# PRODUCT CATALOG
## No. 112

**m⊕tionics**
Motionics, LLC
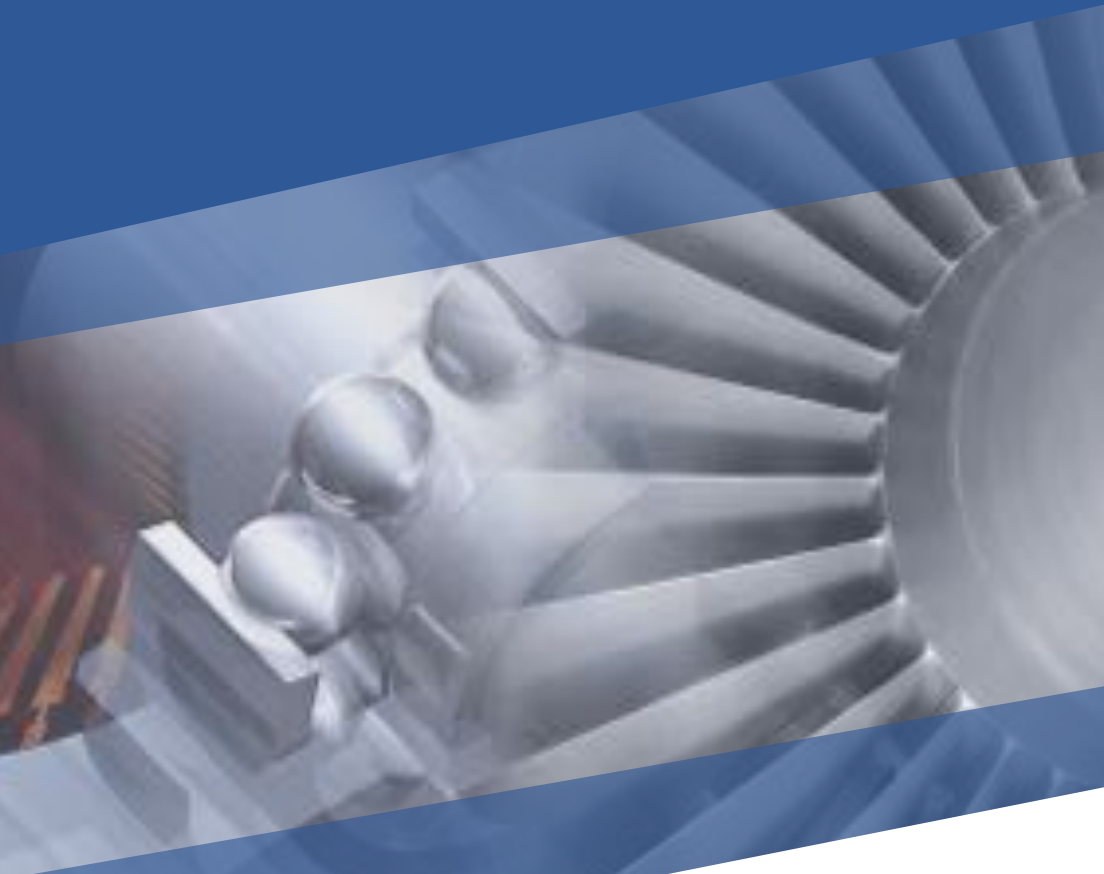
Smart Tools for Measurement, Monitoring and Diagnostic of Machinery

# 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**

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**Mitutoyo Instruments** with Digimatic Output

**Fowler/Sylvac Instruments** with RS232

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**Mitutoyo Digital Protractor** (950-318)

