FLUKE®

PRODUCT GUIDE
2020-2021

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ABOUT FLUKE

Dedicated to your safety, driven by your success

At Fluke, we're working every day so you can do your essential work with confidence. We are driven to keep you safe, help you succeed and equip you for maximum impact in your industry. Our modern, technology-enabled world works because people like you are at this very moment maintaining it, measuring it, testing it and improving upon it.

The future of Fluke

Our founder, John Fluke Sr. was a "get the job done right" kind of guy. His vision revolved around improving the way things work, and he saw test and measurement as the surest and most effective way of doing it.

Today, we're expanding our product line beyond the physical tools that defined our early history. But at Fluke the one thing that never changes is our commitment to the people who use our tools: you.

One world—one Fluke

Throughout the year and around the globe, Fluke leads events that bring communities together for greater impact. One example is the WorldSkills Competition. At this epicenter of vocational education and training, Fluke engages with students and professionals from around the world to share industry best practices and show how Fluke can help fill critical skills gaps in all industries.

Taking our commitment further

Fluke's support doesn't begin or end with a tool. Our website is loaded with hundreds of useful resources, such as blog posts, videos, how-to guides and more, to help you stay ahead of the curve. Visit Fluke at www.fluke.com.

Fluke on top

Rated #1*

Innovation **Quality** **Value**

Top product

2018 Product of the Year
Plant Engineering

Top choice

2019 Engineer's Choice Award
Control Engineering

Top in innovation

2018 Innovation Award Winners (2)
Pro Tools Review

Top in safety

2019 New Product Competition Award
Protective tools, hardware and equipment
MCEE

Top in breakthrough technology

2018 Breakthrough Product Award
Processing Magazine

*2019 IMI International Brand Equity Study

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FLUKE
BY THE NUMBERS

1948 — **71 YEARS** — 2019

1250 TOOLS

1497 PATENTS

4000+ EMPLOYEES

100+ COUNTRIES

562 BLOG ARTICLES

565 VIDEOS

789 APPLICATION NOTES

76 ON-DEMAND WEBINARS

5 ONLINE COURSES

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DIGITAL MULTIMETERS

When uptime matters

Fluke digital multimeters (DMMs) are on more tool belts, finding more problems, than any other comparable test tools. Each industrial meter is tested to the extreme—drop, shock, humidity, you name it. Every Fluke digital multimeter gives you accurate measurements, consistent and reliable performance, attention to safety, and the strongest warranty available.

Fluke has a full family of digital multimeters. Whether you work in the residential or commercial world, deal with HVAC equipment or electricity, there's a Fluke digital multimeter for you.

Fluke 87V Industrial Multimeter

Fluke 87V identifies complex signal problems fast

The Fluke 87V Industrial Multimeter provides the resolution and accuracy to efficiently troubleshoot motor drives, plant automation, power distribution and electromechanical equipment. A low-pass filter lets you troubleshoot VFDs and captures intermittents as fast as 250 µS.

Features include frequency to 200 kHz, plus % duty cycle, resistance, continuity and diode test. And it includes a built-in thermometer so you can take temperature readings without having to carry a separate instrument.

Correctly measure pulse-width modulated motor-drive signals

The Fluke 87V includes a unique function for accurately measuring noisy VFD signals. Special shielding blocks high-frequency, high-energy noise generated by large drive systems.

Electrical safety

All inputs for the 87V are compliant to overvoltage category CAT III 1000 V/CAT IV 600 V. They are designed to withstand spikes in excess of 8,000 V.

Fluke 279 FC True-rms Thermal Multimeter

Full-featured multimeter with built-in thermal imager

Fluke 279 FC True-rms Thermal Multimeter helps you find, repair, validate and report many electrical issues quickly so you can be confident that problems are solved.

Locate the problem immediately

Scanning with the 279 FC's thermal imager reveals many electrical issues rapidly and from a safe distance. By combining two tools into one, the thermal multimeter lightens the load and increases productivity.

Expanded functionality

The included iFlex™ flexible current clamp lets you measure up to 2500 A ac, even in tight, hard-to-reach spaces. The 10+ hour rechargeable battery keeps you going all day long under normal conditions.

Communicate your results

With built-in Fluke Connect™, transmit results wirelessly to a smartphone and save time on reporting to validate work is complete. Create and email reports right from the field.

Fluke 179 True-rms Digital Multimeter

The Fluke 179 is the preferred solution for professional technicians around the world. It includes the troubleshooting features you use every day, plus a backlit digital display, analog bar graph and built-in temperature measurements.

Works when you need it, where you need it

The Fluke 179, with its true-rms capabilities, is independently tested for use in CAT III 1000 V/CAT IV 600 V environments and is backed by a lifetime warranty. The 179 comes with an ergonomic case with an integrated protective holster.

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DIGITAL MULTIMETER SELECTION GUIDE

Models	Advanced meters		General purpose		
	289/287	87V	3000 FC	233	179
Basic features					
Counts	50000	20000	6000	6000	6000
True-rms readings	ac+dc	ac	ac	ac	ac
Basic dc accuracy	0.025 %	0.05 %	0.09 %	0.25 %	0.09 %
Wide bandwidth	100 kHz	20 kHz			
Auto/manual ranging	•/•	•/•	•/•	•/•	•/•
Digits	4-1/2	4-1/2	3-1/2	3-1/2	3-1/2
Intrinsically safe ATEX safety rating					
Measurements					
Voltage ac/dc	1000 V	1000 V	1000 V	1000 V	1000 V
Current ac/dc	10 A	10 A	400 mA	10 A	10 A
Resistance	500 MΩ	50 MΩ	50 MΩ	40 MΩ	50 MΩ
Frequency	1 MHz	200 kHz	100 kHz	50 kHz	100 kHz
Capacitance	100,000 µF	10,000 µF	10,000 µF	10,000 µF	10,000 µF
Temperature	(+) 1350 °C (2462 °F)	(+) 1090 °C (1994 °F)		(+) 400 °C (752 °F)	(+) 400 °C (752 °F)
Conductance/dB	50 nS/60 dB	50 nS/-			
Duty cycle/pulse width	•/•	•/–			
Continuity/diode test	•	•	•	•	•
Motor Drive (ASD) Measurements	• (289)	•			
VoltAlert™, non-contact voltage detection					
VCHECK™					
Lo ohms	• (289)				
LoZ: low input impedance	• (289)				
Microamps	•	•			
Display					
Fluke Connect® enabled	•*		•		
Backlight	Two level	Two level	•	•	•
Graphical trend display	•	•			•
Diagnostics and data					
Min/max recording with time stamp	•/•	•/–	•/–	•/–	•/–
Display hold/auto (touch) hold	•/•	•/•	•/•	•/•	•/•
Relative reference	•	•			
Stand-alone logging	•				
Trend capture	•				
Readings memories	10,000		(with FC app)		
USB interface	•				
Other features					
Automatic selection, ac/dc volts					
Infrared camera resolution					
Infrared camera range					
iFlex compatibility			(With separate modules)		
Insulation test voltages					
PI/DAR timed ratio test					
Completely sealed and watertight					
Warranty and electrical safety					
Warranty (years)	Lifetime	Lifetime	3	3	Lifetime
Input alert	•	•			
IP rating		IP30	IP54		
EN61010-1 CAT III	1000 V	1000 V	1000 V	1000 V	1000 V
EN61010-1 CAT IV	600 V	600 V	600 V	600 V	600 V

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DIGITAL MULTIMETERS

Models	Compact meters			Specialty meters			
	117/115	116	114/113	279 FC	1587 FC	28 II/28 II Ex	27 II
Basic features							
Counts	6000	6000	6000	6000	6000	20000	6000
True-rms readings	ac	ac	ac	ac	ac	ac	
Basic dc accuracy	0.5 %	0.5 %	0.5 %	0.09 %	0.09 %	0.05 %	0.1 %
Wide bandwidth						20 kHz	30 kHz
Auto/manual ranging	•/•	•/•	•/•	•/•	•/•	•/•	•/•
Digits	3-1/2	3-1/2	3-1/2	3-1/2	4-1/2	4-1/2 / 3-1/2	3-1/2
Intrinsically safe ATEX safety rating						28 II Ex	
Measurements							
Voltage ac/dc	600 V	600 V	600 V	1000 V	1000 V	1000 V	1000 V
Current ac/dc	10 A	600 µA		2500 A ac (with iFlex)	400 mA	10 A	10 A
Resistance	40 MΩ	40 MΩ	40 MΩ	50 MΩ	50 MΩ	50 MΩ	50 MΩ
Frequency	100 kHz	100 kHz		100 kHz	100 kHz	200 kHz	200 kHz
Capacitance	10,000 µF	10,000 µF		10,000 µF	10,000 µF	10,000 µF	10,000 µF
Temperature		+400 °C		IR camera -10 °C to +200 °C	+537 °C (998.6 °F)	+1090 °C (1994 °F)	
Conductance/dB						60 nS/-	60 nS/-
Duty cycle/pulse width						•/–	•/–
Continuity/diode test	•	•	•	•	•	•	•
Motor Drive (ASD) Measurements				•	•	•	
VoltAlert™, non-contact voltage detection	• (117)						
VCHECK™			•				
Lo ohms							
LoZ: low input impedance	• (117)	•	•				
Microamps		•				•	•
Display							
Fluke Connect® enabled				•	•		
Backlight	•	•	•	•	•	Two level	Two level
Graphical trend display							
Diagnostics and data							
Min/max recording with time stamp	•/–	•/–	•/–	•/–	•/–	•/–	•/–
Display hold/auto (touch) hold	•/–	•/–	•/–	•/•	•/•	•/•	•/•
Relative reference						•	•
Stand-alone logging							
Trend capture							
Readings memories				(with FC app)	(with FC app)		
USB interface							
Other features							
Automatic selection, ac/dc volts	• (117)	•	•				
Infrared camera resolution				80 x 60			
Infrared camera range				-10 °C, +200 °C			
iFlex compatibility				•			
Insulation test voltages					500 V, 100 V, 250 V, 500 V, 1000 V		
PI/DAR timed ratio test					•		
Completely sealed and watertight						•	•
Warranty and electrical safety							
Warranty (years)	3	3	3	3	3	Lifetime/3	Lifetime
Input alert					•	•	•
IP rating	IP42	IP42	IP42	IP40	IP40	IP67	IP67
EN61010-1 CAT III	600 V	600 V	600 V	1000 V	1000 V	1000 V	1000 V
EN61010-1 CAT IV			600 V (113)	600 V	600 V	600 V	600 V

Find how-to videos, application notes and other useful resources on the digital multimeter product pages on www.fluke.com

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CLAMP METERS

Readings you can rely on

Wires in tight, compact spaces. Panels that are out of reach. Extra-large conductors. We understand your workspace and have designed products for noise-free, reliable readings. Providing advanced performance, the digital clamp meters designed by Fluke are known as workhorse current clamp meters. The amp clamp meter line is simple to use and gimmick free.

Fluke 376 FC True-rms Clamp Meter

Log and trend measurements to pinpoint intermittent faults

The Fluke 376 FC True-rms Clamp Meter is your go-to tool for an extremely wide range of electrical measurements.

- Connect your meter to your smartphone with Fluke Connect™ Measurements
- Read measurements on your phone at a safe distance, wearing less PPE while your meter takes all the risks
- Record results directly to your phone and the cloud
- Capture intermittent faults while performing other tasks using the logging capabilities of the Fluke 376 FC
- Create and share reports from the field via email, or converse in real time with ShareLive™ video calls
- The iFlex flexible current probe expands the measurement range to 2500 A ac and provides access to large conductors in tight spaces (included)
- TPAK magnetic hanging strap (included)
- Integrated VFD low-pass filter for accurate motor-drive measurements
- Proprietary inrush measurement technology to filter out noise and capture motor starting current exactly as the circuit protection sees it
- CAT IV 600 V, CAT III 1000 V safety rating
- Three-year warranty
- Soft carrying case

FLUKE CONNECT®

Fluke 325 True-rms Clamp Meter

Big ac/dc features in a small form factor

The Fluke 325 Clamp Meter performs in the toughest environments and provides noise-free, reliable results. Trust the 325 to help you confidently diagnose all kinds of electrical problems.

- Rugged, reliable true-rms clamp meter with dc current and frequency measurements provides accurate measurements on nonlinear signals
- Measures ac and dc current to 400 A
- Measures ac voltage and dc voltage to 600 V
- Measures resistance to 40 kΩ with continuity detection
- Measures frequency to 500 Hz
- Min/max functionality
- Measures temperature from -10.0 °C to 400.0 °C (14.0 °F to 752.0 °F)
- Measures capacitance to 1000 µF
- Hold function captures a reading on the display
- Features a CAT III 600 V, CAT IV 300 V safety rating
- Two-year warranty

Fluke 902 FC True-rms HVAC Clamp Meter

Helps HVAC technicians work more efficiently on the work site

The Fluke 902 FC Clamp Meter, with Fluke Connect wireless connectivity, can help HVAC technicians improve productivity in the field. The rugged, dual-rated CAT III 600 V, CAT IV 300 V meter equips you to perform many essential HVAC system measurements—microamps for testing pilot light sensors, resistance up to 60 kΩ, ac current and ac/dc voltage, capacitance and contact temperature—all with just one tool.

- A wireless Fluke Connect-enabled clamp meter designed specifically for the needs of HVAC technicians
- Offers 200 µA dc current measurements to measure flame rod
- Extends resistance range to measure thermistors up to 60 kΩ
- Captures flue gas temperature
- Measures start and run motor capacitors
- Measures variable frequency drive performance
- Comes with a TPAK magnetic hanging strap, batteries, soft carrying case and a three-year warranty
- Measures ac current to 600 A, ac and dc voltage to 600 V, resistance to 60 kΩ
- Measures temperature from -10 °C to 400 °C (14 °F to 752 °F)

FLUKE CONNECT®

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CLAMP METER SELECTION GUIDE

Models	Residential/commercial electrical			General purpose		Industrial electrical			HVAC/R
	323	324	325	374 FC	375 FC	365	376 FC	381	902 FC
Measurements									
AC current	•	•	•	•	•	•	•	•	•
AC volts	•	•	•	•	•	•	•	•	•
Resistance	•	•	•	•	•	•	•	•	•
Continuity	•	•	•	•	•	•	•	•	•
DC volts	•	•	•	•	•	•	•	•	•
DC current			•	•	•	•	•	•	•
True-rms	•	•	•	•	•	•	•	•	•
Frequency			•		•		•	•	
AC + DC voltage									
AC + DC current									
Min/max/avg	-/-/-	-/-/-	•/•/-	•/•/-	•/•/-	-/-/-	•/•/-	•/•/•	•/•/-
Temperature		•	•						•
Capacitance		•	•	•	•		•		•
Special features									
Fluke Connect™ enabled				•	•		•		•
Inrush current mode				•	•		•	•	
Low-pass filter							•	•	
Harmonics, power, data logging									
18" iFlex Flexible Current Probe				Optional	Optional		Included	Included	
10" iFlex Flexible Current Probe				Optional	Optional		Optional	Optional	
Remote display						Detachable with cable		Detachable magnetic	
Flashlight/torch						•			
Display									
Display hold	•	•	•	•	•	•	•	•	•
Backlight		•	•	•	•	•	•	•	•
Specifications									
Jaw opening	30 mm (1.18")	30 mm (1.18")	30 mm (1.18")	34 mm (1.33")	34 mm (1.33")	18 mm (.7")	34 mm (1.33")	34 mm (1.33")	30.5 mm (1.33")
Current range ac rms	0 to 400.0 A	0 to 400.0 A	0 to 400.0 A	0 to 600.0 A	0 to 600.0 A	0 to 200.0 A	0 to 999.9 A	0 to 999.9 A	0 to 600.0 A
Accuracy ac current (50/60 Hz)	2 % ± 5 counts	2 % ± 5 counts	2 % ± 5 counts	2 % ± 5 counts	2 % ± 5 counts	2 % ± 5 counts	2 % ± 5 counts	2 % ± 5 counts	2 % ± 5 counts
AC response	True-rms	True-rms	True-rms	True-rms	True-rms	True-rms	True-rms	True-rms	True-rms
Current range dc		0 to 400.0 A	0 to 400.0 A	0 to 600.0 A	0 to 600.0 A	0 to 200.0 A	0 to 999.9 A	0 to 999.9 A	0 to 200 µA
Accuracy dc current		2 % ± 5 counts	2 % ± 5 counts	2 % ± 5 counts	2 % ± 5 counts	2 % ± 5 counts	2 % ± 5 counts	2 % ± 5 counts	1 % ± 5 counts
Voltage range ac	0 to 600.0 V	0 to 600.0 V	0 to 600.0 V	0 to 600.0 V	0 to 1000 V	600.0 V	0 to 1000 V	0 to 1000 V	0 to 1000 V
Accuracy ac voltage	1.5 % ± 5 counts	1.5 % ± 5 counts	1.5 % ± 5 counts	1.5 % ± 5 counts	1.5 % ± 5 counts	1.5 % ± 5 counts	1.5 % ± 5 counts	1.5 % ± 5 counts	1.5 % ± 5 counts
Voltage range dc	0 to 600.0 V	0 to 600.0 V	0 to 600.0 V	0 to 1000 V	0 to 1000 V	600.0 V	0 to 1000 V	0 to 1000 V	0 to 600.0 V
Accuracy dc voltage	1 % ± 5 counts	1 % ± 5 counts	1 % ± 5 counts	1 % ± 5 counts	1 % ± 5 counts	1.5 % ± 5 counts	1 % ± 5 counts	1 % ± 5 counts	1 % ± 5 counts
Resistance range	0 to 4000 Ω	0 to 4000 Ω	0 to 40.00 kΩ	0 to 6000 Ω	0 to 60 kΩ	0 to 6000 Ω	0 to 60 kΩ	0 to 60 kΩ	0 to 60 kΩ
Frequency measurement range			500 Hz		500 Hz		500 Hz	500 Hz	
Unit power									
Auto off	•	•	•	•	•	•	•	•	•
Warranty and safety									
Warranty (years)	2	2	2	3	3	3	3	3	3
Category ratings (EN61010-1)	CAT III 600 V, CAT IV 300 V	CAT III 600 V, CAT IV 300 V	CAT III 600 V, CAT IV 300 V	CAT III 1000 V, CAT IV 600 V	CAT III 1000 V, CAT IV 600 V	CAT III 600 V	CAT III 1000 V, CAT IV 600 V	CAT III 1000 V, CAT IV 600 V	CAT III 600 V, CAT IV 300 V

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CLAMP METERS

Models	High-end industrial/utility			iFlex accessory*	Leakage		Process industries		
	345	353	355	i2500-10/ i2500-18	368 FC	369 FC	771	772	773
Measurements									
AC current	•	•	•	•	•	•			
AC volts	•		•						
Resistance			•						
Continuity			•						
DC volts	•		•						•
DC current	•	•	•				•	•	•
True-rms	•	•	•	•	•	•			
Frequency	•	•	•	•					
AC + DC voltage			•						
AC + DC current		•	•						
Min/max/avg		•	•	•	•	•			
Temperature									
Capacitance									
Special features									
Fluke Connect™ enabled					•	•			
Inrush current mode	•	•	•	•					
Low-pass filter		•	•						
Harmonics, power, data logging	•								
18″ iFlex Flexible Current Probe									
10″ iFlex Flexible Current Probe									
Remote display							Detachable with cable	Detachable with cable	Detachable with cable
Flashlight/torch					•	•	•	•	•
Display									
Display hold		•	•		•	•	•	•	•
Backlight	•	•	•		•	•	•	•	•
Specifications									
Jaw opening	60 mm (2.36″)	58 mm (2.28″)	58 mm (2.28″)	7.5 mm (.29″) coil	40 mm (1.57″)	61 mm (2.40″)	4.5 mm (.17″)	4.5 mm (.17″)	4.5 mm (.17″)
Current range ac rms	0 to 1400	0 to 1400 A	0 to 1400 A	0 to 2500 A	0 to 60 A	0 to 60 A			
Accuracy ac current (50/60 Hz)	3 % ± 5 counts	1.5 % ± 5 counts	1.5 % ± 5 counts	3 % ± 5 counts	1 % ± 5 counts	1 % ± 5 counts			
AC response	True-rms	True-rms	True-rms	True-rms	True-rms	True-rms			
Current range dc	0 to 2000	0 to 2000 A	0 to 2000 A				0 to 99.9 mA	0 to 99.9 mA	0 to 99.9 mA
Accuracy dc current	1.5 % ± 5 counts	1.5 % ± 5 counts	1.5 % ± 5 counts				0.2 % ± 5 counts	0.2 % ± 5 counts	0.2 % ± 5 counts
Voltage range ac	0 to 825 V		0 to 600.0 V						
Accuracy ac voltage	3 % ± 5 counts		1 % ± 5 counts						
Voltage range dc	0 to 825 V		0 to 1000 V				0 to 1000 V		30 V
Accuracy dc voltage	1 % ± 5 counts		1 % ± 5 counts				1 % ± 5 counts		0.2 % ± 5 counts
Resistance range			0 to 400 kΩ				0 to 60 kΩ		
Frequency measurement range	15 Hz to 1 kHz	5 to 1000 Hz	5 to 1000 Hz	500 Hz			500 Hz		
Unit power									
Auto off		•	•		•	•	•	•	•
Warranty and safety									
Warranty (years)	1	3	3	3	1	1	3	3	3
Category ratings (EN61010-1)	CAT IV 600 V	CAT III 1000 V, CAT IV 600 V	CAT III 1000 V, CAT IV 600 V	CAT III 1000 V, CAT IV 600 V	CAT III 600 V	CAT III 600 V	CAT II 300 V	CAT II 300 V	CAT II 300 V

* Clamp not included

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CONDITION MONITORING

Early detection, increased reliability

In every work environment, there are multiple examples of rotating machinery—such as motors, pumps, compressors, and fans. Assets experience common issues and performance degradation over time, ultimately leading to a failure. Something changed before the breakdown, indicating an impending problem. Tracking these changes allows teams to identify the root cause earlier.

