

Wayne Kerr CORPORATION

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Innovations in Instrumentation ■ Measurement ■ Analysis ■ Synthesis ■ Control

B731B Vibration Meter



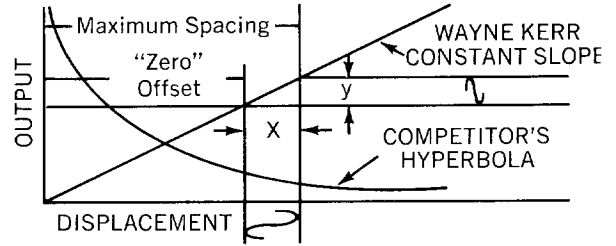
- Displays Both Peak-to-Peak Vibration Amplitude and Displacement (Distance) Directly on Front Panel Meters
- Linearized for "Offset-Independent"
- Truly Constant Sensitivity

Measurement of distances or vibration amplitudes from 50 microinches to 1/2 inch — from one microinch with external detector — is accomplished by the B731B. Because non-contacting capacitance transducers are used, with no physical contact to the test specimen required, accurate determinations of temperature coefficients, moduli or elasticity, rigidity and bulk, Poisson's ratio, and dilation are possible even on fragile samples. Accuracy is to $\pm 2\%$ of full-scale range.

Output of the B731B is absolutely linear — in direct proportion to distance of probe from specimen with no distortion of vibration patterns. Linear output characteristics assure constant sensitivity regardless of the distance between probe and test piece. Recorder and oscilloscope outputs are also useable for alarms, controls, go/no-go sorting. ▶

STRAIGHT LINE CHARACTERISTIC (see figure) GUARANTEES OFFSET IMPEDANCE

Regardless of value of "zero offset", the signal change Y produced by a displacement X is always the same. Ideal for measuring bearing runout, tool wear, eccentricity, dilation, creep, strain, moduli, thicknesses, dielectric constant, etc. Continuous reading, remote indication by recorder and scope outputs. Probe Selector Unit JB-731B switches any one of six probes to input and enables selection of any probe for instant connection to the instrument.



SPECIFICATIONS

Power Requirement:

105-125 volts or 210-250 volts, 40-60 c/s. Consumption approximately 50 W.

Performance:

Probe	Full-scale Range (Inches)	Measurement Accuracy (Inches)	
		10 c/s-10 kc/s	1 c/s-10 c/s
A	0.001	± 0.00003	± 0.00006
B	0.005	± 0.0001	± 0.00025
C	0.01	± 0.0002	± 0.0005
D	0.05	± 0.001	± 0.0025
E	0.1	± 0.002	± 0.005
F	0.5	± 0.01	± 0.025

Note 1: The above accuracy figures apply to mean distance measurements of peak-to-peak vibration within the frequency bands quoted, in the NORMAL mode.

Note 2: The $\div 5$ mode increases the sensitivity and reading accuracy on the vibration channel (only) by a factor of five, without altering the measurement accuracy.

Discrimination:

Better than 0.5% of full-scale deflection.

Outputs:

Recorder jack sockets provide 1 mA from Distance and Vibration meter circuits (output resistance 1000 ohms.)

Terminals for connection to oscilloscopes, etc., provide:

- (1) 50-kc/s carrier, the maximum amplitude of which is proportional to distance, and, in the B731B,
- (2) The demodulated vibration waveform.

Dimensions:

Width: 17 inches (43.2 cm), Height: 11½ inches (29.2 cm), Depth: 7½ inches (19 cm)

Weight:

Approximately 26 pounds. (11.8 kg)

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