## Motionics Wireless System

WiMER1

WiMER2

WiMER3

WiMER4A

## Motionics Standalone Wireless Tools

**BlueDial BlueDial-LT**

**BlueAngle**

**BLEndicator**

**Wireless Laser Rangefinder**

## Compatible Platforms & Softwares

BLE Dongle

### Window-Based PC or Laptop

Windows Software

LabVIEW VI

Excel

TXT

Keyboard entry to Excel, text or SPC software

### iOS Devices

DialFace     Pile Load Test     Runout

DialReadPad     MultiGage     Crankshaft Test

### Apple Watch

MultiGage          5.452

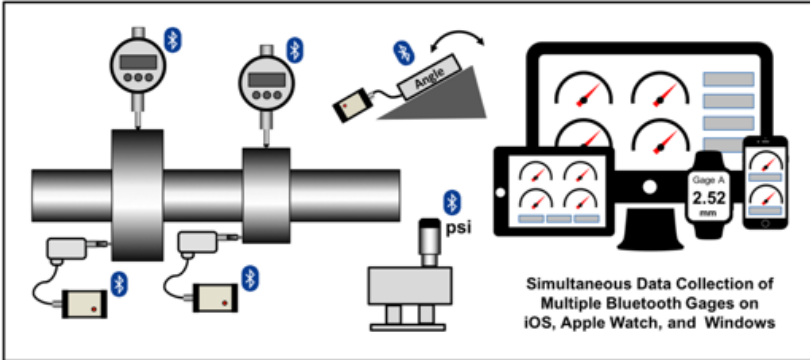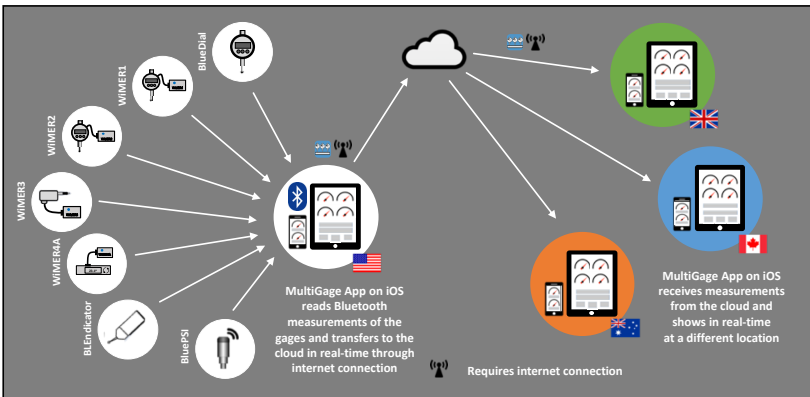### Android Devices

DialReading

Motionics specializes in bringing smart solutions to industrial metrology applications. We provide diverse external transmitters, compatible with a wide range of instruments from different manufacturers, to add wireless data transmission capability to your existing gages. We also offer standalone Bluetooth dial indicator, angle sensor and pressure sensor for various application requirements. With the help of our Apps/Software covering iOS, Android, Windows and LabVIEW, dimensional measurement will be more efficient, safer and error free.

## Wireless Multi-Gage Measurement Solution – iOS & Windows



**Simultaneous Data Collection of Multiple Bluetooth Gages on iOS, Apple Watch, and Windows**

Gage A
2.52
mm

## Real-Time Cloud Streaming of Multi-Gage Measurement – iOS



BlueDial

WiMER1

WiMER2

WiMER3

WiMER4A

BLEndicator

BluePSI

**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
A = 0.03mm

Enter Equation:
OD = 125 - A

124.97mm

### Hole Diameter / Groove Width
A = 12mm

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

15.03mm

### OD Measurement using two BlueDials
A = 0.01mm
B = 0.02mm

Enter Equation:
OD = 125 + A + B

125.03mm

### Outside Diameter Measurement
A = 0.03mm

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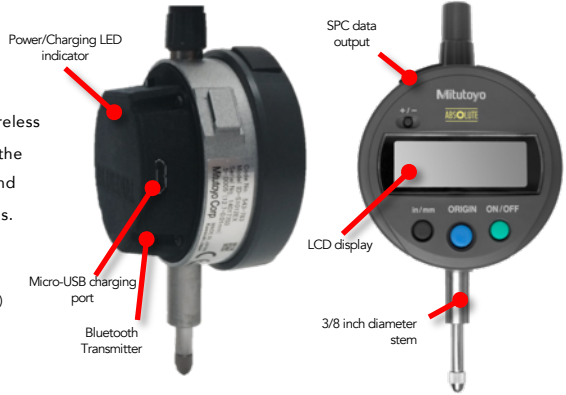$2R = \frac{\sin(\theta)}{\sin(\theta) - 1} \times A$

