PRODUCT CATALOG
No. 111

motionics
Motionics, LLC

Smart Tools for Measurement, Monitoring and Diagnostic of Machinery

ABOUT MOTIONICS LLC

Motionics LLC, specializes in instrumentation of metrology, machinery diagnostics, condition monitoring and advanced vibration analysis of rotating machine. Motionics' products include wireless measurement tools, wireless power monitoring devices, software for online diagnosis of rotating machinery using vibration and electrical signals, model-based fault detection and diagnostics, smart solutions for vibration monitoring, and rotor balancing.

This catalog is Motionics' commitment to provide relevant product information to our customers and partners. Motionics continues pushing the boundaries of industrial measurement technology.

Thank you,

Motionics LLC

Table of Content

Motionics, LLC
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The software & hardware can be customized.
Contact Motionics for details.

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Wireless Multi-Gage Measurement Solution – iOS & Windows

Simultaneous data display and collection of multiple Bluetooth gages on iOS and Windows
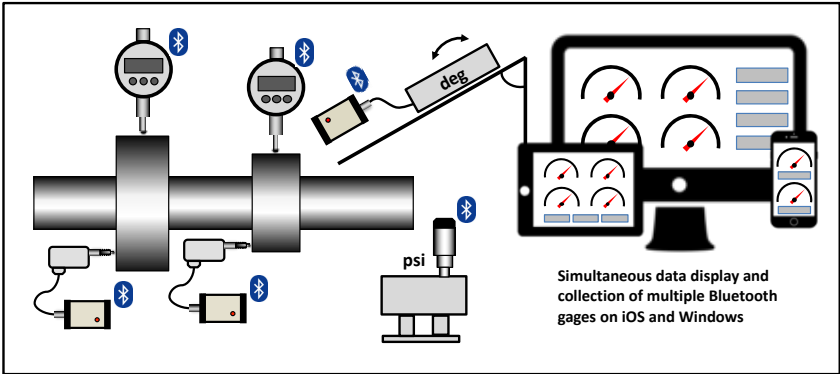
Real-Time Cloud Streaming of Multi-Gage Measurement – iOS

MultiGage App on iOS reads Bluetooth measurements of the gages and transfers to the cloud in real-time through internet connection

MultiGage App on iOS receives measurements from the cloud and shows in real-time at a different location

Requires internet connection
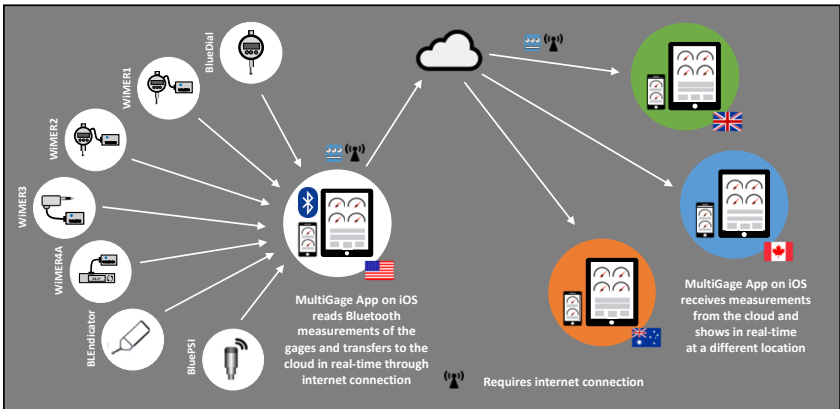
Measurement Calculator with Custom Equation – iOS

MultiGage App automatically converts measurement readings based on any equation user entered

ID Measurement

Hole Diameter / Groove Width

OD Measurement using two BlueDials

Outside Diameter Measurement

A = 0.03mm

Enter Equation:
OD = 125 - A

124.97mm

A = 12mm

Enter Equation:
$D = -2 \times \tan(\theta) \times A$

15.03mm

A = 0.01mm
B = 0.02mm

Enter Equation:
OD = 125 + A + B

125.03mm

A = 0.03mm

Enter Equation:
$2R = \dfrac{\sin(\theta)}{\sin(\theta) - 1} \times A$

125.03mm

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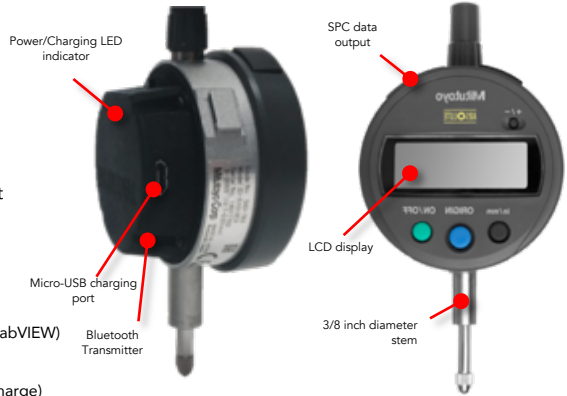The software & hardware can be customized.
Contact Motionics for details.

Motionics, LLC

BlueDial is a Mitutoyo indicator with integrated Bluetooth transmitter on the back. It not only maintains high accuracy measurement form Mitutoyo, but also brings the convenience of wireless communication. It's a new solution to get rid of the hassle of wires/cables and improves efficiency and safety in displacement measurement applications.

Features:

- Integrated Bluetooth Low Energy technology
- Multiple platform support (iOS, Android, PC and LabVIEW)
- Continuous and single modes data recording
- Rechargeable battery (60 hours life with a single charge)

Power/Charging LED indicator

Micro-USB charging port

Bluetooth Transmitter

SPC data output

LCD display

3/8 inch diameter stem

Model:	BD10-783	BD10-793
Measurement Range	0.5 in/12.7 mm	0.5 in/12.7 mm
Resolution	0.0005 in/0.01 mm	0.0001 in/0.001 mm
Accuracy	0.0008 in	0.00012 in
Wireless Data Rate	10 HZ	10 HZ
Transmission Range	Up to 10 m	Up to 10 m
Working Temperature	0 - 50 °C	0 - 50 °C
Battery	400 mAh	400 mAh
Battery Life	60 hrs	60 hrs
Charging	5 VDC USB and 110 VAC	5 VDC USB and 110 VAC

Available on the App Store

More Features with our FREE Apps/Software*

- Multiple devices simultaneous reading
- Data plot on iPhone/iPad
- Continuous or Single data recording
- Max, Min, TIR measurement
- Reading remote zero in the App
- Real-time cloud data streaming to worldwide
- Custom formula calculator
- Probe meter with adjustable range
- Measurement voice read in 9 languages
- Data export in CSV via Email and cloud drives
- Keyboard entry to Excel or SPC software on PC

*Availability of features vary between Apps/platforms

The software & hardware can be customized.
Contact Motionics for details.

