

1-157 Portable Vibration Meter

Applications:

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

Features:

Portable Vibration Meter Indicating Peak-to-Peak Displacement and Average Velocity
 Six Selectable Inputs
 Option 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. Input signal is averaged and displayed on a meter in peak-to-peak or average values based upon an equivalent sinusoidal input. The 1-157 and 1-159 Variable Filter combination results in a portable vibration analyzer.

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 used. Each of the six channels of the 1-157 contains its own sensitivity adjustment.

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: 0.05 to 50 in/sec average full scale

Performance:

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

Variation due to Temperature

Basic Sensitivity: $\pm 0.2\%$ /°C from 25°C value

Electrical Specifications:

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

Signal Input:

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

Signal Output Terminations:

Scope (AC High Impedance Jack): 500,000 Ohms minimum
 Galvo (AC Low Impedance Jack): 100 Ohms maximum
 Ext. Meter (DC Low Impedance Jack): 200 Ohms maximum

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 +160°F (-30°C to +71°C)

Included Accessories:

- 1 Operation and Maintenance Manuals
- 2 Input Signal Connectors: 6 each XLR-3-11C

Optional Accessories:

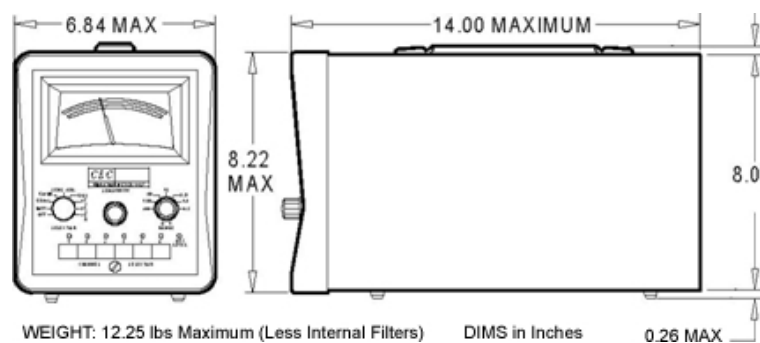
Filters:
 High Pass, Low Pass, and Bandpass filters available on special request. Specify filter frequency.

Connector Cable Assembly:
 P/N 172137; connects 1-157 with 1-159

Dual Power Cable:
 P/N 172138, connects 1-157 and 1-159 to single AC power source.

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; type 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.