125.03mm

# BlueDial
## Bluetooth Dial Indicator

BlueDial is a Mitutoyo indicator with integrated Bluetooth transmitter on the back. It not only maintains high accuracy measurement from 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

SPC data output

Micro-USB charging port

Bluetooth Transmitter

LCD display

3/8 inch diameter stem

| Model: | BD10-783 | BD10-793 |
|---|---|---|
| Measurement Range | 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 | |
| Transmission Range | 20 m (indoors)/30 m (outdoors) | |
| Working Temperature | 0 - 50 °C | |
| Battery | 400 mAh | |
| Battery Life | 60 hrs | |
| Charging | 5 VDC USB | |

**Download on the App Store**

**GET IT ON Google Play**

Windows  LabVIEW™

iPad    iPhone  Apple Watch

### 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
• Remote zeroing from the App
• Real-time cloud data streaming to worldwide
• Custom formula calculator
• Large analog 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
• Apple Watch support
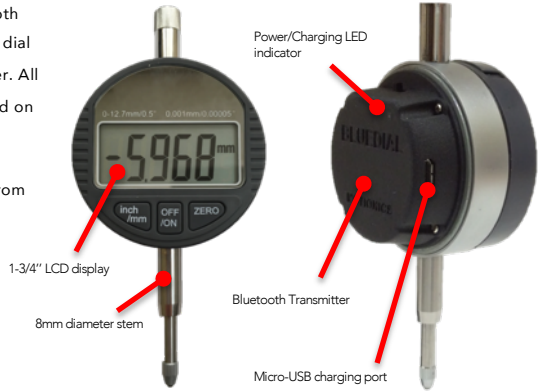
*Availability of features vary between Apps/platforms

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 | | 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 | | | |
| Transmission Range | 20 m (indoors)/30 m (outdoors) | | | |
| Working Temperature | 0 - 40 °C | | | |
| Battery | 400 mAh | | | |
| Battery Life | 50 hrs | | | |
| Charging | 5 VDC USB | | | |

iPad  iPhone  Apple Watch

### 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
- Remote zeroing from the App
- Real-time cloud data streaming to worldwide
- Custom formula calculator
- Large analog 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
- Apple Watch support

*Availability of features vary between Apps/platforms

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

# BlueAngle
## Bluetooth Angle Sensor



BlueAngle is a gyroscope based Bluetooth 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 works as a part of the wireless rotor runout kit. When syncing deflection measurements from BlueDial and angle readings from BlueAngle, the real contour profile of a rotor can be obtained and depicted on iPad effortlessly.
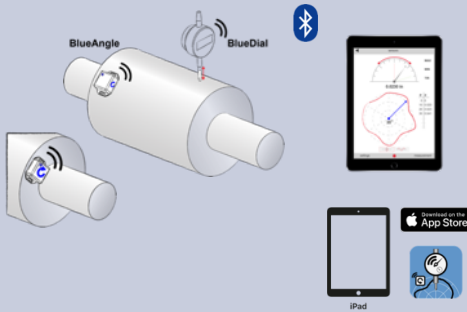


| BlueAngle | Specification |
|---|---|
| Measurement Range | 360 ° |
| Resolution | 0.1 ° |
| Wireless Data Rate | 50 HZ |
| Transmission Range | Up to 20 m |
| Dimensions | 1.58 x 1.58 x 0.79 in |
| Working Temperature | 0 - 50 ℃ |
| Battery | 150 mAh |
| Battery Life | 10 hrs |
| Charging | 5 VDC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

## 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, 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 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 - 50ºC |
| Battery Life | 10 hrs |
| Charging | 5 VDC USB |

### 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
- Remote zeroing from the App
- Real-time cloud data streaming to worldwide
- Custom formula calculator
- Large analog 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
- Apple Watch support



*Availability of features vary between Apps/platforms

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

# WLRF
## Wireless Laser Rangefinder



Wireless Laser Rangefinder (WLRF) packs a WASP-200 LRF ultra-compact laser rangefinder. It is capable of quickly and accurately identifying the distance to a target up to 200m away. With built-in Bluetooth Low Energy transmitter, laser measurement readings can be wirelessly viewed and collected on iPhone/iPad.