BlueDial-LT
Bluetooth Dial Indicator Lite

BlueDial-LT is a dial indicator with integrated Bluetooth transmitter on the back. It integrates a high accuracy dial indicator with Bluetooth Low Energy Data Transmitter. All the readings will be wirelessly collected and displayed on smart device or PC. With a more affordable price, users can still benefit from the convenience of Bluetooth data transmission.

Features:

- Integrated Bluetooth Low Energy technology
- Multiple platform support (iOS, Android, PC)
- Continuous and single data recording
- Rechargeable battery (50 hours life with a single charge)

Power/Charging LED indicator

1-3/4'' LCD display

8mm diameter stem

Bluetooth Transmitter

Micro-USB charging port

Model:	BDLT-102	BDLT-103	BDLT-202	BDLT-203
Measurement Range	0.5 in/12.7 mm	0.5 in/12.7 mm	1 in/25.4 mm	1 in/25.4 mm
Resolution	0.0005 in/0.01 mm	0.00005 in/0.001 mm	0.0005 in/0.01 mm	0.00005 in/0.001 mm
Accuracy	±0.001 in	±0.0002 in	±0.001 in	±0.0002 in
Wireless Data Rate	8 HZ	8 HZ	8 HZ	8 HZ
Transmission Range	Up to 10 m	Up to 10 m	Up to 10 m	Up to 10 m
Working Temperature	0 - 40 °C	0 - 40 °C	0 - 40 °C	0 - 40 °C
Battery	400 mAh	400 mAh	400 mAh	400 mAh
Battery Life	50 hrs	50 hrs	50 hrs	50 hrs
Charging	5 VDC USB and 110 VAC	5 VDC USB and 110 VAC	5 VDC USB and 110 VAC	5 VDC USB and 110 VAC

More Features with our FREE Apps/Software*

- Multiple devices simultaneous reading
- Data plot on iPhone/iPad
- Continuous or Single data recording
- Max, Min, TIR measurement
- Reading remote zero in the App
- Real-time cloud data streaming to worldwide
- Custom formula calculator
- Probe meter with adjustable range
- Measurement voice read in 9 languages
- Data export in CSV via Email and cloud drives
- Keyboard entry to Excel or SPC software on PC

*Availability of features vary between Apps/platforms

# BlueAngle
Bluetooth Angle Sensor

BlueAngle is a Bluetooth gyroscope angle sensor. It can be easily attached to a rotor with its magnetic base. While rotating with the rotor, BlueAngle continuously measures the rotating angle and wirelessly transmits readings to iPad. BlueAngle is intended to be used with Motionics wireless Runout kit.

BlueAngle	Specification
Measurement Range	360 °
Resolution	0.1 °
Wireless Data Rate	50 HZ
Transmission Range	Up to 20 m
Dimensions	1.58 x 1.58 x 0.79 in
Working Temperature	0 - 50 ℃
Battery	150 mAh
Battery Life	10 hrs
Charging	5 VDC USB and 110 VAC

Runout App Features:

• Wireless connectivity with displacement sensor and angle sensor at the same time

• Multiple displacement sensors connectivity (test up to 9 planes simultaneously)

• Probe meter for displacement readings with adjustable range

• 2 probe meter styles for high and low resolutions

• Analog rotating dial indicator on screen

• Remote zeroing of displacement and angle sensors

• User-defined number of test points on rotor circumference

• Cartesian plot and polar plot

• Direct screenshot of the results and plots to save in local

• Values and positions of Max/Min summarized in result table

• Exporting measurement via AirDrop or Email or Cloud drives in CSV format

• PDF report with test information, machine image, test results, note, tester signature and map

• Local test records manager to retrieve previous data and reports

The software & hardware can be customized.
Contact Motionics for details.
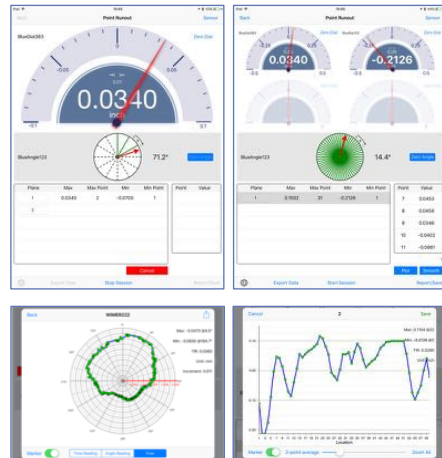
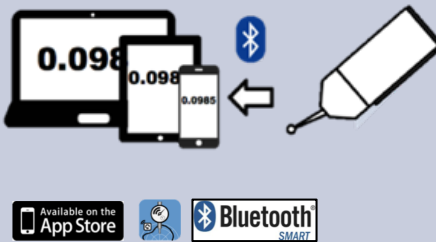# BLEndicator
Bluetooth Test Indicator

BLEndicator is a Bluetooth test indicator with remote readout. With its compact design, BLEndicator can fit into a borehole as small as 1.5" diameter. Thanks to its Bluetooth connectivity, stylus movement can be directly read out on iPhone/iPad/ Android/Windows PC, making it easier and faster to take measurements at hard-to-read locations.

Features:

- Built-in Bluetooth Low Energy technology
- Multiple platform support (iOS, Android, PC)
- Compact size for measurements at hard-to-read locations
- Rechargeable battery

BLEndicator	Specification
Measurement Range	0.17 in/4.3 mm
Resolution	0.0001 in/0.001 mm
Accuracy	0.0006 in
Wireless Data Rate	8 HZ
Transmission Range	Up to 10 m
Dimensions	4.05 x 1.31 x 0.85 in (maximum)
Stylus length	0.78 in
Working Temperature	0 - 50°C
Battery Life	10 hrs
Charging	5 VDC USB and 110 VAC

More Features with our FREE Apps/Software*

- Multiple devices simultaneous reading
- Data plot on iPhone/iPad
- Continuous or Single data recording
- Max, Min, TIR measurement
- Reading remote zero in the App
- Real-time cloud data streaming to worldwide
- Custom formula calculator
- Probe meter with adjustable range
- Measurement voice read in 9 languages
- Data export in CSV via Email and cloud drives
- Keyboard entry to Excel or SPC software on PC

*Availability of features vary between Apps/platforms

WiMER1
## Wireless Measurement Read Series 1

WiMER1 is a wireless measurement device connecting to Mitutoyo instruments. It reads digital micrometer/dial/caliper and communicates wirelessly with iPhone/iPad/Android/PC via Bluetooth Low Energy, allowing user to view and record measurement readings directly on the screen of smart devices/PC.

