

# Mechanical Maintenance

Fluke Mechanical Maintenance Testers are designed specifically for maintenance professionals who need to quickly and easily perform precision shaft alignments on most rotating machines in the plant and perform vibration analysis and evaluate alignment to understand the root cause of equipment condition.



# Fluke 805 FC Vibration Meter

Forget the pens, think meter



Fluke 805 FC



The Fluke 805 FC is not a vibration pen; it's a meter. A Fluke meter that eliminates the confusion of vibration screening and provides reliable measurements you can trust to make critical go or no-go maintenance decisions. With the Fluke 805 FC, you can identify the strength and severity of vibration and easily track data over time to monitor an asset's condition.

- Innovative sensor design minimizes measurement variations caused by device angle or contact pressure
- Consistent data quality at both low and high frequency ranges
- Four-level severity scale assesses urgency of problems for overall vibration and bearing condition
- Exportable data via USB
- Trending in Microsoft™ Excel using pre-built templates
- Overall vibration measurement (10 Hz to 1000 Hz) for acceleration, velocity and displacement units of measurement for a wide variety of machines
- Crest Factor+ technology provides reliable bearing assessment using direct sensor tip measurements between 4000 Hz and 20000 Hz
- Compare vibration levels with ISO-10816 severity scales and store results to the Fluke Connect™ Cloud
- Fluke Connect™ Share-Live™ video call
- Colored lighting system (green, red) and on-screen comments indicate how much pressure needs to be applied to take measurements
- Temperature measurement with Spot Infrared Sensor increases diagnostic capabilities
- On-board memory holds and saves up to 3500 measurements
- One-year warranty

## Specifications

Vibration meter	Low frequency range (overall measurement)	10 Hz to 1000 Hz
	High frequency range (CF+ measurement)	4000 Hz to 20000 Hz
	Severity levels	Good, Satisfactory, Unsatisfactory, Unacceptable
	Vibration limit	50 g peak (100 g peak-peak)
	A/D converter	16-bit
	Signal to noise ratio	80 dB
	Sampling rate	Low frequency: 20000 Hz; High frequency: 80000 Hz
	Real-time clock backup	Coin battery
Sensor	Sensitivity	100 mV/g ±10%
	Measurement range	0.01 g to 50 g
	Low frequency range (overall measurement)	10 Hz to 1000 Hz
	High frequency range (CF+ measurement)	4000 Hz to 20000 Hz
	Resolution	0.01 g
Infrared thermometer (temperature measurement)	Accuracy	At 100 Hz ±5% of measured value
	Range	-20° C to 200° C (-4 °F to 392 °F)
	Accuracy	±2° C (4 °F)
External sensor (Supported, but not provided)	Focal length	Fixed, at ~3.8 cm (1.5 in)
	Frequency range	10 Hz to 1000 Hz
	Bias voltage (to supply power)	20 V DC to 22 V DC
Firmware	Bias Current (to supply power)	Maximum 5 mA
	External interfaces	USB 2.0 (full speed) communication
	Data capacity	Database on internal flash memory
Environmental	Memory	Up to 3500 measurements
	IP rating	IP54
	Drop test	1 meter (3.38 ft)
General specifications	Battery type	AA (2) Alkaline or Lithium-ion 2 V DC
	Battery life	250 measurements
	Size (LxWxH) and Weight	25.72 × 16.19 × 9.84 cm (10.13 × 6.38 × 3.875 in), 1.16 kg g (2.55 lb)
	Connectors	USB mini-B 7-pin, stereo audio output jack (3.5 mm Audio Plug), external sensor jack (SMB connector)

## Recommended Accessories



Fluke 805ES  
External Assembly Vibration Sensor

## Fluke 820-2 LED Stroboscope



The Fluke 820-2 LED Stroboscope is a simple, easy-to-use tool to stop motion for measurement and diagnostic purposes.

Investigate and observe potential mechanism failure with confidence on a variety of machinery, in a wide range of industries, without making physical contact with the machine. The Fluke 820-2 LED Stroboscope is a rugged, compact, portable strobe with high intensity LED head, ideal for stop motion diagnostics, mechanical trouble-shooting, and process or product research and development.

