

iPad Vibration Analyzer



Motionics vibration analysis kit is an iPad-based vibration analyzer. It includes a low voltage piezoelectric accelerometer for accurate vibration measurement. Accelerometer signals are continuously acquired through the 2-Channel DAQ box mounted on the back of an iPad and passed to Motionics vibration Apps through iPad lightning port.

This vibration analysis kit includes VibraTestPro App and iVibraMeter App. VibraTestPro is the go-to App to measure vibration on iPhone and iPad. It provides comprehensive vibration analysis features such as real-time waveform & spectrum viewer, ISO10816 vibration meter, raw signal recording and so on. The user can also use the iVibraMeter App on iPad for a quick overall vibration tests of multiple common machines such as pumps, motors, spindles, etc. with rapid PDF report generation capability. The kit is designed modular; so it can be converted to a vibration/rotor balancing kit by adding a tachometer with the use of iRotorBalancer App.

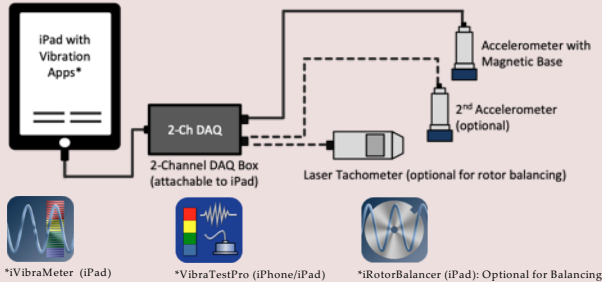
App Features:

- Vibration meter with ISO10816 (customizable) severity indicator
- Interactive real-time waveform and spectrum viewer
- Customizable graph appearance: background color, line color, line thickness, grids
- Velocity and acceleration readings (metric & imperial)
- Auto Peak detection cursor, manual cursor, and top 5 peaks detector
- Distance cursor, harmonic cursor and sideband cursor
- Vibration raw signal (auto & manual) recording (adjustable sampling rate) with local saving
- Vibration signal export in CSV and WAV formats
- Plant-Machine-Test point structure for easy data management
- PDF test report with plant map, images, signature & notes
- Quick and single tap vibration reading for pre-defined test points on common machines (motors, fans, pumps, spindles, etc.) with auto PDF report generation



Included in the Package:

- iPad (optional and customizable)
- 2-Channel DAQ box with 2-Ch simultaneous measurement
- Industrial single channel accelerometer with magnet base
- 3ft coiled accelerometer cable (extends to 10ft)
- Custom iPad case for protection and to hold the DAQ box
- Protective Carrying Case
- iVibraMeter iPad App for overall vibration and certificate tests
- VibraTestPro iPhone/iPad App for vibration analysis
- Several other calculator apps as vibration reference tools



Hardware Specs	
Sensitivity	25 mV/g
Measurement Range	±50 g
Frequency Range	30 - 900,000 cpm
Resonance Frequency	1860 kcpm
Number of Inputs	2 channels
Sampling Rate	44100 Hz
Operating Temperature	0-50 °C
Magnet Base Pull Force	85 lbf
Accelerometer Cable	10 ft



iPad Vibration & Rotor Balancing Kit



Motionics iPad Rotor Balancing Kit turns an iPad into a rotor balancer and vibration analyzer. It is a pure iPad-based kit consisting of iPad (optional), a 2-channel DAQ box, industrial accelerometer and a laser tachometer. The kit comes with several Apps for vibration analysis, overall vibration testing, and rotor balancing.

The iPad iRotorBalancer app allows single-plane, 2-plane, 4-runs, and overhung balancing to meet different rotor balancing requirements. With just simple tapping and typing, anyone can be an expert in rotor balancing using this package. The iPhone/iPad VibraTestPro App makes the kit a full vibration analyzer with time domain and frequency domain analysis. The kit also comes with the iVibraMeter App for iPad which can be used for a quick overall vibration tests of multiple common machines such as pumps, motors, spindles, etc. with rapid PDF report generation capability.