There is an inclinometer embedded inside WLRF to monitor device tilt angle simultaneously with laser distance measurement, facilitating applications that require intersection scanning.

WLRF has a standard ¼-20 thread mounting hole to allow user to easily mount the device on a common tripod for quick and steady setup.

### Features:

- Built-in Bluetooth Low Energy technology
- Power supply, signal conditioning and data transmission all in one
- 100% cable free
- Rechargeable battery



| WLRF | Specification |
|------|---------------|
| Measurement Range | 0.2 to 125 m (18% reflectivity); 0.2 to 200 m (80% reflectivity) |
| Resolution | 1 cm |
| Accuracy | 10 cm |
| Laser Class | Class 1 |
| Wireless Data Rate | 10 HZ |
| Transmission Range | 20 m (indoors)/30 m (outdoors) |
| Working Temperature | 0 - 50 °C |
| Battery | 3200 mAh |
| Battery Life | 30 hrs |
| Dimension | 120 x 78 x 43 mm |
| Weight | 300 g |

### 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



*Availability of features vary between Apps/platforms

# WiMER1
## Wireless Measurement Read Series 1

**motionics**
Motionics, LLC

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 users 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
- Comes with a small data trigger hand switch
- Data trigger 2.5mm standard port to connect to foot switch

## Compatible with Mitutoyo instruments with SPC output:
- Dial indicator 543
- Caliper 500, 551, 552, 573
- Micrometer 227, 293, 314, 317, 323, and more

Mitutoyo Gages
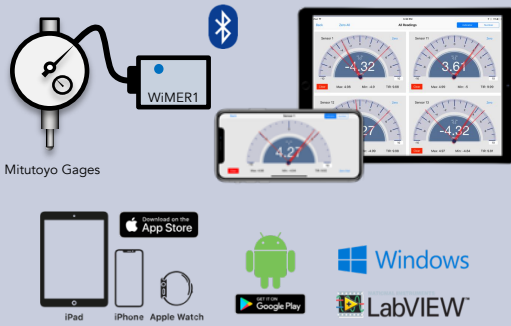
| WiMER1 | Specification |
|---|---|
| Measurement Range | 0.5 in/12.7 mm (depending on instrument) |
| Resolution | 0.0005 in/0.01 mm (depending on instrument) |
| Accuracy | 0.0008 in (depending on instrument) |
| Wireless Data Rate | 10 HZ |
| Transmission Range | 20 m (indoors)/30 m (outdoors) |
| 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 |

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Windows

LabVIEW

## 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
- Remote zeroing from the App
- Real-time cloud data streaming to worldwide
- Custom formula calculator
- Large analog 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
- Apple Watch support

*Availability of features vary between Apps/platforms

# WiMER2
## Wireless Measurement Read Series 2

WiMER2 is the wireless transmitter 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
- Comes with a small data trigger hand switch
- Data trigger 2.5mm standard port to connect to foot switch

### Compatible with Fowler Digital Instruments:

- Micrometer 54-815/866/870
- Caliper 54-100 (with data output)/110
- Digital Indicator 54-530/562 and more
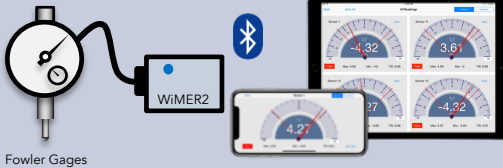
Fowler Gages

| WiMER2 | Specification |
|---|---|
| Measurement Range | 0.5 in/12.7 mm (depending on instrument) |
| Resolution | 0.00005 in/0.001 mm (depending on instrument) |
| Accuracy | 0.0005 in (depending on instrument) |
| Wireless Data Rate | 10 HZ |
| Transmission Range | 20 m (indoors)/30 m (outdoors) |
| 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 |

iPad    iPhone    Apple Watch

### 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
- Remote zeroing from the App
- Real-time cloud data streaming to worldwide
- Custom formula calculator
- Large analog 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
- Apple Watch support

