FLUKE ®

THE MOST
TRUSTED
TOOLS
IN THE WORLD

New products from Fluke

Fluke CNX Wireless Team

Take readings quicker. Solve problems faster.

CNX wireless test tools work together to help you solve problems. With the CNX team, measurements are remote, simultaneous, recordable.

For information on the new Fluke CNX Wireless Team see page 60.

VTO2 Visual IR Thermometer

See beyond temperature

Blended visible and thermal heat map images provide context.

Now, a low-cost solution that combines the convenience of an IR thermometer with the visual advantage of a thermal imager. The VTO2 makes it easy to find hot and cold spots while scanning across a surface, while blending both an infrared and digital image.

For information on the new Fluke VTO2 Visual IR Thermometer see page 56.

Fluke Ti105 Thermal Imager

Performance optimized for industrial and commercial professionals who need peace of mind for everyday troubleshooting.

For information on the new Ti105 Thermal Imager with CNX Wireless capabilities, see page 50.

Fluke ScopeMeter® 190 Series II

Two and four-channel, CAT IV, 60 MHz, 100 MHz, 200 MHz and 500 MHz portable oscilloscopes.

For information on the 190 Series II ScopeMeter® Test Tools, see page 46.

Featured products

FLUKE ®

Fluke 709H Precision Loop Calibrator with HART

The 709H offers HART communication and supports a select set of the HART universal and common practice commands.

For information on the new 709H Precision Loop Calibrator see page 36.

Fluke 325 True-rms Clamp Meter

True-rms measurements and optimized ergonomics make the 320 Series Clamp Meters the best general troubleshooting tools for commercial and residential electricians.

For information on the new 325 True-rms Clamp Meter see page 6.

Fluke 419D Laser Distance Meter

This professional-grade laser distance meter extends your reach to 80 meters (260 feet) with even greater accuracy.

For information on the new 419D Laser Distance Meter see page 19.

Fluke 62 MAX, 62 MAX+ Infrared Thermometers

Takes the heat. And the dust, water and three-meter drop. The Fluke 62 MAX and 62 MAX+ are the only IR thermometers you can handle without care.

For information on the new 62 MAX, 62 MAX+ Infrared Thermometers see page 55.
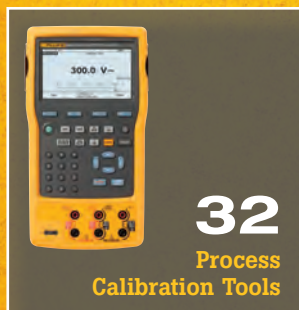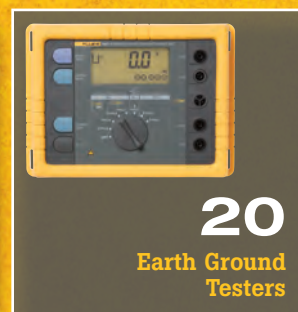
CONTENTS

Fluke Corporation is the world leader in compact, professional electronic test tools.

From industrial maintenance to commercial building operations, Fluke tools deliver the testing and troubleshooting capabilities to keep the world up and running.
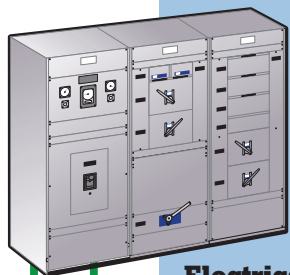
Wasted energy costs you money every year.
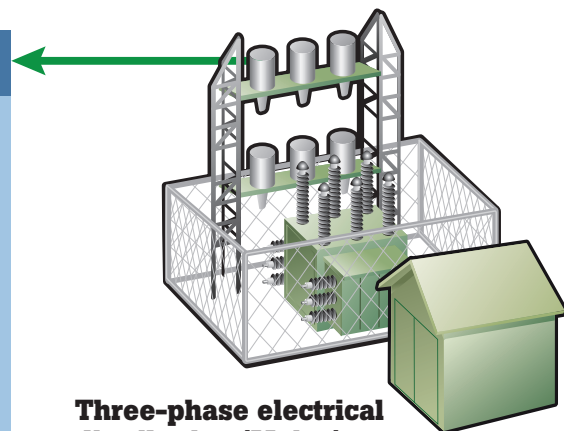# If you don't know how much, it's time to find out.