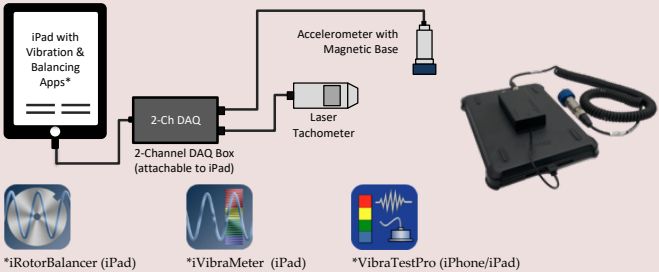
Features:

- Single-Plane balancing using 4-Runs/Vector methods
- 2-plane inbound/overhung balancing
- Real-time waveform/spectrum (FFT) of vibration signal
- Polar plots of trial and correction weights
- Angular mass distribution calculator
- Permissible residual imbalance determination
- Weight removal calculator
- One-button calibration for accelerometer input
- Balancing report generation with email sharing and wireless printing



Included in the Package:

- iPad (optional and customizable)
- 2-Channel DAQ box with 2-Ch simultaneous measurement
- Industrial single channel accelerometer with magnet base
- Laser tachometer with custom cable
- Custom iPad case for protection and to hold the DAQ box
- iRotorBalancer iPad app for rotor balancing
- iVibraMeter iPad App for overall vibration and certificate tests
- VibraTestPro iPhone/iPad App for vibration analysis
- Several other calculator apps as vibration reference tools



Hardware Specs	
Sensitivity	25 mV/g
Measurement Range	±50 g
Frequency Range	30 - 900,000 cpm
Resonance Frequency	1860 kcpm
Number of Inputs	2 channels
Sampling Rate	44100 Hz
Power Supply	From iPad
Magnet Base Pull Force	85 lbf
Accelerometer Cable	10 feet



Single-Channel Vibration Kit



Motionics Single-Channel Vibration Kit is a low-cost yet effective solution for performing vibration test on the fly. It consists of an advanced digital accelerometer connecting to an iPhone/iPad along with iOS vibration Apps. The digital accelerometer is piezoelectric based, which guarantees accurate measurement and broad-frequency response. It integrates a 24-bit internal ADC, hence data is directly passed through lightning port on iPhone/iPad, eliminating the need of an external DAQ box. Calibration information is stored onboard and automatically used to calibrate input signal, no extra calibration procedure is required.

Single-Channel Vibration Kit includes VibraTestPro App and iVibraMeter App. VibraTestPro is the go-to App to measure vibration on iPhone and iPad. It provides comprehensive vibration analysis features such as real-time waveform & spectrum viewer, ISO10816 vibration meter, raw signal recording and so on. The user can also use the iVibraMeter App on iPad for a quick overall vibration tests of multiple common machines such as pumps, motors, spindles, etc. with rapid PDF report generation capability.

Included in the Package:

- Digital Accelerometer x1
- 85 lbf Magnet Base x1
- Accelerometer Cable Accessory x1
- Protective Carrying Case x1
- iVibraMeter App (iPad) x1
- VibraTestPro App (iPhone/iPad) x1
- iPad with Industrial Protective Case (optional)



App Features:

- Vibration meter with ISO10816 severity indicator
- Interactive real-time waveform and spectrum viewer
- Customizable graph appearance: background color, line color, line thickness, grids
- Velocity and acceleration readings (metric & imperial)
- Peak cursor with auto peak detection and manual selection
- Distance cursor, harmonic cursor and sideband cursor
- Vibration raw signal recording and saving in local database
- Vibration signal export in CSV
- Plant-Machine-Test point structure for easy data management
- Customizable standard for severity indicator
- PDF test report with plant map, images, signature & notes



*iVibraMeter (iPad)



*VibraTestPro (iPhone/iPad)

Hardware Specifications

Measurement Range	± 20 g pk
Frequency Range (± 3 dB) :	54 - 900,000 cpm
Non-Linearity	$\leq 2\%$
Operating Temperature	-10 °C to +70 °C
Sampling Rate	44100 Hz
Internal ADC	24 bits
Magnetic Base Pull Force	85 lbf



Shale Shaker Vibration Test Kit



Motionics shale shaker vibration Test kit is an iPad-based vibration analyzer specialized for shale shakers.