Condition monitoring (CM) gathers and records asset data over time. Understanding the performance of assets helps you prioritize actions, schedule maintenance, and extend the life of your equipment.

Two of the CM testing modes effective for early detection are vibration monitoring and power monitoring. Vibration monitoring detects imbalance, looseness, misalignment, and bearing wear, while power monitoring measures variables to find the cause of electrical and mechanical issues. Both provide maintenance professionals with clear and quantifiable metrics to determine current status and needed actions.

Fluke 3561 FC Vibration Sensors with Gateway

Minimize maintenance routes and extend asset life by observing triaxial measurements from Fluke 3561 FC Vibration Sensors via Fluke Connect™ Condition Monitoring software.

- Wireless, compact sensors for a scalable, remote monitoring solution
- Alarms based on user-defined or Fluke Overall Vibration Severity (FOVS) scale thresholds
- Capture rate: One data point every 90 seconds
- Visualize data with software trending and graphing
- Remotely view real-time and historical triaxial vibration, surface temperature data
- Choose from one- or three-year software licenses (where applicable)
- Battery life: three years (varies by usage)
- Size:
  - Sensor: (H x W) 2.42 in x 0.95 in (61.46 mm x 24.13 mm)
  - Gateway: (H x W x L) 2.26 in x 1.55 in x 1.82 in (57.40 mm x 39.37 mm x 46.22 mm)
- Frequency response range: 10 to 1,000 Hz
- Bluetooth type: Low Energy 4.1
- IP Rating: IP67

Fluke 3540 FC Three-Phase Power Monitor Kit

Monitor equipment for changes in key electrical variables. Current, voltage, frequency, and energy consumption fluctuate when machinery experiences excess load.

- Measures:
  - Single, split, or three-phase loads
  - Voltage, current, and frequency
  - Active power, nonactive power, and power factor
  - Total harmonic distortion
- Wireless data collection or internal memory sufficient for one week with one second data intervals
- Remotely monitor real-time and historical power variable data
- Visualize data with software trending, graphing and timeboxing
- Auto-generated alarms when power variables deviate from preset thresholds
- Power options: Battery, power supply or power from the measurement line
- Size: (W x H x D) 7.8 in x 6.6 in x 2.2 in (198.12 mm x 167.64 mm x 55.88 mm)
- IP Rating: IP 50; IEC 60529

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BENCH MULTIMETERS

Fluke Calibration digital bench multimeters have the precision and versatility to handle the most demanding measurements, on the bench or in a system. These benchtop DMMs are easy to use and offer excellent value that makes them an ideal solution for many applications. Standards laboratory DMMs include: Reference multimeters, precision digital multimeters, and bench multimeters.

Fluke Calibration 8845A/8846A 6.5 Digit Precision Bench Multimeters

6.5 digit precision and versatility for bench or systems applications

- 6.5 digit resolution
- Basic V dc accuracy of up to 0.0024 %
- Dual display
- 100 µA to 10 A current range, with up to 100 pA resolution
- Wide ohms range from 10 Ω to 1 GΩ with up to 10 µΩ resolution
- 2 x 4 ohms four-wire measurement technique
- Both models measure frequency and period
- The 8846A also measures capacitance and temperature
- USB memory drive port (8846A)
- Fluke 45 and Agilent 34401A emulation
- Graphical display
- TrendPlot™ paperless recorder mode, statistics and histogram
- CAT I 1000 V, CAT II 600 V
- Three-year warranty

Fluke Calibration 8808A 5.5 Digit Multimeter

Versatile 5.5 digit multimeter for manufacturing, development and service applications

- 5.5 digit resolution
- Basic V dc accuracy of 0.015 %
- Dual display
- Dedicated dc leakage current measurement
- 2 x 4 ohms four-wire measurement technique
- Six dedicated buttons for fast access to instrument setups
- Hi/lo limit compare for pass/fail testing
- Three-year warranty

Models	8808A	8845A	8846A
Specifications			
Display	dual	dual, graphical	
Resolution (Number of digits)	5.5	6.5	
Measurements	V ac, V dc, I dc, I ac, Ω, Cont., Diode	V ac, V dc, I dc, I ac, Ω, Continuity, Diode	
Basic V dc accuracy (% Reading + % Range)	0.015 + 0.003	0.0035 + 0.0005	0.0024 + 0.0005
Advanced measurements/functions	2x4 wire ohms, frequency, i-Leakage dedicated setup keys	2x4 wire ohms, frequency, period	2x4 wire ohms, frequency, period, capacitance, temp (RTD)
Math	Null, dBm, dB, Min, Max	Null, dBm, dB, Min, Max, Average, Std Deviation, MX+B	
Analysis	Limit compare	Limit compare, TrendPlot, histogram, statistics	
USB memory device port			•
Interfaces	RS-232, USB via optional adapter	RS-232, IEEE-488.2, LAN, USB via optional adapter	
Ordering information			
Included accessories	Power cord, test lead set, programmer's manual/user's manual on CD, FVF-BASIC, FlukeView Forms Software Basic Version	Power cord, test lead set, programmer's manual/user's manual on CD, FVF-BASIC, FlukeView Forms Software Basic Version	Test leads, line cord, getting started guide, user's manual on CD

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LAYOUT AND DISTANCE

Level. Layout. Build.™

PLS laser levels and Fluke laser distance meters are the professional contractor's tool of choice for accurate layout and measurement on the job site. Rugged, portable, and accurate, PLS and Fluke tools will save you time and money compared to traditional layout methods using tape measures, bubble vials, plumb bobs, or complex measurements and calculations.

PLS laser levels give you the highest-quality bright, thin, and crisp lines and dots for accurate reference and layout applications. To handle the rigors of a job site, PLS laser levels are drop tested up to 1 meter, IP54 rated to protect against water and dust ingress, and covered with a best-in-class, three-year warranty. PLS lasers are self-leveling and designed with the professional contractor in mind.

A PLS laser level, combined with a compact, easy-to-use Fluke laser distance meter, will provide a lifetime of increased productivity, quality, and profit. You get the tools to do the work right the first time, preventing costly rework and callbacks.

PLS 180G KIT Green Crossline Laser Level

Fast, accurate level and plumb reference for construction

Chalk-free lines for installation

This professional, self-leveling, crossline green laser level provides horizontal and vertical lines with ≤ 3 mm @ 10 m (≤ 1/8 in. at 30 ft.) accuracy, allowing for fast, accurate, level and plumb reference lines for fixture alignment, conduit and ductwork installation, wall construction, acoustic ceiling installation, tile installation, and general residential and commercial construction.

Longer distance and use in bright light

Daylight and brighter interior lighting can wash out the visibility of laser lines. For use outdoor, or in an area with bright overhead lighting, use the laser level with an optional detector to increase the visible range of the laser. Additionally, the PLS 180G green beam laser level appears up to three times brighter than the PLS 180R red beam laser level, making it ideal for projects over longer distances or with undesirable lighting conditions.

Durability for the job site

Backed with an industry-leading three-year warranty, PLS laser levels are designed with the professional contractor in mind. PLS laser levels withstand a 1 m drop test, feature a pendulum lock to prevent damage in transport and resist water and dust with an IP54 rating.

PLS 3G KIT Green 3 Point Laser Level

Fast, accurate layout of reference points

Accurate reference points

This professional, self-leveling, three-point green laser level provides reference points with ≤ 3 mm @ 10 m (≤ 1/8 in. at 30 ft.) accuracy, allowing for fast, accurate layout of reference points for steel stud framing, HVAC installation and electrical and residential construction.

Green vs. red

The PLS 3G green beam laser appears up to three times brighter than the PLS 3R red beam, making it ideal for projects over longer distances or with undesirable lighting conditions.

Durability for the job site

Backed with an industry-leading three-year warranty, PLS laser levels are designed with the professional contractor in mind. PLS laser levels withstand a 1 m drop test, feature a pendulum lock to prevent damage in transport, and resist water and dust with an IP54 rating.

Fluke 424D Laser Distance Meter

Measure farther, with greater accuracy, in more situations

Extend your reach with high accuracy

You can use the Fluke 424D Laser Distance Meter to measure up to 100 m (330 ft.), accurate to +/- 1 mm (+/- .040 in.). No scales to interpret or misread. The extra bright laser makes it easy to target even at long distances and the backlit display makes it easy to read the results. The 424D will help you save time and reduce errors with enhanced features like storage for 20 complete displays, indirect Pythagoras distance calculations and the tripod mode for stable, long-distance measurements. No matter your job, the 424D Laser Distance Meter provides accurate, long-distance measurements to help you do the work of two people on your own.

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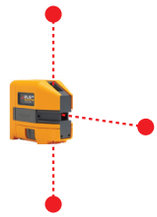
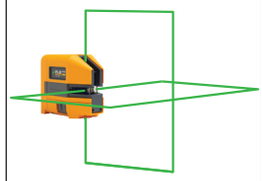
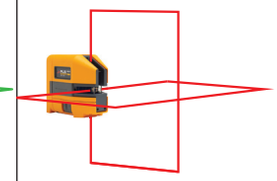
PLS LASER LEVEL SELECTION GUIDE

Models	PLS 3G KIT	PLS 3R KIT	PLS 180G KIT	PLS 180R KIT
Laser function				
Laser type	3-point	3-point	Crossline	Crossline
Laser color	Green	Red	Green	Red
Accuracy	≤ 3 mm @ 10 m (≤ 1/8 in. at 30 ft.)	≤ 3 mm @ 10 m (≤ 1/8 in. at 30 ft.)	≤ 3 mm @ 10 m (≤ 1/8 in. at 30 ft.)	≤ 3 mm @ 10 m (≤ 1/8 in. at 30 ft.)
Batteries	(3) AA alkaline	(3) AA alkaline	(3) AA alkaline	(3) AA alkaline
Included in box				
Laser level	PLS 3G Z	PLS 3R Z	PLS 180G Z	PLS 180R Z
Canvas pouch	•	•	•	•
PLS BP5 alkaline pack	•	•	•	•
PLS FS floor stand	•	•	•	•
PLS MLB wall bracket	•	•	•	•
Reflective target	•	•	•	•
PLS C18 carrying case	•	•	•	•
PLS UB9 wall/ceilng bracket			•	•
Application guide				
Electrical	•	•	•	•
HVAC	•	•	•	•
Framing	•	•	•	•
Finish carpentry	•	•	•	•
Foundations			•	•
Floor and tile			•	•
Acoustic ceiling			•	•
Painting			•	•
Window and glass	•	•	•	•
Other configuration				
Tools and pouch only	PLS 3G Z	PLS 3R Z	PLS 180G Z	PLS 180R Z
KIT with detector			PLS 180G SYS	PLS 180R SYS

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DISTANCE METERS SELECTION GUIDE

Models	Fluke 424D	Fluke 419D	Fluke 417D
Maximum measurement distance	100 m (330 ft)	80 m (260 ft)	40 m (131 ft)
Accuracy	± 1 mm (± 0.04 in)	± 1 mm (± 0.04 in)	± 2 mm (± 0.08 in)
Battery life (number of measurements)	5000	5000	3000
Drop test			1 m (3 ft.)
Area measurement	•	•	•
Volume measurement	•	•	
Pythagoras calculation	Full	Full	
Plus and minus calculations	•	•	
Measurement storage	20 complete displays	20 complete displays	
Min/max	•	•	
Tripod mount	•	•	
Corner angle measurement	•	•	
IP rating	IP54	IP54	IP54
Inclination sensor	•		
Display	4 line	3 line	2 line
Automated end-piece correction	•	•	
EN 60825-1: 2007 (Class II compliant)	•	•	•
Included in box			
Distance meter	Fluke 424D	Fluke 419D	Fluke 414D
Two AAA batteries	•	•	•
Vinyl carrying pouch	•	•	•
Other configurations			
Kit with a non-contact thermometer			Fluke 414D/62 Max+ Kit

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EARTH GROUND TESTERS

It's critical for facilities to have grounded electrical systems, so that in the event of a lightning strike or utility overvoltage, current will find a safe path to earth. To ensure a reliable connection to earth, it's recommended that ground electrode testing be performed at regular intervals.

Fluke's family of electrical earth ground testers have been built to address the entire spectrum of ground-testing methods from the basic to the most advanced. Our testers have been designed to be accurate, safe and easy to use. We provide quick and precise resistance measurements through several test methods: 3- and 4-pole fall-of-potential testing, selective measurement testing, stakeless testing and 2-pole testing.

Fluke 1630-2 FC Earth Ground Clamp

Earth ground ac leakage current measurement

- Identify ac leakage currents without disconnecting the earth ground stake from the grounding system
- Save time by automatically recording data at preset intervals; up to 32,760 measurements are stored at the set logging interval
- Share stored data with Fluke Connect™
- User-defined high/low alarm limits, for rapid measurement evaluation
- Selectable band-pass filter function removes unwanted noise from the ac leakage current measurement

Fluke 1625-2 GEO Earth Ground Tester

Fast, accurate earth ground testing using all four test methods

- A unique earth ground tester that performs testing with and without stakes
- Tests 3- and 4-pole fall-of-potential, and 4-pole soil resistivity (with stakes)
- Performs selective earth ground rod testing (one clamp + stakes)
- Performs stakeless earth ground rod testing (two clamps)
- Features Automatic Frequency Control (AFC) to minimize the effect of interference

Fluke 1621 GEO Earth Ground Tester

The first line of defense in detecting reliable ground connections

- Easily capture values with single-button operation
- 3-pole fall-of-potential earth testing for basic measurements
- 2-pole resistance measurements for added versatility
- Hazardous voltage warning offers increased user protection
- Portable size allows for easy transportation
- Instantly be alerted to measurements outside of your set limit, when you use the adjustable limit setting
- Cat II 600 V

Models		1621	1623-2	1625-2	1630-2 FC
Specifications					
Fall of potential	3-pole	•	•	•	
	4-pole/soil		•	•	
Selective	1 clamp		•	•	
Stakeless	2 clamp		•	•	•
2-pole method	2-pole	•	•	•	
Automatic Frequency Control (AFC) 94 Hz to 128 Hz				•	
R* measurement (55 Hz)				•	
Adjustable limits				•	
Memory			•	•	•
AC leakage current					•

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ELECTRICAL TESTERS

The first tool you reach for

Often the first tool you reach for when troubleshooting an electrical problem is an electrical tester. An electrical tester is a frontline troubleshooting tool designed to give you quick results, so you can quickly get equipment up and running again. Whether you're checking for the presence of voltage, measuring voltage without making metallic contact, measuring current or checking continuity and resistance levels, a tester is fast, reliable and easy to use. It's compact form means you can carry an electrical tester with you, whether in your shirt pocket, pants pocket or tool belt, for fast access.

When complemented with accessories such as a proving unit, a carrying case, a belt holster, alligator clips or a spare set of test leads, an electrical tester will be your go-to tool for any job.

Fluke T6-1000 Electrical Tester

Measure voltage…without test leads

Measure voltage up to 1000 V ac through the open fork, without test lead contact to live voltage. Equipped with revolutionary FieldSense technology, the T6-1000 can make true-rms ac voltage measurements just by placing the wire to be measured in the open fork. The ability to simultaneously measure up to 1000 V ac and 200 A on wires up to AWG 4/0 (120 mm^2) makes the T6-1000 an extremely versatile front-line troubleshooting tool. Plus, the ability to measure frequency through the open fork with just the push of a button gives you even more information at your fingertips.

For more traditional measurements, the included test leads still allow you to measure ac or dc voltage up to 1000 V or resistance up to 100 kΩ.

Related products and accessories

- Fluke AC285 SureGrip™ Alligator Clips
- Fluke H-T6 Holster
- Fluke TPAK Magnetic Meter Hanger

Fluke PRV240FS Proving Unit

Test before you touch

Work safer with the PRV240FS Proving Unit by always verifying your measurement tool is working properly before measuring. The compact and portable battery operated PRV240FS allows you to fulfill your "Test Before Touch" (TBT) requirements by providing a known ac or dc voltage source for your T6 electrical tester or other HiZ instruments to test against before and after the actual measurement. Even voltage detection pens, such as the 1AC II, can be verified with the PRV240FS.

"Test Before Touch" involves testing your measurement tool against a known live source before and after the actual measurement. This sequence verifies that your test tool is operating properly during the actual measurement. The PRV240FS provides a live, known voltage source of 240 V ac or dc to test your tools against. The PRV240FS comes with the original Fluke TPAK Magnetic Hanger to hang the proving unit in a convenient location.

Related products and accessories

- Fluke T6 Electrical Tester
- Fluke 117 Digital Multimeter
- Fluke C60 Soft Carrying Case

Fluke 1AC II VoltAlert™ Electrical Tester

Easy to use and small enough to fit in your shirt pocket, the 1AC II VoltAlert allows electricians, maintenance technicians, service and safety personnel and homeowners to quickly test for energized circuits. Certified up to CAT IV 1000 V, the 1AC II illuminates red and emits an audible alert in the presence of 90–1000 V ac. Designed with Voltbeat™ technology, the 1AC II performs a continuous self-test, so you always know it's working. The convenient pocket clip allows you to easily carry it around in your shirt pocket yet always have it at the ready to check for the presence of voltage. Also available in a 20–90 V ac version for use on control circuits.