Electrical subsystem
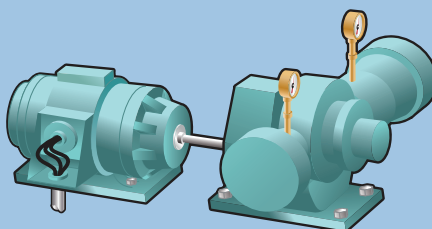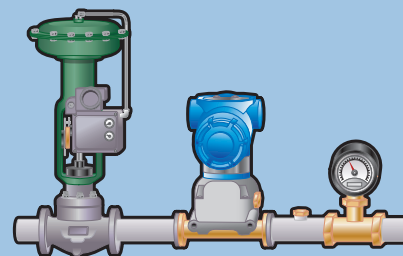
Utility billing

Electrical distribution infrastructure

Three-phase electrical distribution (Mains)

Production process systems
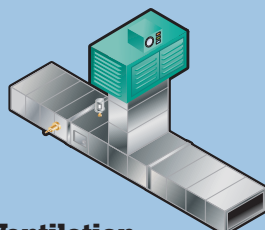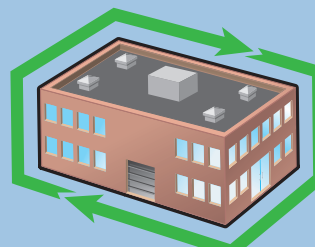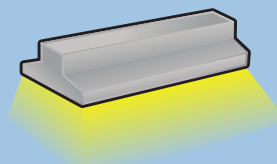
Mechanical loads

Flow: Air compression, steam

Building infrastructure

Ventilation, heating, cooling

Building envelope

Lighting

Introducing the Fluke Energy Resource Center

Everything you need to know about saving money by identifying and measuring energy waste.

- Case studies
- Success stories
- Interactive illustrations
- Checklists
- Videos and more

Get started today, visit: **www.fluke.com/saveenergy**

Fluke 381 Remote Display True-rms AC/DC Clamp Meter with iFlex™

The world's most advanced clamp meter

The Fluke 381 Clamp Meter combines iFlex flexibility with remote reading capability for the ultimate in innovation and safety.

- Remote display reads measurements up to 30 feet away
- iFlex Flexible Current Probe included, 18 inch circumference
- 2500 A ac current measurement with iFlex
- 1000 A ac and dc current measurement with fixed jaw
- 1000 V ac and dc voltage measurement
- Frequency measurement to 500 Hz
- 60 kΩ resistance measurement
- Min/Max/Avg and inrush recording
- CAT IV 600 V, CAT III 1000 V
- Three-year warranty

See specifications chart on page 7.

Recommended accessories
Fluke 381

TL175
TwistGuard™ Test Leads
See page 66

TLK289
Industrial Master Test Lead Set
See page 64

C345
Large Soft Case
See page 63

FTP-1
SureGrip™ Fused Test Probe Set
See page 66

i2500-10
10 inch iFlex® Flexible Current Probe

AC87
Heavy Duty Bus Bar Clip Set

Fluke 365 Detachable Jaw True-rms AC/DC Clamp Meter

Where rugged meets reliable

The Fluke 365 Clamp Meter offers a small, detachable jaw—with four feet of coil—that makes it easy to take and read measurements in tight or hard-to-reach places.

- 200 A ac and dc current measurement
- 600 V ac and dc voltage measurement
- 6000 Ω resistance measurement
- Built-in flashlight
- Large, easy-to-read backlight display
- Three-year warranty

See specifications chart on page 7.