Features:

- Bluetooth transmitter compatible with various Mitutoyo instruments
- Multiple platform support (iOS, Android, PC and LabVIEW)
- Continuous and single modes data recording
- Rechargeable battery

Compatible with Mitutoyo instruments with SPC output:

- Dial indicator 543
- Caliper 500, 551, 552, 573
- Micrometer 227, 293, 314, 317, 323...
- More
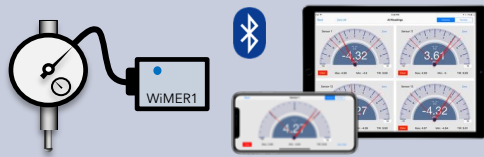
Mitutoyo Gages

WiMER1	Specification
Measurement Range	0.5 in/12.7 mm (depending on instrument)
Resolution	0.0005 in/0.01 mm (depending on instrument)
Wireless Data Rate	10 HZ
Accuracy	0.0008 in (depending on instrument)
Dimensions	2.50 x 1.63 x 0.80 in
Working Temperature	0 - 50 °C
Battery	400 mAh
Battery Life	60 hrs
Charging	5 VDC USB and 110 VAC

More Features with our FREE Apps/Software*

- Multiple devices simultaneous reading
- Data plot on iPhone/iPad
- Continuous or Single data recording
- Max, Min, TIR measurement
- Reading remote zero in the App
- Real-time cloud data streaming to worldwide
- Custom formula calculator
- Probe meter with adjustable range
- Measurement voice read in 9 languages
- Data export in CSV via Email and cloud drives
- Keyboard entry to Excel or SPC software on PC

*Availability of features vary between Apps/platforms

WiMER2
## Wireless Measurement Read Series 2

WiMER2 is the WiMER designed for Fowler/Sylvac users. It collects readings from Fowler/Sylvac instruments with RS232 outputs and transmits data wirelessly via Bluetooth Low Energy to iPhone/iPad/Android/PC. WiMER2 also powers the connected instrument. No external power supply is needed.

Features:
- Bluetooth transmitter compatible with various Fowler/Sylvac instruments
- Multiple platform support (iOS, Android, PC and LabVIEW)
- Continuous and single modes data recording
- Rechargeable battery

Compatible with Fowler Digital Instruments:
- Micrometer 54-815/866/870
- Caliper 54-100 (with data output)/110
- Digital Indicator 54-530/562
- More
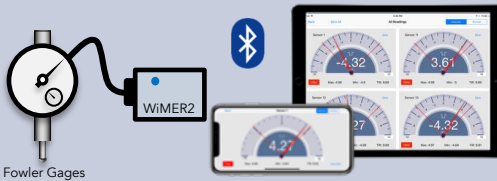
Fowler Gages

WiMER2

WiMER2	Specification
Measurement Range	0.5 in/12.7 mm (depending on instrument)
Resolution	0.00005 in/0.001 mm (depending on instrument)
Wireless Data Range	10 HZ
Accuracy	0.0005 in (depending on instrument)
Dimensions	2.50 x 1.63 x 0.80 in
Working Temperature	0 - 50 °C
Battery	400 mAh
Battery Life	20 hrs
Charging	5 VDC USB and 110 VAC

More Features with our FREE Apps/Software*
- Multiple devices simultaneous reading
- Data plot on iPhone/iPad
- Continuous or Single data recording
- Max, Min, TIR measurement
- Reading remote zero in the App
- Real-time cloud data streaming to worldwide
- Custom formula calculator
- Probe meter with adjustable range
- Measurement voice read in 9 languages
- Data export in CSV via Email and cloud drives
- Keyboard entry to Excel or SPC software on PC

*Availability of features vary between Apps/platforms

WiMER3
Wireless Measurement Read Series 3

Motionics, LLC

WiMER3 is the transmitter developed for Mitutoyo Linear Gage with 90° phase difference, differential square wave. WiMER3 directly powers connected linear gage and completes data collection and wireless transmission via Bluetooth Low Energy, helping users get rid of expensive and bulky signal conditioner.

Features:

• Bluetooth transmitter compatible with various Mitutoyo linear gage
• Multiple platform support (iOS, Android, PC and LabVIEW)
• Power supply, signal conditioning and data transmission for linear gage
• Rechargeable battery

Compatible with Mitutoyo Linear Gage Models:

• 542-156, 161, 162, 171, 181, 204, 222, 230, 244, 262, 270, 401, 421, 612
• More

WiMER3	Specification
Measurement Range	0.39 in/10 mm (depending on linear gage)
Resolution	0.000005 in/0.0001mm (depends on instrument)
Wireless Data Range	10 HZ
Accuracy	0.0005 in (depending on instrument)
Dimensions	4.09 x 2.20 x 0.91 in
Working Temperature	0 - 50 °C
Battery	2500 mAh
Battery Life	30 hrs
Charging	5 VDC USB and 110 VAC

More Features with our FREE Apps/Software*

• Multiple devices simultaneous reading
• Data plot on iPhone/iPad
• Continuous or Single data recording
• Max, Min, TIR measurement
• Reading remote zero in the App
• Real-time cloud data streaming to worldwide
• Custom formula calculator
• Probe meter with adjustable range
• Measurement voice read in 9 languages
• Data export in CSV via Email and cloud drives
• Keyboard entry to Excel or SPC software on PC

*Availability of features vary between Apps/platforms

Motionics, LLC

WiMER4A is the wireless transmitter for Mitutoyo digital protractor 950-318. Mitutoyo 950-318 is a gravity electronic sensor based digital protractor. It covers measurement range of 360° (90°x4) with high resolution and high accuracy. It features a machined aluminum frame with an easy-to-read liquid crystal display.

Features:

- Bluetooth Low Energy Technology
- Multiple platform support (iOS, Android, PC)
- Continuous and single modes data recording
- Rechargeable battery

Compatible with Mitutoyo Protractor 950-318

WiMER4A	Specification
Resolution	0.01° (0° to 9.99°), 0.1° (10° to 90°)
Wireless Data Rate	2 HZ
Transmission Range	Up to 10 m
Accuracy	0.05° (0° to 10°), 0.2° (10° to 80°), 0.1° (80° to 90°)
Dimensions	4.09 x 2.20 x 0.91 in
Working Temperature	0 - 50 °C
Battery	400 mAh
Battery Life	30 hrs
Charging	5 VDC USB and 110 VAC

More Features with our FREE Apps/Software*

- Multiple devices simultaneous reading
- Data plot on iPhone/iPad
- Continuous or Single data recording
- Max, Min, TIR measurement
- Reading remote zero in the App
- Real-time cloud data streaming to worldwide
- Custom formula calculator
- Probe meter with adjustable range
- Measurement voice read in 9 languages
- Data export in CSV via Email and cloud drives
- Keyboard entry to Excel or SPC software on PC

*Availability of features vary between Apps/platforms

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Digital Dial Indicator With Integrated Bluetooth Low Energy Transmitter