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ELECTRICAL TESTERS SELECTION GUIDE

Models	Open fork testers with FieldSense technology		Classic open fork testers		Voltage and continuity testers		Phase rotation indicator	Proving unit
	T6-1000	T6-600	T5-1000	T5-600	T+PRO	T+	9040	PRV240FS
Basic features								
FieldSense voltage measurement technology	•	•						
Provides known live ac/dc voltage source								•
Designed to verify FieldSense tools								•
Open fork design	•	•	•	•				
True-rms readings	•	•						
Voltage indication with discharged batteries					•	•		
Frequency range							15–400 Hz	
GFCI trip					•	•		
Rotary field indication					•		•	
Measurements								
Voltage ac/dc	1000 V	600 V	1000 V	600 V	600 V	600 V	40–700 V ac	
Current ac	200 A	200 A	100 A	100 A				
Resistance	100 kΩ	2000 Ω	1000 Ω	1000 Ω	9.99 kΩ			
Frequency	45–66 Hz							
Continuity test	•	•	•	•	•	•		
DC polarity indicator	•	•	•	•	•	•		
Display								
LCD readout	•	•	•	•	•		•	
LED voltage level bar					•	•		
Backlight	•	•						
Dual line display—simultaneous V+I, Hz	•							
Other features								
LED flashlight					•	•		
Hazardous voltage warning light	•	•	•	•	•	•		
Sourcing voltage ac/dc								240 V
Warranty and electrical safety								
Warranty (years)	2	2	2	2	2	2	2	1
Safety rating (EN 61010) CAT III	1000 V	600 V	1000 V	600 V	1000 V	1000 V	600 V	
Safety rating (EN 61010) CAT IV	600 V		600 V		600 V	600 V	300 V	

Models	Fluke VoltAlert™ family				
	1AC II	2AC	1LAC	LVD2	LVD1A
Basic features					
Voltage range	90 V ac to 1000 V ac	90 V ac to 1000 V ac	20 V ac to 90 V ac	90 V ac to 600 V ac	40 V ac to 300 V ac
On/off button	•		•	•	•
Always on		•			
Audible alert	•		•		
Flashlight				•	•
Dual sensitivity				•	•
Warranty and electrical safety					
Warranty (years)	2	2	2	2	1
Safety rating	CAT IV 1000 V	CAT IV 1000 V	CAT IV 1000 V	CAT IV 600 V	

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INDOOR AIR QUALITY

IAQ monitoring and measurement

Fluke indoor air quality (IAQ) tools are the professional's choice for maintaining, troubleshooting and adjusting the heating and air-conditioning systems of our offices, schools, hospitals, manufacturing plants, data centers and other facilities. Diagnosing potential environmental irritants and hazards allows for adjustments and countermeasures that solve or prevent issues like sick building syndrome.

Indoor air diagnostics, temperature, humidity, air flow, particle concentration and other measurements are used in the balancing and maintenance of an HVAC system. Because of the quality and measurement accuracy of Fluke tools, you can quickly diagnose, identify and begin to resolve indoor air quality issues.

Fluke's professional indoor air diagnostic tools, like the Fluke 985 Airborne Particle Counter, are essential for every HVAC technician and facility maintenance manager. With the Fluke 985, you get real-time particle concentration measurement that you can use to diagnose and identify the source of an airborne contamination.

FEATURED PRODUCTS

Fluke 985 Airborne Particle Counter

Portable, handheld particle measurement

Take a new look at indoor air quality.

The Fluke 985 Airborne Particle Counter is the preferred choice for HVAC and IAQ professionals. From filter testing to IAQ investigations, the Fluke 985 is the portable solution for determining airborne particle concentrations. Use the Fluke 985 to immediately respond to occupant complaints, or as part of a comprehensive preventive maintenance program.

Use the Fluke 985 Particle Counter to:

- Measure filter efficiency
- Monitor industrial clean rooms
- Prescreen indoor air quality and confidently work with IAQ specialists
- Locate particle sources for remediation in a particular location
- Report the effectiveness of repairs to customers
- Drive additional business by demonstrating the need for maintenance and repair

The Fluke 985 is lightweight and easy to use in any position. Data export options use a USB cable or memory stick, so it's easy to review and analyze the data anywhere and anytime.

Fluke 971 Temperature Humidity Meter

Fast, accurate ambient temperature and humidity measurements

Temperature and humidity monitoring

Temperature and humidity are two important factors in maintaining optimal comfort levels and good indoor air quality (IAQ). Quickly and conveniently take accurate humidity and temperature readings with the Fluke 971.

Durable and portable

The Fluke 971 is invaluable for facility maintenance and utility technicians, HVAC-service contractors and specialists who assess indoor air quality. Lightweight and easy to hold, the Fluke 971 is the perfect tool for monitoring problem areas.

Fluke 975 AirMeter™

Simple, all-in-one air diagnostics

One tool. Get more done.

The Fluke 975 AirMeter test tool raises indoor air monitoring to the next level by combining five powerful tools into one rugged and easy-to-use handheld device. Use the Fluke 975 to optimize HVAC ventilation settings for ASHRAE 62 recommendations, to actively monitor conditions that promote a productive environment and quickly and accurately address occupant comfort complaints the first time. The Fluke 975 measures:

- Temperature
- Velocity
- Humidity
- CO^2
- CO

Use the Fluke 975 AirMeter test tool to:

- Respond to comfort-related calls from occupants
- Verify the operation of building HVAC control systems
- Determine whether adequate ventilation exists for space air cycling
- Monitor air flow and velocity
- Test for dangerous carbon monoxide leaks

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INDOOR AIR QUALITY SELECTION GUIDE

FLUKE ®

INDOOR AIR QUALITY

Models	971	922 and 922/Kit	975 and 975V	985	CO-220
Record storage	99	99	25,000 records (continuous), 99 records (discrete)	10,000	
Downloadable data	No	No	Yes	USB or Ethernet	No
Battery type	(4) AAA	(4) AA	Rechargeable Li-Ion (primary), (3) AA (backup)	Rechargeable Li-Ion 7.4 V 2600 mAh	(1) 9V
Warranty	2 years	2 years	2 years	1 year	1 year
Indoor air diagnostic applications					
Air velocity		•	•		
Air pressure		•			
Air flow (volume)		•	•		
Carbon dioxide			•		
Carbon monoxide			•		•
Temperature	•	•	•		
Humidity	•	•	•		
Dew point/wet bulb	•		•		
Particle concentration counting				•	
Air pressure/air velocity/air flow					
Air pressure range		± 4000 Pascals/±16 inH_2O/± 400 mmH_2O/± 40 mbar/± 0.6 psi			
Air pressure accuracy		± 1% + 1 Pascal/± 1% + 0.01 inH_2O/± 1% + 0.1 mmH_2O/± 1% + 0.01 mbar/± 1% + 0.0001 psi			
Air velocity range		250 to 16,000 fpm/1 to 80 m/s	50.0 fpm to 3000 fpm/0.25 m/s to 15 m/s		
Air velocity accuracy		± 2.5% of reading at 2000 fpm (10.00 m/s)	± 4.0% of reading above 50 fpm (0.25 m/s)		
Air flow (volume) range		0 to 99,999 cfm			
Air flow (volume) accuracy		Accuracy is a function of velocity and duct size			
Temperature relative humidity					
Temperature range	-20 °C to 60 °C (-4 °F to 140 °F)	0 °C to 50 °C (32 °F to 122 °F)	-20 °C to 50 °C (-5 °F to 122 °F)		
Temperature accuracy	0 °C to 45 °C (± 0.5 °C)/-20 °C to 0 °C and 45 °C to 60 °C (± 1.0 °C) 32 °F to 113 °F (± 1.0 °F)/-4 °F to 32 °F and 113 °F to 140 °F (± 2.0 °F)	0 °C to 50 °C (± .01 °C) 32 °F to 122 °F (± .01 °F)	40 °C to 60 °C (± 0.9 °C)/5 °C to 40 °C (± 0.5 °C)/-20 °C to 5 °C (± 1.1 °C) 114 °F to 140 °F (± 1.6 °F)/ 40 °F to 113 °F (± 1.0 °F)/-5 °F to 113 °F (± 1.98 °F)		
Relative humidity range	5% to 95% RH	0% to 90% RH	10% to 90% RH		
Relative humidity accuracy	10% to 90% RH @ 23 °C (73.4 °F) (± 2.5% RH) < 10%, > 90% RH @ 23 °C (73.4 °F) (± 5.0% RH)	0% to 90% RH @ 23 °C (73.4 °F) (± 2.0% RH)	10% to 90% RH @ 23 °C (73.4 °F) (± 2.0% RH)		
Carbon dioxide/carbon monoxide					
Carbon dioxide range			0 to 5000 ppm		
Carbon dioxide accuracy			2.75% + 75 ppm		
Carbon monoxide range			0 to 500 ppm		0 to 1000 ppm
Carbon monoxide accuracy			± 5% or ± 3 ppm, whichever is greater, @ 20 °C (68 °F) and 50% RH		5% or ± 2 PPM
Particle counting					
Flow rate				2.83 L/min (0.1 cfm)	
Particle size range				0.3 µm - 10.0 µm (6 channel)	
Count modes				Raw counts, #/m^3, #/ft^3, #/liter in Cumulative or Differential mode	
Counting efficiency				50 % @ 0.3 µm; 100 % for particles > 0.45 µm (per ISO 21501)	
Concentration limits				10% at 4,000,000 particles per ft^3 (per ISO 21501)	

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INSULATION TESTERS

Critical readings, quickly and safely

Whether you work on motors, generators, cables or switch gear, the Fluke insulation resistance testers provide noise-free, reliable results. Delivering advanced performance, the insulation tester line is safe, simple to use and gimmick-free. It's a perfect solution for troubleshooting, commissioning and preventative maintenance applications.

Fluke 1587 FC Insulation Multimeter

Keep yourself safe. Find hidden problems faster. Put the paperwork down.

Fluke Connect™ plus Fluke's 1587 FC Insulation Multimeter helps you identify tough problems, fix them and wirelessly communicate your work through your smartphone—all at a safe distance from hazardous areas.

PI/DAR timed ratio tests with TrendIt™ graphs identify moisture and contaminated insulation problems fast. Fluke Connect saves measurements, eliminates the need to write down results, reduces errors and saves data for historical tracking. Temperature compensation helps create accurate baselines. Includes live circuit detection to prevent an insulation test if voltage >30 V is detected, and a VFD low-pass filter.

Fluke 1550C Insulation Tester

Evaluate the trends, eliminate the doubt.

The Fluke 1550C insulation resistance testing FC kit offers digital insulation testing up to 5 kV. And with the Fluke Connect wireless app, you can perform tests and collect data from a safe distance. Quickly configure, start and stop tests on the 1550C remotely, a safe distance away from any operating, energized equipment. Remote data collection saves test results to the cloud for analysis and preventive maintenance.

Fluke 1507 Insulation Resistance Tester

Versatile, compact, handheld insulation tester

Insulation tests from 10 kΩ to 10 GΩ; live circuit detection to prevent insulation test if voltage >30 V is detected. Provides lo-ohms earth-bond continuity (200 mA).

Models	1587 FC	1587	1577	1503	1507	1550C	1555
Functions							
Test voltages	50 V to 1000 V	50 V to 1000 V	500 V to 1000 V	500 V to 1000 V	50 V to 1000 V	250 V to 5000 V	250 V to 10,000 V
Insulation resistance range	0.01 MΩ to 2 GΩ	0.01 MΩ to 2 GΩ	0.01 MΩ to 600 MΩ	0.01 MΩ to 2 GΩ	0.01 MΩ to 10 GΩ	200 k to 1 TΩ	200 k to 2 TΩ
PI/DAR	•	•	•		•	Yes, plus Fluke Connect*	Yes, plus Fluke Connect*
Auto discharge	•	•	•	•	•	•	•
Timed ramp test (breakdown)						•	•
Pass/fail comparison					•	•	•
Memory	Through Fluke Connect					Yes, plus Fluke Connect*	Yes, plus Fluke Connect*
Remote test probe	•	•	•	•	•		
Remote start and setup						Yes, through Fluke Connect*	Yes, through Fluke Connect*
Lo ohms/earth-bond continuity				200 mA source (10 mΩ resolution)	200 mA source (10 mΩ resolution)		
Backlight	•	•	•	•	•		
Multimeter functions	•	•	•				
Warranty (years)	3	3	3	1	1	3	3

*Using Fluke ir3000 FC adapter with Fluke Connect compatible 155x models

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POWER QUALITY AND ENERGY ANALYSIS

Whether you're in an industrial plant, large-scale facility or a utility, Fluke power quality and energy analysis tools help you capture the data you need to maintain the best performance and reliability. These tools make it possible to identify your power quality and energy efficiency issues with easy and effective recording and analysis.

Power and energy loggers
Power and energy loggers are used for conducting energy and load studies to discover where savings are possible. With the Fluke Energy Analyze Plus software, it's possible to create detailed reports to focus on the problem spots.

Power quality troubleshooters and analyzers
Three-phase power quality analyzers are ideal for troubleshooting, logging and creating detailed reports in conjunction with the easy-to-use PowerLog software. Fluke single-phase power quality meters can measure and log either ac or dc power systems, depending on the model selected. These single-phase and three-phase solutions will allow you to quickly discover where potential problems in your electrical system are located.

Power quality recorders
Power quality recorders capture the highly detailed data you need to discover the most difficult-to-find problems. When used with the supporting application software, a recorder can help you see the full picture, enabling you to fix the problems.

Precision power analyzers
Whether it's testing the performance of transformers, lighting or switching electronics such as inverters and power supplies, these instruments have the highest accuracy and can handle the most difficult waveforms. For very low power factor or loads with high-frequency switching, Fluke has solutions that can measure on single-, three- or six-phase systems.

Fluke 438-II Power Quality Analyzer and Motor Analyzer

Quickly and easily discover the electrical and mechanical performance of electric motors, and evaluate power quality with a single test tool.

The Fluke 438-II Power Quality and Motor Analyzer adds key mechanical measurement capabilities for electric motors to the advanced power quality analysis functions of the Fluke 435 Series II Power Quality Analyzer.

- Measure key motor parameters like torque, RPM and mechanical power and efficiency without mechanical sensors
- Measure electrical power parameters that impact motor efficiency, such as voltage, current, power, apparent power, power factor, harmonic distortion and unbalance
- Identify power quality issues such as dips, swells, transients, harmonics and unbalance

Fluke 1748 Three-Phase Power Quality Logger

Troubleshoot, quantify energy usage and perform power quality of surveys easier than ever.

The 1748 Three-Phase Power Quality Logger gives you fast, easy access to the comprehensive data you need to make critical power quality and energy decisions in realtime. With the included Energy Analyze Plus software package you can easily create detailed reports at the touch of a button.

- The auto-configuration check ensures every measurement campaign is right, the first time
- Measure detailed power quality and power parameters—over 500 different parameters are logged for each averaging period
- Create comprehensive reports according to the most common power quality standards in seconds
- Conveniently power the instrument directly from the measured circuit

Fluke 1738 Advanced Power and Energy Logger

Get more visibility, reduce uncertainty and make better power quality and energy consumption decisions.

The Fluke 1738 Three-Phase Advanced Power and Energy Logger built with Fluke Connect™ mobile app and desktop software compatibility is the ideal tool for conducting energy studies and power quality surveys.

- Automatically capture and log voltage, current, power, harmonics and associated power quality values
- Capture dips, swells and inrush currents: includes an event waveform snapshot and a high-resolution RMS profile, to give your electrical system a power quality health check and discover where and when energy is being wasted
- Conveniently power the instrument directly from the measured circuit

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POWER QUALITY AND ENERGY ANALYSIS SELECTION GUIDE

	Application use	Single-phase		Three-phase				
		VR1710	345	1732/1734[1]	1736/1738[2]	1742	1746	1748
Energy studies								
Measure V, I, kW, Cos/DPF, kWhr	Get detailed power and energy consumption profiles during energy audits and pinpoint savings opportunities		•	•	•	•	•	•
Measure min/max and avg values			•	•	•	•	•	•
10-day logging			•	•	•	•	•	•
Waste energy monetization								
Basic harmonics study								
THD measurement (V & I)	Discover the source of distortion in your installation, so that you can filter those loads or move them to separate circuits	•	•	•	•	•	•	•
Harmonics 1 to 25 for V & I		• (V only)	•		•		•	•
Advanced harmonics study								
Full harmonic spectrum	If distorting loads are causing problems in your installation, you need comprehensive data to identify the source and create a solution		•		•		•	•
Power harmonics			•					
Basic industrial PQ troubleshooting								
Oscilloscope function	When troubleshooting in the field, graphical data enables you to trace the source of the problem at hand		•		•			
Voltage dips and swells		•			•	•	•	•
Advanced industrial PQ troubleshooting								
Comprehensive logging capability	Complex installations often require a deeper dive into measurement data. Multiple loads may be interacting randomly to cause a single problem		•		•	•	•	•
Advanced features								
Inrush	Discover peak current from load switching				1738[2]			•
Flicker	Measure the effects of disturbing switching equipment	•				•	•	•
Transients	Capture high-speed voltage waveform caused by switching or network disturbances	•						•[3]
Mains signaling	Monitor signals on the network that are used for network wide equipment control						•	•
Power wave	Capture voltage and current waveforms over defined periods to discover the effects of motor and generator startups and close downs							
Event waveform capture	Visualization of dips and swells to identify the cause of the events	•			1738[2]			•
400 Hz	Measurement for avionics and shipboard systems							
Shipboard power	Quantify shipboard power against defined international standards							
Power inverter efficiency	Measure input and output power of inverters to optimize system performance							
Motor analysis								
Speed, torque, mechanical power, efficiency	Perform dynamic motor analysis by plotting of motor de-rating factor against load according to NEMA/IEC guidelines on direct online electric motors and motors driven by specific variable-frequency drive systems							
Communications								
USB		•	•	•	•	•	•	•
Ethernet						•	•	•
Wireless download				1734[1]	•	•	•	•
Fluke Connect app				1734[1]	•	•	•	•
Safety								
CAT IV/600 V			•	•	•	•	•	•
CAT II/300 V		•						
Power from measurement line		•		•	•	•	•	•

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POWER QUALITY AND ENERGY ANALYSIS

	Application use	Three-phase continued					
		434-II	435-II	437-II	438-II	1750[4]	1760
Energy studies							
Measure V, I, kW, Cos/DPF, kWhr	Get detailed power and energy consumption profiles during energy audits and pinpoint savings opportunities	•	•	•	•	•	•
Measure MIN/MAX and AVG values		•	•	•	•	•	•
10-day logging		•	•	•	•	•	•
Waste energy monetization		•	•	•	•		
Basic harmonics study							
THD measurement (V & I)	Discover the source of distortion in your installation, so that you can filter those loads or move them to separate circuits	•	•	•	•	•	•
Harmonics 1 to 25 for V & I		•	•	•	•	•	•
Advanced harmonics study							
Full harmonic spectrum	If distorting loads are causing problems in your installation, you need comprehensive data to identify the source and create a solution	•	•	•	•	•	•
Power harmonics		•	•	•	•	•	•
Basic industrial PQ troubleshooting							
Oscilloscope function	When troubleshooting in the field, graphical data enables you to trace the source of the problem at hand	•	•	•	•	•	•
Voltage dips and swells		•	•	•	•	•	•
Advanced industrial PQ troubleshooting							
Comprehensive logging capability	Complex installations often require a deeper dive into measurement data. Multiple loads may be interacting randomly to cause a single problem	•	•	•	•	•	•
Advanced features							
Inrush	Discover peak current from load switching	•	•	•	•	•	•
Flicker	Measure the effects of disturbing switching equipment	•	•	•	•	•	•
Transients	Capture high-speed voltage waveform caused by switching or network disturbances		•	•	•	•	•
Mains signaling	Monitor signals on the network that are used for network wide equipment control		•	•	•	•	•
Power wave	Capture voltage and current waveforms over defined periods to discover the effects of motor and generator startups and close downs		•	•	•		
Event waveform capture	Visualization of dips and swells to identify the cause of the events		•	•	•	•	•
400 Hz	Measurement for avionics and shipboard systems			•			
Shipboard power	Quantify shipboard power against defined international standards			•			
Power inverter efficiency	Measure input and output power of inverters to optimize system performance	•	•	•	•		
Motor analysis							
Speed, torque, mechanical power, efficiency	Perform dynamic motor analysis by plotting of motor de-rating factor against load according to NEMA/IEC guidelines on direct online electric motors and motors driven by specific variable-frequency drive systems	Upgrade available	Upgrade available	Upgrade available	•		
Communications							
USB		•	•	•	•		•
Ethernet						•	•
Wireless download		•	•	•	•		
Fluke Connect app		•	•	•	•		
Safety							
CAT IV/600 V		•	•	•	•	•	•
CAT II/300 V							
Power from measurement line							

[1] An upgrade package is available to upgrade an existing 1732 Energy Logger with the same features and capabilities of the 1734 Energy Logger.
[2] An upgrade package is available to upgrade an existing 1736 Power Logger with the same features and capabilities of the 1738 Advanced Power Logger.
[3] Event waveform capture (10.24 kHz sampling).
[4] Not available in Europe.