- High intensity 7-LED array—4800 lux @ 6000 FPM/30 cm (flashes per minute)
- High efficiency LED solid-state light source with uniform flash characteristics allow for higher flash rates—30–300000 FPM
- Digital pulse width modulation for exceptionally sharp images at high speeds
- Rugged, durable design utilizes solid-state LEDs with no filaments, gases, hollow cavities, or glass
- Quartz-accuracy control system provides high accuracy — ±(0.02% + 1 digit)
- Multi-line LCD display
- Check the rotating speed of machinery without physical contact or need for reflective tape

## Included Accessories

USB Cable, Storage Case, Belt Holster, Quick Reference Guide, CD-ROM (includes MS Excel Template and Documentation) and Two AA Batteries.

## Ordering Information

**FLUKE-805FC** Fluke Connect™ Vibration Meter

**FLUKE 805ES** External Vibration Sensor for 805 Vibration Meter

**FLK-820-2** LED Stroboscope

Contact your local distributor for price and availability.

fluke.com/wtb





# Fluke 810 Vibration Tester

Take a vibration expert along



Fluke 810



## Get answers now!

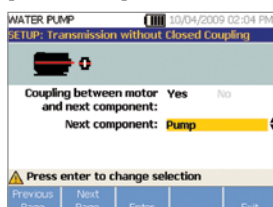
The Fluke 810 Vibration Tester is the most advanced troubleshooting tool for mechanical maintenance teams who need an answer now. It is a unique new kind of troubleshooting tool, engineered to detect and evaluate the most common mechanical problems.

The Fluke 810 Vibration Tester uses a simple step-by-step process to report on machine faults the first time measurements are taken, without prior machine history.

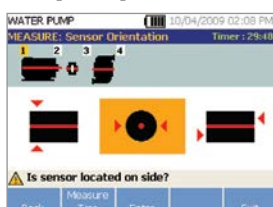
- Easily determine the root cause, location and severity of common mechanical faults
- Efficiently prioritize and plan equipment repair or replacement
- Effectively deploy maintenance resources at the point of greatest impact
- Three-year warranty

## Simple 3 Step Process

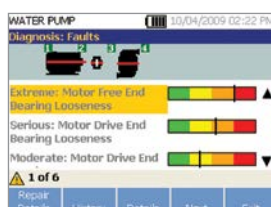
The Fluke 810 helps you locate and diagnose common mechanical problems and prioritize repair actions in three simple steps:



**1. Setup:** Vibration testing has never been easier. The Fluke 810 asks for basic machine information you already know, like RPM and horsepower. Its onboard info feature gives you field tips for setting up and taking measurements like a professional.



**2. Measure:** The Fluke 810 easily fits into your maintenance routine. Use it to quickly troubleshoot problems or monitor machine condition.



**3. Diagnose:** Fix it right the first time with the press of a button, the Fluke 810 identifies the root cause, its location, and the problem's severity.

## Recommended Accessories



**810T**  
Non-Contact Precision Laser Tachometer



**810S**  
Vibration Sensor



**810QDC**  
Quick Disconnect Cable



**SBP810**  
Battery Pack



**810SMM**  
Sensor Magnetic Mount



**810SMP**  
Sensor Mounting Pads (Pack of 10)

## Viewer PC Software

- Store and track your data
- Generate diagnostic reports and track the severity of your machine's condition
- Import and store JPEG images



## Interactive, self-paced training on DVD

Learn more about the basics of vibration and how to fully utilise the features and functionality of the Fluke 810. Fluke has partnered with Mobius Institute, an industry leader in vibration training, to develop an interactive training DVD included with each Fluke 810.

## Diagnostic specifications

Analysis for	Motors, fans, blowers, belts and chain drives, gearboxes, couplings, centrifugal pumps, piston pumps, sliding vane pumps, propeller pumps, screw pumps, rotary thread/gear/lobe pumps, piston compressors, centrifugal compressors, screw compressors, closed coupled machines, spindles
Standard faults	Unbalance, looseness, misalignment and bearing failures
Motor rotational speed range	200 rpm to 12000 rpm
Diagnosis details	Plain-text diagnosis, fault severity (slight, moderate, serious, extreme), repair details, cited peaks, spectra

## Tester specifications

Ingress Protection (IEC 60529)	IP54
A/D converter	4 channel, 24 bit
Dynamic range	128 dB
FFT resolution	800 lines
Battery	Lithium-ion, rechargeable, 8 hours operating life
Onboard storage capacity	2 GB internal + user accessible slot for additional storage