BlueDial Comparison Table

	BlueDial		BlueDial-LT					
Product ID	BD10-783	BD10-793	BDLT-102	BDLT-103	BDLT-202	BDLT-203	BDLT-302	BDLT-402
Specifications								
Resolution	0.0005″ 0.01mm	0.0001″ 0.001mm	0.0005″ 0.01mm	0.00005″ 0.001mm	0.0005″ 0.01mm	0.00005″ 0.001mm	0.0005″ 0.01mm	0.0005″ 0.01mm
Measurement Range	0.5″ 12.7mm	0.5″ 12.7mm	0.5″ 12.7mm	0.5″ 12.7mm	1″ 25mm	1″ 25mm	2″ 50mm	4″ 100mm
Data Rate	10 samples/sec	10 samples/sec	8 samples/sec	8 samples/sec	8 samples/sec	8 samples/sec	10 samples/sec	10 samples/sec
Stem Size	3/8″	3/8″	8 mm	8 mm	8 mm	8 mm	3/8″	3/8″
Tip Thread	4-48UNF	4-48UNF	M2.5	M2.5	M2.5	M2.5	4-48UNF	4-48UNF
Battery	Rechargable	Rechargable	Rechargable	Rechargable	Rechargable	Rechargable	Rechargable	Rechargable
Battery life	60 hours	60 hours	50 hours	50 hours	50 hours	50 hours	50 hours	50 hours
Mounting Options	Stem*	Stem*	Stem*	Stem*	Stem*	Stem*	Stem*	Stem/Back lug
Hardware								
Dial Indicator	*Mitutoyo 543-783*	*Mitutoyo 543-793*	*Motionics Dial*	*Motionics Dial*	*Motionics Dial*	*Motionics Dial*	*Motionics Dial*	*Motionics Dial*
Bluetooth Transmitter	On back	On back	On back	On back	On back	On back	On back	On back
USB Charging Kit	✓	✓	✓	✓	✓	✓	✓	✓
Free Software								
iOS iPhone/iPad	✓	✓	✓	✓	✓	✓	✓	✓
Android 4.3 and after	✓	✓	✓	✓	✓	✓	✓	✓
Windows PC**	✓	✓	✓	✓	✓	✓	✓	✓
LabVIEW** Customizable	✓	✓	—	—	—	—	—	—
*Optional Accessories*****								
BLE USB Dongle	✓	✓	✓	✓	✓	✓	✓	✓
Basic Case Included	—	—	—	—	—	—	—	—
Pelican Case 1010	✓	✓	✓	✓	—	—	✓	✓
Pelican Case 1040	✓	✓	✓	✓	✓	✓	—	—
Pelican Case 1120	✓	✓	✓	✓	✓	✓	—	—
Mitutoyo 7033B	✓	✓	✓	✓	✓	✓	✓	✓
NOGA DG61003	✓	✓	✓	✓	✓	✓	✓	✓
Extension Rod 4-48UNF 1-6″ one each	✓	✓	—	—	—	—	✓	✓

* Back lug mounting available upon request

** Requires BLE USB dongle

*** Basic case included, can purchase Pelican Case for better protection

**** Refer to Accessories page for additional information

Wireless (Bluetooth Low Energy) Transmitter For Dimensional Measurement Gages

WiMER
Comparison Table

	WiMER1	WiMER2	WiMER3	WiMER 4A
Product ID	W1	W2	W3	W4A
Compatability	**Mitutoyo** Instruments	**Fowler** Instruments	**Mitutoyo** Linear Gages - LVDT	**Mitutoyo** Digital Protractor 950-318
Specifications				
Dimensions	2.50 x 1.63 x 0.80 in	2.50 x 1.63 x 0.80 in	4.09 x 2.20 x 0.91 in	2.50 x 1.63 x 0.80 in
Data Transmission	Bluetooth Low Energy 4.0	Bluetooth Low Energy 4.0	Bluetooth Low Energy 4.0	Bluetooth Low Energy 4.0
Data Rate	10 samples/sec	10 samples/sec	10 samples/sec	2 samples/sec
Capturing Mode	Single/ Continuous	Single/ Continuous	Single/ Continuous	Single/ Continuous
Transmission Range	10 m	10 m	10 m	10 m
Working Temperature	0-50 ºC	0-50 ºC	0-50 ºC	0-50 ºC
Battery	Rechargeable 400 mAh	Rechargeable 400 mAh	Rechargeable 3000 mAh	Rechargeable 400 mAh
Battery Life	60 hours	20 hours	30 hours	30 hours
Hardware				
Data Cable	Optional	Optional	Not needed	Optional
Data Trigger Switch	✓	✓	–	✓
Foot Switch Connector Port* (2.5mm)	✓	✓	–	✓
USB Charging Kit	✓	✓	✓	✓
BLE USB Dongle	Optional	Optional	Optional	Optional
Compatible Instruments	**Caliper Series** 500, 551, 552, 573 **Height Gage Series** 192, 570, 574 **Micrometer Series** 227, 293, 314, 317, 323, 324, 326, 331, 342, 343, 369, 389, 395, 406, 422 **Caliper Series** 573 **Dial Indicator Series** 543 with SPC output **Dial Indicator Series** 575 **Thickness Gage Series** 546 **Digimatic Caliper Gage Series** 209 **More**	**Micrometer** 54-815-xxx **Micrometer** 54-866-xxx **Micrometer** 54-870-xxx **Caliper** 54-100-xxx with data output **Caliper** 54-110-xxx **Dial Indicator** 54-530-xxx **Test Indicator** 54-562-xxx **More**	**Linear Gage:** 542-156, 157, 158, 161, 162, 163, 164, 165, 166, 171, 172, 173, 174, 175, 176 **Linear Gage:** 542-181, 182, 204, 222, 223, 224, 230, 244, 262, 264, 270 401, 421, 612, 613 **More**	**Digital Protractor:** 950-318
Free Software				
iOS iPhone/iPad	✓	✓	✓	✓
Android 4.3 and after	✓	✓	✓	✓
Windows PC**	✓	✓	✓	✓
LabVIEW** Customizable	✓	✓	✓	✓

* Foot switch is not includes
** Requires BLE USB dongle

Accessories

Cases
Comparison Table

	Pelican Case 1010	Pelican Case 1040	Pelican Case 1120
Product ID	Pelican1010	Pelican1040	Pelican1120
Price	$20	$30	$40
Dimensions	4.37" x 2.87" x 1.68"	6.50" x 3.87" x 1.75"	7.29" x 4.78" x 3.33"
Carries	Exactly one BlueDial	BlueDial and all charging accessories	BlueDial and all charging accessories
Protection	IP67 - Water and dust proof	IP67 - Water and dust proof	IP67 - Water and dust proof

Magnetic Bases
Comparison Table

	Magnetic Base Mitutoyo 7033B	Magnetic Base NOGA DG61003
Product ID	7033B	DG61003
Price	$194	$140
Applicable Holding Stem Dia.	6 mm, 8 mm, 9.53 mm (3/8")	6 mm, 8 mm, 9.53 mm (3/8")
Dovetail Groove	Provided	Provided
Magnetic Pull	132 lbs	176 lbs
Overall Length	16.97 in	13 in

Others
Comparison Table

|	USB Bluetooth Dongle BLED112	Extension Stem Rod Set
Product ID	BLED112	EXTR1
Price	$25	$40
Features	Up to 8 WiMER/BlueDial simultaneous connection to Windows PC	6 piece dial/digital indicator extension stem rod; 4-48 indicator tip thread
Specifications	N/A	1", 2", 3", 4", 5", 6" stem rod; combine up to 21"

Wireless Pile Load Test Kit

Motionics Wireless Pile Load Test Kit measures pile deflection under different load conditions with Bluetooth dial indicator BlueDials and Bluetooth pressure sensor BluePSI on iPad. The two BlueDials are attached to the test pile to measure movements during load application and removal. The Bluetooth pressure sensor is mounted on the hydraulic pump to monitor load change. The App runs on Apple iPad and pairs with the BlueDials and the BluePSI. Readings from all 3 wireless gages will be synced and updated in the App.