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BATTERY ANALYZERS

Fluke battery analyzers are the ideal test tool for maintaining, troubleshooting and performance testing the individual stationary batteries and battery banks that are used in critical battery backup applications in data centers, telecom networks, power distribution systems and more. With an intuitive user interface, a compact design and rugged construction, the Fluke battery analyzers provide optimum performance, test results and reliability.

The Fluke 500 Series Battery Analyzers cover a broad range of battery test functions, from ripple voltage to multi-measurement mode, which shortens test times by performing three measurements in one: dc voltage, internal resistance tests and infrared temperature measurement.

Fluke Battery Analyzers

By reducing testing complexity, simplifying testing workflow and incorporating an intuitive user interface, the Fluke BT510 Basic Battery Analyzer, BT520 Battery Analyzer and BT521 Advanced Battery Analyzer bring a new level of ease of use for testing stationary batteries of all types.

- Key measurements: Internal battery resistance, dc and ac voltage, dc and ac current, ripple voltage, frequency and temperature
- Sequence measurement mode: Automatic or manual sequence testing of battery strings with automatic measurement storage including voltage, resistance and temperature (with BTL21 intelligent test probe), eliminating the need to press a button each time a measurement needs to be saved
- Comprehensive logging: All measured values are automatically captured during testing and can be reviewed on the instrument before downloading for on the-go analysis
- Optimized user interface: Quick, guided setup and profile creation ensures the right data is captured every time, and the combined visual and audio feedback cues reduce the risk of measurement confusion
- Safety rating: CAT III 600 V

Functions	Range	Resolution	Accuracy	BT510	BT520	BT521
Battery resistance[1]	3 mΩ 30 mΩ 300 mΩ 3000 mΩ	0.001 mΩ 0.01 mΩ 0.1 mΩ 1 mΩ	1 % + 8 0.8 % + 6 0.8 % + 6 0.8 % + 6	• • • •	• • • •	• • • •
V dc	6 V 60 V 600 V 1000 V	0.001 V 0.01 V 0.1 V 1 V	0.9 % + 5 0.9 % + 5 0.9 % + 5 0.9 % + 5	• • •	• • •	• • • •
V ac (45 Hz to 500 Hz with 800 Hz filter)	600 V	0.1 V	2 % + 10	•	•	•
Frequency (displayed with V ac and A ac)[2]	500 Hz	0.1 Hz	0.5 % + 8	•	•	•
AC voltage ripple (20 KHz max)	600 mV 6000 mV	0.1 mV 1 mV	3 % + 20 3 % + 10	• •	• •	•
A dc/A ac (with accessory Fluke i410)	400 A	1 A	3.5 % + 2			•
Temperature	0 °C to 60 °C (32 °F to 140 °F)	1 °C (33.8 °F)	2 °C (4 °F)			•
Interactive Test Probe set, with extender					•	•
Meter mode	999 records for each measurement position with time stamp					
Sequence mode	Up to 100 profiles and 100 profile templates (each profile stores up to 450 batteries) with time stamp					

[1]The measurement is based on AC injection method. The injected source signal is 100 mA, 925 Hz.
[2]Trigger level V ac: 10 mV, A ac: 10 A.

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PROCESS CALIBRATION TOOLS

Working in a process environment such as pharmaceutical manufacturing, refining or other industrial areas can be challenging. Process instruments are often installed in harsh operating environments that can cause their performance and the performance of their sensors to shift or change over time. These instruments provide measurements to the process plant's control system, and their performance is critical to the operation and safety of the plant. But, maintaining, building and calibrating process systems takes special expertise.

Whether you're working at a bench, out in the plant or in the field, you need accurate tools that you can count on. Fluke process calibration tools include a full range of calibrators and troubleshooting tools for instrument technicians working in the process industries that will help ensure these measurement devices are operating within their expected limits.

The range of process calibrators include documenting process calibrators, multifunction process calibrators, single-function and multifunction temperature calibrators, pressure calibrators and a variety of mA loop calibrators. As a process calibration leader, Fluke has designed tools that can help you tackle the specific challenges you face every day.

FEATURED mA LOOP CALIBRATORS

Loop calibrators are essential tools for working with 4–20 mA current loops. Fluke loop calibrators provide mA sourcing, simulation and measurement readouts in both mA and % of span along with a 24 V loop supply, simple operation and accuracy you can count on. Our HART-enabled loop calibrators help you get the most out of your smart transmitter calibrations, adding useful configuration capabilities and giving you more access and information on the HART devices you're testing.

Fluke 773 Milliamp Process Clamp Meter

The Fluke 773 mA Process Clamp Meter is accurate and versatile and lets you measure output signals without ever breaking the loop. Ideal for troubleshooting transmitters, valves and programmable logic controllers (PLCs) found in process plants, the 773 lets you troubleshoot a live device without having to power down and possibly miss something going on in the process.

- Measure dc voltage to verify 24 V power supplies or voltage I/O signals
- Source 0–10 and 1–5 vdc voltage signals to test voltage input devices
- Record a 4–20 mA signal without breaking the loop, using the scaled mA output signal and a logging DMM

789 ProcessMeter™

The Fluke 789 ProcessMeter doubles troubleshooting capabilities by combining the power of a safety rated digital multimeter and mA loop calibrator into a single, compact test tool. Whether you only need to source and simulate mA, or need a 24 V loop power supply, the 789 is designed to meet your needs. Add the wireless data-logging capabilities of Fluke Connect™ with ShareLive™ video call, and process technicians can do a lot more while carrying a lot less.

- Combines the functionality of a loop calibrator with the power of a precision 1000 V, True-rms digital multimeter with a CAT IV 600 V rating
- HART mode setting with loop power (adds 250 ohm resistor)
- Simultaneous mA and % of scale readout on 4–20 mA output and measurement

710 mA Loop Valve Tester

The Fluke 710 mA Loop Valve Tester is a compact and powerful HART communication tool that saves time and produces high-quality results. Not only does the 710 perform all of the loop calibration functions of the 709H Precision HART loop calibrator, this tool also reduces the time it takes to measure or source current and power up a loop while enabling quick, easy tests on HART smart control valves.

- Key valve-testing functions include preconfigured valve signature test, speed test, step test, manual test and bump/partial stroke test
- Key mA loop calibrator functions include mA source, mA simulate, mA read, mA read/loop power and volts read
- HART communication for testing and light configuration of HART transmitters
- Upload valve test results, logged measurements and HART device configurations captured in the field with included ValveTrack™ desktop software

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FEATURED MULTIFUNCTION CALIBRATORS

Fluke multifunction calibration tools are designed to calibrate almost anything. These calibration tools source and measure almost all process parameters and documenting versions even document the results.

753 Documenting Process Calibrator

The Fluke 753 is a powerful multifunction documenting calibrator that lets you download procedures, lists and instructions created with software, and upload data for printing, archiving and analysis. It sources, simulates, and measures pressure, temperature and electrical signals in one rugged, hand-held calibration tool. It also automates calibration procedures, captures data for documentation and helps you meet rigorous standards like ISO 9000, FDA, EPA, and OSHA regulations.

- Measures volts, mA, RTDs, thermocouples, frequency and ohms to test sensors, transmitters and other instruments
- Sources and simulate volts, mA, pressure, thermocouples, RTDs, frequency, ohms and pressure to calibrate transmitters
- Powers transmitters during test using loop supply with simultaneous mA measurement
- Manage calibration procedures, upload and print results and schedule calibrations with optional DPCTrack2 Calibration Management software

754 HART Enabled Documenting Process Calibrator

Whether you're calibrating instruments, troubleshooting a problem, or running routine maintenance, the Fluke 754 with HART® communication can help you get the job done faster. It does so many different tasks, so quickly and so well, it's the only process calibrator you need to carry. This rugged, reliable integrated communicating calibrator does everything the Fluke 753 does and is ideal for calibrating, maintaining, and troubleshooting HART and other instrumentation.

- Full-featured documenting process calibrator with HART communication for calibrating and troubleshooting HART instrumentation
- Measures volts, mA, TDs, thermocouples, frequency and ohms to test sensors, transmitters and more
- Sources/simulates volts, mA, thermocouples, RTDs, frequency, ohms and pressure to calibrate transmitters
- Powers transmitters during test using loop supply with simultaneous mA measurement

726 Precision Multifunction Process Calibrator

The Fluke 726 is a precise and powerful, yet easy-to-use field calibrator. It features broad workload coverage, calibration power and unsurpassed accuracy needed by process professionals. It measures and sources almost all process parameters to calibrate almost anything. Use it to test sensors and valves and test and calibrate transmitters.

- Delivers precise measurement and calibration source performance with accuracies of 0.01 %.
- Stores up to eight calibration results in memory for later analysis
- Offers HART mode that inserts a 250 ohm resistor in mA measure and source for compatibility with HART instrumentation

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FEATURED TEMPERATURE CALIBRATORS

Fluke Temperature Calibrators simulate process sensors for testing temperature instrumentation. Specifically designed for the field, these lightweight compact tools are EMI tolerant, dust and splash resistant and offer an easy to use single push button interface. When paired with a temperature sensor they can take high accuracy temperature measurements to verify process temperatures and ensure the highest product quality and safety.

Fluke 724 Temperature Calibrator

The Fluke 724 is powerful yet easy-to-use temperature calibrator that sources and measures 10 thermocouple types and 7 RTD types, plus volts and ohms. It also measures mA while supplying loop power. You can use it to test and calibrate almost any temperature instrument so you only have to carry one tool to expertly test all the temperature sensors and transmitters in your plant.

- Displays input and output simultaneously on the easy-to-read dual display
- Measures RTDs, thermocouples, ohms, and volts to test sensors and transmitters
- Sources/simulates thermocouples, RTDs, volts, and ohms to calibrate transmitters

Fluke 712B RTD Calibrator

The Fluke 712B is a handheld, battery-operated calibrator that measures and sources a variety of RTD types and resistances. It also includes an isolated channel to measure 4-20 mA whiles sourcing a temperature signal. It offers configurable 0 % and 100 % source settings for quick 25 % linearity checks. It also provides linear ramp and 25 % step auto ramp functionality based on 0 % and 100 % settings.

- Highly accurate, full-featured, easy-to-use single function RTD temperature calibrator
- Measures and simulates 14 different RTD types and resistance
- Measures 4 to 20 mA signals while simultaneously sourcing a temperature signal

Fluke 714B Thermocouple Calibrator

The Fluke 714B is a handheld, battery-operated calibrator that measures and sources a variety of thermocouple types and millivolts. Calibrates a linear thermocouple transmitter with the mV source function and measures mA while sourcing temperature. It also provides linear ramp and 25 % step auto ramp functionality based on 0 % and 100 % settings.

- Highly accurate, full featured easy-to-use, single-function thermocouple temperature calibrator
- Measures and simulates 17 thermocouple types and millivolts
- Measures 4 to 20 mA signals while simultaneously sourcing a temperature signal

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FEATURED PRESSURE CALIBRATORS

Pressure instrumentation is found in virtually every process plant. Periodic calibration of these instruments is required to keep plants operating efficiently and safely. Fluke offers a wide range of pressure calibration tools with precision pressure measurement from 0–1 inH20/2.5 mbar to 10,000 psi/690 bar boasting 0.025 % full-scale accuracy to help you quickly and reliably calibrate your pressure instruments.

Everything from simple test gauges to calibrators with built-in, automatic, electric test pumps. Easy-to-use, rugged and reliable construction and an industry best three-year warranty.

Fluke 729 Automatic Pressure Calibrator

The Fluke 729 Automatic Pressure Calibrator was designed specifically with process technicians in mind to simplify the pressure calibration process and provide faster, more accurate test results. Technicians know that calibrating pressure can be a time-consuming task, but the 729 makes it easier than ever with an internal electric pump that provides automatic pressure generation and regulation in an easy-to-use, rugged, portable package.

- Automatic pressure generation and regulation to 300 psi
- Easily document the process using onboard test templates
- Automatic internal fine-pressure adjustment
- Measure, source and simulate 4 to 20 mA signals
- Compatible with DPCTrack2 calibration management software

Fluke 719Pro Electric Pressure Calibrator

The 719Pro includes a full-functioning loop calibrator that sources, simulates and measures mA signals and more, making it the ideal test tool for calibrating high-accuracy transmitters, pressure switches and pressure gauges. Get the ultimate in measurement flexibility with the large backlit screen, which displays three parameters at once: pressure measurement from internal or external sensor, sourced/simulated or measured mA values and temperature measured by optional RTD probe.

- Unique, integrated electric pump for one-handed pressure calibration up to 300 psi
- Test pressure switches easily with the easy-to-use switch test function
- Precision pressure adjust vernier for easy and accurate pressure calibration

Fluke 700G Precision Pressure Test Gauges

With best-in-class accuracy and measurements, the Fluke 700G Precision Pressure Test Gauges handle all of your pressure calibration needs. The 700G Series Gauges are rugged and easy to use, with 23 models ranging from ± 10 inH20/25 mbar to 10,000 psi/690 bar, including absolute pressure ranges. When you combine the 700G Series Gauges with the Fluke 700PTPK or 700HTPK, you've got a complete pressure-testing solution for up to 600 psi (40 bar) with the PTP-1 pneumatic pump and up to 10,000 psi (690 bar) with the HTP-2 hydraulic pump.

- Rugged, high-quality pressure gauge calibrator for fast and accurate test results
- Delivers precision pressure measurements in 23 ranges from ± 10 inH20/20 mbar to 10,000 psi/690 bar
- Delivers high accuracy—0.05 % total measurement uncertainty for one year
- Log pressure measurement in the field and upload with optional 700GTrack software

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FEATURED METROLOGY SOLUTIONS

FLUKE®

PROCESS CALIBRATION TOOLS

Fluke Calibration is a leader in precision instrument calibration and metrology hardware and software for electrical, temperature, pressure, flow and RF measurements. Calibration instruments and software from Fluke Calibration are found in calibration facilities around the world, including National Metrology Institutes, that demand the highest levels of performance and reliability for their calibration equipment, backed by state-of-the-art metrology and uncompromising support. They are relied on by quality engineers, calibration technicians and metrologists to instill confidence in the measurements that are critical to their organizations for quality, safety, reliability and cost.

9142, 9143, 9144 Field Metrology Wells

The Fluke 914X Series Field Metrology Wells extend high performance to the industrial process environment by maximizing portability, speed and functionality with little compromise to metrology performance. They are lightweight, small and quick to reach temperature set points, yet they are stable, uniform and accurate. These industrial temperature loop calibrators are perfect for performing transmitter loop calibrations, comparison calibrations or simple checks of thermocouple sensors.

- Cool to -25 °C (-13 °F) in 15 minutes (9142) and heat to 660 °C (1220 °F) in 15 minutes (9144)
- Built-in two-channel readout for PRT, RTD, thermocouple and 4-20 mA current
- Stability to ± 0.01 °C
- Accredited calibration

7526A Precision Process Calibrator

The 7526A offers the best balance of economy and accuracy for bench top calibration of temperature and pressure process instrumentation. Easily calibrate RTD and thermocouple readouts, pressure gauges, temperature transmitters, digital process simulators, data loggers, multimeters and more.

- Sources and measures dc voltage, current, resistance, RTDs and thermocouples
- Pressure measurement range may be extended with any Fluke 750P and 700P Series Pressure Modules
- Includes 24 V dc transmitter loop power supply
- Measures 4-20 mA loop current

P3000 Deadweight Testers

The P3000 Series is the culmination of over 50 years' experience in the production and design of primary pressure standards. With features designed to improve accuracy and performance, increase reliability and simplify operation, these deadweight testers can be used to calibrate virtually any pressure-sensing device, including transducers, transmitters, gauges and pressure switches.

- Piston/cylinder design provides stability and repeatability
- Built-in pressure generation and control options for vacuum, gas and hydraulic models
- Test station design with O-rings eliminates the need for PTFE tape or wrenches

To see the full line of Fluke Calibration Metrology solutions, visit **www.flukecal.com**

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PROCESS CALIBRATION TOOLS SELECTION GUIDE

	mA Loop calibrators					Process calibrators			
	Loop calibrators provide a range of options for instrument technicians commissioning, calibrating or assessing the health of 4–20 mA control circuits in a compact and easy-to-use tool.					Process meters are advanced digital multimeters designed for commissioning, verifying or troubleshooting 4–20 mA control loops in process applications.			
Models	**715**	**707EX**	**709**	**709H**	**710**	**787B**	**789**	**771**	**773**
Specifications									
mA measure (range and accuracy)	0–24 mA @ 0.01 %	0–24 mA @ 0.015 %	0–24 mA @ 0.01%	0–24 mA @ 0.01 %	0–24 mA @ 0.01 %	0–30 mA @ 0.05 %	0–30 mA @ 0.05 %	0–20.99 mA @ 0.2 % , 21.0–99.9 mA 1 %	0–20.99 mA @ 0.2 % , 21.0–99.9 mA 1 %
mA source/simulate	0–24 mA @ 0.01 %	0–24 mA @ 0.015 %	0–24 mA @ 0.01%	0–24 mA @ 0.01 %	0–24 mA @ 0.01%	0–24 mA @ 0.05 %	0–24 mA @ 0.05 %		0–24 mA @ 0.2 %
DCV measure	0–25V @ .01 %	0–28 V @ .015 %	0–30 V @ .01 %	0–30 V @ .01 %	0–30 V @ .01 %	CAT IV 600 V/ CAT III 1000 V	CAT IV 600 V/ CAT III 1000 V		0–30 V @ .2 %
DCV source	0–25V @ .01 %								0–10 V @ .01 %
ACV measure						CAT IV 600 V/ CAT III 1000 V	CAT IV 600 V/ CAT III 1000 V		
Features									
24 V loop power	•	•	•	•	•		•		•
Auto step/ramp	•	•	•	•	•	•	•		•
Documenting and log data				Option	•				
HART communication				•	•				
Intrinsically safe		•							
Valve testing	Analog	Analog	Analog	Analog	Analog/HART	Analog	Analog		Analog
Non-contact clamp								•	•
Fluke Connect™						Option	Option		

	Multifunction calibrators					Communicators
Models	**725**	**725EX***	**726**	**753**	**754**	**154**
Specifications						
mA measure (range and accuracy)	0–24 mA @ 0.02 %	0–24 mA @ 0.02 %	0–24 mA @ 0.01%	0–100mA @ 0.01%	0–100mA @ 0.01%	
mA source/simulate	0–24 mA @ 0.02 %	0–24 mA @ 0.02 %	0–24 mA @ 0.01%	0–22 mA @ 0.01 %	0–22 mA @ 0.01 %	
DCV measure	0–30 V @ 0.02 %	0–30 V @ 0.02 %	0–30 V @ 0.01 %	0–300 V @ 0.02 %	0–300 V @ 0.02 %	
DCV source	0–10 V @ 0.02 %	0–10 V @ 0.02 %	0–20 V @ 0.01 %	0–15 V @ 0.01 %	0–15 V @ 0.01 %	
ACV measure				0–300 V @ 0.5 %	0–300 V @ 0.5 %	
Ohms measure	0–3.2 KΩ	0–3.2 KΩ	0–4 KΩ	0–10 KΩ	0–10 KΩ	
Ohms source	0–3.2 KΩ	0–3.2 KΩ	0–4 KΩ	0–10 KΩ	0–10 KΩ	
Frequency measure	1–10 kHz	1–10 kHz	1–15 kHz	1–50 kHz	1–50 kHz	
Frequency source	1–10 kHz	1–10 kHz	1–15 kHz	1–50 kHz	1–50 kHz	
750P Pressure Module compatibility	50 models	8 EX models	50 models	50 models	50 models	
Temperature measure/ souce	12 TC types, 7 RTD types	12 TC types, 7 RTD types	13 TC types, 8 RTD types	13 TC types, 8 RTD types	13 TC types, 8 RTD types	
Features						
24 V loop power	•	12 V	•	•	•	
Documenting				•	•	
Serial remote operation	•	•	•			
Source auto step/ramp	•	•	•	•	•	
Switch test	•	•	•	•	•	
Fluke Connect						
HART communication					•	Full DD library
Software				DPCTrack2 (Option)	DPCTrack2 (Option)	FlukeHART App
Intrinsically safe		•				

* Not available in all countries

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PROCESS CALIBRATION TOOLS

Models	Pressure calibrators						Temperature calibrators		
	Pressure calibrators ensure proper function of devices, instrumentation and assets in applications where maintaining pressure is critical to the process itself or the control of a process.						Calibration tools used in conjunction with a temperature source (E.g. Drywell) to verify and adjust temperature sensors.		
	700G	718EX	719Pro	721	721EX	729	724	714B	712B
Specifications									
mA measure (range and accuracy)		0–24 mA @ 0.02 %	0–24 mA @ 0.015 %	0–24 mA @ 0.015 %	0–24 mA @ 0.015 %	0–24 mA @ 0.01 %	0–24 mA @ 0.02 %	0–24 mA @ 0.01 %	0–24 mA @ 0.01 %
mA source/simulate			0–24 mA @ 0.015 %			0–24 mA @ 0.01 %			
DCV measure			0–30 V @ 0.015 %	0–30 V @ 0.015 %		0–30 V @ 0.01 %	0–30 V @ 0.02 %		
DCV source							0–10 V @ 0.02 %		
Model pressure ranges	23 types 10 in H20 to 10,000 psi	0–30 psi 0–100 psi 0–300 psi	0–30 psi 0–100 psi 0–300 psi	14 dual sensor ranges	14 dual sensor ranges	0–30 psi 0–100 psi 0–300 psi			
750P Pressure Module compatibility		8 EX models	50 models	50 models	8 EX models	50 models			
Temperature measure/ source			PT100 measure only	PT100 measure only	PT100 measure only	PT100 measure only	12 TC types 7 RTD types	17 TC types	14 RTD types
Features									
24 V loop power			•	•		•	•		
Integral pressure source		Manual	Electric			Electric			
Automatic pressure generation and leak compensation						•			
Documenting						•			
Serial remote operation			•	•		•			
Souce auto step/ramp						•	•		
Switch test		•	•	•	•	•			
Fluke Connect™						•			
HART communication						•			
Software	700GTrack					DPCTrack2 (Option)			
Intrinsically safe	•	•			•				

Models	Fluke Calibration metrology solutions								
	914X/ 9190A	P3000	152X	9103/9140	418X	1620A	P5500/ 2700G	3130	1586A
Range	–95 °C to 660 °C	Vacuum to 60,000 psi (400 MPa)	Various	–25 °C to 350 °C	–15 °C to 500 °C	0 °C to 50 °C; 0 % to 100 % RH	Vacuum to 10,000 psi (70 MPa)	Vacuum to 300 psi (2 MPa)	Various
Measure									
Temperature	•		•	•	•	•			•
Pressure		•					•	•	
Humidity						•			
DC volt/current								•	•
Source									
Temperature	•			•					
Pressure		•					•	•	

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INTRINSICALLY SAFE PRODUCTS

Fluke products designed to intrinsic safety standards

A protection method employed in potentially explosive atmospheres, intrinsically safe devices are designed to be unable to release sufficient energy, by either thermal or electrical means, to cause ignition of flammable material (gas or dust/particulates).

