

## Portable Vibration Calibrator

**MODEL  
5902**

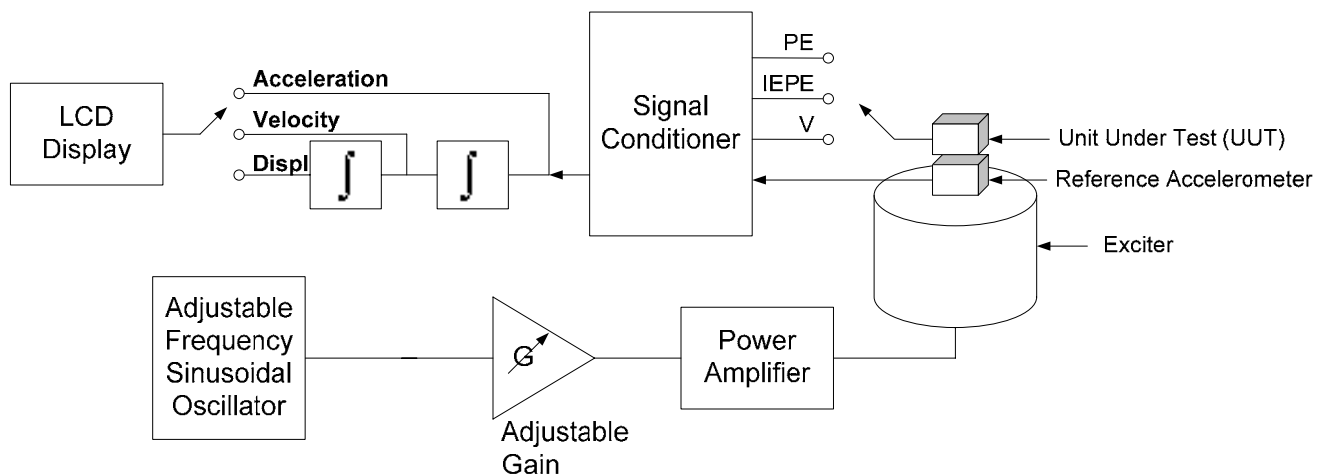
- Measures Sensitivity of PE, IEPE and Voltage Transducer Types
- Displays UUT and Reference Accelerometer Output
- Adjustable Vibration Excitation Amplitude
- Adjustable Frequency to 10 kHz
- Rechargeable Internal Battery



### Description

The VIP Sensors Portable Vibration Calibrator Model 5902 measures and displays the output of Piezoelectric (PE), Piezoelectric with Integral Electronics (IEPE, constant current) and Voltage transducer types when subjected to a known excitation. A built-in shaker and reference accelerometer provide a known vibration signal. The vibration amplitude is adjustable from 0.02 g to 5 g (0.15 to 50 m/s<sup>2</sup>) rms and is accurately shown in the 3 digit display. The vibration frequency is adjustable from 10 to 10000 Hz.

An internal battery or AC power is selectable. The battery can charge while unit is being used with AC power. The maximum weight of the accelerometer under test is 7 ounces (200 grams) for 1 g excitation. The reference accelerometer can be displayed in units of acceleration, velocity or displacement.



**VIP Sensors Model 5902 Functional Diagram**

**SPECIFICATIONS**
**Portable Vibration Calibrator**

The following performance specifications are at +75°F (+24°C), unless otherwise noted.

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5902**

	<b>UNITS</b>	
<b>OUTPUT</b>		
Acceleration Amplitude [1]	g (m/s <sup>2</sup> )	0.02 to 5 ±5% (0.15 to 50)
Vibration Acceleration Freq	Hz	10 to 100
Switch Selectable		100 to 1000
		1000 to 10000
Output Waveform		Sinusoidal
Output Waveform Distortion	%	≤ 5
<b>ACCURACY</b>		
Acceleration	%	± 3 from 30 to 2000 Hz
	dB	± 1 from 10 to 10000 Hz
Velocity	%	± 3 from 30 to 2000 Hz
Displacement	%	± 3 from 30 to 200 Hz
<b>UNIT UNDER TEST (UUT)</b>		
Weight	oz (grams)	7.1 (200) maximum for 1 g excitation
Piezoelectric (PE) Type		1000 pC maximum
PE with Integral Electronics		4 mA, 24 Vdc Supply
		1000 mV maximum
Voltage type		1000 mV maximum
<b>POWER SUPPLY</b>		
External AC Source	Vac	105-256, 50/60Hz, 40 W maximum
Rechargeable Internal Battery	Vdc	12V/2.2A (continuous operating time >4 hours at 1g and 50 gram load)
<b>ENVIRONMENT</b>		
Temperature	°F (°C)	Operating: +32 to +122 (0 to +50) Storage: -67 to +185 (-55 to +85)
Humidity	%	95 maximum relative humidity
<b>PHYSICAL CHARACTERISTICS</b>		
Dimensions	in (mm)	14.2 × 7.9 × 9.8 (360 × 200 × 250)
Weight	lbs (kg)	11 (5)
UUT Sensor Mounting		10-32 screw
<b>LCD DISPLAY</b>		20 character × 2 line Alphanumeric Dot Matrix LCD
<b>ACCESSORIES</b>		Low Noise Cable Mounting Stud
<b>NOTES</b>		
1. 5 g's is in the frequency range 10 to 100 Hz		