Recommended accessories
Fluke 365

FTPL-1
SureGrip™ Fused Test Probe and Lead Set
See page 66

TL71
Premium Test Lead Set
See page 66

C43
Small Soft Case
See page 63

TL220
SureGrip™ Industrial Test Lead Set
See page 64

AC285
SureGrip™ Alligator Clips
See page 66

TL224
SureGrip™ Silicone Insulated Test Leads
See page 66

Ordering information

Included accessories	Models	
18-inch iFlex™ Flexible Current Probe, test leads, soft carrying case, instruction card, safety information sheet, five AA alkaline batteries.	FLUKE-381	Remote Display True-rms AC/DC Clamp Meter with iFlex™
Test leads, soft carrying case, instruction card, safety information sheet, five AA alkaline batteries.	FLUKE-365	Detachable Jaw True-rms AC/DC Clamp Meter

Check price and availability at
www.fluke.com/wtb

Fluke 370 Series Clamp Meters

Fluke 376 with iFlex

Be ready for anything

Our new family of true-rms clamp meters provides a range of state of-the-art features to meet even the most demanding job requirements.

All four of the new clamp meters have improved base features such as a large, backlit display, true-rms standard, CAT IV safety rating and a durably constructed body. Additionally, the 376, 375 and 374 are compatible with the iFlex® Flexible Current Probe (included with the 376, sold separately for the 375 and 374), and provide increased measurement readings to 1000 A and 1000 V ac and dc.

See specifications chart on page 7 for details per model.

Fluke 375   Fluke 374   Fluke 373

iFlex® Flexible Current Probe

Unprecedented measurement flexibility

The new iFlex Flexible Current Probe expands the measurement range of select Fluke clamp meters to 2500 A ac while providing increased display flexibility, improved wire access and the ability to measure awkward-sized conductors.

Available in 18 inch and 10 inch coil sizes. Visit **www.fluke.com/iFlex-18** for additional specs.

Recommended accessories

TL223
SureGrip™ Electrical Test Lead Set
See page 64

C43
Small Soft Case
See page 63

TL175
TwistGuard™ Test Leads
See page 66

i2500-18
18 inch iFlex™ Flexible Current Probe
For use with the Fluke 375 and 376

AC285
SureGrip™ Alligator Clips
See page 66

TL224
SureGrip™ Silicone Insulated Test Leads
See page 66

Quick reference guide conversion table

Old model	New model	Feature changes		
Fluke 337	**Fluke 381**	Includes all 337 features plus: • Detachable display • CAT IV 600 V, CAT III 1000 V	• iFlex 2500 A ac • 1000 V ac/dc	• 60 kΩ • Min/Max/Avg
Fluke 337	**Fluke 376**	Includes all 337 features plus: • CAT IV 600 V, CAT III 1000 V • iFlex 2500 A ac	• 1000 V ac/dc • mV dc	• 60 kΩ • 1000 µF
Fluke 336	**Fluke 375**	Includes all 336 features plus: • CAT IV 600 V, CAT III 1000 V • Optional iFlex 2500 A ac	• mV dc • 60 kΩ	• 1000 µF • Min/Max/Avg
	Fluke 374	Includes all 336 features (except low pass filter) plus: • CAT IV 600 V, CAT III 1000 V • Optional iFlex 2500 A ac	• 1000 µF	• Min/Max/Avg
Fluke 335	**Fluke 374**	Includes all 335 features plus: • CAT IV 600 V, CAT III 1000 V • Optional iFlex 2500 A ac	• 600 A ac/dc • 1000 µF	• Min/Max/Avg
	Fluke 373	Includes all 335 features (except inrush) plus: • CAT IV 300 V, CAT III 600 V	• 1000 µF	
Fluke 334	**Fluke 374**	Includes all 334 features plus: • CAT IV 600 V, CAT III 1000 V • Optional iFlex 2500 A ac	• True-rms • 600 A ac/dc	• 1000 µF • Min/Max/Avg
	Fluke 373	Includes all 334 features (except inrush) plus: • CAT IV 300 V, CAT III 600 V	• True-rms	• 1000 µF
Fluke 333	**Fluke 373**	Includes all 333 features plus: • CAT IV 300 V, CAT III 600 V • True-rms	• 600 A ac • 6000 Ω	• 1000 µF