*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.
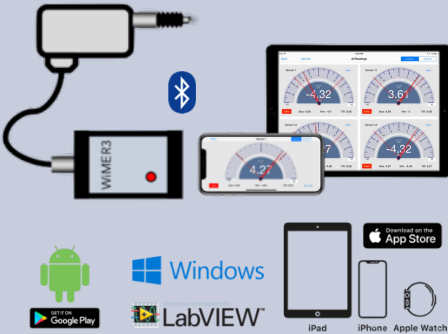
**Features:**

- 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) |
| Accuracy | 0.0005 in (depending on instrument) |
| Wireless Data Rate | 30 HZ |
| Transmission Range | 20 m (indoors)/30 m (outdoors) |
| Dimensions | 4.09 x 2.20 x 0.91 in |
| Working Temperature | 0 - 50 °C |
| Battery | 3200 mAh |
| Battery Life | 30 hrs |
| Charging | 5 VDC USB |

**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
- Remote zeroing from the App
- Real-time cloud data streaming to worldwide
- Custom formula calculator
- Large analog 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
- Apple Watch support

*Availability of features vary between Apps/platforms

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

# WiMER4A
## Wireless Measurement Read Series 4



**motionics**
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:

- Continuous wireless reading of 0-360° in software
- Bluetooth Low Energy Technology
- Multiple platform support (iOS, Android, PC)
- Continuous and single modes data recording
- Rechargeable battery

**Compatible with Mitutoyo Protractor 950-318**



Mitutoyo
Digital Protractor
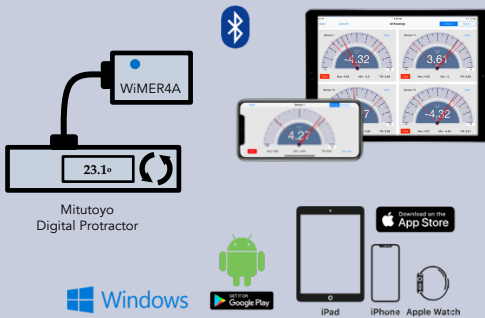
| WiMER4A | Specification |
|---|---|
| Measurement Range | 360° (in software), 90°x4 (on gage) |
| Resolution | 0.01° (0° to 9.99°), 0.1° (10° to 90°) |
| Accuracy | 0.05° (0° to 10°), 0.2° (10° to 80°), 0.1° (80° to 90°) |
| Wireless Data Rate | 2 HZ |
| Transmission Range | 20 m (indoors)/30 m (outdoors) |
| Dimensions | 2.50 x 1.63 x 0.80 in |
| Working Temperature | 0 - 50 °C |
| Battery | 400 mAh |
| Battery Life | 30 hrs |
| Charging | 5 VDC USB |

### 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
- Remote zeroing from the App
- Real-time cloud data streaming to worldwide
- Custom formula calculator
- Large analog 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
- Apple Watch support



*Availability of features vary between Apps/platforms
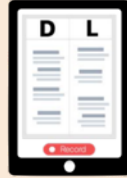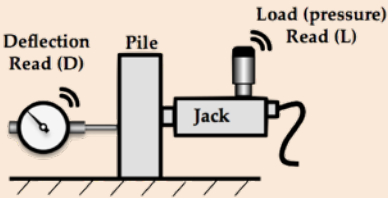
# Wireless Pile Load Test Kit

Wireless Pile Load Test Kit measures pile deflection under different load conditions with multiple (up to 10) Bluetooth dial indicators, BlueDials, and Bluetooth pressure sensor, BluePSI, on iPad. The BlueDials measure pile movements during load application and the BluePSI, mounted on the hydraulic pump, monitors load change. The App runs on iPad and pairs with BlueDials and BluePSI. Readings from all wireless gages will be synced, updated and logged 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 s (adjustable) |
| Transmission Range | 20 m (indoors)/30 m (outdoors) |
| Working Temperature | -20 - 85 °C |
| Battery Life | 2 yrs (CR2050) with 5 s intervals |
| Pressure Port | ¼-18 NPT (more options available) |