Fluke products	ATEX certified	North American Certification
28 II Ex Intrinsically Safe True-rms Multimeter	II 2G Ex ia IIC T4 Gb I M1 Ex ia I Ma	Class I, Div 1, Groups A,B,C,D T4 Class I, Zone 1, AEx ia IIC T4 Ex ia IIC T4 IP67
707Ex Intrinsically Safe mA Calibrator	II 2G Ex ia IIC T4	N.I. Class I, Div 2, Groups A,B,C,D
718Ex Intrinsically Safe Pressure Calibrator	II 1G Ex ia IIC T4	I.S. Class I, Div 1, Groups A,B,C,D T4
721Ex Intrinsically Safe Precision Pressure Calibrator	II 2G Ex ia IIB T3 Gb	IECEx: Ex ia IIB T3 Gb
725Ex* Intrinsically Safe Multifunction Calibrator		I.S. Class I, Div 1, Groups B,C,D, 171 °C
750PEx Intrinsically Safe Pressure Modules	II 1G Ex ia IIC T4 Ga	IECEx: Ex ia lIC T4 Ga
568Ex Intrinsically Safe Infrared Thermometer	II 2G Ex ia IIC T4 Gb	Class I, Div 1, Groups A,B,C,D, T4 Class I, Div 2, Groups A,B,C,D, T4 Class I, Zone 1, AEx ia IIC T4 Gb
700G Series Intrinsically Safe Pressure Gauges	II 3G Ex ic IIB T6 Gc	CSA Class I, Div. 2 Groups A,B,C,D
1551A Ex/1552A Ex Intrinsically Safe "Stik" Thermometers	II 2G Ex ib IIB T4 Gb	
Fluke FL-45 Ex Intrinsically Safe Flashlight	II 1G Ex ia IIC T5 Ga I M1 Ex ia I Ma	Class I Div 1 and 2 Group A,B,C,D Class II Div 1 and 2 Group E,F,G Class III T5 IP67
Fluke FL-120 Ex Intrinsically Safe Flashlight	II 1G Ex ia IIC T4 Ga I M1 Ex ia I Ma	Class I Div 1 and 2 Group A,B,C,D Class II Div 1 and 2 Group E,F,G Class III T4 IP6X
Fluke FL-150 Ex Intrinsically Safe Flashlight	II 1G Ex ia IIC T4 Ga I M1 Ex ia I Ma	Class I Div 1 and 2 Group A,B,C,D Class II Div 1 and 2 Group E,F,G Class III T4 IP67
Fluke HL-200 Ex Intrinsically Safe Headlamp	II 1G Ex ia IIC T4 Ga	Class I Div 1 and 2 Group A,B,C,D Class II Div 1 and 2 Group E,F,G Class III T4 IP67

* Not available in all countries

There are no global intrinsically safe standards or certifications, but there are organizations that influence directives in certain world geographies.

Factory Mutual

FM APPROVED

In the United States, Factory Mutual Research, managed by Factory Mutual (FM) Global, is a nonprofit scientific and testing organization that has tested and certified over 40,000 products in the last 165 years. FM Research has set certification guidelines for equipment used in potentially explosive atmospheres.

Canadian Standards Association (CSA)

Accreditation body for North American regulations, based in Toronto, Canada.

ATEX

This symbol signifies compliance to the European directive 2014/34/EU, which governs requirements for equipment intended for use in potentially explosive atmospheres.

ETL

Edison Testing Laboratories (ETL) is an accreditation body for North American regulations such as NEC-500/NEC-505.

UL

Underwriters Laboratories (UL) is a global safety certification company headquartered in the U.S. UL's Marks for Classification service appear on representative samples of products that UL has evaluated with respect to specific properties, a limited range of hazards or suitability for use under limited or special conditions.

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PORTABLE OSCILLOSCOPES

FLUKE®

ScopeMeter™ portable oscilloscopes take you into territory that standard bench oscilloscopes can't readily withstand—harsh, hazardous and dirty industrial environments. These hand-held instruments combine the performance of a bench oscilloscope with a multimeter and paperless recorder for installing, commissioning and maintaining industrial and electronic equipment out in the field. Each series of tools has unique features—such as Connect-and-View™ mode, IntellaSet™ technology and guided, step-by-step motor-drive test setups—that simplify complex troubleshooting.

Connect-and-View™ triggering
The Connect-and-View triggering functionality of the 190, 120B and MDA-500 Series works with virtually any signal and automatically sets up the oscilloscope. You don't need to adjust parameters or even touch a button.

IntellaSet™/Auto Reading technology
The Auto Readings function with Fluke IntellaSet™ technology of the 120B Series uses proprietary algorithms to analyze the measured waveform and automatically display the most appropriate numerical measurements on-screen, so you can get the data you need easier than ever before.

Guided motor-drive test setups
The preset measurement profiles of the MDA-500 Series allow you to conduct guided measurements for motor-drive input, dc bus, drive output, motor input and shaft measurements with graphical, step-by-step voltage and current connection diagrams.

FEATURED PRODUCTS

Fluke 190 Series II ScopeMeter™ Test Tools

High-performance scopes built for harsh industrial environments

The Fluke 190 Series II ScopeMeter combines the highest safety ratings and rugged portability with the high performance of a bench oscilloscope. Designed for plant maintenance engineers and technicians, these tough ScopeMeter test tools go into harsh, dirty and hazardous industrial conditions to test everything from microelectronics to power electronics applications, with 60, 100, 200 and 500 MHz bandwidth models available.

- Automatically capture and replay the last 100 screens as a "live" animation so you can easily find and evaluate anomalies
- Use the integrated ScopeRecord mode for high-resolution waveform recording of events like motion profiles, UPS, power supply and motor start-ups for up to 48 hours
- Find intermittent faults with TrendPlot™ Paperless Recorder technology so you can pinpoint exactly when a fault occurred

Fluke MDA-500 Series Motor Drive Analyzers

Simplify complex motor-drive troubleshooting

The Fluke MDA-510 and MDA-550 Motor Drive Analyzers simplify the troubleshooting process for variable frequency drives. Step-by-step guided measurements show you where to make voltage and current connections, while preset measurement profiles ensure you will capture all the data you need for each critical motor-drive section—from the input to the output, the dc bus and the motor itself.

- Measure key motor-drive parameters and perform extended harmonics measurements
- Quickly and easily creates reports that are perfect for documenting troubleshooting and collaborative work with others
- Capture additional parameters with full 500 MHz oscilloscope, meter and recording capability

Fluke 120B Series Industrial ScopeMeter™ Test Tools

Three-in-one simplicity for frontline electromechanical troubleshooting

The compact 120B Series ScopeMeter is the rugged oscilloscope solution for industrial electrical and electro-mechanical equipment troubleshooting and maintenance applications. It's a truly integrated test tool, with oscilloscope, multimeter and high-speed recording capabilities.

- Measure voltage, current and power waveforms with numerical values including harmonics, resistance, diode, continuity and capacitance measurements
- Fluke Connect-and-View™ triggering automatically displays waveforms without having to adjust amplitude, timebase and trigger settings
- IntellaSet™ technology analyzes the signal and automatically displays critical numerical readings

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ScopeMeter™ SELECTION GUIDE

FLUKE ®

PORTABLE OSCILLOSCOPES

	120B Series			190 Series II							MDA-500 Series	
Models	**123B**	**124B**	**125B**	**190-062**	**190-102**	**190-202**	**190-104**	**190-204**	**190-502**	**190-504**	**MDA-510**	**MDA-550**
Bandwidth	20 MHz	40 MHz	40 MHz	60 MHz	100 MHz	200 MHz	100 MHz	200 MHz	500 MHz	500 MHz	500 MHz	500 MHz
Input channels												
2 scope/DMM channels	•	•	•									
2 scope channels + 1 DMM				•	•	•			•			
4 channels							•	•		•	•	•
Isolated inputs				•	•	•	•	•	•	•	•	•
Triggering												
Connect-and-View™	•	•	•	•	•	•	•	•	•	•	•	•
IntellaSet™ Technology	•	•	•									
Advanced triggering				•	•	•	•	•	•	•	•	•
Advanced measurement function												
Cursors		•	•	•	•	•	•	•	•	•	•	•
TrendPlot™	•	•	•	•	•	•	•	•	•	•	•	•
ScopeRecord™	•	•	•	•	•	•	•	•	•	•	•	•
100 screen replay				•	•	•	•	•	•	•	•	•
Industrial Bus Health			•									
Harmonics			•									•
FFT				•	•	•	•	•	•	•	•	•
Power measurements			•	•	•	•	•	•	•	•	•	•
Waveform mathematics			•	•	•	•	•	•	•	•	•	•
Guided motor-drive analysis												
Motor drive input (V, I, Unbalance)											•	•
Motor drive input harmonics (2–150)												•
Motor drive dc bus											•	•
Motor drive output PWM (V, I, dV/dt, overshoot)											•	•
Motor drive input PWM (V, I, dV/dt, overshoot)											•	•
Motor shaft voltage discharges												•
EN61010-1 safety												
CAT III 1000 V				•	•	•	•	•	•	•	•	•
CAT IV 600 V	•	•	•	•	•	•	•	•	•	•	•	•
Interface												
Optical RS-232	•	•	•									
USB PC interface	Optional	Optional	Optional	•	•	•	•	•	•	•	•	•
Optional WiFi adapter	•	•	•									
USB memory port				•	•	•	•	•	•	•	•	•
SD memory card		•	•									
Power												
Li-ion	•	•	•	•	•	•	•	•	•	•	•	•
Battery (hours)	7	7	7	4 (opt 8)	4 (opt 8)	4 (opt 8)	7	7	7	7	7	7
General specifications												
Size (H x W x D)	259 mm x 132 mm x 55 mm (10.2 in x 5.2 in x 2.15 in)			270 mm x 190 mm x 70 mm (10.5 in x 7.5 in x 2.8 in)								
Weight	1.4 kg (3.2 lb)			2.2 kg (4.8 lb)								
Fluke Connect™												
Fluke Connect app	•	•	•									

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INDUSTRIAL IMAGING

When you're conducting industrial imaging inspections, high-quality images that allow for better analysis, presentation and professionalism are essential. Fluke Industrial Imaging tools are designed for everyday use, in the toughest industrial environments, for thorough and accurate inspections. Whether you're on the factory floor inspecting conveyor belts and compressors, inspecting outdoor substations or conducting an energy audit in a commercial building, you need to quickly identify potential problems, prevent unplanned downtime and eliminate potential safety hazards.

Sonic imaging

Sonic imaging enables maintenance teams to quickly and accurately locate pressurized air, steam, gas and vacuum leaks. This new technology allows technicians to isolate the sound frequency, so they can filter out background noise and inspect entire plants even in noisy environments.

SoundSight™ technology quickly pinpoints the location of leaks. A SoundMap™ image is applied to a visible light image to quickly provide a fast visual context of the location. Reduce the time spent in detecting leaks, maximize your compressor usage and inspect entire plants, even during peak production periods.

Thermal imaging

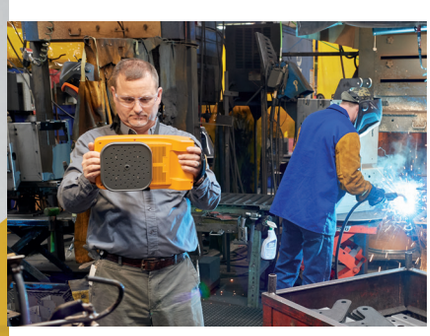
Thermal cameras offer premium image quality with superbly engineered resolution and thermal sensitivity. Our lineup offers streamlined solutions for optimal resolution, efficiency and results.

Fluke ii900 Sonic Industrial Imager

Quickly pinpoint the location of leaks

Using SoundSight™ technology, the Fluke ii900 Sonic Industrial Imager quickly finds compressed leaks in air, steam, gas and vacuum systems that affect both production uptime and the operations bottom line.

The 7" (17.78 cm) LCD touchscreen overlays a SoundMap™ image for quick leak identification. With minimal training, maintenance technicians can check for leaks during their typical routine—even during peak operation hours.



The ii900 Sonic Industrial Imager lets technicians see sound as they scan hoses, fittings and connections for leaks. Its built-in acoustic array of tiny sensitive microphones generates a spectrum of decibel levels per frequency. Based on this output, an algorithm calculates a sound image, known as a SoundMap, which is superimposed on a visual image. The SoundMap is automatically adapted, depending on the frequency level selected, so that background noise is filtered out.

Key benefits:

- Fast, simple leak location identification
- Optimize air compressors—delay the capital expense of installing additional compressors
- Ensure proper pressure to pneumatic equipment
- Lower energy and gas costs
- Improve reliability of the production line
- Make leak detection part of the typical maintenance routine
- Validate repairs on the spot

SoundSight™ technology benefits:

Acoustic imaging

Blended live SoundMap image with visual image

Sensitivity

Detects 0.005 CFM leak at 100 psi from up to 10 meters (32.8 feet)

Frequency range

From 2 kHz to 52 kHz

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FEATURED THERMOGRAPHY PRODUCT

Fluke PTi120 Pocket Thermal Imager

The power of a professional-grade thermal imager that fits in your pocket

Rugged, portable thermal camera for industrial inspection

Small enough to carry every day without worry. Always on hand. Stands up to dirt and water. Now, enhanced infrared inspections are right in your pocket for quick temperature scans of electrical equipment, machinery and other assets.

- Automatically organizes and files thermal images with Fluke Connect Asset Tagging
- A fully radiometric thermal imager
- 120 x 90 infrared resolution (10,800 pixels)
- 3.5″ (8.89 cm) LCD touchscreen display for easy troubleshooting
- Can withstand a drop of up to 1 meter
- IP54 enclosure rating
- –20 °C to 150 °C (–4 °F to 302 °F) temperature measurement range
- Touchscreen IR-Fusion blends a visible light image with an infrared image

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FEATURED SONIC IMAGING PRODUCT

FLUKE ®

INDUSTRIAL IMAGING

Model	ii900	
Sensors		**Definition**
Number of microphones	64 digital MEMS microphones	Micro-Electro-Mechanical Systems, or MEMS refers to miniaturized mechanical and electromechanical elements
Frequency band	2 kHz to 52 kHz	
Sound pressure sensitivity	Detects a 0.005 CFM leak at 100 PSI from up to 33 feet* (Detects a 2.5 cm^3/sec leak at 7 bar from up to 10 meters)	
Operation distance range	0.5 to > 50 meters (1.6 to > 164 feet)*	
Field of view	63°± 5°	
Minimum frame rate	12.5 FPS	The number of Frames Per Second (FPS) indicates the number of times the images on the screen is refreshed each second
Built-in digital camera (visible light)		
Field of view (FOV)	63°± 5°	
Focus	Fixed lens	
Display	7" LCD with backlight, under-sunlight readable	
Resolution	1280 x 800 (1,024,000 pixels)	
Touchscreen	Capacitive	Extremely precise and quick responding
Acoustic image	Yes, SoundMap image	SoundMap is a visual map of noise sources using an acoustical array
Image storage		
Storage capacity	Internal memory with the capacity for 999 picture files and 20 video files	
Image format	Blended visual and SoundMap .JPG or .PNG	
Video format	Blended visual and SoundMap™.MP4	
Video length	30 seconds	
Digital export	USB-C for data transfer	
Acoustic measurements		
Measurement range	29.3 dB to 119.6 dB SPL (±2 dB) at 2 kHz 21.9 dB to 112.2 dB SPL (±2 dB) at 19 kHz 36.6 dB to 126.9 dB SPL (±2 dB) at 52 kHz	Sound pressure level (dB SPL) or acoustic pressure is the local pressure deviation from the ambient–decible and sound pressure level
Auto max/min dB gain	Auto or manual, user selectable	
Frequency band selection	User selectable through user-made presets or manual entry	
Software		
Ease of use	Intuitive user interface	
Trend graphs	Frequency and dB scale	
Spot markers	dB level reading at center point of the image	
Battery		
Batteries (field-replaceable, rechargeable)	Rechargeable Li-ion, Fluke BP291	
Battery life	6 hours (product includes spare battery)	
Battery charging time	3 hours	
Battery charging system	External dual-bay charger, EDBC 290	
General specifications		
Standard palettes	3: Grayscale, Ironbow and Blue-Red	
Operating temperature	0 °C to 40 °C (32 °F to 104 °F)	
Storage temperature	-20 °C to 70 °C (-4 °F to 158 °F)	
Relative humidity	10 % to 95 % non-condensing	
Size (H x W x L)	186 mm x 322 mm x 68 mm (7.3 inches x 12.7 inches x 2.7 inches)	
Weight (battery included)	1.7 kg (3.75 pounds)	
Main unit rating	IP40 protection against particles 1 mm or greater and dripping water	
Sensor head rating	IP51	
Warranty	2 year	
Self-diagnostic notification	Array-health test to identify when microphone array needs attention	
Supported languages	Dutch, English, Finnish, French, German, Italian, Japanese, Korean, Polish, Portuguese, Russian, Simplified Chinese, Spanish, Swedish, Traditional Chinese	
RoHS compliant	Yes	
Safety		
General safety	IEC 61010-1	
Electromagnetic Compatibility (EMC) International	IEC 61326-1: Portable Electromagnetic Environment IEC 61326-2-2 CISPR 11: Group 1, Class A	
Korea (KCC)	Class A Equipment (Industrial Broadcasting and Communication Equipment)	
USA (FCC)	47 CFR 15 subpart B. This product is considered an exempt device per clause 15.103	