Ordering information

Included accessories	Models	
18 inch iFlex™ flexible current probe, test leads, soft carrying case, instruction card, safety information sheet, two AA alkaline batteries.	FLUKE-376	True-rms AC/DC Clamp Meter with iFlex™
Test leads, soft carrying case, instruction card, safety information sheet, two AA alkaline batteries.	FLUKE-375	True-rms AC/DC Clamp Meter
Test leads, soft carrying case, instruction card, safety information sheet, two AA alkaline batteries.	FLUKE-374	True-rms AC/DC Clamp Meter
Test leads, soft carrying case, instruction card, safety information sheet, two AA alkaline batteries.	FLUKE-373	True-rms AC Clamp Meter

Check price and availability at
www.fluke.com/wtb

Fluke 902 True-rms HVAC Clamp Meter

Just for our HVAC pros

HVAC (heating, ventilation, air conditioning) technicians require a service tool that can consistently keep up with their demands. The Fluke 902 expands the existing line of quality Fluke clamp meters by delivering the features necessary to diagnose and repair HVAC systems. Combined with true-rms technology and a CAT III 600 V rating, the Fluke 902 helps technicians do their jobs safely and accurately.

- Designed for HVAC applications with capacitance, dc current (µA) and temperature measurements
- Small body and jaws fit perfectly in your hand and into tight places
- Handy "Display Hold" button keeps measurements on the display
- Meter controls are positioned so current measurements can be done with one hand (index finger on clamp opening lever and thumb on rotary switch)
- Three-year warranty

See specifications chart on page 7.

Fluke 360 AC Leakage Current Clamp Meter

The unique jaw design of the Fluke 360 eliminates the influence of adjacent current conductors and measures leakage current down to 1 µA for monitoring of insulation. The ergonomic design of the Fluke 360 ensures easy measuring. The measuring clamp fits into tight spaces and the wide display angle clearly shows the measurement result. The Data Hold button keeps the measured value on the display after removing the clamp for the measured conductor.

Current measurement
- Automatic ranging within the manually selected mA or A range
- Ranges 3/30 mA and 30/60 A
- Current resolution 1 µA/0.01 mA and 0.01 A/0.1 A
- Frequency range 50 and 60 Hz
- Jaw size: 40 mm (1.55 in) maximum conductor diameter
- Auto power off

See specifications chart on page 7.

Ordering information

Included accessories	Models	
Test leads, temperature probe, soft carrying case, users manual, two AA alkaline batteries.	FLUKE-902	True-rms HVAC Clamp Meter
Soft carrying case, users manual.	FLUKE-360	AC Leakage Current Clamp Meter

Check price and availability at
www.fluke.com/wtb-clamps

Fluke 320 Series True-rms Clamp Meters

New

Go to work with the best

True-rms measurements and optimized ergonomics make the 320 Series True-rms Clamp Meters the best general troubleshooting tools for commercial and residential electricians. The 323, 324 and 325 are designed to verify the presence of load current, ac voltage and continuity of circuits, switches, fuses and contacts. These small and rugged clamp meters are ideally suited for current measurements up to 400 A in tight cable compartments. The Fluke 325 also offers dc current and frequency measurements.

- 400 A ac current measurement (ac and dc current; 325 only)
- 600 V ac and dc voltage measurement
- True-rms ac voltage and current for accurate measurements on non-linear signals
- Resistance measurement to up to 40 kΩ with continuity detection
- Temperature and capacitance measurement (324 and 325 only)
- Frequency measurement (325 only)
- Slim, ergonomic design
- Large, easy to read backlight display (324 and 325 only)
- CAT IV 300 V/CAT III 600 V safety rating
- Hold button
- Two-year warranty
- Soft carrying case

