test laboratories as well as manufacturing plants. An extensive sound and vibration rental program, precision calibration systems, and both modal and vibration shakers are designed to simplify test phases. Non Destructive Testing Systems help manufacturers provide 100% quality inspection of metal components. The Modal Shop, Inc. is a subsidiary of PCB Piezotronics, Inc., and PCB® is a wholly owned subsidiary of MTS Systems Corporation. Visit The Modal Shop at www.modalshop.com. Additional information on MTS can be found at www.mts.com.

Target for proximity probe (AISI 4140)

18 VDC, 1 amp power supply/charger

sensor USB power supply

Replacement battery

Modulated current & 4-20 mA vibration