



1-157

Portable Vibration Meter



Applications

- Laboratory or Field Vibration Measurements
- Industrial Turbines
- Power Generators and Gas Pumping Systems
- Paper Mills

Features

- Portable Vibration Meter indicating peak-to-peak displacement and average velocity
- Six selectable inputs
- Optional AC or DC power
- Three internal test circuits

Description

CEC's 1-157 Vibration Meter is a portable unit which indicates peak-to-peak displacement and average velocity. Designed for use with self-generating type velocity transducers, the input signal is averaged and displayed on a meter in peak-to-peak or average values based upon equivalent sinusoidal input.

The 1-157 can operate from either AC or battery power by switching a power pack module located in the rear of the unit. Internal test circuits provide means of calibrating the instrument for the particular vibration transducer being used.

Another test circuit is provided for testing the batteries with the battery power supply. An additional circuit acts as an ohmmeter to check continuity of the vibration transducers being used. Each of the six channels of the 1-157 contains its own sensitivity adjustment.

Monitoring Systems



1-157 Portable Vibration Meter

Performance Specifications

Frequency:	5 to 2,000 Hz (displacement) 5 to 20,000 Hz (velocity)
Displacement:	0.0005 to 0.500 inch peak-to-peak full scale
Velocity:	0.050 to 50 in/sec average full scale

PERFORMANCE

Sensitivity Adjustment:	±1%
Linearity:	±2%
Range Switch:	±1%
Frequency Response:	±2%
Noise Level:	2% of full scale
Input Impedance:	10 K Ω ±5%
Scope Output:	894 mV peak-to-peak, ±20% (full scale)
Galvo Output:	785 μA peak ±3% (full scale)
External Meter Output:	500 μA ±3% (full scale)
Battery Check:	±0.15 volts
Continuity Test:	±20%
Basic Sensitivity at 25°C:	47 mV/in/sec ±0.25%
Oscillator Frequency:	50 Hz ±1%
Oscillator Stability:	±0.5%

VARIATIONS DUE TO TEMPERATURE

Basic Sensitivity:	±0.2%/°C from 25°C value
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ELECTRICAL SPECIFICATIONS

Power Input Voltage:	90-140/180-260 VAC at 50 to 400 Hz or 2 each 9V batteries in series when using optional power supply.
Power Drain:	1 VA for AC power

SIGNAL OUTPUT

Transducer Sensitivity:	50 to 150 mV/in/sec
Adjustment Range:	Six channels for velocity vibration transducers. Maximum input voltage 10 volts RMS or overloaded 40 times full scale on velocity or ten times on displacement, whichever is less.

SIGNAL OUTPUT TERMINATIONS

Scope (AC High Impedance Jack):	500,000 Ω min
Galvo (AC Low Impedance Jack):	100 Ω max
Ext. Meter (DC Low Impedance Jack):	200 Ω max
Front Panel:	Function selector (displacement or velocity), sensitivity adjustment for each of six velocity vibration transducer channels, push-button channel selector, range selector, sensitivity pot (10 turns) for setting input level for channel sensitivity.

ENVIRONMENTAL CONDITIONS

Operating Temperature:	+32°F to +122°F (0°C to +50°C)
Storage Temperature:	-22°F to +166°F (-30°C to +71°C)

Included Accessories

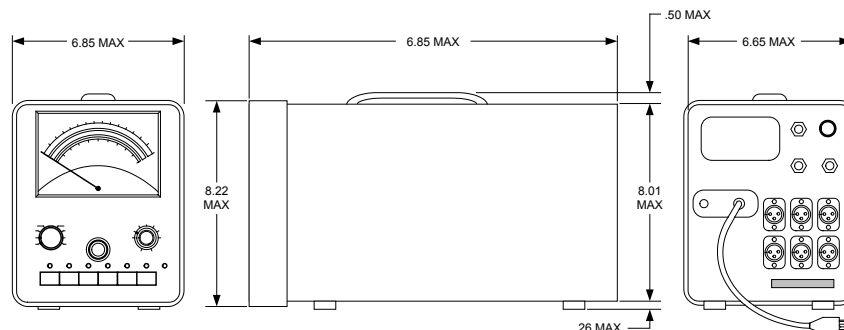
1. Operation and Maintenance Manual
2. Input Signal Connectors: 6 each XLR-3-11C (CEC P/N 8792)

Optional Accessories

Filters:	High Pass, Low Pass, and Bandpass filters available on special request. Specify filter frequency.
AC Power Supply:	P/N 159300-0100
Battery Power Supply:	P/N 159322-0100

Ordering Information

When ordering, specify 1-157-0001 for AC operation; 1-157-0002 for DC operation. Units are shipped with power supply installed. For spare or alternate power supplies, specify P/N 159300-0100 (AC) or P/N 159322-0100 (DC). Please consult your CEC sales representative for confirmation and delivery information. In keeping with CEC's policy of continuing product improvement, specifications may be changed without notice.



WEIGHT: 12.25 LBS. MAXIMUM (LESS INTERNAL FILTERS)
(Dimensions are in inches.)