*Depending on ambient conditions

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FEATURED THERMOGRAPHY PRODUCT

Model	PTi120
Key features	
IFOV (spatial resolution)	7.6 mRad
Infrared resolution	120 x 90 (10,800 pixels)
Field of view	50° H x 38° V
Distance to spot	130:1
Temperature measurement range (not calibrated below –10 °C)	–20 ° C to 150 ° C
Focus system	Fixed focus, minimum focus distance 50 cm
USB	Mini USB used to transfer image to PC
WiFi	Yes (802.11 b/g/n [2.4 GHz])
Fluke Connect™ Instant Upload	Yes. Connect your camera to your building's WiFi network, (802.11 b/g/n [2.4 GHz]), and images taken automatically upload to the Fluke Connect system or your local server for storage and viewing on your PC
Image quality	
IR-Fusion™ technology	AutoBlend continuous 0 % to 100 %. Adds the context of the visible details to your infrared image.
Touchscreen display	3.5" (landscape), 320 x 240 LCD
Thermal sensitivity (NETD)	60 mK
Frame rate	9 Hz
Data storage and image capture	
Memory	≥ 2 GB internal flash memory
Image capture, review, save mechanism	One-handed image capture, review, and save capability
Image file formats	Nonradiometric (.jpg), or fully radiometric (.is2); no analysis software required for nonradiometric (jpeg) files
Software	Fluke Connect desktop software—full analysis and reporting software with access to the Fluke Connect system
Export file formats with software	.jpg, .is2
Battery	
Batteries (rechargeable)	Internal rechargeable lithium ion battery
Battery life	≥ 2 hours continuous (without WiFi)
Battery charging time	≤ 1.5 hours
Battery charging system	Micro USB port
AC operation	With separate ac to USB adapter, not included in box
Power saving	Automatic shutdown: 5, 10, 15 and 20 minutes or never
Temperature measurement	
Temperature measurement range (not calibrated below –10 °C)	–20 ° C to 150 ° C (–4 °F to 302 °F)
Accuracy	Target temp at or over 0 °C: Accuracy: ± 2° C or ± 2 %, whichever is greater
On-screen emissivity correction	Yes
On-screen reflected background temperature compensation	Yes
Center-point temperature	Yes
Spot temperature	Hot and cold spot markers
Color palettes	
Standard palettes	6: Ironbow, Blue-Red, High Contrast, Amber, Hot Metal, Grayscale
General specifications	
Infrared spectral band	8 µm to 14 µm (long wave)
Operating temperature	–10 °C to +50 °C (14 °F to 122 °F)
Storage temperature	–40 °C to +70 °C (–40 °F to 158 °F)
Relative humidity	95 % noncondensing
Safety	IEC 61010-1: Pollution Degree 2
Electromagnetic compatibility	EN 61326-1, CISPR 11: Group 1, Class A
US FCC	47 CFR 15 Subpart C
Vibration and shock	10 Hz to 150 Hz, 0.15 mm, IEC 60068-2-6; 30 g, 11 ms, IEC 60068-2-27
Drop	1 meter
Size (H x W x L)	8.9 cm x 12.7 cm x 2.5 cm (3.5 in x 5.0 in x 1.0 in)
Weight	0.233 kg (0.514 lb)
Enclosure rating	IP54
Warranty	2 year
Supported languages	Czech, Dutch, English, Finnish, French, German, Hungarian, Italian, Japanese, Korean, Polish, Portuguese, Russian, Simplified Chinese, Spanish, Swedish, Traditional Chinese and Turkish

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Fluke Ti401 PRO Thermal Imager

Crisp images with 640 x 480 resolution

Fluke Ti401 PRO offers the ruggedness and ease of use that you expect from Fluke. Get sharp, crisp images with 640 x 480 resolution. The portable and easy-to-use pistol-grip design allows for one-handed use. Never lose sight of an issue with the 3.5" (8.89 cm) (landscape) LCD touchscreen. Use infrared data and operate the camera remotely with Fluke Connect™ desktop software.

Fluke Ti480 PRO Thermal Imager

Sharp images with 640 x 480 resolution and enhanced features

The Ti480 PRO is a best-in-class handheld infrared camera that offers 640 x 480 resolution. Get the right level of detail for electrical, mechanical and environmental inspections. Image enhancement features with MultiSharp™ deliver focused images near and far throughout the field of view, and LaserSharp™ Auto Focus gives you consistently in-focus images. Stream infrared data and operate the camera remotely with Fluke Connect system software.

Fluke TiX501 Thermal Imager

Articulating camera at 640 x 480 resolution

Equipped with Fluke 640 x 480 resolution, the TiX501 offers 240-degree articulation for working in hard-to-reach places. It's ergonomic design gives you the flexibility to hold the camera in a position that is comfortable, even when taking images overhead and around hard-to-reach targets. Take advantage of analytics and reports with software that offers streaming infrared data, trend analysis and remote camera operation.

Fluke TiX580 Thermal Imager

Ergonomic camera with 640 x 480 resolution with enhanced features

The Fluke TiX580 offers 640 x 480 resolution and 240-degree articulation, so you can capture needed data and information in hard-to-reach places. Experience premium resolution, portability and ease of use. The TiX580 comes with Fluke image enhancement features such as MultiSharp for focused images near and far throughout the field of view and LaserSharp Auto Focus for consistently in-focus images. Monitor processes with video recording, live video streaming, remote control or auto capture. Find subtle temperature differences easily with advanced thermal sensitivity.

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THERMOGRAPHY SELECTION GUIDE

Models	Ti401 PRO	Ti480 PRO	TiX501	TiX580
Key features				
Infrared resolution	640 x 480 (307,200 pixels)			
SuperResolution	No	Yes, in software. Captures and combines 4x the data to create a 1280 x 960 image.	No	Yes, in software. Captures and combines 4x the data to create a 1280 x 960 image.
IFOV with standard lens (spatial resolution)	0.93 mRad, D:S 1065:1			
Field of view	34° H x 24° V			
Minimum focus distance	15 cm (approx. 6 in)			
MultiSharp Focus	No	Yes, focused near and far, throughout the field of view	No	Yes, focused near and far, throughout the field of view
LaserSharp™ Auto Focus	Yes, for consistently in-focus images. Every. Single. Time			
Laser distance meter	Yes, calculates distance to the target for precisely focused images and displays distance on-screen			
Advanced manual focus	Yes			
Wireless connectivity	Yes, to PC, iPhone® and iPad® (iOS 4s and later), Android™ 4.3 and up, and WiFi to LAN (where available)			
Fluke Connect™ app compatible	Yes[1], connect your camera to your smartphone, and images taken automatically upload to the Fluke Connect app for saving and sharing			
Fluke Connect Assets	Through the desktop, assign images to assets, easily compare measurement types in one location and create reports		Future[2]. Automatically assign images to assets, easily compare measurement types in one location and create reports through a cloud-based system	
Fluke Connect instant cloud upload	Yes[1], connect your camera to your building's WiFi network, and images taken automatically upload to the Fluke Connect system for viewing on your smartphone or PC			
Fluke Connect instant server upload	Yes[2]			
IR-Fusion™ technology	Yes, adds the context of the visible details to your infrared image			
Ruggedized touchscreen display	3.5 inch (landscape), 640 x 480 LCD		5.7 inch (14.4 cm) landscape 640 x 480 LCD	
Ergonomic design	Pistol-grip design for one-handed use		240 ° rotatable (articulating) lens	
Thermal sensitivity (NETD)**	≤ 0.075 °C at 30 °C target temp (75 mK)	≤ 0.05 °C at 30 °C target temp (50 mK)	≤ 0.075 °C at 30 °C target temp (75 mK)	≤ 0.05 °C at 30 °C target temp (50 mK)
Level and span	Smooth auto and manual scaling			
Touchscreen adjustable level/span	Yes. Span and level can be easily and quickly set by simply touching the screen.			
Fast auto toggle between manual and auto modes	Yes			
Fast auto rescale in manual mode	Yes			
Minimum span (in manual mode)	2.0 °C (3.6 °F)			
Minimum span (in auto mode)	3.0 °C (5.4 °F)			
Built-in digital camera (visible light)	5MP			
Frame rate	60 Hz or 9 Hz versions			
Laser pointer	Yes			
LED light (torch)	Yes			
Digital zoom	No	2x and 4x	2x	2x, 4x, 8x
Data storage and image capture				
Extensive memory options	Removable 4 GB micro SD memory card, 4 GB internal flash memory, save to USB flash drive capability, upload for permanent storage			
Image capture, review, save mechanism	One-handed image capture, review and save capability		Yes, edit and analyze captured images on camera	
Image file formats	.bmp, .jpg, .is2	.bmp, .jpg, .is2, .is3, AVI	.bmp, .jpg, .is2, .is3, AVI	.bmp, .jpg, .is2, .is3, AVI
Memory review	Thumbnail and full-screen review			
Software	Full analysis and reporting software with access to the Fluke Connect system			
Analyze and store radiometric data on a PC	Yes			
Export file formats with Fluke Connect software	.bmp, .gif, .jpg, .png, .tif			
Voice annotation	60 seconds' maximum recording time per image; reviewable playback on camera, optional Bluetooth headset available but not required			
IR-PhotoNotes™	Yes—2 images	Yes—5 images	Yes—2 images	Yes—5 images
Text annotations	Yes, including standard shortcuts as well as user programmable options			
Video recording and formats	No	Standard and radiometric	Standard	Standard and radiometric
Remote control operations	Remote display through Fluke Connect	Remote display and control operation through Fluke Connect	Remote display through Fluke Connect	Remote display and control operation through Fluke Connect
Auto capture (temperature and interval)	No	Yes	No	Yes
MATLAB® and LabVIEW® tool boxes	–	Integrate camera data, infrared video and images into software to support R&D analysis		

[1]Fluke Connect™ analysis and reporting software is available in all countries, but Fluke Connect is not. Please check availability with your authorized Fluke distributor.
[2]Indicates Fluke Connect features that will be available soon. Watch the Fluke website for software and firmware updates.

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Models	Ti401 PRO	Ti480 PRO	TiX501	TiX580
Battery				
Batteries (field-replaceable, rechargeable)	Two Lithium-ion rechargeable smart battery packs with five-segment LED display to show charge level			
Battery life	2–3 hours per battery (actual life varies depending on settings and usage)			
Battery charging time	2.5 hours to full charge			
Battery charging system	Two-bay battery charger or in-imager charging. Optional 12 V automotive charging adapter.			
AC operation	AC operation with included power supply (100 V ac to 240 V ac, 50/60 Hz)			
Power saving	User-selectable sleep and power-off modes			
Temperature measurement				
Temperature measurement range (not calibrated below -10 °C)	-20 °C to +650 °C (-4 °F to +1202 °F)	-20 °C to +1,000 °C (-4 °F to 1832 °F)	-20 °C to +650 °C (-4 °F to +1202 °F)	-20 °C to +1,000 °C (-4 °F to 1832 °F)
Accuracy	± 2 °C or 2 % (whichever is greater) at 25 °C ambient			
On-screen emissivity correction	Yes (both value and table)			
On-screen reflected background temperature compensation	Yes			
On-screen transmission correction	Yes			
Line temperature graph	No	Yes	No	Yes
Color palettes				
Standard palettes	9: Rainbow, Ironbow, Blue-Red, High Contrast, Amber, Amber Inverted, Hot Metal, Grayscale, Grayscale Inverted		8: Ironbow, Blue-Red, High Contrast, Amber, Amber Inverted, Hot Metal, Grayscale, Grayscale Inverted	
Ultra Contrast palettes	9: Rainbow, Ironbow, Blue-Red, High Contrast, Amber, Amber Inverted, Hot Metal, Grayscale, Grayscale Inverted		8: Ironbow Ultra, Blue-Red Ultra, High Contrast Ultra, Amber Ultra, Amber Inverted Ultra, Hot Metal Ultra, Grayscale Ultra, Grayscale Inverted Ultra	
Smart lenses				
Macro–25 micron lens: 25 MAC2	Yes			
2x telephoto lens: TELE 2	Yes			
4x telephoto lens: TELE4	Yes			
Wide-angle lens: WIDE 2	Yes			
General specifications				
Color alarms (temperature alarms)	High temperature, low temperature, and isotherms (within range)			
Infrared spectral band	7.5 µm to 14 µm (long wave)			
Operating temperature	-10 °C to +50 °C (14 °F to 122 °F)			
Storage temperature	-20 °C to +50 °C (-4 °F to 122 °F) without batteries			
Relative humidity	10 % to 95 % noncondensing			
Center-point temperature measurement	Yes			
Spot temperature	Hot and cold spot markers		Hot and cold spot markers, individually enabled	
User-definable spot markers	No	3 user-definable spot markers	2 user-definable spot markers	3 user-definable spot markers
User-defined measurement boxes	1 expandable-contractible measurement box with Min-max-avg temp display	Up to 3 expandable-contractible measurement boxes with Min-max-avg temp display	1 expandable-contractible measurement box with Min-max-avg temp display	3-expandable-contractible measurement boxes with Min-max-avg temp display
Hard case	Rugged, hard carrying case; soft transport bag	Rugged, IP67 rated, airtight hard case with custom foam insert		
Safety	IEC 61010-1: Overvoltage category II, Pollution Degree 2			
Electromagnetic compatibility	IEC 61326-1: Basic EM environment. CISPR 11: Group 1, Class A			
Australian RCM	IEC 61326-1			
US FCC	CFR 47, Part 15 Subpart B			
Vibration	0.03 g^2/Hz (3.8 g), 2.5 g IEC 60068-2-6			
Shock	25 g, IEC 68-2-29			
Drop	Engineered to withstand 2 meter (6.5 feet) drop with standard lens		Engineered to withstand 1 meter (3.3 feet) drop with standard lens	
Size (H x W x L)	27.7 cm x 12.2 cm x 16.7 cm (10.9 in x 4.8 in x 6.5 in)		27.3 cm x 15.9 cm x 9.7 cm (10.8 in x 6.3 in x 3.8 in)	
Weight (battery included)	1.04 kg (2.3 lb)		1.54 kg (3.4 lb)	
Enclosure rating	IEC 60529: IP54 (protected against dust, limited ingress; protection against water spray from all directions)			
Warranty	2 year (standard), extended warranties are available			
Recommended calibration cycle	2 year (assumes normal operation and normal aging)			
Supported languages	Czech, Dutch, English, Finnish, French, German, Hungarian, Italian, Japanese, Korean, Polish, Portuguese, Russian, Simplified Chinese, Spanish, Swedish, Traditional Chinese and Turkish			
RoHS compliant	Yes			

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VIBRATION AND ALIGNMENT TOOLS

Get answers now

In the world of mechanical maintenance, vibration remains one of the earliest indicators of a machine's health. Whether it's the rumble of worn bearings or the shaking, shimmying or thumping of loose, misaligned or unbalanced parts, machines have a tale to tell. For years, mechanical teams faced a tough choice when it came to vibration and alignment testing: complex vibration analysis systems, expensive vibration consultants, or relying on the trained ears of seasoned technicians using low-resolution test methods, or complex math.

Now you can get fast, accurate and actionable answers with revolutionary vibration and alignment testers from Fluke. These tools redefine testing for mechanical troubleshooting and predictive maintenance, which helps you:

- Quickly and reliably understand machinery health and condition severity
- Increase efficiency by working against a prioritized list of problems
- Take control of downtime costs by anticipating problems earlier and identifying root causes of recurring failures
- Conduct vibration and alignment checks, and perform expert level corrections with minimal training

Fluke 805 FC Vibration Meter

Make go or no-go maintenance decisions with confidence

The fast, easy-to-use Fluke 805 FC Vibration Meter eliminates the confusion of vibration screening so you can make go or no-go maintenance decisions with confidence. Instantly upload your data to the Fluke Connect™ app and share vibration measurement results with your maintenance team in real time—all without leaving the field.*

- The innovative sensor and sensor tip design ensures accurate measurements for overall vibration measurement, bearing condition and machine health
- A four-level scale helps you quickly assess problem severity
- Set up machine profiles, create work orders and send maintenance routes to technicians in the field using the Fluke Connect mobile app

*Fluke Connect is not available in all countries. Check with your local Fluke representative.

Fluke 810 Vibration Tester

Take a vibration expert along

The Fluke 810 Vibration Tester is the most advanced machine diagnostic tool for mechanical maintenance teams who need an answer now. A simple step-by-step process reports on machine faults the first time measurements are taken, without prior measurement history.

- The unique automated diagnostic technology identifies and locates the most common mechanical faults: bearings, misalignment, unbalance and looseness
- Repair recommendations advise technicians on corrective action
- Real-time tips and guidance give new users on-board, context-sensitive help

Fluke 830 Laser Shaft Alignment Tool

Precision shaft alignment made easy

The Fluke 830 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 helps you quickly and easily complete machine alignments
- An activated electronic inclinometer means measurements are flexible, reliable and repeatable
- The dynamic machine tolerance check provides continuous evaluation of alignment adjustments so you know when your machine is in an acceptable range

Fluke 820-2 LED Stroboscope

Rugged, compact and easy-to-use stop-motion diagnostic tool

With the Fluke 820-2 LED Stroboscope, 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 ideal for stop-motion diagnostics, mechanical troubleshooting and process or product research and development.

- Identify the running speed of rotating equipment without stopping the operation or making contact with machinery
- Stop motion for diagnoses of parasitic oscillations, flaws, slippage or unwanted distortions
- Measure speed of rotation or frequency of a rotating shaft, speaker or mechanical part
- Identify part numbers or other markings

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INSULATED HAND TOOLS

Safe. Rugged. Fluke. 1000 volt insulated hand tools. Lifetime warranty.

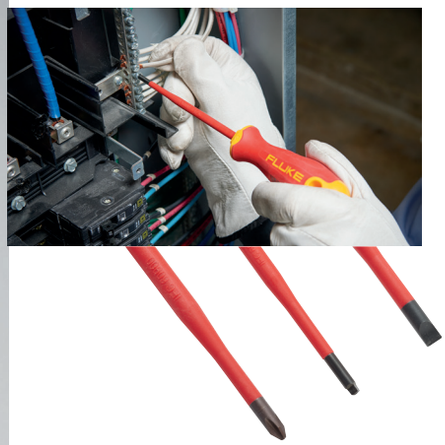
Fluke is the world leader in handheld test tools. Everything that you know about Fluke multimeters, clamp meters and electrical test tools applies to our insulated hand tools:

These rugged hand tools are built to last a lifetime. That's why they carry a lifetime warranty.* If a Fluke insulated hand tool is defective, take it to a distributor for replacement or contact Fluke (www.fluke.com/hand-tool-warranty).

Fluke insulated tools always feel right. From the moment you first put them in your hand, you're ready to go to work. The pliers offer a smooth, solid motion, without needing to be broken in. The screwdrivers give you maximum torque and a comfortable grip that reduces fatigue.

Take everything that makes Fluke test tools great and put that into insulated hand tools. That's what you'll have on your tool belt.

* Industrial product limited Lifetime Warranty
Each Fluke insulated hand tool will be free from defects in material and workmanship for its lifetime. Lifetime is defined as seven years after Fluke discontinues manufacturing the product, but the warranty period shall be at least fifteen years from the date of purchase. The warranty does not cover damage from neglect, misuse, contamination, alteration, accident or abnormal conditions of operation or handling, including damage caused by use outside of the product's intended use. This warranty covers the original purchaser only and it is not transferable. To establish original ownership proof of purchase is required.



Fluke Insulated Screwdrivers

The job isn't finished until everything is tightened down. Precision insulated tools fit and rip the fastener properly to apply maximum torque without damage to the head. Hardened chromium-molybdenum-vanadium steel blades minimize wear. The last thing you want is to have your driver slip out of the screw head and possibly contact a nearby conductor.

Fluke offers three styles and multiple sizes—seven drivers in all. All certified to 1000 volts ac and 1500 V dc. Every screwdriver individually tested to 10,000 volts.

