

PORTABLE VIBRATION CALIBRATOR



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 7 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.

- Field validation of vibration sensors, proximity probes and related vibration monitoring equipment
- Battery powered for up to 18 hours
- Rugged and portable
- Wide frequency range from 7 Hz to 10 kHz (420 to 600k CPM)
- USB flash drive output: traceable calibration on memory stick
- Internal memory up to 500 records; up to 30 points per record
- Easy certificate of calibration with supplied Excel template
- Complete turnkey system
- Calculates and displays test sensor sensitivity automatically
- Digital closed-loop control for enhanced stability and accuracy
- Built-in ICP® input for common piezoelectric accelerometers
- Traceable calibration of accelerometers per ISO 16063-21
- Optional fixturing for proximity probes

**SPECIFICATIONS:****GENERAL:**

Frequency Range (operating, 100 gram payload)	7 Hz to 10 kHz 420 to 600k CPM
Maximum Amplitude (100 Hz with no payload)	20 g pk (196 m/s ² pk) 15 in/s pk (380 mm/s pk) 50 mils pk-pk (1.27 mm pk-pk)
Maximum Payload ^[1]	800 gram

ACCURACY OF READOUT:

Acceleration (30 Hz to 2 kHz)	± 3%
Acceleration (7 Hz to 10 kHz)	± 1 dB
Velocity (10 Hz to 1000 Hz)	± 3%
Displacement (30 Hz to 150 Hz)	± 3%
Amplitude Linearity (100 gram payload, 100 Hz)	< 1% up to 10 g pk
Waveform Distortion (100 gram payload, 30 Hz to 2 kHz)	< 5% THD (typical) up to 5 g pk

UNITS OF READOUT

Acceleration	g pk, g RMS, m/s ² pk, m/s ² RMS
Velocity	mm/s pk, mm/s RMS, in/s pk, in/s RMS
Displacement	mils pk-pk, µm pk-pk
Frequency	Hz, CPM

INPUT/OUTPUT

Test Sensor In	Voltage or ICP [®]
Bias Fault Indication (ICP [®] Sensors)	Yes
External Source In (Max)	1V AC RMS
Monitor Reference Out	10 mV/g (nominal), Buffered internal reference 1.02 mV/m/s ²

POWER REQUIREMENTS

Internal Battery (sealed solid gel lead acid)	12V DC, 4 amp hours ^[2]
AC Power (for recharging battery)	110-240V, 50-60 Hz
Operating Battery Life ^[2]	
100 gram payload, 100 Hz, 1 g pk	18 hours
100 gram payload, 100 Hz, 10 g pk	1 hour

MEMORY

Size	Up to 500 calibration records
Points Per Record	30 calibration data points
Sensor Information	Model number, serial number, test axis (x, y, z), user notes
USB Port	Export to flash drive (FAT32)
Export File Format	CSV (comma-separated values)

PHYSICAL

Dimensions (H x W x D)	8.5 in x 12 in x 10 in (22 cm x 30.5 cm x 28 cm)
Weight	18 lbs (8.2 kg)
Sensor Mounting Platform Thread Size	¼-28
Operating Temperature	32°F-122°F (0°C-50°C)

ACCESSORY POUCH INCLUDES

PD-1320-01: Mounting Wrench	9100-MNTKIT: Mounting Accessory Kit
9100-PS01: Power Supply and Plug Adaptors	9105C: Transfer Standard Reference Accelerometer
081B20: ¼-28 to ¼-28	9100-MPPA01: Proximity Probe Adaptor Kit (Metric)
081A08: 10-32 to ¼-28 Adaptor	9100-PPA01: Proximity Probe Adaptor Kit
080A118: Mounting Pad For Sensor With a Magnet Base	9100-PPA02: Target for Proximity Probe (AISI 4140)
9110-USB: USB Flash Drive with Report Generation Worksheet	9100-PS01: 18V DC, 1 Amp Power Supply/Charger
	9100-BAT01: Replacement Battery

[1] Operating range reduced at higher payloads. Reference manual for full details.

[2] As shipped from factory in new condition.



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