

Model Number

9110D

PORTABLE VIBRATION CALIBRATOR

Revision: G

ECN#:

GENERAL

Frequency Range (operating) ^[1]	5 Hz–10 kHz	300–600 k CPM
Maximum Amplitude (50 Hz, 10-gram payload)	20 g pk 20 in/s pk 150 mils pk-pk	196 m/s ² pk 500 mm/s pk 3.8 mm pk-pk
Maximum Amplitude (50 Hz, 500-gram payload)	2.5 g pk 3.5 in/s pk	24.5 m/s ² pk 90 mm/s pk
Maximum Payload ^[2]	800 grams	
Test Operation	Manual (Closed Loop) or Semi-Automatic	
Auto-Payload Calculation	Controlled via Reference Accelerometer, No User Entry Required	
Memory	Stores 500 Calibration Records Stores 30 Data Points Per Calibration Record Stores Model Number, Serial Number, Mounting Orientation & Notes for each Record Stores Semi-Automated Test Routine	
Non-Volatile Memory Programmability	Storage of Calibration Settings for Accuracy Up to 30 Test Points per Routine with Pass/Fail Upper & Lower Bound Tolerances	

ACCURACY OF READOUT ^[3]

Acceleration (10 Hz to 10 kHz)	± 3% ^[4]
Acceleration (5 Hz to 10 Hz)	± 5% ^[4]
Velocity (10 Hz to 1000 Hz)	± 3%
Displacement (30 Hz to 150 Hz)	± 3%
Amplitude Linearity (100 Hz) ^[1]	< 1% up to 10 g pk
Waveform Distortion (30 Hz to 2 kHz) ^[1]	< 5% THD (typical) up to 5 g pk
Accuracy Verification Test	Field Drift Test Procedure Provided ^[5]

UNITS OF READOUT

Acceleration (pk and RMS)	g	m/s ²
Velocity (pk and RMS)	in/s	mm/s
Displacement (pk to pk)	mils	µm
Frequency	Hz	CPM
Internal Battery (sealed solid gel lead acid)	12 VDC, 4 amp-hours	
Sensor Under Test Sensitivity	mV/EU, mA/EU or µA/EU	
AC Power (for recharging battery)	110–240 VAC, 50–60 Hz	
Input Power Rating from charger	18 VDC, 1 A	
Operating Battery Life ^[6]		
100 Hz 1 g pk ^[1]	18 hours	
100 Hz 10 g pk ^[1]	1 hour	

All specifications are at room temperature unless otherwise specified.
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In the interest of constant product improvement, specifications may change without notice.



INPUT/OUTPUT

Sensor Under Test Input	ICP, Voltage, Modulated Current, Charge ^[8]
External Source In (Max)	1 VAC RMS
Bias Fault Indication (ICP®)	Yes
Monitor Reference Out	10 mV/g (nominal) Quartz Reference Accelerometer, BNC Jack Output
USB Port	Export Calibration Records to Flash Drive (FAT 32) Used for Loading Semi-Automated Test Routines (Model CALROUTE) ^[7]
Export File Format	CSV (comma-separated values)

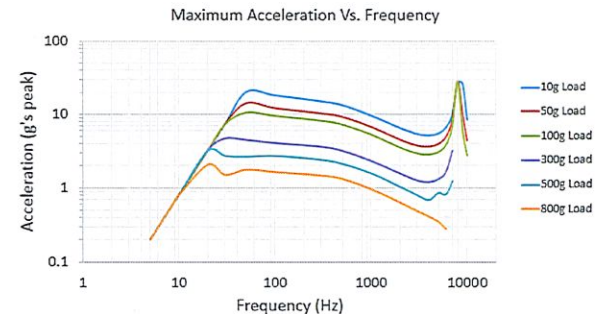
PHYSICAL

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
Operating Temperature	32 °F–122 °F	0 °C–50 °C
Sensor Mounting Platform	¼-28 Thread Size	

NOTES:

- [1] 100-gram payload
- [2] Operating range reduced at higher payloads. Reference manual for full details.
- [3] Measured with 10-gram quartz reference accelerometer
- [4] 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
- [5] Test is conducted independently of product firmware with calibrated voltmeter.
- [6] As shipped from factory in new condition.
- [7] & provides power for optional external power supplies
- [8] External Charge Amplifier Required

Meets API 670 requirements for all required test points in acceleration or velocity from 10 Hz to 1000 Hz & payloads to 800 grams



Project Engineer:

LJB

Product Manager:

SAA

SAM Team Leader:

CAD

Spec Number:

PS-0102

Date: 10/10/2018

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SUPPLIED ACCESSORIES

Mounting Wrench Model PD-1320-01

Power Supply and Plug Adaptors Model 9100-PS01

1/4-28 to 1/4-28 Adaptor Model 081B20

10-32 to 1/4-28 Adaptor Model 081A08

NIST Traceable Certificate of Calibration, Metric & English Units, Accredited to ISO 17025 by A2LA, 18-point Certificate of Calibration, Published Uncertainties on www.a2la.org, Reference Accelerometer Calibrated via ISO 16063-11 Laser Primary Method Model 9100-CAL01

Technical Support: Training Webinars [10], 24/7 Video Library

USB Flash Memory Drive: Loaded with Microsoft Excel® Macro-Enabled Calibration Report Generation & CALROUTE Semi-Automated Test Programming Workbook Model 9110-USB

Accessory Pouch

Quick Start Guide: Available in English, Chinese, Polish, Japanese, Russian, French & German Languages

Warranty: 2 Years, Inclusive of Drift/Accuracy

CALIBRATION REPORT GENERATION WORKBOOK

Certificates Generated Via 9110D Memory: Frequency Response & Linearity for AC Voltage Output Transducers such as accelerometers, proximity probes, moving coil vibration sensors, and dynamic velocity sensors.

Certificates Generated Via User-Input: Vibration analyzer/meter linearity & frequency response accuracy, linearity for 4-20 mA vibration transmitters, proximity probe curves (gap vs. DC voltage)

OPTIONAL ACCESSORIES

PROXIMITY PROBE CALIBRATION

Proximity probe adaptor kit for probes with 5 mm or 8 mm tip diameter. Includes Mitutoyo micrometer scaled in mils and 4140 steel calibration target. Model 9100-PPA01

Proximity probe adaptor kit for probes with 5 mm or 8 mm tip diameter. Includes Mitutoyo micrometer scaled in microns and 4140 steel calibration target. Model 9100-MPPA01

Proximity probe adaptor kit for probes with 11 mm tip diameter. Model 9100-PPA05

Proximity probe adaptor kit for testing probes mounted inside a probe holder. Includes digital micrometer scaled in mils or microns. Fine adjustment via positional micrometer. Model 9100-PPASH

MOUNTING

1/2-20 F to 1/4-28 F Mounting Pad Model 9155-MNT93

1/4" NPT F Mounting Adaptor to 1/4-28 M Model 9155-MNT43

3/8-24 M to 1/4-28 M Mounting Stud Model 9155-MNT73

Universal Mounting Plate for 3- and 4-Hole High-Temp Vibration Sensors [9] Model 9100-HTMNT

M8 x 1.25 F Mounting Pad Model 080M376

M8 x 1.25 M to 1/4-28 M Mounting Stud Model 081M84

M8 x 1 F Mounting Pad Model 080M458

M8 x 1 M to 1/4-28 M Mounting Stud Model 081M165

POWER / CHARGE-MODE

24 VDC Power Supply for testing 4-20 mA Loop-Powered Vibration Transmitters, Non-ICP 24 VDC Velocity Sensors & Modulated Current Output Vibration Sensors and Charge Amplifiers. USB Powered. Model 9100-PS02

3-socket MIL cable used with 9100-PS02 for testing GE/Bently Nevada® 3-pin MIL case mounted vibration sensors. Spade Lug terminations & BNC output for signal. Model 9100-PS02-CBL01

5 VDC Power Supply for testing GE/Bently Nevada® Trendmaster® Vibration Sensors. USB powered. Integral 5-pin Mating Cable. Plug & Play. BNC Output. Model 9100-PS04-TM

15 VDC Power Supply for Testing Pruftechnik CLD Vibration Sensors & Other Modulated Current Sensors with Same Power Scheme. USB Powered. TNC Input. Plug & Play. BNC Output. Model 9100-PS07-PT

High-temp charge mode accelerometer calibration accessories kit. Includes 7/16-27 2-socket MIL cable 2 ft. BNC plug termination, 10 mV/pC charge amplifier, BNC M to BNC M cable 3 ft, 10-32 plug to BNC jack scope input adaptor. Model 9100-HTCHRGKIT

TRAINING

On-Site Seminars Available Upon Request Model 9100-TRAINING

NOTES:

[9] Mounting plate supports sensors listed below. Contact TMS if you do not see your sensor listed.

B&K: 8324

Bently Nevada: 330450, 330750, 350900

CEC: 4-123, 4-125, 4-126, 4-128, 4-130, 4-137, 4-138, 4-170, 4-171

Dytran: 3085C and 3235 series

Endevco: 6233C, 6222M, 6222S and 6240 Series

Metrix: 5485C, SA6350

PCB Piezotronics: 357 & EX600B series, EX615A42 and EX619A11

Vibro-Meter: CA 134, CE 134, CA 202, CA 280, CE 281, CA 303, CA 306, CE 311

[10] Available upon request

Meets API 670 requirements for all required test points in acceleration or velocity from 10 Hz to 1000 Hz & payloads to 800 grams

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