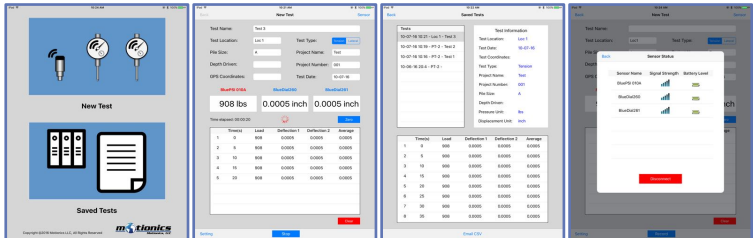| BlueDial | Specification |
|---|---|
| Measurement Range | 2 in/50 mm |
| Resolution | 0.0005 in/0.01 mm |
| Accuracy | 0.001 in |
| Wireless Data Rate | 10 HZ |
| Transmission Range | 20 m (indoors)/30 m (outdoors) |
| Working Temperature | 0 - 50 °C |
| Bluetooth Battery Life | 50 hrs (rechargeable) |

## Included in the Package:

- BlueDial(s): Bluetooth Dial Indicator(s)
- 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

Available on the App Store

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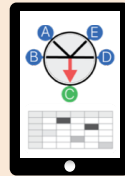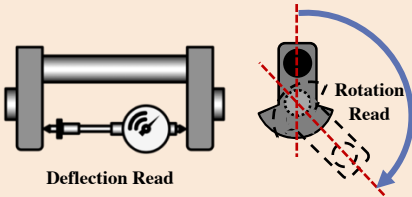
# Wireless Crankshaft Deflection Kit

Wireless Crankshaft Deflection Test Kit utilizes 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 ranging 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 |
| Accuracy | 0.00012 in |
| Wireless Data Rate | 10 HZ |
| Transmission Range | 20 m (indoors)/ 30 m (outdoors) |
| Crankshaft Web Gap Range | 160 - 720 mm |
| Working Temperature | 0 - 50 ℃ |

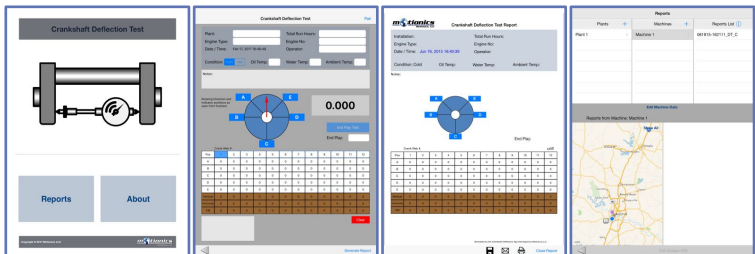| Crankshaft Deflection | Specification |
|---|---|
| Connection | Bluetooth Low Energy |
| Angle Measurement Resolution | 1° |
| Battery | 400 mAh |
| Battery Life | 50 hrs |
| Charging | 5 VDC USB |

**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

The software & hardware can be customized.
Contact Motionics for details.
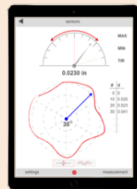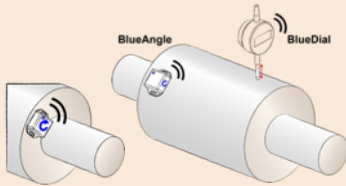
# Wireless Rotor Runout Kit



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 allow 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 |
| 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 |
| Transmission Range | 20 m (indoors)/30 m (outdoors) |
| Working Temperature | 0 - 50 ℃ |
| Battery | 400 mAh |
| Battery Life | 60 hrs |
| Charging | 5 VDC USB |

| 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 |



### 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

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

# Wireless Pressure Measurement Kit



Wireless Pressure Measurement Kit uses an iPhone/iPad/PC to connect to multiple Bluetooth pressure transducers (BluePSI) and simultaneously monitor pressure change at 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. Users can easily monitor and record pressure conditions at multiple locations.
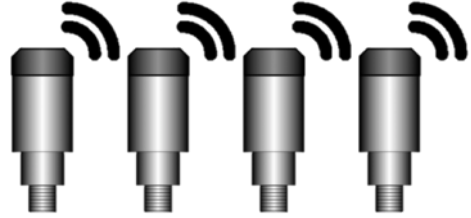
| Wireless Pressure Measurement Kit | Specification |
|---|---|
| Measurement Range | 0 - 50 to 0 - 15000 psi |
| Accuracy | ±0.25% FS |
| Proof Pressure | 2X measurement range (20000 psi max) |
| Burst Pressure | 5X measurement range (20000 psi max) |
| Transmission Range | Up to 20 m |
| Transmission Interval | 5 s (adjustable) |
| Weather Proof | IP67 |
| Working Temperature | -20 - 85 °C |
| Battery Life | 2 years at 5 s interval with CR2050 |
| Battery Type | CR2050/CR2032 |
| Pressure Port | ¼-18NPT |
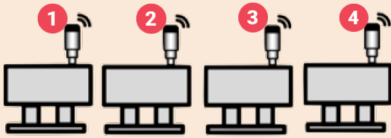