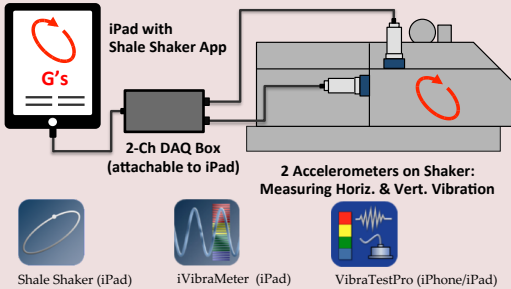
This kit comes with two accelerometers with magnetic bases that can be attached to a test point to measure vibrations in two directions. Accelerometer signals are acquired through the 2-Channel DAQ mounted on the back of the iPad and passed to the Shale Shaker App through iPad data port.

In the Shale Shaker App, users can see 2-Channel vibration spectrum, waveform and G Motion X-Y orbit plots. Vibration peak and RMS values can be recorded and saved to a test report. PDF reports are saved in local database and can be exported.

The kit also comes with Motionics VibraTestPro App iPhone & iPad. Using this App, this kit can be used as a 2-Ch vibration analyzer with vibration analysis features such as real-time waveform & spectrum viewer, ISO10816 vibration meter, raw signal recording, etc.

Included in the Package:

- 2-Channel DAQ box with 2-Ch simultaneous measurement x1
- Industrial single channel accelerometer with magnet base x2
- 3ft coiled accelerometer cable (extends to 10ft) x2
- Custom iPad case for protection and to hold the DAQ box x1
- Shale Shaker iPad App for shaker vibration analysis x1
- iVibraMeter iPad App for overall vibration and certificate tests x1
- VibraTestPro iPhone/iPad App for vibration analysis x1
- iPad (optional and customizable)



Hardware Specs	
Sensitivity	25 mV/g
Measurement Range	± 50 g
Frequency Range	30 - 900,000 cpm
Resonance Frequency	1860 kcpm
Number of Inputs	2 channels
Sampling Rate	44100 Hz
Operating Temperature	0-50 °C
Magnet Base Pull Force	85 lbf
Accelerometer Cable	10 ft

App Features:

- Two channel data acquisition
- G Readings: vertical, horizontal and resultant
- Real-time vibration waveform
- Wide range FFT spectrum
- X-Y plot (G Motion Plot)
- Peak/RMS vibration selection
- PDF Test report with plots, map, machine picture, signature and custom notes
- Local database and test report manager
- Export PDF report through E-mail and air-print



VibeSense

Wireless Vibration Analyzer



Motionics VibeSense wireless accelerometer is a wireless sensor solution for condition monitoring of rotating machinery. It packs a piezoelectric accelerometer, a powerful onboard processor, and a Bluetooth Low Energy radio module.

The piezoelectric accelerometer sensor guarantees accurate acceleration measurement in various industrial applications. The powerful processor provides onboard calculation capability for FFT, RMS calculation, peak finding, as well as raw signal collection with user-configurable sampling rates and data block sizes. The Bluetooth Low Energy module enables communication with smart devices to allow the user to send commands to the accelerometer to initiate data collection for onboard processing or transmitting back for further analysis on a phone or tablet. Without the hassle of a data cable, measurements can be made more efficiently and safely.

VibeSense runs on a rechargeable Li-Po battery with Qi wireless charging enabled.

Connecting the laser tachometer through the connector on top turns VibeSense accelerometer into a novel rotor balancing tool. With the step by step guide in our mobile app, anybody can accomplish single-plane and two-plane rotor balancing effortlessly.



