Datastick®

VSA-1217

Vibration Spectrum Analyzers

VSA-1217 Vibration Spectrum Analyzers add special features to the VSA-1215

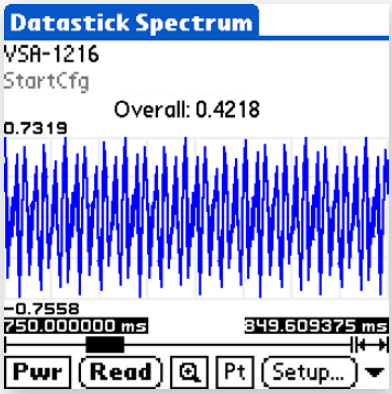
VSA-1217  Vibration Spectrum Analyzer

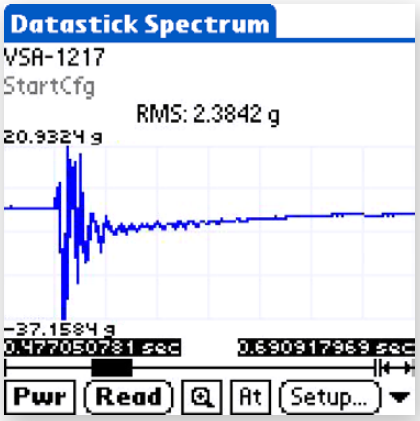
The VSA-1217 Vibration Spectrum Analyzer has all the features and capabilities of the VSA-1215 plus:

- The ability to accept a signal from an *independently powered and conditioned* displacement sensor or system and display displacement without mathematical integration
- The ability to accept a direct signal from an ICP®-compatible pressure sensor
- Automatically triggered recording of impact tests with sample rates up to 1 kHz; trigger levels are adjustable for maximum differentiation between the test impact and background noise

Applications

- Spot-recording of displacement data at the machine under test or from online systems such as those by Bently Nevada (Requires signal conditioning adapter; available from Datastick)
- Flow balancing of pump systems to achieve optimum efficiency in initial setup and continuing efficiency in maintenance checks
- Impact (bump) testing to determine resonant frequencies as well as faults, such as cracking and fatigue, that can change resonant frequencies
- Initial equipment setup and acceptance
- Maintenance and reliability checks





Channels: 1

Antialiasing Filter: 10th order hardware

Sensor Input: BNC, IEPE (ICP®-compatible) (except displacement sensor, which requires independent power)

Sensor Types Accepted:
Accelerometer, velocity sensor, pressure sensor, independently powered and conditioned displacement sensor or system output, raw voltage

Input Impedance: 100 kOhm

Sensor Sensitivity: 100 mV/g (mV/ips, mV/mil, mV/psi) nominal; adjustable from 10 mV/g to 1,000 mV/g (mV/ips, mV/mil, mV/psi)

Sensor Power (for IEPE / ICP-compatible sensors):
IEPE Power off/on, 5 V, 12 V, 18 V, 24 V; 2 mA, 5 mA, 10 mA, 20 mA, 25 mA

Maximum Input Levels (Selectable):
With 100 mV/g input: 50 g, 20 g, 10 g, 5 g, 2 g, 1 g (or equivalent for velocity [in/sec or mm/sec], displacement [mil or um] or pressure [psi or kPa]).

NOTE: These levels change with different sensor sensitivity. A 10 mV/g accelerometer produces these maximum inputs: 500 g, 20 g, 100 g, 50 g, 20 g, 10 g (or equivalent for velocity [in/sec or mm/sec], displacement [mil or um] or pressure [psi or kPa]). A 1,000 mV/g accelerometer produces these maximum inputs: 5 g, 2 g, 1 g, 0.5 g, 0.2 g, 0.1 g (or equivalent for velocity [in/sec or mm/sec], displacement [mil or um] or pressure [psi or kPa]).

Dynamic Range:
130 dB total; 65 dB/input range

Displays:

Time Domain: Acceleration or voltage waveform, optional overall vibration

Frequency Domain: Acceleration, velocity, displacement, voltage, vibration dB, FFT spectrum, pressure; optional overall vibration

Maximum Frequencies (Selectable):
20, 10, 5, 4, 2, 1 kHz, 800, 500, 400, 200, 100, 50 Hz

Low Frequencies – Minimum

Acceleration:
0.001 g @ 0.016 Hz (0.5 CPM)
0.0254 mm/sec/sec

Velocity:
0.100 in/sec Pk +/- 0.005 in./sec at 0.2 Hz (12 CPM) with 500 mV/g low-frequency accelerometer
2.54 mm/sec Pk +/- .125 mm/sec (1.796 mm/sec RMS)

Displacement:
150 mils (0.15 in.) Pk-Pk +/- 7.9 mils (0.079 in.) Pk-Pk at 0.2 Hz (12 CPM) with 500 mV/g low frequency accelerometer
3.81 mm Pk-Pk +/- 0.190 mm/sec

FFT Resolution (Selectable):
3200, 1600, 800, 400 lines

Display Units: Hz or CPM; English or metric

FFT Windows: Rectangle (Uniform), Hanning, Hamming, Flattop, Blackman, Bartlett

Averaging: Linear or peak hold, 1, 2, 4, or 8 averages

Peak Detection: Up to 15 highest peaks

Triggering (VSA-1217 only): Automatic for signals up to 1 kHz

Cursors: Zoom/Pan, Inspect (any x–y value), Peak inspect (peak x–y values), Orders, Peak orders, Difference (between two points), Peak difference (between two peaks), Period (period between any two waveform peaks, expressed in frequency and time)

Alerts: Color-coded for ISO 10816-3 or user-specified levels

Route-inspection Capability: Reloadable configurations allow every test point to be uniquely named and exactly repeatable. (Optional Datastick InSpect™ software for creating routes on the PC and downloading to the handheld computer)

Power Supply: Internal 900 mA/h Li-ion battery; optional rechargeable Li-ion External Battery powers both the VSA module and the handheld computer

Operating Time (Typical, internal battery):
8 hours continuous (VSA powering sensor at 24 V, 5 mA)

Dimensions and Weights

Dimensions (with Palm T|X): 5.75 x 3.125 x 1.875 in (146 x 79 x 48 mm)

Weight (with Palm T|X): 10 oz (283 g)

PC system requirements

Microsoft Windows XP or Windows 7, and Microsoft Excel 2003, 2007, or 2010, 32-bit

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