Pressure readings from multiple Bluetooth transducers are transmitted to the PC/smart devices.

### 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
- Remote zeroing from the App
- Real-time cloud data streaming to worldwide
- Custom formula calculator
- Large analog 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.

# 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 and 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 |

# 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.

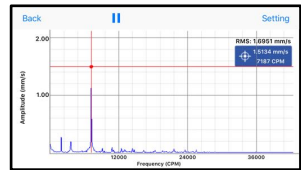| iPad VibrationBalancer | Specification |
|---|---|
| Measurement Range | ±20 g pk |
| Frequency Range | (±3dB) : 54 cpm - 900,000 cpm |
| Non-Linearity | ≤ 2% |
| Operating Temperature | -10 °C to +70 °C |
| Sampling Rate | 44100 Hz |
| Internal ADC | 24 bit |
| Magnetic Base Pull Force | 85 lbf |

### 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

Available on the App Store

The software & hardware can be customized. Contact Motionics for details.
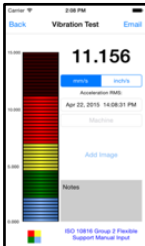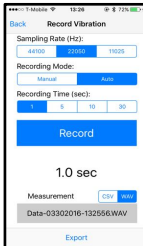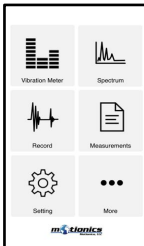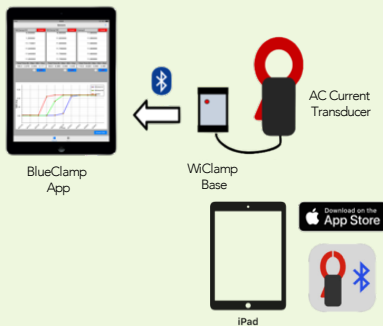
# Wireless Current Measurement Kit



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.



BlueClamp App

WiClamp Base

AC Current Transducer

iPad

| 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 ℃ |
| 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.

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 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
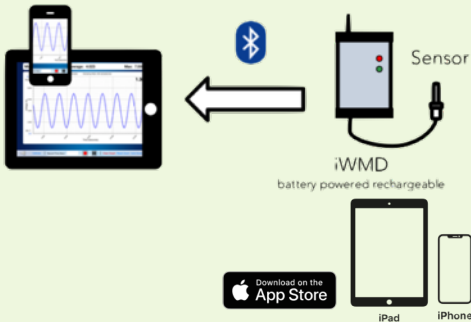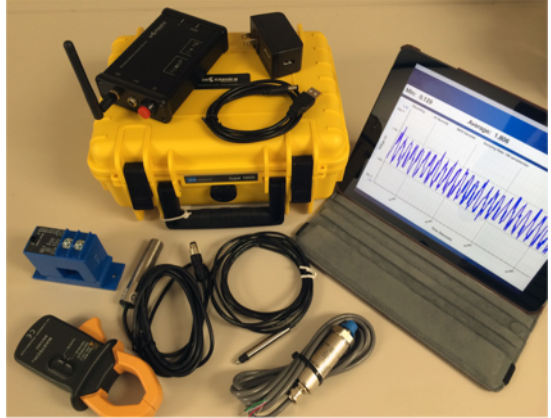


| iWMD | Specification |
|---|---|
| Resolution | 10, 5, 1, 0.2, 0.1 mV |
| Wireless Data Rate | 1-1000 HZ |
| Transmission Range | Up to 10 m |
| Input Range | 0 - 10, 0 - 5, 0 - 1.1 VDC |
| Dimension | 5.04 x 3.07 x 1.06 in |
| Sensor Supply Voltage | 5-20 VDC |
| Antenna Extension | Magnetic Base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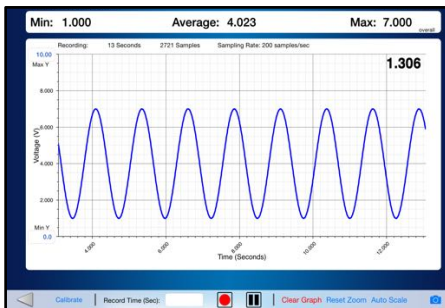