Bluetooth
Low Energy



Rechargeable with
wireless charging



Water/dust-proof for
industrial environment



Frequency-Domain
FFT viewer



Vibration meter
ISO 10816



Time-domain
signal and logger



Included in the Package:

- VibeSense Wireless Accelerometer
- Qi Wireless Charging Pad
- 1/4-28 Accelerometer Mounting Set Screw
- Magnet Key for Sensor/on/off Switch
- Protective Carrying Case
- License for the Vibration app (iPhone and iPad)

Optional:

- iPad Mini 4 with Industrial Protective Case
- Two Pole 85 lbs Magnetic Base
- Adjustable Laser Tachometer Sensor (for balancing)
- Laser Tachometer Extension Cable (for balancing)
- Laser Tachometer Holder (for balancing)

Software Features:

- Wireless sensor connection via Bluetooth Low Energy
- Multiple sensor connectivity
- ISO18016 based vibration meter
- Vibration raw signal recording
- Adjustable sampling rate
- Adjustable data block size
- Time domain signal waveform viewer
- Vibration signal FFT spectrum viewer
- Acceleration and velocity spectrum
- Automatic and manual vibration peak picker
- Metric and imperial unit selection
- Time waveform/spectrum export in CSV
- Bearing frequencies
- Gear mesh frequencies

VibeSense	Specification
Accelerometer Type	Piezoelectric
Sensitivity	100 mV/g
Measurement Range	±20 g
Frequency Range (±3 dB)	0.32 - 10,000 Hz
Resonant Frequency	25,000 Hz
ADC	16 bits
Sampling Rate	200 to 20,000 Hz
Data Block Size	256 to 16,384 samples
Spectrum Range	1 to 10,000 Hz
Wireless Data Transmission Range	Up to 20 m
Operating Temperature	-20 - 60°C
Dust/Water Protection	IP66
Battery	Rechargeable Li-Po battery
Charging	Qi Wireless Charging

VibeSense

Wireless Rotor Balancer



Motionics VibeSense wireless balancer is a novel rotor balancing tool. It consists of VibeSense wireless accelerometer and a miniature laser tachometer sensor.

VibeSense wireless accelerometer utilizes a piezoelectric accelerometer to guarantee accurate acceleration measurement. It has a powerful onboard processor to process both accelerometer and tachometer signals, perform FFT, and calculate vibration and phase readings for rotor balancing. Wireless signal transmission is achieved by Bluetooth Low Energy that allows users to directly communicate with the sensors and perform balancing work on a smart phone or tablet.

The miniature laser tachometer can be attached to the VibeSense wireless accelerometer through the connector on top for phase measurement. With the included right-angle adapter, users can easily adjust and target the laser at any spot on the testing rotor. An extension cable can also be used to extend the laser reach.

Both single-plane and two-plane, inbound and overhung balancing are supported in our mobile app. With the animated step-by-step guide, anybody can accomplish rotor balancing work effortlessly. After balancing, a PDF report will be generated and saved for further assessment. VibeSense runs on a rechargeable Li-Po battery with Qi wireless charging enabled.



Bluetooth Low Energy



Rechargeable with wireless charging



Water/dust-proof for industrial environment



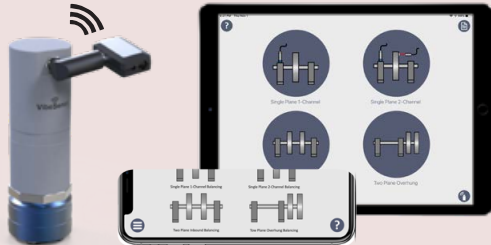
Attachable/adjustable 360° laser tachometer



Single-plane balancing (4-runs & 2-channel methods)



Two-plane balancing (inbound & overhung)



Included in the Package:

- VibeSense Wireless Accelerometer
- Adjustable Laser Tachometer Sensor
- Laser Tachometer Extension Cable
- Laser Tachometer Holder
- Qi Wireless Charging Pad
- 1/4-28 Accelerometer Mounting Set Screw
- Magnet Key for Sensor on/off Switch
- Protective Carrying Case
- License for the Balancing app (iPhone and iPad)

Optional:

- iPad Mini 4 with Industrial Protective Case
- Two-Pole 85-lbs Magnetic Base

Software Features:

- Wireless sensor connection via Bluetooth Low Energy
- Multiple sensor connectivity
- Supports single-plane and two-plane balancing
- Supports inbound and overhung
- Step-by-step guide for balancing
- Polar plot for vibration and trial/correction weights
- Angular mass distribution calculator
- Weight removal calculator
- Permissible residual imbalance determination
- ISO18016 based vibration meter
- Vibration raw signal recording
- Vibration signal FFT spectrum viewer
- Balancing PDF report