- The ergonomic handle adapts to the user's hand, causing less strain and work fatigue and providing maximum torque
- The full length, impact-proof handle core is coated with soft-grip outer material and has a hanging hole for extra security and an anti-roll handle design
- The slim insulated shaft allows access in hard to reach areas
- All blades are manufactured from German CMV steel for superior durability

Fluke Insulated Pliers and Cutters

Wires need cutting. Cables need pulling. Knockouts need twisting. Sometimes things just need holding. Fluke insulated pliers and cutters give you a range of options when the job requires jaws with bite. All of them are built with German CMV steel.

Long nose pliers with side cutter and gripping zones

- Unique milled wave patter gripping zones
- Straight, half-round, long and slim knurled jaws, specially profiled
- Side cutting edge for wire cutting

Heavy-duty, high-leverage diagonal cutter

- Cuts hard materials including steel and piano wire
- Power joint and precision cutting edges

Fast adjust pump pliers

- 27 jaw adjustment steps for more accurate gripping of the workpiece with less slippage than other designs
- Self-locking on pipes and nuts: no slipping on the workpiece, with low hand force required
- Gripping surfaces with teeth hardened to HRC61 for low wear and reliable gripping
- Box-joint design; high stability because of double guide
- Pinch guard that prevents operators' fingers being pinched

Heavy duty combination pliers

- Secure hold by aggressive serrated jaws and 4-point gripping hole
- Slim shape for better access to wires in tight spaces
- Powerful gripping jaw, yet 20 % lighter weight than other designs

Fluke Hand Tools Magnetic Hanging Pouch

The magnetic Hanging Pouch with multiple pockets takes care of your tools and keeps them at hand and easy to reach while you're working. Using the same design and rare-earth magnet of the TPAK Toolkit you use to hang your meters, the Magnetic Hanging Pouch keeps your tools closely hanging in panels and metal surfaces.

- Multiple pockets; holds up to three pliers and sevem screwdrivers
- Protected inside
- Magnetic hanging strap

Note: Tools are not included with Magnetic Hanging Pouch

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INSULATED HAND TOOLS SELECTION GUIDE

Models	Insulated screwdrivers						
	ISLS3	ISLS5	ISLS8	IPHS1	IPHS2	ISQS1	ISQS2
Screwdriver type	Slot	Slot	Slot	Phillips	Phillips	Square	Square
Blade length	3 in, 75 mm	4 in, 100 mm	5 in, 125 mm	3 in, 75 mm	4 in, 100 mm	4 in, 100 mm	5 in, 125 mm
Tip size	3/32 in, 2.5 mm	5/32 in, 4 mm	1/4 in, 6 mm	#1	#2	SQ1	SQ2

Models	Insulated pliers and cutters			
	INLP8	INDC8	INPP10	INCP8
Pliers type	Long nose	Diagonal cutter	Adjustable/ pump	Lineman combination
Nominal length	8 in, 200 mm	8 in, 200 mm	10 in, 250 mm	8 in, 200 mm

Models	Kits and bundles							Accessories	
	IKSC7	IKPL3	IKST7	IKPK7	IBT6K	IB875K	IB117K	CPAK8	RUP8
Description	Insulated 7 unit Screwdriver Kit, 1000 V	Insulated 3 Unit Pliers Kit, 1000 V	Insulated Hand Tools Starter Kit, 1000 V	Fluke Pack30 Professional Tool Backpack + Insulated Hand Tools Starter Kit	Fluke T6 Electrical Tester + Insulated Hand Tools Starter Kit	Fluke 87V Industrial Multimeter + Insulated Hand Tools Starter Kit	Fluke 117 Electrician's Multimeter + Insulated Hand Tools Starter Kit	Magnetic hanging pouch with multiple pockets. Holds up to 3 pliers and 7 screwdrivers.	Roll-up tool pouch that holds up to 3 pliers and 5 screwdrivers. Rolls shut and closes with hook and loop fasteners.
Included	3 slotted tips, 2 Phillips tips, 2 square drive tips	Long nose pliers, heavy-duty diagonal cutter, heavy-duty combo pliers, roll-up tool pouch	3 slotted tips, 2 Phillips tips, long nose pliers, diagonal cutter, linesman combination pliers, roll-up tool pouch	Fluke Pack30 Professional Tool Backpack, 3 slotted tips, 2 Phillips tips, long nose pliers, diagonal cutter, combination pliers, roll-up tool pouch	Fluke T6 Electrical Tester, 3 slotted tips, 2 Phillips tips, long nose pliers, diagonal cutter, combination pliers, roll-up tool pouch	Fluke 87V Industrial Multimeter, 3 slotted tips, 2 Phillips tips, long nose pliers, diagonal cutter, combination pliers, roll-up tool pouch	Fluke 117 Electrician's Multimeter, 3 slotted tips, 2 Phillips tips, long nose pliers, diagonal cutter, combination pliers, roll-up tool pouch	Tools not included	Tools not included
Warranty	Lifetime	Lifetime	Lifetime	1 year*	2 year*	Lifetime	3 year*	1 year	1 year

*Hand tools in kits all carry the limited lifetime warranty.
Details at www.fluke.com/tools/warranty

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ACCESSORIES

Genuine Fluke accessories

You've already invested in a Fluke tool. Now expand its capabilities with Fluke genuine accessories.

Fluke accessories increase the functionality of your test tool as well as your safety and proficiency. Your digital multimeter can become a thermometer, clamp meter, or even a pressure gauge. With Fluke genuine accessories, you can broaden the ability to take meter measurements in different environments to meet your industrial, electrical, and electronic needs.

Get the right case to protect your tools, and with our breadth of soft tool pouches and hard cases available, you're never short on choices. Other available accessories include fuses, current probes and hat lights, magnetic meter and case hangers, and appropriately rated test lead probes that improve your safety and proficiency.

FEATURED ACCESSORIES

Fluke TL175 TwistGuard™ Test Leads

Twist. Test. Comply.

The Fluke TL175 TwistGuard Test Leads offer adjustable length test tips for use in different measurement and safety rated environments. By simply twisting the test lead, the user can change the exposed probe tip length from 19 mm to 4 mm (0.75 in to 0.16 in).

The patented TwistGuard extendable tip shroud meets new electrical safety requirements to reduce tip exposure while providing the versatility needed for most measurements.

TL175 test leads come with the WearGuard™ lead wire wear indicator. Each test lead is covered by two layers of silicone insulation; the inner contrasting color is exposed when the leads are nicked, scuffed or otherwise damaged—a great indicator for replacing compromised leads.

- Probes comply with EN61010-031 requirements
- Rated CAT II 1000 V, CAT III 1000 V, CAT IV 600 V, 10 A max., Pollution Degree 2
- Environmental ratings: -20 °C to +55 °C (-4 °F to +131 °F) altitude: 2000 m (6562 ft)

Fluke TPAK Meter Hanging Kit

Free both hands to make measurements

Hang your meter in a variety of ways for convenient, hands-free operation and to solve any hanging and positioning problems you may face.

- Powerful (rare earth) magnetic hanger: allows you to hang the meter on any metallic surfaces, freeing both hands for conducting tests
- 9 in hook-and-loop strap: allows you to loop around pipes
- Hook hanger: for hanging on nonmagnetic surfaces
- General purpose hanger: allows you to hang your meter on nails, hooks and many other objects

Always demand the best: use the original TPAK Meter Hanging Kit with its unique rare earth magnet for superior gripping strength to ensure your tools don't slide or fall.

Fluke Pack30 Professional Tool Backpack

Designed for maintenance professionals

The Fluke Pack30 backpack for the professional tradesman is rugged yet weighs less than 6.5 pounds. It's built with durable, high-quality polyester and features over 30 heavy-duty pockets for storing and carrying your tools to the next job. The primary storage compartments hold test tools, hand tools, and a 12" laptop or tablet; a smaller molded pocket for protection of smaller items. The rugged waterproof molded bottom offers protection from the elements and keeps the backpack standing for convenient access to tools.

- Lightweight, weighs less than 6.5 pounds to take the load off your back
- Rugged, waterproof bottom base protects tools, keeping the backpack upright for easy access to tools
- Over 30 pockets in three main storage compartments
- Clips, brackets and straps on the outside of the Fluke Pack30 for frequently used tools such as tape rolls, measuring tapes and voltage detectors
- Stores, organizes and protects test equipment, hand tools, safety glasses and personal items like your keys, wallet and phone

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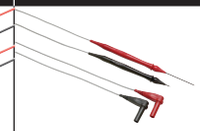
TEST LEADS/FUSES

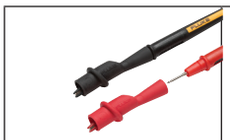
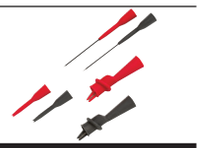
FLUKE ®

ACCESSORIES

Test Leads

	General purpose measurements		µV measurements	Electronics, hard to reach areas	
					
	TL175 TwistGuard™ Test Leads	**TL75 Hard Point Test Lead Set**	**TL71 Premium Test Lead Set**	**TL40 Retractable Tip Test Lead Set**	**TL910 Electronic Test Probes**
Description	• Patented TwistGuard™ extendable tip shroud reduces tip exposure while providing the versatility needed for most measurements • WearGuard™ test lead wear indicator show white inner layer when leads are damaged or worn and in need of replacement	One pair of comfort grip probes with PVC-insulated, right-angle shrouded 4 mm (0.16 in) banana plugs	One pair (red, black) comfort grip probes with silicone insulated, right-angle test leads	Pair of flexible silicone insulated test leads with sharp needle point tips adjustable to desired length from 0 to 76 mm	• Pair of red and black leads with very small tips to access hard-to-reach electronic test points • Includes three sets of spring-loaded gold tips and two sets of stainless steel tips
Specifications					
Cable length	48 in	48 in	48 in	48 in	40 in
Category rating	CAT II 1000 V, CAT III 1000 V, CAT IV 600 V, 10 A max	CAT II 1000 V, 10 A rating. CAT IV 600 V, CAT III 1000 V only with protective cap	CAT II 1000 V, 10 A rating. CAT IV 600 V, CAT III 1000 V only with protective cap	CAT II 600 V, 3 A rating	CAT II 1000 V, 3 A rating
Probe tip length	19 to 4 mm (0.75 to 0.16 in)	19 mm (0.75 in)	19 mm (0.75 in)	76 to 5 mm (3 to 0.2 in)	33 to 100 mm (1.3 in to 4 in)
AC175 Alligator Clip Set compatible	•	•	•		
TP920 Probe Set compatible	•	•	•		

Extend the capabilities of your TL175, TL75 and TL71 Test Leads with

		
	AC175 Alligator Clip Set	**TP920 Test Probe Adapter Set**
Description	On pair (red and black) slide-on alligator clips	IC test adapters, extended probe tips and medium alligator clips

Fuse selection guide

Model	Fuse Requirements
115, 117, 233	P/N 803293 11A, 1000V fuse
175, 177, 179, 83V, 87V, 287, 289, 27II, 28II, 88V, 77IV	P/N 803293 11A, 1000V fuse P/N 943121 440 mA, 1000V fuse
3000 FC, 1577, 1587 FC	P/N 943121 440 mA 1000V fuse
787, 789	P/N 943121 440 mA 1000V fuse (Qty 2)
1503, 1507	P/N 2279339 315 mA 1000V fuse
28II EX	P/N 803293 11A, 1000V fuse P/N 4016494 440mA fuse assembly

Replacement fuses for Fluke DMMs are available from your distributor. To order direct from Fluke call 1-800-44-FLUKE (US) or email fluke-info@fluke.com

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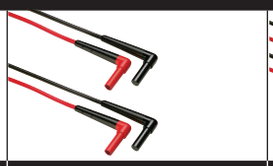
MODULAR TEST LEADS

	Modular test leads			
				
	TL221 SureGrip™ Test Lead Extension Set	**TL222 SureGrip™ Silicone Insulated Test Leads**	**TL224 SureGrip™ Insulated Test Leads**	**TL27 Heavy-Duty Test Lead Set**
Description	Modular test leads provide the convenience of attaching clips, hooks and grabbers as needed. All the leads offer strain relief and include banana jack terminations that allow a great variety of test lead configurations.			
Specifications				
Cable length	1.5 m (59 in)	1.5 m (59 in)	1.5 m (59 in)	1.5 m (59 in)
Category rating	CAT III 1000 V, CAT IV 600 V, 10 A	CAT III 1000 V, CAT IV 600 V, 10 A	CAT III 1000 V, CAT IV 600 V, 10 A	CAT III 1000 V, 10 A rating
Termination	Safety-shrouded 4 mm (0.16 in) banana jacks	Safety-shrouded 4 mm (0.16 in) banana jacks	Safety-shrouded 4 mm (0.16 in) banana jacks	Safety-shrouded 4 mm (0.16 in) banana jacks
Connectors	Straight connectors on both ends	Right angle connectors on both ends	Right angle in one end, straight in the other	Straight connectors on both ends

This wide variety of clips and probes allows you to configure the modular test leads to individual needs. Use with modular clips (Table A) or modular test probes (Table B).

Table A

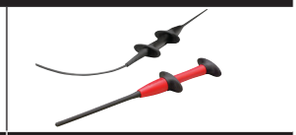
	Modular clips			
				
	AC285 SureGrip™ Alligator Clips	**AC220 SureGrip™ Alligator Clips**	**AC280 SureGrip™ Alligator Clips**	**AC283 SureGrip™ Pincer Clips**
Specifications				
Category rating	CAT III 1000 V, CAT IV 600 V, 10 A	CAT III 1000 V, CAT IV 600 V, 10 A	CAT III 1000 V, CAT IV 600 V, 3 A	CAT II 600 V, 3 A rating
Application	Fine gauge wire to a 20 mm bolt	Screw heads	Wires and cables	Continuity testing on circuit board (diodes)

Table B

	Modular test probes					
	TP175 TwistGuard™ Test Probes	**TP220 SureGrip™ Industrial Test Probes**	**TP1/TP2/TP4 Slim Reach™ Test Probes**	**TP80 Electronic Test Probes**	**TP74 Lantern Tip Test Probes**	**TP38 Slim Reach™ Test Probes**
Specifications						
Tip dimensions	19 to 4 mm (0.75 to 0.16 in)	12 mm (0.47 in)	Up to 14.7 mm (0.58 in) 1 mm (TP1) 2 mm (TP2) 4 mm (TP4) diameter probe	Up to 3.9 mm (0.157 in)	Banana style 4 mm (0.16 in) spring contacts Nickel-plated brass ends	24 mm (0.95 in), including insulated part of the tip
Category rating	CAT III 1000 V, CAT IV 600 V, while providing flexibility for CAT II measurements	CAT II 1000 V (CAT III 1000 V, CAT IV 600 V with cap), 10 A	CAT II 1000 V (CAT III 1000 V, CAT IV 600 V with cap), 10 A	CAT III 1000V, 1A	CAT II 1000 V (CAT III 1000 V, CAT IV 600 V with cap), 10 A	CAT III 1000 V, CAT IV 600 V, 10 A
Application	General-purpose measurements	Industrial	Electrical	Electronics	Electrical	Electrical

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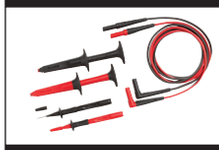
TEST LEAD KITS

FLUKE®

ACCESSORIES

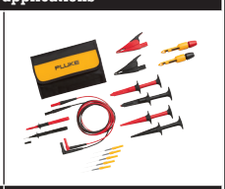
Industrial, electrical and general measurements

	Test lead kits for industrial, electrical and general-purpose measurements				
					
	TL220 SureGrip™ Industrial Test Lead Set	**TLK-220 US SureGrip™ Industrial Test Lead Set**	**TLK-225 US SureGrip™ Master Accessory Set**	**TLK289 US SureGrip™ Industrial Master Test Lead Set**	**TL223 SureGrip™ Electrical Test Lead Set**
Parts included					
AC220 SureGrip™ Alligator Clip Set	•	•	•	•	•
AC285 SureGrip™ Large Jaw Alligator Clip Set		•	•	•	
AC280 SureGrip™ Hook Clips			•	•	
AC283 SureGrip™ Pincer Clips			•		
TP220 SureGrip™ Industrial Test Probes	•	•			
TL224 SureGrip™ Insulated Test Leads	•	•	•	•	•
TP175 TwistGuard™ Test Probes			•	•	
TP1 Slim Reach Test Probes (flat-bladed)					•
80BK-A Digital Multimeter Temperature Probe				•	
Case		C116 Zippered Vinyl Case	6-pocket storage pouch	C116 Zippered Vinyl Case, TPAK ToolPak™	
Safety rating	All CAT IV 600 V, CAT III 1000V	CAT II 1000 V (CAT III 1000V, CAT IV 600V with cap), 10 A	All CAT IV 600V, CAT III 1000V (CAT II 600 V, 3 A rating for AC283)	CAT II 1000 V (CAT III 1000V, CAT IV 600V with cap), 10A	CAT II 1000V, 10 A (CAT III 1000V, CAT IV 600V with cap)

Electronics

	Test lead kits for electronic environments on the bench or in the field such as circuit boards and components	
TL80A Basic Electronic Test Lead Kit	**TL81A Deluxe Electronic Test Lead Kit**	**TLK287 Electronics Master Test Lead Set**
Parts included		
TL71 Premium Test Lead Set	TL71 Premium Test Lead Set	TL910 Electronic Test Probe Set
Medium Alligator Clip (CAT III 1000V, 10A)	TL224 Test Lead Set	TL224 Test Lead Set
Extended probe tips (CAT II 300V, 3A)	Insulated alligator clips (10 A)	Modular test probes (10 A)
C75 Accessory Case	Modular alligator clips (10 A)	Medium alligator clips (10 A)
	Insulated probe tip extenders (3 A)	Test lead couplers
	Modular test probes (10 A)	Precision electronic replacement probe tips
	Modular hook-style clip test leads (5 A	Rotating micrograbber set (2 A)
	Modular pinch-style clip test leads (5 A)	Banana plug/.025 SQ receptacle lead set
	Slide-on IC probe tips (3 A)	Modular hook-style clip test leads (5 A)
	Test lead couplers	Spade lug to banana jack adapters (10 A)
	Spade lug to banana jack adapters (10 A	Pouch
	Pouch	

Automotive

	Test lead kits for automotive applications
	
TLK281	**TLK282**
Parts included	
TP81 Insulation Piercing Clip Set	
TL224 SureGrip Test Lead Set	
TP220 SureGrip Test Probe Set	
AC220 SureGrip Alligator Clip Set	
AC285 SureGrip Large Jaw Alligator Clip Set	
	TP40 Automotive Back Probe Pins (five)
	TP238 SureGrip Insulated Test Probe Set
6-pocket roll-up pouch soft case	

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TEMPERATURE ACCESSORIES

	Bead	Bead	HVAC	Immersion	Surface	Air	Piercing	General purpose	Industrial surface	Pipe clamp
	80BK-A	80PK-1 80PJ-1	80PK-11	80PK-22	80PK-3A	80PK-24	80PK-25 80PT-25	80PK-26	80PK-27	80PK-8
Lowest temperature	-40 °C (-40 °F)		-30 °C (-22 °F)	-40 °C (-40 °F)	0 °C (32 °F)	-40 °C (-40 °F)	K Type: -40 °C (-40 °F) T Type: -196 °C (-321 °F)	-40 °C (-40 °F)	-127 °C (-196 °F)	-29 °C (-20 °F)
Highest temperature	260 °C (500 °F)		105 °C (221 °F)	1090 °C (1994 °F)	260 °C (500 °F)	816 °C (1500 °F)	350 °C (662 °F)	816 °C (1500 °F)	600 °C (1112 °F)	149 °C (300.2 °F)
Probe material	Type K wire with teflon insulation		Velcro	Inconel 600	Type K sensor with teflon body	Inconel	316 Stainless Steel	304 Stainless Steel		Type K sensor with PVC body
Probe length	1 m lead wire		19 in Velcro cuff	21.27 cm (8.375 in)	9.525 cm (3.75 in)	21.59 cm (8.5 in)	10.16 cm (4 in)	21.57 cm (8.5 in)	20.32 cm (8 in)	For pipes from 6.4 mm (.25 in) to 34.9 mm (1.375 in)
Cable length	1 m (3.3 ft)				1.3 m (4 ft)	1 m (3.3 ft)				
Connection	Standard banana jack	Molded thermocouple plug								
SureGrip™ handle				•		•	•	•	•	
Key feature	Ideal for initial troubleshooting. Can be secured in place with a magnet.		Velcro probe allows hands-free temperature measurement.	For use in liquids or in gels.	Exposed junction for direct contact with flat or slightly convex surfaces.	Perforated baffle for air and noncaustic gas measurements.	Probe material safe for use in foods. Sharp tip pierces solid surfaces.	Use for general-purpose air or surface measurements.	Low-conductivity stainless steel minimizes thermal shunting. Extra rugged.	Clamps securely to pipe. Measurements are repeatable to 0.56 °C (1 °F)
Thermocouple types	K	K, J	K	K			K, T	K		
Typical use										
General purpose	•	•	•	•	•	•	•	•	•	•
HVAC		•	•	•	•	•		•	•	•
Food service				•			•			
Industrial	•	•	•						•	•
Residential	•	•			•	•	•			•
Commercial	•	•	•	•	•	•	•	•	•	•