Fluke 324   **Fluke 323**

Fluke 325

Specifications

	Residential/commercial electrical		Light industrial
	323	324	325
Measurements			
AC current	•	•	•
AC voltage	•	•	•
Resistance	•	•	•
Continuity	•	•	•
DC volts	•	•	•
DC current			•
True-rms	•	•	•
Frequency			•
Min/Max/Avg			•
Temperature		•	•
Capacitance		•	•
Display			
Display hold	•	•	•
Backlight			•
Specifications			
Jaw opening	30 mm (1.18 in)		
Max wire size	600 MCM		
Current range ac rms	0 to 400.0 A		
Accuracy ac current (50/60 Hz)	2.0 % ± 5 digits	1.5 % ± 5 digits	2.0 % ± 5 digits
AC response	True-rms		
Current range dc			0 to 400 A
Accuracy dc current			2.0 % ± 5 digits
Voltage range ac	0 to 600.0 V		
Accuracy ac voltage	1.5 % ± 5 digits		
Voltage range dc	0 to 600.0 V		
Accuracy dc voltage	1 % ± 5 digits		
Resistance range	0 to 4000 Ω		0 to 40 kΩ
Frequency measurement range			500 Hz

Recommended accessories

C43
Small Soft Case
See page 63

TL175
TwistGuard™ Test Leads
See page 66

TL223
SureGrip™ Electrical Test Lead Set
See page 64

L210
Probe Light and Extender
See page 71

Ordering information

Included accessories	Models	
Test leads, soft case and users manual. Temperature probe included with 324 and 325 only.	FLUKE-325	True-rms Clamp Meter
	FLUKE-324	True-rms Clamp Meter
	FLUKE-323	True-rms Clamp Meter
Soft carrying case, instruction card, safety information sheet, five AA alkaline batteries.	FLUKE-353	AC/DC True-rms Clamp Meter, 2000 A, amps only
1.5 m silicone rubber test leads, test probes, alligator clips, soft carrying case, six AA batteries, users manual.	FLUKE-355	AC/DC True-rms Clamp Meter, 2000 A

Check price and availability at **www.fluke.com/wtb**

Fluke 353/355 AC/DC True-rms Clamp Meters

Versatile, professional, accurate

Confidently take reliable readings with the true-rms Fluke 355 and 353 Clamp Meters—the tools of choice for high current clamp-on amp meter measurements up to 2000 A.

- Reliably handle a wide range of high-current applications with 2000 A ac + dc true-rms, 1400 A ac, and 2000 A dc
- Large 58 mm (2.3 in) jaw
- Inrush current measurement
- High voltage measurement of 1000 V ac + dc true-rms, 600 V ac, and 1000 V dc (355 only)
- Resistance to 400 KΩ (355 only)
- Continuity beeper (355 only)
- Frequency measurement to 1 KHz
- Selectable low-pass filter mode
- Min/Max/Avg
- Large display with backlight

Ordering information on page 6.