VibeSense	Specification
Accelerometer Type	Piezoelectric
Sensitivity	100 mV/g
Measurement Range	±20 g
Frequency Range (±3 dB)	0.32 - 10,000 Hz
Resonant Frequency	25,000 Hz
ADC	16 bits
Sampling Rate	200 to 20,000 Hz
Date Block Size	256 to 16,384 samples
Wireless Transmission Range	Up to 20 m
Operating Temperature	-20 - 60°C
Dust/Water Protection	IP66
Battery	Li-Po battery w/Qi Wireless Charging
Laser Tachometer Attachment	Attachable 360° Adjustable
Laser Sensor	Class IIIa Wavelength 650nm

VibraTestPro App (iPhone & iPad)

Vibration Analysis



VibraTestPro is a vibration analysis tool on iPhone/iPad. It reads and processes vibration signal from Motionics wired 2-CH kit accelerometers and single channel kit accelerometer via lightning port or Motionics VibeSense wireless accelerometer via Bluetooth Low Energy. VibraTestPro features ISO10816 based vibration meter, real-time TWF and FFT spectrum viewer, vibration signal recorder and local vibration data manager.



Universal on iPhone & iPad

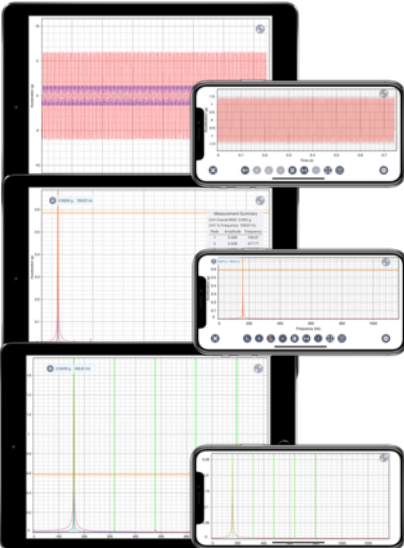
VibraTestPro is universal on iPhone and iPad, turning your mobile device at hand into a competent portable vibration analyzer.



ISO-10816 based Vibration Meter

VibraTestPro includes an ISO-10816 based vibration meter to allow users to evaluate machine overall vibration severity at one glance.

- Severity test based on ISO10816-3 standard or custom thresholds
- Interactive ISO-10816 vibration severity table
- Enlarged severity bar with 4 color zones for better view
- Machine type and support type selections
- RMS data and color code save to local data manager



Real-time TWF & FFT Spectrum Viewer

VibraTestPro features a real-time TWF & FFT spectrum viewer to display collected vibration signal in time waveform and FFT spectrum on iPhone and iPad.

- 2-CH simultaneous display
- Real-time waveform and FFT spectrum
- Interactive signal viewer with pan and pinch to move and zoom spectrum
- Customizable graph appearance: background color, line color, line thickness, dynamic grids
- Linear and log axis scale
- Full screen display
- Velocity and acceleration readings
- Metric and Imperial units
- Vibration signal information including overall RMS, major frequency and top 5 peaks
- Auto peak detection cursor and manual peak cursor
- Movable distance cursors to analyze two points in spectrum
- Harmonic cursors to show vibration harmonics
- Sideband cursors with options to define center frequency, number of sidebands and frequency interval

VibraTestPro App (iPhone & iPad)

Vibration Analysis



Raw Vibration Signal Recorder

Users have the option to record raw vibration signal on VibraTestPro, save it to local data manager to access later or export in a CSV/WAV file.

- Raw vibration signal recording
- User defined recording sampling rate and length
- Recording manual or auto stop
- Recorded data export in CSV/WAV file via AirDrop, Email, Dropbox
- Recorded data save to local data manager



Local Data Manager

Records from vibration meter, spectrum viewer and raw data recorder can be saved in a local data manager to access in the future. Data manager uses Plant-Machine-Test Point structure to help users to quickly locate a testing record.