Bluetooth Pressure Sensor	Specification
Measurement Range	0-5000 psi (more options available)
Accuracy	±0.25% of full scale
Data Transmission Interval	5 sec (more options available)
Transmission Range	Up to 20 m
Working Temperature	-20 - 85 °C
Battery	CR2050
Pressure Port	¼-18 NPT (more options available)

| BlueDial	Specification
Measurement Range	2 in/50 mm
Resolution	0.0005 in/0.01 mm
Wireless Data Rate	10 HZ
Transmission Range	Up to 10 m
Working Temperature	0 - 50 °C
Bluetooth Transmitter Battery	400 mAh
Indicator Battery	CR2032
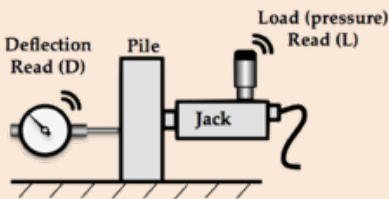
Included in the Package:
- BlueDial(s): Bluetooth Dial Indicator(s) 2X
- Bluetooth Pressure Sensor 1X
- Protective Carrying Case 1X
- Wireless Pile Load Test App for iPad
- iPad with rugged protective case (optional)

App Features:
- Easy pair/unpair with sensors
- Simultaneous recording of BlueDials and pressure sensor
- Measurement results organized in table
- Remote zeroing BlueDial readings in the App
- Automatic calculation of average deflection
- Option to enter jack calibration equation for automatic pressure-load conversion
- Excel CSV export via email
- Local saving on iPad for future access and export

For iPad

The software & hardware can be customized.
Contact Motionics for details.
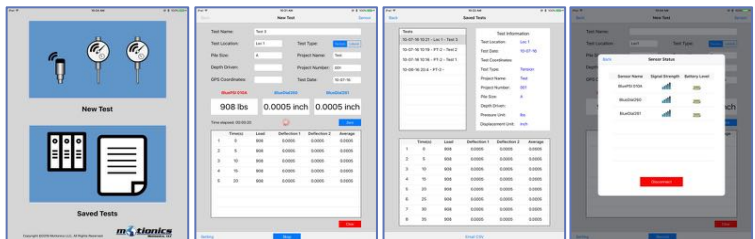
Wireless Crankshaft Deflection Kit

Motionics, LLC

Motionics Wireless Crankshaft Deflection Test Kit utilizes Motionics Bluetooth crankshaft gage for crankshaft web deflection test. By simply tapping on iPad, users can have deflection data recorded easily and error-free.

Thanks to the built-in angle measurement, there is no need to mark test points on the crankshaft web again. The Crankshaft Test App will notify users once the crankshaft rotates to test locations. A PDF test report can be generated and stored in the end of each test. This system covers various crankshaft web gap ranges from 160 to 720 mm with included extension rod set.

Crankshaft Deflection	Specification
Measurement Range	0.4 in/10 mm
Resolution	0.0001 in/0.001mm
Wireless Data Rate	10 HZ
Transmission Range	Up to 10 m
Accuracy	0.00012 in
Crankshaft Web Gap Range	160 - 720 mm
Working Temperature	0 - 50 °C

| Crankshaft Deflection	Specification
Connection	Bluetooth 4.0 Wireless Connection
Angle Measurement Resolution	1°
Battery	400 mAh
Battery Life	30 hrs
Charging	5 VDC USB and 110 VAC

Deflection Read

Rotation Read
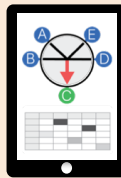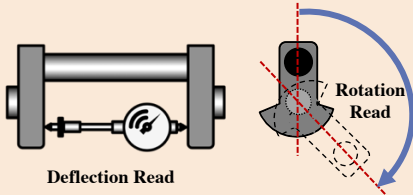
Included in the Package:
- Wireless Crankshaft Gage 1X
- Adjustable Probe 1X
- Extension Rod Set (1/2" to 6" one each) 1X
- 60 ° Punch 1X
- Protective Carrying Case 1X
- USB Charging Cable 1X
- USB Power Adapter 1X
- Crankshaft Deflection Test App for iPad

App Features:
- Wireless data recording
- Rotating angle indicator
- Measurement results organized in table
- Automatic test points notification
- Automatic Vertical/Horizontal deflection calculation

- End play test included
- Test report generation
- Tester signature
- Local report storage manager
- Email report and wireless print

For iPad

Available on the App Store
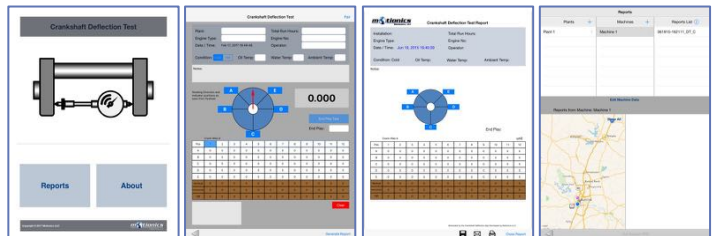
Wireless Rotor Runout Kit

Motionics Wireless Rotor Runout Kit is a novel tool for rotor runout measurement. It consists of a Bluetooth dial indicator (BlueDial), a Bluetooth angle sensor (BlueAngle) and the iPad application Runout. Together these sensors work to seamlessly measure both circumference deflection and rotor rotating angle to show the real contour of the rotor. The multiple sensors connectivity of the App also allows users to add extra BlueDials to conduct runout test on different planes simultaneously.

iPad not included in the package

BlueDial BD10-783/793	Specification
Measurement Range	0.5 in/12.7 mm
Wireless Data Rate	10 HZ
Resolution	+0.0005 in, +0.01 mm/ +0.0001 in, +0.001 mm
Transmission Range	Up to 10 m
Accuracy	0.0008 in/0.00012 in
Working Temperature	0 - 50 ℃
Battery	400 mAh
Battery Life	60 hrs
Charging	5 VDC USB and 110 VAC