### Featuring the App

- 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®
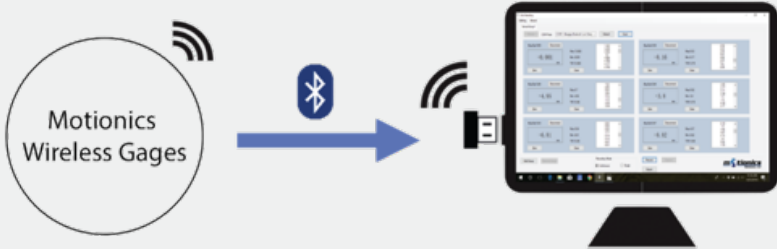


Wireless Dial Reading for Windows is a data collection tool for users to wirelessly connect, read and record readings from WiMER and BlueDial on their Windows PC desktop and laptop. The software is able to simulate keyboard input, allowing data to be directly loaded into any software product that accepts 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
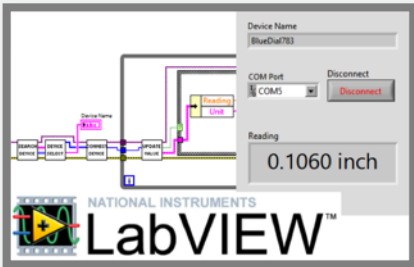


Dial Reading VI is available to wirelessly connect and read from Motionics WiMER and BlueDial in LabVIEW on PC. The VI covers all the procedures to search nearby devices, pair and update readings. Users can freely add more controls for data collection and analysis, customize the VI for a specific application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

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

**Runout**

Inspecting rotor runout on iPad with Motionics Wireless Runout Kit

iPad

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



**DialReadPad** HD

Wireless Digital Instrument Reader and Analyzer

iPad

DialReadPad is the iPad version of DialRead, connecting to our BlueDial/WiMER and reading digital instrument measurements.



**DialFace**

Wireless Digital Instrument Reader with Various Analog Dial Faces

iPhone

DialFace takes digital instrument readings from our BlueDial/WiMER and allows users to view results in various interactive analog dial faces.



**MultiGage**

Multiple Wireless Displacement Measurement Devices Reader

iPhone/iPad/Apple Watch

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.



**Crankshaft Test**

A tool for Crankshaft Deflection Test with Wireless Sensor

iPad

This App works with our Wireless Crankshaft Deflection Test package to wirelessly capture sensor readings at 5 testing positions on the crankshaft and automatically calculates vertical and horizontal deflections.



**Pile Load Test**

Pile Load Test with Wireless Indicator and Pressure Sensor

iPad

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



**DialRead**

Wireless Digital Instrument Reader and Analyzer

iPhone/iPod Touch

DialRead is a real-time digital instrument measurements reader and analyzer, using our BlueDial/WiMER.



**DialReading**

Wireless Digital Instrument Reader on Android

Android

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

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

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



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.

# Apps
## Vibration, Balancing & Alignment

**motionics**
Motionics, LLC

### 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

0.21 ips

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.

### 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.

### VibraCalc
Vibration Severity Test Based on ISO 10816 with DAQ Input

2X 1X

iPhone & DAQ System

Vibra Calc 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.

### 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.

### CAT Services
The crankshaft deflection test function works with Motionics WiMER

iPad & DAQ System

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

### Shale Shaker
Real-Time Overall Vibration Measurements and Severity Judgement

iPad & DAQ System

Shale Shaker will analyze 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 test.

### Summit Vibe
Real-Time Overall Vibration Measurements and Severity Judgement

iPad & DAQ System

Summit Vibe is custom made for Summit to conduct vibration 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 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.

**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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