- Plant-Machine-Test Point structure for easy data management
- Save machine image to record
- Save test note to record
- Offline spectrum
- Export vibration signal



Wireless Sensor Support

VibraTestPro supports Motionics VibeSense Wireless Vibration Sensor to offer a wireless solution for condition monitoring of rotating machinery.



iVibraMeter App (iPad)

Vibration Analysis



iVibraMeter is an iPad application that connects to Motionics 2-CH DAQ box or single channel accelerometer and collects in real time the vibration signal. It displays the overall acceleration/velocity RMS value together with a severity bar based on different industry standards to show machine conditions. It also includes a library of common industrial machines including motor, fan pump, etc and allows users to quickly collect vibration readings at pre-defined test locations by a single tap. A real-time time waveform/FFT spectrum viewer updates vibration signal continuously, helping user to identify machine condition abnormality.

After each test, the user can quickly generate a PDF test report in iVibraMeter App to include machine information, vibration levels, severity bar, map location, pictures from library or camera, signature and notes. Test report can be saved locally in the plant-machine structured test report manager for future evaluation or exported via AirDrop, Email, wireless printing and cloud storage (Dropbox, Google Drive, OneDrive, etc).

Features:

- Real-Time overall RMS values
- Vibration signal spectrum/waveform
- Touch cursor on spectrum
- Vibration in velocity (ips or mm/s) or acceleration (G's)
- ISO 10816 and customized vibration severity thresholds
- One-tap data capturing at predefined test points on common industrial machines, including: motor, fan, pump, etc
- One button calibration for accelerometer input
- Generate reports with machine information, vibration levels, severity bar, map location, pictures from library or camera, signature and notes
- PDF report export via AirDrop, Email, wireless printing and cloud storage (Dropbox, Google Drive, OneDrive, etc)
- Local report manager
- Help & instructions



iRotorBalancer App (iPad)

Vibration Analysis and Rotor Balancing



iRotorBalancer is a technical tool for field balancing of rotating machinery in single-plane and two-planes. The iPad application connects to the Motionics 2-CH DAQ box mounted on iPad case, collects the vibration amplitude and phase with an accelerometer and a laser tachometer, and calculates the correction balancing weights and their angular positions for the testing machines.

After each balancing work, the user can quickly generate a PDF test report in iRotorBalancer App to include test information, balancing data, machine vibration before and after balancing, map location, pictures from library or camera, signature and notes. Test report can be saved locally in the plant-machine structured test report manager for future evaluation or exported via AirDrop, Email, wireless printing and cloud storage (Dropbox, Google Drive, OneDrive, etc.).



Single-Plane and Two-Plane Balancing

iRotorBalancer uses different methods to cover both single-plane and two-planes balancing for different machine configurations.

- Single-Plane balancing using the Vector-Method (Amplitude & Phase Measurements)
- Single-Plane balancing using the Four-Runs-Method (Amplitude Measurement)
- Two-Plane inboard balancing using the Influence Coefficients Method (Amplitude & Phase Measurements)
- Two-Plane overhung balancing (Amplitude & Phase Measurements)

Various Balancing Tools

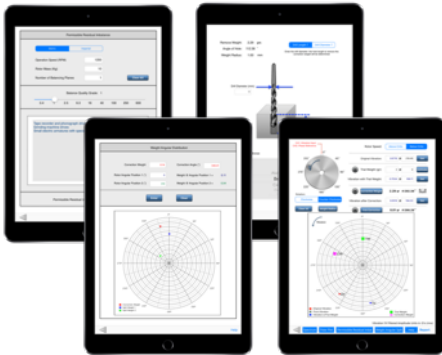
iRotorBalancer provides various handy tools to make balancing work easy even for users without any experience.

- Real-time signal waveform and FFT spectrum display
- Automatic select 1x peak amplitude and phase
- Polar plot to show graphic location of trial and correction weights
- Convenient calculator to estimate trial weight
- Angular mass distribution calculator to help distribute mass if correction weight location is not available
- Weight removal calculator to help determine drill bit size and depth for material removal
- Interactive permissible residual imbalance determination to quickly evaluate balancing quality

Balancing Report

Users can easily create PDF report after each balancing work in the App and save reports in local report manager for future reference.