BlueAngle	Specification
Measurement Range	360 °
Resolution	0.1 °
Wireless Data Rate	50 HZ
Transmission Range	Up to 10 m
Dimensions	1.58 x 1.58 x 0.79 in
Working Temperature	0 - 50 ℃
Battery	150 mAh
Battery Life	10 hrs
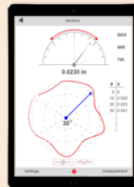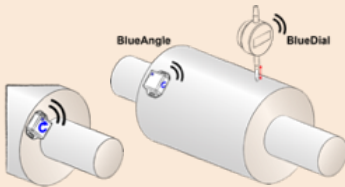
Included in the Kit:

- BlueDial 1X
- BlueAngle 1X
- Rotor Runout iPad App

Apps Features:

- Wireless connectivity with displacement (dial indicator) sensor and angle sensor
- Multiple sensors connectivity (up to 9 simultaneously)
- Probe meter for displacement readings
- User-defined range for probe meter
- Analog rotating indicator for rotor angular position
- Remote zeroing of displacement and angle sensors
- User-defined number of test points on rotor
- circumference
- Cartesian plot and polar plot
- Direct screenshot of the results and plots to save in local
- Values and positions of Max/Min summarized in result table
- Exporting measurement via AirDrop or Email in CSV format
- PDF report with test information, machine image, test results, note, tester signature and map
- Local test records manager to retrieve previous data and reports

Wireless Pressure Measurement Kit

Motionics Wireless Pressure Measurement Kit uses an iPhone/iPad to connect to multiple Bluetooth pressure transducers BluePSI and simultaneously monitor pressure change at several locations. BluePSI is a series of pressure sensors for measurement of liquid or gas pressure. It has high resolution (24-bit ADC), high accuracy (±0.25%FS), long battery life (up to 2 years with a coin battery) and good water and dust proof rate (IP67). Most importantly, it eliminates the need of hard wiring and manual data logging thanks to its Bluetooth 4.0 wireless connectivity. With our iOS App, users can even continuously monitoring pressure conditions at multiple locations.
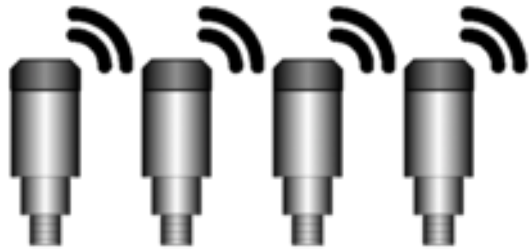
Wireless Pressure Measurement Kit	Specification
Rate	0 - 50 to 0 - 15000 psi
Accuracy	±0.25% FS
Transmission Range	Up to 20 m
Transmission Interval	5 s
Weather Proof	IP67
Working Temperature	-20 - 85 °C
Battery Life	2 years at 5 second transmission interval
Battery Type	CR2050
Pressure Port	¼-18NPT
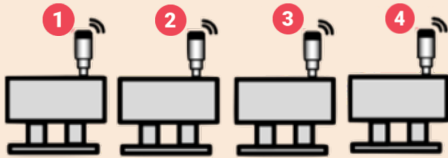
Pressures readings from multiple Bluetooth transducers are transmitted to the device.

More Features with our FREE Apps/Software*

- Multiple devices simultaneous reading
- Data plot on iPhone/iPad
- Continuous or Single data recording
- Max, Min, TIR measurement
- Reading remote zero in the App
- Real-time cloud data streaming to worldwide
- Custom formula calculator
- Probe meter with adjustable range
- Measurement voice read in 9 languages
- Data export in CSV via Email and cloud drives
- Keyboard entry to Excel or SPC software on PC

*Availability of features vary between Apps/platforms

iPad Vibration Analyzer

Motionics iPad Vibration Analyzer collects and analyzes vibration signals to the iPad. It allows the user to take readings and leverage the powerful platform of the iPad.

The internet connection ability of this system provides the user with an easy access to the data network for inventory data, machine specs, and reading history. Such feature opens a world of undiscovered possibilities including: live video conferencing, Real Time off site expert analysis, and much more.

This system is available in both wired and wireless version.

Features:

• Time domain vibration signal waveform display
• Wide range FFT spectrum
• Custom markers on the spectrum for bearing frequencies, RPM, high peak and harmonics
• Test report including RMS, peak values, machine images, severity plots, user notes
• Email and air-print of PDF reports
• Online database synchronization via Dropbox
• Synchronization with VibeTrend App to remotely monitor overall vibration of machines from iPhone/iPad

Included in the Package:

• iPad 32 GB LTE model (upgrade options available)
• Wired or wireless accelerometer with magnet base
• Custom iPad case with integrated DAQ box (Wired) or wireless data receiver (Wireless)
• VibraTestPro App
• iVibraMeter App

Wired System

Wireless System

iPad VibrationBalancer	Specification
Sensitivity	100 mV/g
Measurement Range	±20 g
Frequency Range	96 – 600,000 cpm
Resonance Frequency	1500 kcpm
Broadband Resolution	1.5 mg
Number of Inputs	2 channels
Sampling Rate	44k samples/sec
Analog to Digital Conversion	24 bits
Operating Temperature	0 - 50 °C
Power Supply	Directly from iPad (Wired) 3V CR123 battery (Wireless)
Magnet Base Pull Force	85 lbf
Wireless Spectrum	2.4 GHz
Wireless Data Range	Line of sight up to 100 m

The software & hardware can be customized.
Contact Motionics for details.

iPad Rotor Balancer

Motionics iPad Rotor Balancing Kit turns an iPad into a rotor balancer to collect vibration amplitude & phase and conduct rotor balancing tasks.

The iPad with the iRotorBalancer App allows the user to apply Single-Plane, 2-Plane Inbound, 2-Plane Overhung methods to meet different rotor balancing requirements. Just with simple tapping and typing, everyone can be an expert in rotor balancing using this package.

This system is available in both wired and wireless version.

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 32 GB LTE model (upgrade options available)
• Wired or wireless accelerometer with magnet base
• Digital tachometer with custom cable
• Custom iPad case with integrated DAQ box (Wired) or wireless data receiver (Wireless)
• iRotorBalancer App for iPad

Wired System   Wireless System

iPad Rotor Balancer	Specification
Sensitivity	100 mV/g
Measurement Range	±20 g
Frequency Range	(±3 dB): 96 - 600,000 cpm
Resonance Frequency	1500 kcpm
Broadband Resolution	1.5 mg
Number of Inputs	2 channels
Sampling Rate	44k samples/sec
Analog to Digital Conversion	24 bits
Operating Temperature	Stainless Steel
Power Supply	iPad (Wired) 3V CR123 battery (Wireless)
Magnet Base Pull Force	85 lbf
Wireless Spectrum	2.4 GHz
Wireless Data Range	Line of sight up to 100 m

The software & hardware can be customized.
Contact Motionics for details.

Single-Channel Vibration Kit

Motionics single-channel vibration kit is a low-cost yet effective solution for overall vibration measurements and machine certification.

It consists of an advanced digital accelerometer connecting to iPhone/iPad along with iOS vibration Apps for both iPhone and iPad. Accelerometer is automatically calibrated once connected, no extra calibration procedure needed.

