

Model Number
9210D

LOW FREQUENCY PORTABLE VIBRATION CALIBRATOR

Revision: D
ECN #:

GENERAL

Frequency Range (operating, 100 gram payload)
Max Acceleration Amplitude (100 Hz, no payload)
Max Velocity Amplitude (10Hz, no payload)
Max Displacement Amplitude (1 Hz, no payload)
Maximum Payload [1]
Test Operation
Memory

| | |
|------------------|--------------------------|
| 0.7 Hz – 2 kHz | 42 – 120k CPM |
| 2 g pk | 19.6 m/s ² pk |
| 12 in/s pk | 305 mm/s pk |
| 200 mils pk – pk | 5 mm pk – pk |
| 800 grams | |

Manual (Closed Loop) or Semi-Automatic
Stores 500 Calibration Records
Stores 30 Data Points Per Calibration Record
Stores Model Number, Serial Number,
Mounting Orientation & Notes for each Record
Up to 30 Test Points per Routine with
Pass/Fail Upper & Lower Bound Tolerances

Programmability

ACCURACY OF READOUT

Acceleration and Velocity (2 Hz to 2 kHz) [2] [7]
Acceleration and Velocity (0.7 Hz to 2 kHz) [2] [7]
Displacement (3 Hz to 15 Hz) [3]
Displacement (1 Hz to 150 Hz) [3]
Displacement (0.7 Hz to 150 Hz) [3]
Amplitude Linearity (100 gram payload, 100 Hz)
Waveform Distortion (1 Hz to 5 Hz)
Waveform Distortion (>5 Hz to 20 Hz)
Waveform Distortion (>20 Hz to 2 kHz)

±3%
±10%
±3%
±10%
±2 dB
< 1% up to 2 g pk
Typically < 15%
Typically < 10%
Typically < 7%

UNITS OF READOUT

Acceleration (peak and RMS)
Velocity (peak and RMS)
Displacement (peak to peak)
Frequency
Test Sensor Sensitivity

| | |
|-----------|------------------|
| g | m/s ² |
| in/s | mm/s |
| mils | µm |
| Hz | CPM |
| mV/EU [4] | |

POWER REQUIREMENTS

Internal Battery (sealed solid gel lead acid)
AC Power (for recharging battery)
Input Power Rating from charger
Operating Battery Life [5]
100 gram payload, 100 Hz 1 g p
100 gram payload, 1 Hz 0.02 g pk

12 VDC, 4 amp hours
110 – 240 VAC, 50 - 60 Hz
18 VDC, 1 A

14 hours
7 hours

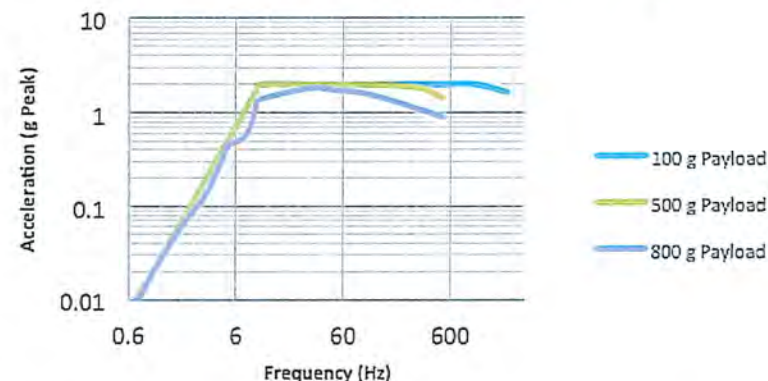
INPUT/OUTPUT

Test Sensor In
Test Sensor Input Voltage Range
Bias Fault Indication (ICP® Sensors)
External Source In (Max)
Monitor Reference Out

Voltage or ICP® [6]
20 mV – 10 V AC pk-pk [8]
Yes
1 VAC RMS
100 mV/g (nominal) - Buffered internal reference output

(OPTIONAL ACCESSORY): Proximity probe adaptor kit, supports probes with common case threads ranging from M6 to 3/8 in. Includes Mitutoyo micrometer and nickel-plated 4140 steel target.

Maximum Acceleration vs. Frequency



PHYSICAL

| | | |
|------------------------|------------------|-------------------|
| Dimensions (H x W x D) | 8.5 x 12 x 10 in | 22 x 30.5 x 28 cm |
| Weight | 18 lb | 8.2 kg |
| Thread Size | ¼-28 | |
| Integral Armature Lock | Supplied | |
| Operating Temperature | 32 °F – 122 °F | 0 °C – 50 °C |

SUPPLIED ACCESSORIES

Accessory Pouch & Shipping Lock
Power Supply and Plug Adaptors: Model 9100-PS01
¼-28 to ¼-28 Mounting Stud: Model 081B20
10-32 to ¼-28 Mounting Stud: Model 081A08
USB Flash Drive with Calibration Report Generation Worksheet: Model 9110-USB
M8 x 1.25 M to ¼-28 M Mounting Stud Model M081A63
M8 x 1.25 F to ¼-28 M Mounting Pad Model PVC-MNT01
M8 x 1 M to ¼-28 M Mounting Stud Model 081M165
M8 x 1 F to ¼-28 M Mounting Pad Model PVC-MNT02

NOTES

[1] Operating range reduced at higher payloads.
Reference manual for full details.
[2] Measured with 30 gram quartz reference accelerometer.
[3] Measured with laser displacement interferometer.
[4] EU can be [g], [m/s²], [in/s], [mm/s], [mils] or [µm].
[5] As shipped from factory in new condition.
[6] 5mA constant current excitation to ICP® (IEPE) sensor
[7] Depending upon payload at higher frequencies transverse motion may cause localized increased sensitivity.
[8] Expected low frequency calibration limitations per sensor under test sensitivity:

- 1000 mV/g: 0.9 Hz
- 500 mV/g: 2 Hz
- 100 mV/g: 3 Hz

All specifications are at room temperature unless otherwise specified.
ICP is a registered trademark of PCB Piezotronics, Inc. Excel is a registered trademark of Microsoft Corporation in the United States and/or other countries.
In the interest of constant product improvement, specifications may change without notice.



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|--------------------------|-------------------------|-------------------------|-------------------------|
| Project Engineer: WPS | Product Manager: MRS | Mkt Team Leader: DEG | Spec Number: PS-0124 |
| Date: 11/1/23 | Date: 5/12/23 | Date: 5/12/23 | |

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