- PDF report with test information, balancing data, machine vibration before and after balancing, map location, pictures from library or camera, signature and notes
- Local report manager to save test reports
- PDF report export via AirDrop, Email, wireless printing and cloud storage (Dropbox, Google Drive, OneDrive, etc)





iVibra Meter
Real-Time Overall
Vibration Measurements
and Severity Judgement

iPad & DAQ System

iVibra Meter provides real-time overall vibration measurements and severity judgment based on different standards, using the iPad with our DAQ system.



Vibra Test Pro
Vibration Severity Test
Based on ISO 10816
with DAQ Input

iPhone & DAQ System

Vibra Test Pro is an iOS vibration analysis tool featuring ISO 10816 vibration meter, FFT spectrum viewer, raw signal recorder and test data manager.



Vibra Test
Vibration Severity Test
of Rotating Machinery
Based on ISO 10816-03

iPhone/iPad

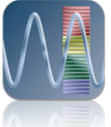
Vibra Test is an ISO 10816-based vibration meter to conduct vibration severity tests on rotating machinery.



Vibra Pad
Real-Time Vibration
Analysis & Training App

iPad & DAQ System

VibraPad is a vibration analysis tool, specially designed for determining the most common vibration frequencies of machine faults.



VibeSpectra
A Reference Guide for
Vibration Analysis

iPhone/iPad/iPod
Touch/Android

VibeSpectra is a reference guide for rotating machinery predictive maintenance, including spectra for various machine faults.



Vibra Calc
Vibration Severity Test
Function that Works with
DAQ Input

iPhone and DAQ System

Vibra Calc calculates vibration frequencies of induction motors, gears, rolling element bearings, pumps, fans, journal bearings, and belts.



Vibra Units
Vibration Units Conversion
Application

iPhone/iPad/iPod Touch


VibraUnits is a vibration units conversion calculator. It converts typical vibration amplitude and frequency units.



REBvibe
Calculates Rolling Element
Bearings' Fundamental
Frequencies

iPhone/iPad/iPod Touch

REBvibe calculates vibration fundamental frequencies of roller element bearings from its geometry or model.



CAT Services
Crankshaft Deflection Test
Function that Works with
Motionics WIMER

iPad & DAQ System

CAT Services is custom-made for Caterpillar to conduct engine vibration tests and crankshaft deflection tests.



Shale Shaker
Real-Time Overall
Vibration Measurements
and Severity Judgement

iPhone/iPad/iPod Touch

Shale Shaker analyzes the vibration and motion of an industrial shale shaker.



Motor Vibration
Real-Time Overall Vibration
Measurements and Severity
Judgement

iPad & DAQ System


Motor Vibration is custom made for Siemens to conduct vibration tests.



Summit Vibe
Real-Time Overall
Vibration Measurement
and Severity Judgement

iPad & DAQ System

Summit Vibe is custom-made for Summit to conduct vibration tests.



Balance Vision
A Tool that Uses the Camera
to Fine the Angular Positions
on a Rotor During Balancing

iPhone/iPad/iPod Touch


BalanceVision is designed to use a camera to help the user locate angular positions on a rotor in balancing procedures.



iRotorBalancer
Single-Plane & Two-Plane
Real-Time Rotor
Balancing App

iPhone & iRB DAQ System

iRotorBalance uses different methods for calculating the correction weights for rotor balancing in single-plane or 2-planes.



iRotorBalance
Application for Rotor
Balancing Calculations

iPhone/iPad/iPod Touch

iRotorBalance is a technical tool for calculating the correction weights for rotating machinery balancing in a single plane or two planes.



iAlignCalc
Application to Calculate
Machine Shaft Alignment
Corrections

iPhone/iPad/iPod Touch

iAlignCalc is for machine shaft alignment, including several alignment methods and a thermal growth calculator.



iAlignTest
An Interaction Reference
Tool for Machine Shaft
Alignment

iPhone/iPad/iPod Touch

iAlignTest provides common reference tables, specifications and charts for shaft alignment tolerance.