The iPhone and iPad apps provide several capabilities including a vibration meter based on ISO10816 standard, severity indicator, raw data collection and real-time vibration time & spectrum viewer.

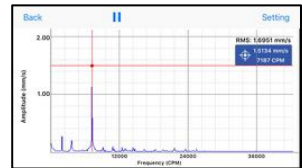| iPad VibrationBalancer	Specification
Measurement Range	±20 g pk
Frequency Range	(±3dB) : 54 cpm - 900,000 cpm
Non-Linearity	≤ 2%
Operating Temperature	-10 °C to +70 °C
Sampling Rate	44100 Hz
Internal ADC	24 bit
Magnetic Base Pull Force	85 lbf

Included in the Package:
- Digital Accelerometer
- 85 lbf Magnet Base
- Accelerometer Cable Accessory
- Protective Carrying Case
- iVibraMeter App for iPad
- VibraTestPro App for iPhone
- iPad Mini4 with Industrial Protective Case (optional)

App Features:

- Vibration Meter with ISO10816 severity indicator
- Real-time vibration spectrum and time waveform
- Velocity and acceleration readings (metric & imperial)
- Vibration raw signal recording
- Time waveform/spectrum export in CSV
- Customizable standard for severity indicator
- PDF test report with plant map, images, signature & notes

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The software & hardware can be customized.
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Wireless Current Measurement Kit

Wireless current measurement kit consists of an AC current transducer and the WiClamp base. It is able to measure the TRUE RMS value of current in a cable and transmit measurement results wirelessly via Bluetooth Low Energy.

Our free iPad App BlueClamp can simultaneously receive and display data from multiple WiClamp bases, turning the iPad into a multi-line current monitoring device.

This kit also includes a USB charging cable and a 110 VAC USB adapter.

Current Measurement Kit	Specification
Measurement Range	1-115 A RMS (10 mV/A), 1-400 A RMS (1 mV/A)
Resolution	0.3A (10 mV/A), 3A (1 mV/A)
Transmission Range	Up to 10 m
WiClamp Base Dimension	2.36 x 1.42 x 0.59 in
Transducer Dimension	2.52 x 5.63 x 1.18 in
Working Voltage	600 V CAT II
Operating Temperature	0 - 50 °C
Battery	350 mAh
Charging	5 VDC USB

BlueClamp App Features (iPad):

- Available now on the App Store for free
- Multiple clamp connectivity up to 3 devices (can be upgraded to 10 devices on request)
- Real time readings in both tables and plots
- Max, Min, Average
- Individual clamp adding/removing during measurement
- Individual plot control of each clamp
- Individual clamp calibration and preference setting
- Simulation mode for demonstration
- Multiple sampling frequency: 2, 30, 60 seconds/sample
- Pause/Resume during measurement
- Data export in CSV file
- Custom PDF report generation
- Add company logo and machine image in report
- Auto populate test date and test results in report
- User signature and custom note
- Facility location/map in report
- PDF report wireless printing and email export

The software & hardware can be customized.
Contact Motionics for details.

Wireless Measurement Device iWMD

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iWMD is a series of wireless measurement devices with high resolution. It allows user to measure various sensor readings and communicate wirelessly with smart devices such as Apple's iPad via Bluetooth Low Energy.

Applications:

• Remote Monitoring

• Power, Current & Voltage Monitoring

• Pressure Measurement

• Temperature Sensing (RTE, Thermocouple, Infrared)

• Crankshaft Deflection Detection

• Rotor Runout Assessment

• Wireless Metrology

• Flow measurement

• Oil characteristics sensing

Available on the App Store

Bluetooth SMART
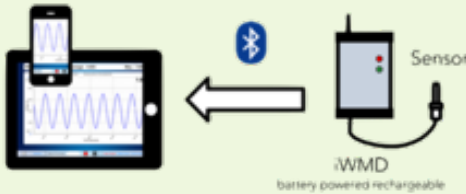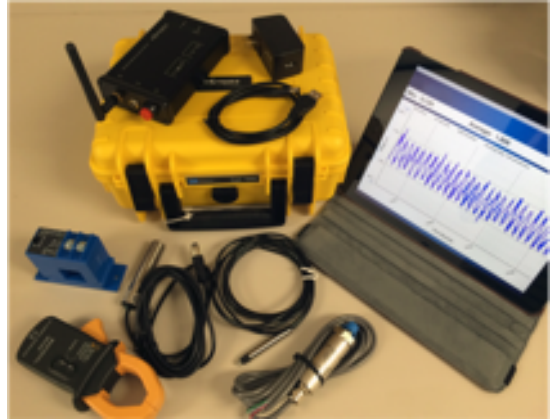
iWMD	Specification
Resolution	10, 5, 1, 0.2, 0.1 mV
Wireless Data Rate	1-1000 HZ
Transmission Range	Up to 10 m
Input Range	0 - 10, 0 - 5, 0 - 1.1 VDC
Dimension	5.04 x 3.07 x 1.06 in
Sensor Supply Voltage	5-20 VDC
Antenna Extension	Magnetic Base
Working Temperature	0 - 50 ℃
Battery	2500 mAh
Charging	5 VDC USB and 110 VAC
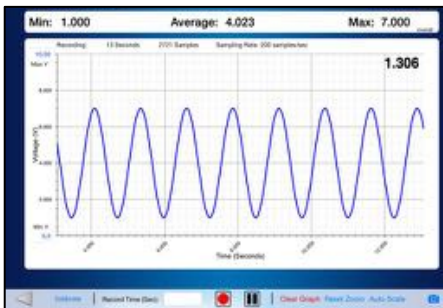
Featuring the App

• Multiple wireless sensor connectivity

• Display acquired data in real-time graph

• Record data, CSV and SQLite export

• Quick custom PDF report with image, signature, map and GPS location

• Export via email, cloud and USB cable

• Zoom, pan, max, min, and average

The software & hardware can be customized.
Contact Motionics for details.

Wireless Reading in Windows with Dial Reading®
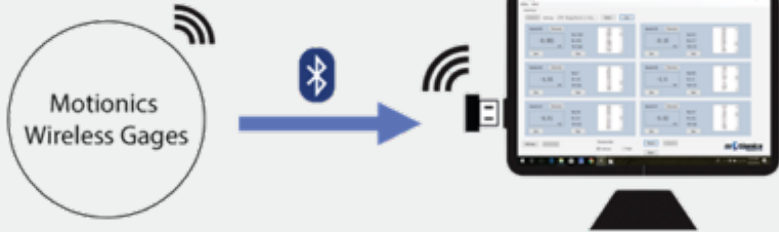
Wireless Dial Reading for Windows is a data collection tool for users to wirelessly connect, read and record readings from Motionics WiMER and BlueDial on their Windows PC desktop and laptop. The software is able to simulate keyboard input, allowing data to be directly loaded into any software product that accepts keyboard entry such as Excel, text and most SPC software.