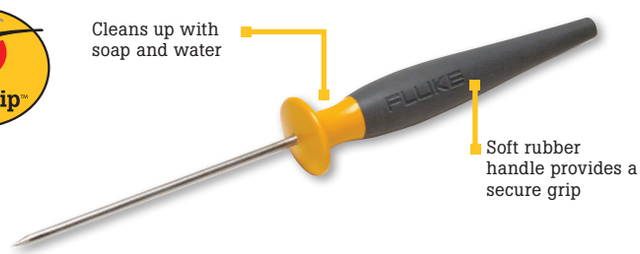
Temperature accessories selection guide

	113/114/115/116/117	175/177	179	233	3000 FC DMM	287/289	27-II/28-II	8845A/8846A/8808A	77 IV	83 V	87 V/88V	43B	120 Series	190 Series II	1577	1587 FC	51/52/53/54-II	561	566/568/572-2	705/707	714	715	724/725	753/754	787/789
Contact probes																									
80PK-1/80PK-27	1	1	2	2	2	2	2	1	1	1	2	1	1	1	1	2	•	•	•	1	•	1	•	•	1
80PJ-1/80PJ-9																	•				•		•	•	
80PT-25																	•				•		•	•	
DMM probes																									
80AK-A	•3		•	•		•	•5				•					•	•								
80BK-A	•3		•	•		•	•5				•					•									
80TK	•						•6	•	•	•		•	•	•	•					•		•		•	•
80T-150UA	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•			•		•		•	•
Miscellaneous																									
80CK-M	1	1	2	2	2	2	2	1	1	1	2	1	1	1	1	2	•	•	•	1	•	1	•	•	1
80CJ-M																	•				•		•	•	
80PK-EXT (4)	1	1	2	2	2	2	2	1	1	1	2	1	1	1	1	2	•	•	•	1	•	1	•	•	1
80PJ-EXT																	•				•		•	•	
80PT-EXT																	•				•		•	•	

1-Requires 80TK 2-Requires 80AK 3-Fluke 116 Only 4-Also requires 80CK-M 5-28 II only 6-27 II only

SureGrip™ temperature accessories

The innovative SureGrip design from Fluke is now available in select temperature probes. The soft rubber handle combined with a new ergonomic shape is so comfortable to hold that you'll forget about the probe and focus on the measurement. All SureGrip probes have an improved, more flexible strain relief for a long life.



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CASES AND HOLSTERS

ACCESSORIES

	Soft cases				
	C23 Soft Carrying Case	**C25 Large Soft Case for DMMs**	**C35 Soft Carrying Case**	**C150 Soft Carrying Case**	**C280 Soft Carrying Case**
Description	Zippered case with belt loop and an inner pocket	Zippered carrying case with padding and inside pocket	Opens laterally, allowing the use of test tool without removing it. Includes a hook-and-loop strap.	Zippered carrying case with inner pocket for test leads and accessories	Designed for large tools. Includes shoulder strap and inner front pocket and dual pouches for tools
Material	Durable vinyl	Polyester	Durable polyester 600D	Durable polyester 600D	Durable polyester 600D
Dimensions (H x W x D)	225 x 95 x 58 mm 8.9 x 3.75 x 2.3 in	218 x 128 x 64 mm 8.6 x 5 x 2.52 in	220 x 140 x 65 mm 8.7 x 5.5 x 2.6 in	298 x 114 x 56 mm 11.75 x 4.5 x 2.2 in	230 x 185 x 65 mm 9 x 7.3 x 2.6 in
Recommended for:*	Fluke 61/65 IR Thermometers, 321/322 Clamp Meters	11x series, 87v, 32x series and most mid-sized DMMs	11x series, 87v, 32x series and most mid-sized DMMs	37x series, T5, T90/110/130/150	287, 289 and other larger tools

	Hard cases				
	C101 Hard Case	**C100 Universal Carrying Case**	**C20 Hard Case**	**C800 Meter and Accessory Case**	**CXT1000 Extreme Case**
Description	Tough polypropylene case with configurable diced foam interior to store and protect tools	Large, tough polypropylene case with carying handle	Heavy-duty construction with handle and storage, designed to hold a meter and accessories	Tough polypropylene case with handle, snap-on detachable lid and compartments for accessories	Features a diced foam interior for custom storage and automatic purge valve for quick equalization
Dimensions (H x W x D)	Exterior: 305 x 360 x 105 mm (12 x 14.2 x 4.1 in) Interior: 230 x 290 x 65 mm (9 x 11.5 x 2.5 in)	397 x 346 x 122 mm 15.7 x 13.6 x 4.8 in	256 x 154 x 106 mm 10 x 6.1 x 4.2 in	230 x 385 x 115 mm 9 x 15 x 4.5 in	343 x 465 x 178 mm 13.5 x 18.3 x 7 in

	Specialty cases: camo and leather			
	C520a Leather Tester Case	**C510 Leather Meter Case**	**CAMO C-25**	**Camo C-37**
Material	Rugged leather	Rugged leather	High-quality 1000D fabric	High-quality 1000D fabric
Dimensions (H x W x D)	256 x 154 x 106 mm 10 x 6 x 4 in	287 x 179 x 106 mm 11 x 7 x 4 in	203 x 121 x 46 mm 8 x 4.8 x 1.8 in	265 x 90 x 30 mm 10.5 x 3.5 x 1.2 in
Recommended for:*	T5/T+/T Pro	17x series, 87v, 71x and 72x series	11x series, 87v, 32x series and most mid-sized DMMs	37x series, T5/T+/T Pro

	Holsters		
	H5 Electrical Tester Holder	**H-T6 Electrical Tester Holder**	**H3 Clamp Meter Holster**
Dimensions (H x W x D)	192 x 90 x 38 mm 7.5 x 3.5 x 1.5 in	192 x 90 x 38 mm 7.5 x 3.5 x 1.5 in	231 x 90 x 64 mm 9 x 3.5 x 2.5 in
Recommended for:*	T3 and T5 Electrical Testers	T6 Electrical Testers	37x series, T5, T90/110/130/150

	Tool bags	
	C345 Soft Case	**C550 Tool Bag**
Description	Zippered carrying case with inner front pocket and detachable handle and shoulder strap	Rugged, weather-resistant tool bag with zippered top, large compartment and 25 pockets
Material	Durable polyester 600D	Ballistic cloth with heavy-duty hardware
Dimensions (H x W x D)	318 x 230 x 90 mm 12.5 x 9.1 x 3.5 in	333 x 513 x 231 mm 13 x 20.2 x 9.1 in

*For a full compatibility chart, check www.fluke.com/accessories

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CLAMPS

	AC current clamps						
	i200 AC	**i200s AC**	**i400 AC**	**i400s AC**	**i800 AC**	**i1000s AC**	**i3000s AC**
Description	Small-sized single-range current clamp	Dual-range current clamp. Ideal companion to a ScopeMeter™, power quality tool or digital multimeter	Single range designed to offer maxium utility in compact shape	Compact current clamp. Ideal companion to a ScopeMeter or power quality tool.	Designed to extend the current measuring capability of a digital multimeter up to 800A	Large ac current clamp for applications in power and industrial environments	Designed as a clamp-on unit for oscilloscopes up to 3000A. Includes dual banana/BNC adapter
Connector	Banana plug	Safety-insulated BNC connector/dual banana adapter	Banana plug	Safety-insulated BNC connector	Banana plug	Safety-insulated BNC connector	Safety-insulated BNC connector/dual banana adapter
Current range	1 A to 200 A ac	0.1 A to 200 A ac	1 A to 400 A ac	0.5 A to 400 A ac	100 mA to 800 A rms ac	0.1 A to 1000 A ac	1 A to 3000 A
Frequency range	40 Hz to 40 kHz (-3 dB)	40 Hz to 40 kHz (-3 dB)	5 Hz to 20 kHz (-3 dB)	5 Hz to 10 kHz (-3 dB)	30 Hz to 10 kHz (-3 dB)	5 Hz to 100 kHz	10 Hz to 100 kHz
Safety rating	CAT III 600 V	CAT III 600 V	CAT IV 600 V, CAT III 1000 V	CAT IV 600 V, CAT III 1000 V	CAT III 600 V rms	CAT III 600 V	CAT III 600 V

	Flex AC current clamps		
	i2000 Flex AC Current Clamp	**i3000 Flex-24 or -36 AC Current Clamp**	**i6000 Flex-24 or -36 AC Current Clamp**
Description	Flexible and lightweight measuring head allows quick and easy installation	Clamp fits large conductors and is available in 610 mm and 914 mm (24 in and 36 in)	Clamp fits large conductors and is available in 610 mm and 914 mm (24 in and 36 in)
Current range	20A, 200A and 2000A switchable	30A, 300A and 3000A switchable	60A, 600A and 6000A switchable
Frequency range	10 Hz to 20 kHz	10 Hz to 50 kHz	10 Hz to 50 kHz (-3 dB)
Safety rating	CAT III 600 V	CAT III 600 V	CAT III 600 V

The flex clamps use the Rogowski (air-core coil) principle and can be used to measure three ranges of currents when used in conjunction with oscilloscopes, recorders or data loggers.

	AC/DC current clamps					
	i410 AC/DC Current Clamp	**i1010 AC/DC Current Clamp**	**80i-100s AC/DC Current Clamp**	**i30 AC/DC Current Clamp**	**i30s AC/DC Current Clamp**	**i310s AC/DC Current Clamp**
Description	Battery Powered Clamp for hard to reach areas. On/off LED indicator	Large-jaw, battery-powered clamp for hard-to-reach areas. On/off LED indicator.	Compatible with ScopeMeter, power harmonics analyzer and multimeters	Battery clamp compatible with multimeters for nonintrusive current measurements	Battery clamp compatible with ScopeMeters for nonintrusive current measurements	Measurements in inverters, industrial controllers, automotive and waveform analysis
Connector	Banana plug	Banana plug	BNC connector	Banana plug	BNC connector	BNC connector
Current range (ac)	1 A to 400 A	1 A to 600 A ac	0.1 A to 70 A	30 mA to 20 A rms	30 mA to 20 A rms	0.1 A to 300 A
Current range (dc)	1 A to 400 A	0.5 A to 1000 A dc	0.1 A to 100 A	30 mA to 30 A	30 mA to 30 A	0.1 A to 300 A
Frequency range	3 kHz	DC to 10 kHz	1 Hz to 100 kHz	DC to 20 kHz (-0.5 dB)	DC to 100 kHz (-0.5 dB)	DC to 20 kHz
Safety rating	CAT III 600 V	CAT III 600 V	CAT II 600 V	CAT III 600 V	CAT III 600 V	CAT III 600 V

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RECOMMENDED ACCESSORIES

FLUKE ®

ACCESSORIES

Models	Digital multimeters				Clamp meters		Layout and distance	Electrical testers
	87V Industrial Multimeter	116 Digital HVAC Multimeter	289 True-rms Data Logging Multimeter	117 Electrician's Ideal Multimeter	902 FC True-rms HVAC Clamp Meter	376 FC True-rms Clamp Meter	424D Laser Distance Meter	T6-1000 Electrical Tester
Recommended accessories	• C25 Soft Carry Case • TL175 TwistGuard Test Leads • TPAK Magnetic Hanging Kit	• C115 Soft Carry Case • 80PK-8 Temperature Pipe Clamp with 80AK-A adapter • TPAK Magnetic Hanging Kit	• C43 Soft Carry Case • TL175 TwistGuard Test Leads • IR3000FC BLE Adapter	• C115 Soft Carry Case • TL71 Premium Test Lead Set • TPAK Magnetic Hanging Kit	• C33 Soft Carry Case • 80PK-8 Temperature Pipe Clamp with 80AK-A adapter • TPAK Magnetic Hanging Kit	• TL224 SureGrip™ Silicone Insulated Test Leads • TL175 TwistGuard Test Leads • AC285 SureGrip Alligator Clips	Fluke C195 Case	• H-T6 Holster • TP175 TwistGuard Test Probes • AC285 SureGrip Alligator Clips

Models	Indoor air quality	Insulation testers	Power quality		Process calibration tools		Portable oscilloscopes	
	971 Temperature Humidity Meter	1587 FC Insulation Multimeter	1730 and 1740 Power Energy Loggers	430-11 Power Quality Analyzer	754 Documenting Process Calibrator	726 Precision Multifunction Process Calibrator	190-II ScopeMeter® Test Tools	120B Series ScopeMeter Test Tools
Recommended accessories	• Fluke C550 Tool Bag • LVD1A Non-Contact Voltage Tester with LED Flashlight	• C25 Soft Carry Case • i400 AC Current Clamp • TPAK Magnetic Hanging Kit	• PQ400 Electrical Measurement Window • Fluke i17XX-flex3000/4pk iFlex® Current Clamp • Fluke 17XX i40s-EL Clamp-on Current Transformers • Fluke MP1 Magnet Probe 1, Magnetic Probe Tips	• PQ400 Electrical Measurement Window • Fluke i400s AC Current Clamp • Fluke BP291 4800 mAh High Capacity Li-ion Battery • Fluke BC430 Line Voltage Adapter/ Battery Charger	• DPCTrack2 Calibration Management Software • 750P Pressure Modules • 700PTPK2 Pneumatic Test Pressure Kit	• TL71 Premium Test Lead Set • 750P Pressure Modules • 700PTPK2 Pneumatic Test Pressure Kit	• VPS421 High Voltage Probes • EBC290 External Battery Charger for BP290 and BP291 • C290 Hard Shell Protective Carrying Case	• BHT190 Break-Out Adapters for Industrial Bus Connections • 80i-110s AC/DC Current Clamp • i400s AC Current Clamp

Models	Industrial imaging					Vibration and alignment
	ii900 Sonic Industrial Imager	Ti401 PRO Thermal Imager	Ti480 PRO Thermal Imager	TiX501 Thermal Imager	TiX580 Thermal Imager	805 FC Vibration Meter
Recommended accessories	• Rechargeable battery to 6 hours: FLK BP291 • External dual-bay charger: FLK EDBC 290 • Array covers, 2 pack: FLK-II900 Array Cvrs	• Tripod Mounting: TI-TRIPOD3 • Sun Visor: FLK-TI-ViSOR3 • Viewfinder kit: FLK-TI-EYEPIECE • 2x telephoto infrared smart lens: FLK 2x LENS • Wide-angle infrared smart lens: Flk 0.75X WIDE LENS	• Tripod Mounting: TI-TRIPOD3 • Sun Visor: FLK-TI-ViSOR3 • Viewfinder kit: FLK-TI-EYEPIECE • Wide-angle infrared smart lens: Flk 0.75X WIDE LENS • 2x telephoto infrared smart lens: FLK 2x LENS • 25 Micron Macro IR: FLK-LENS/25MAC2 • 4X telephoto IR: FLK-LENS/4XTELE2	• Tripod Mounting: TI-TRIPOD3 • Viewfinder kit: FLK-TI-EYEPIECE • 2x telephoto infrared smart lens: • Wide-angle infrared smart lens: Flk 0.75X WIDE LENS	• Tripod Mounting: TI-TRIPOD3 • Viewfinder kit: FLK-TI-EYEPIECE • Wide-angle infrared smart lens: Flk 0.75X WIDE LENS • 2x telephoto infrared smart lens: FLK 2x LENS • 25 Micron Macro IR: FLK-LENS/25MAC2 • 4X telephoto IR: FLK-LENS/4XTELE2	• 805ES External Vibration Sensor

For a full list of accessories available for your tool, visit www.fluke.com

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INDUSTRIAL ETHERNET TOOLS

Avoid network device downtime

Cabling, copper or fiber optic, is a major cause of downtime on time-sensitive industrial networks. Losing just a few data packets in a short time can cause a machine to shut down. This is especially true in industrial environments, where network cables are exposed to vibration, flexing, moisture, temperature changes and electromagnetic interference (EMI) from motor drives and other devices. This environment is referred to as MICE in TIA-1005-A and ISO 11801:3 standards for industrial premises.

Fluke Networks® has a range of products that can be used by plant electricians and control engineers to quickly pinpoint cable defects.

Our DSX CableAnalyzer™ can determine if a cable meets TIA and ISO standards or if it has flaws that can make cables susceptible to intermittent problems caused by harsh MICE environments.

www.flukenetworks.com/industrial

DSX CableAnalyzer™ Industrial Ethernet Kit

Validate that cables conform to standards and don't have flaws

Faster commissioning and less downtime
Ensure network cable performance at the machine builder when commissioning and after making changes in the plant. Find marginal cables susceptible to vibration, moisture, noise and temperature. Complete documentation is stored in the cloud using LinkWare™ Live or on your PC.

Speed troubleshooting
Avoid wasting time installing bypass cables. Identify the exact type and location of cable failure—or prove it's good. Pass/Fail indication is available in 10 seconds.

Support for most cable types and protocols
EtherNet/IP™, PROFINET™, ModBus TCP™ EtherCAT™ and other industrial protocols. RJ45, M12-D and M12-X connectors. Singlemode and Multimode fiber at all common wavelengths with optional OTDR and OLTS fiber modules.

CableIQ™ Qualification Tester

Finds common cable faults and data rate

Detect Ethernet switch and link configuration, and measure and document cabling performance (10/100/1000 Mbps) data rates. Graphical display of cable wiring at each end of the cable to identify open, shorted, cross wired connections of all eight data lines at one time in just a few seconds.

Time Domain Reflectometry (TDR) technology will find the location of a broken wire in the Ethernet cable or the overall length of the cable. The built-in tone generator helps you to locate the cable end when using an optional IntelliTone™ or Pro3000F™ tone probe.

MicroScanner™ PoE Cable Verifier

Find common errors and switch power capacity

Graphical display of cable wiring at each end of the cable to identify open, shorted, cross wired connections of all eight data lines at one time in just a few seconds. Time Domain Reflectometry (TDR) technology will find the location of a broken wire in the Ethernet cable, or the overall length of the cable. The built-in tone generator helps you to locate the cable end when using an optional IntelliTone™ or Pro3000F™ tone probe.

Identifies the presence and speed of an active switch connected to the cable and detects the class (0–8) from PoE, PoE+ and PoE++ (802.3 at, af and bt) switches.

	MS-PoE	CIQ-100	DSX2-5-IE-K1
Models	**Cable continuity**	**Troubleshooting**	**Validation and advanced troubleshooting**
Validate to international standards			•
Pre-deployment acceptance tests			•
Find connections susceptible to vibration, moisture, temperature and EMC/EMI			•
Fiber-optic tests			• (Requires optical fiber modules)
Documentation of test results for commissioning	None	Summary results in tester	Complete results in tester, PC and the cloud
User interface	Monochrome	Monochrome	Large color touchscreen
Network speed and loss tests		Basic	Tests to international standards for cable type
Connector support (without adapters)	RJ45	RJ45	RJ45, M12-D, M12-X
Continuity, length and tone generation	•	•	•

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FLUKE 376FC
OFF
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T6-1000
ELECTRICAL TESTER
1000 V CAT III
600 V CAT IV
COM
OFF
AUTO SELECT
FIELD SENSE
HOLD
14.3 A AC
234 VAC
1000 V CAT III
600 V CAT IV
200 A ~

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Service and calibration: (02) 9771-9300

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3/2020 6011982c-en

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