## Sensor specifications

Sensor type	Tri-axial accelerometer, 100 mV/g ( $\pm 5\%$ , 25° C (77° F))
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## Tachometer specifications

Tachometer type	Laser Diode Class 2
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## Included Accessories

Tri-axial TEDS Accelerometer, Accelerometer Magnet Mount, Accelerometer Mounting Pad Kit with Adhesive, Accelerometer Quick Disconnect Cable, Laser Tachometer and Storage Pouch, Smart Battery Pack with Cable and Adapters, Shoulder Strap, Adjustable Hand Strap, Viewer PC Application Software, Mini-USB to USB Cable, Getting Started Guide, Illustrated Quick Reference Guide, User Manual CD, Instructional Training DVD, Hard Carrying Case.

## Ordering Information

FLUKE-810 Vibration Tester

# Fluke 831 Laser Shaft Alignment Tool

Precise alignment that adapts to your needs



Fluke 831



## Precision shaft alignment made easy

The Fluke 831 Laser Shaft Alignment Tool is the ideal test tool to precision-align rotating shafts in your facility. If you're still using rulers and dial indicators to ensure your rotating machinery is properly aligned, you could be losing thousands of dollars per year in replacement bearing costs, hours of unnecessary repair time and crippling unplanned downtime, not to mention taking years off your machine's useful life.

- The single-laser measurement technology results in better data accuracy
- The intuitive guided user interface and touch tablet helps you quickly complete machine alignments
- Easy for the novice yet powerful for the skilled technician which means you can cover more of your machines – all the functionality needed on the plant floor like thermal growth, user defined tolerances, etc.

### General specifications

CPU	Processor: Exynos 9810, 2.7GHz, 1.7GHz Octa-Core Memory: 4 GB RAM, 64 GB Flash memory
Display	Technology: TFT Integrated light sensor for automated adjustment of the brightness to the display according to the lighting conditions hence extending battery life. Resolution: 1920 x 1200 Pixel Size: 203.1 mm (8")
Connectivity	Wi-Fi: 802.11 a/b/g/n/ac/ax 2.4G+5GHz, HE80, MIMO, 1024-QAM. Wireless: 5.0 RFID: NFC
Camera	Main camera resolution: 13.0 MP, Auto Focus Front camera resolution: 5.0 MP
Environmental protection	IP 68: dustproof, submersible 1.5 m
Ingress Protection (IEC 60529)	IP65 (dustproof and water spray resistant), shockproof Relative humidity 10% to 90%
Temperature range	Operation: -20°C to 50°C (-4°F to 122°F)
Battery	Battery Type: Li-Ion rechargeable battery 3.8 V / 5 3.8 V / 5050 mAh / 19.2 Wh Operating time: Up to 11 hours
Dimensions/weight (without hand straps)	Approx. 256 x 149 x 35 mm (10 5/64" x 5 55/64" x 1 3/8") Approx. 710 g (1.6 lbs)

### Reflector

Type	90° roof prism
Accuracy (average)	> 99%
Environmental protection	IP 67 (submersible, dustproof)

### Sensor

Measurement principle	Coaxial, reflected laser beam
LED indicators	1 LED for laser beam status and battery status

### Power supply

Battery	Lithium-Ion rechargeable battery 3.7 V / 5 Wh
Operating time	10 hours (continuous use)
Charging time	Using charger – 2.5 h for up to 90% 3.5 h for up to 100% Using USB port – 3 h for up to 90% 4 h for up to 100%

### Recommended Accessories



**FLUKE-830/MAGNET**  
Compact magnetic sensor/  
prism mounting bracket

### Recommended Kits



**Fluke 830/SHIMS Precision Alignment Kit**

### Evaluate Alignment in 3 Simple Steps



1. Dimensions



2. Measure



3. Results

### Included Accessories

Sensor laser, reflector prism, chain-type mounting bracket with 150 mm support posts (2x), 300 mm support post (4x), lens cleaning cloth, USB sensor cable, USB PC cable, USB drive, USB drive cable, tape measure, power adapter (2x), quick reference guide and safety information sheet, carrying case

### Ordering Information

**FLK-831** Laser Shaft Alignment Tool

Contact your local distributor for price and availability.  
fluke.com/wtb