Features:

- Multiple devices connectivity (each dongle connects to up to 8 BlueDial/WiMER)
- Multiple dongles can be added for more devices
- Each gage is assigned its individual panel for display and control
- Simultaneous data collection for all connected devices
- Continuous data recording and single reading capturing options
- Multiple continuous reading rates available
- Data keyboard entry to Excel, text and most SPC software

Data keyboard entry to Excel, text, and most SPC software

Reading in LabVIEW
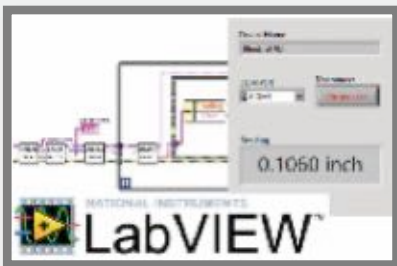
Dial Reading VI is available to wirelessly connect and read from Motionics WiMER and BlueDial in LabVIEW on PC. The VI covers all the procedures to search nearby devices, pair and update readings. Users can freely add more controls for data collection and analysis, customize the VI for a specific application or integrate into an existing software.

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Runout
Inspecting rotor runout on iPad with Motionics Wireless Runout Kit
iPad

Runout works with Motionics Wireless Runout Kit, synchronizes displacement and angle measurements, and provides a convenient tool to inspect rotor runout on iPad.

DialReadPad
Wireless Digital Instrument Reader and Analyzer
iPad

DialReadPad is the iPad version of DialRead, connecting to our Wireless Measurement Read (WiMER) device and reading digital instrument measurements.

DialFace
Wireless Digital Instrument Reader with Various Analog Dial Faces
iPhone

DialFace takes digital instrument readings from our Wireless Measurement Read (WiMER) and allows users to view results in various interactive analog dial faces.

MultiGage
Multiple Wireless Displacement Measurement Devices Reader
iPhone/iPad

MultiGage Reader connects up to 14 BlueDial or WiMER and receive readings from all of them at the same time via Bluetooth Low Energy. It is a convenient tool for simultaneous measurement at multiple locations.

DialRead
Wireless Digital Instrument Reader and Analyzer
iPhone/iPod Touch

DialRead is a real-time digital instrument measurements reader and analyzer, using our Wireless Measurement Read.

Pile Load Test
Pile Load Test with Wireless Indicator and Pressure Sensor
iPad

This App records deflection and pressure during pile load test using Motionics wireless indicator and pressure sensor.

Crankshaft Test
A tool for Crankshaft Deflection Test with Wireless Sensor
iPad

This App works with Motionics wireless crankshaft deflection test package to wirelessly capture sensor readings at 5 testing positions on the crankshaft and automatically calculates vertical and horizontal deflections.

DialReading
Wireless Digital Instrument Reader on Android
Android

DialReading is developed for users to wirelessly connect and read from Motionics WiMER and BlueDial on an Android device.

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The software & hardware can be customized.
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PowerReader

Real-time Analog DC Signal Reader via iPad's Bluetooth Channel

iPad & iWMD

PowerReader reads analog DC signals through WiFi channel of the iPad from any our iWMD device, suitable for power monitoring, temperature sensing, etc.

BlueClamp

Wireless Current RMS Monitoring Tool via Bluetooth Low Energy

iPad & WiClamp

BlueClamp App reads the TRUE RMS current measurements from WiClamp and shows the readings in tables and real-time plots.

The software & hardware can be customized.
Contact Motionics for details.

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iVibraMeter
Real-Time Overall Vibration Measurements and Severity Judgment

iPad & DAQ System

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

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

ISO 10816 based vibration meter to conduct vibration severity test on rotating machinery.

VibraPad
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.

REBvibe
Calculates Rolling Element Bearings Fundamental Frequencies

iPhone/iPad/iPod Touch

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

VibraCalc
Vibration Severity Test Based on ISO 10816 with DAQ Input

iPhone & DAQ System

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

VibraUnits
Vibration Units Conversion Application

iPhone/iPad/iPod Touch

VibraUnits is a vibration units conversion calculator. Converts typical vibration amplitude and frequencies units.

Shale Shaker
Real-Time Overall Vibration Measurements and Severity Judgement

iPad & DAQ System

The App will analyze the vibration and motion of an industrial shale shaker.

VibeSpectra
A reference guide for vibration analysis

iPhone/iPad/iPod Touch/Android

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

Summit Vibe
Real-Time Overall Vibration Measurements and Severity Judgement

iPad & DAQ System

This iPad App is a custom-made application for Summit to conduct vibration test.

Motor Vibration
Real-Time Overall Vibration Measurements and Severity Judgement

iPad & DAQ System

This iPad App is a custom-made application for Siemens to conduct vibration test.

CAT Services
The crankshaft deflection test function works with Motionics WiMER

iPad & DAQ System

This App is a custom-made App for Caterpillar to conduct engine vibration test and crankshaft deflection test.

BalanceVision
A tool that uses the camera to find the angular positions on a rotor during balancing

iPhone/iPad/iPod Touch

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

iRotorBalancer
Single-Plane & Two-Planes 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 single-plane or 2-planes.

iAlignCalc
Application to calculate machine shaft alignment corrections

iPhone/iPad/iPod Touch

iAlignCalc is the perfect tool for machine shaft alignment, includes several alignment methods and a thermal growth calculator.

iAlignTest
An interaction reference tool for machine shaft alignment

iPhone/iPad/iPod Touch

Provides the common reference tables, specifications and charts for shaft alignment tolerance.

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ThreadKing
The ultimate Reference and Calculator for Threads, Drills, Taps

iPhone/Android

ThreadKing provides all the information for Metric/UN taps, Course/Fine threads, thread dimensions, drill sizes for cutting/forming tap and much more.

GCoderOD
A handy tool to generate CNC G-code for various OD Machining Processes

iPhone

GCoderOD is a handy tool to generate CNC G-code for various OD machining processes.

4Machining
Machinist Calculator & Reference Tool for Drilling, Milling, Turning

iPhone/iPod Touch

4Machining is a quick machining reference tool, providing turning/milling/drilling speed&feed calculation, thread and drill size charts, CNC G&M codes to machinists.

Strobe Light
A tool turns iPhone into a strobe light to measure machine RPM

iPhone

Strobe Light makes your iPhone a strobe light tachometer to measure the speed of rotating machines.

iGearBox
Training and learning tool for regular and planetary Gearboxes

iPhone/iPad/iPod Touch

iGearbox is the ideal tool for training and learning the basics of regular and planetary gearboxes. Also calculates de gear ratio and gear speeds.

iWind Turbine
Training and learning tool for regular and planetary Gearboxes

iPhone/iPad/iPod Touch

iWindTurbine calculates the estimated output power of wind turbines, based on its geometry and basic wind parameters.

Visit our website for detailed information:

www.motionics.com

Visit our online store for ordering:

https://store.motionics.com/

Contact us for your custom project:

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Smart Tools for Measurement, Monitoring and Diagnostic of Machinery

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