Fluke 355

Fluke 353

Specifications

	General purpose				Industrial electrical		HVAC/R	High-end industrial, utility		iFlex accessory	Leakage
	365	373	374	375	376	381	902	353	355	i2500-10/ i2500-18	360
Measurements											
AC current	•	•	•	•	•	•	•	•	•	•	•
AC voltage	•	•	•	•	•	•	•		•		
Resistance	•	•	•	•	•	•	•		•		
Continuity	•	•	•	•	•	•	•		•		
DC volts	•	•	•	•	•	•	•		•		
DC current	•		•	•	•	•	•	•	•		
True-rms	•	•	•	•	•	•	•	•	•	•	
Frequency			•	•	•	•		•	•	•	
AC + DC voltage									•		
AC + DC current								•	•		
Min/Max/Avg			•	•	•	•	•	•	•	•	
Temperature							•				
Capacitance		•	•	•	•	•	•				
Special features											
Inrush current mode		•	•	•	•	•		•	•		
Low-pass filter			•	•	•	•		•	•		
18 inch iFlex Flexible Current Probe			Optional	Optional	Included	Included					
10 inch iFlex Flexible Current Probe			Optional	Optional	Optional	Optional					
Remote display							•				
Flashlight/torch	•										•
Display											
Display hold	•	•	•	•	•	•	•	•	•		•
Backlight	•	•	•	•	•	•	•	•	•		
Specifications											
Jaw opening	0.7 in	1.3 in	1.3 in			1.2 in		2.3 in		5.7 in/3.2 in	1.5 in
Max wire size	17 mm (0.67 in)	750 MCM						750 MCM or three 500 MCM			1250 MCM
Current range ac rms	0 to 200.0 A	0 to 600.0 A			0 to 999.9 A		0 to 600.0 A	0 to 1400 A		0 to 2500 A	0 to 60 A
Accuracy ac current (50/60 Hz)	2 % ± 5 counts							1.5 % ± 5 counts		3 % ± 5 counts	1 % ± 5 counts
AC response	True-rms										Averaging
Current range dc	0 to 200 A	0 to 600.0 A			0 to 999.9 A		0 to 200 µA	0 to 2000 A			
Accuracy dc current	2 % ± 5 counts	2 % ± 5 counts					1 % ± 5 counts	1.5 % ± 5 counts			
Voltage range ac	0 to 600.0 V				0 to 1000 V		600.0 V	0 to 600.0 V			
Accuracy ac voltage	2 % ± 5 counts	1 % ± 5 counts	1.5 % ± 5 counts				1 % ± 5 counts	1 % ± 5 counts			
Voltage range dc	0 to 600.0 V				0 to 1000 V		0 to 600.0 V	0 to 1000 V			
Accuracy dc voltage	2 % ± 5 counts	1 % ± 5 counts						1 % ± 5 counts			
Resistance range	0 to 6000 Ω				0 to 60 kΩ		0 to 9999 Ω	0 to 400 KΩ			
Frequency measurement range					500 Hz			5 to 1000 Hz		500 Hz	

Pick the right digital multimeter for you
Digital multimeter selection guide

Models	Highest Accuracy 289	Industrial 87V	IP 67 28-II	General Purpose 179	Building Maint 117	HVAC/R Techs 116	CNX 3000 DMM	CNX v3000 AC Voltage Module	CNX a3000 AC Current Module	CNX i3000 iFlex AC Current Module	CNX t3000 K-Type Temperature Module
Best for	Data logging	Variable speed drives	Harsh environments	Everyday use	Wide variety of electrical work	HVAC trouble-shooting			Industrial, HVAC and general maintenance		
Basic features											
							Wireless	Wireless	Wireless	Wireless	Wireless
True-rms readings	AC+DC	AC	AC	AC	AC	AC	AC	AC	AC	AC	
Basic dc accuracy	0.025 %	0.05 %	0.05 %	0.09 %	0.5 %	0.5 %	0.09 %	0.09 %	2.0 %	2.0 %	Temp (0.5 %)
Bandwidth	100 kHz	20 kHz	20 kHz								
Auto/manual ranging	•	•	•	•	•	•	•/•	•/—	•/—	•/—	•/—
Digits	4-1/2	4-1/2	4-1/2	3-1/2	3-1/2	3-1/2	3-1/2	3-1/2	3-1/2	3-1/2	3-1/2
Counts	50,000	20,000	20,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000
Measurements											
Voltage ac/dc	1000 V	1000 V	1000 V	1000 V	600 V	600 V	1000 V	1000 V			
Current ac/dc	10 A	10 A	10 A	10 A	10 A	600 µA	400 mA		400A AC	2500A AC	
Resistance	500 MΩ	50 MΩ	50 MΩ	50 MΩ	40 MΩ	40 MΩ	50 MW				
Frequency	1 MHz	200 kHz	200 kHz	100 kHz	50 kHz	50 kHz	100 kHz				
Capacitance	100 mF	10 mF	10 mF	10 mF	10 mF	10 mF	10 mF				
Temperature	+1350 °C	+1090 °C	+1090 °C	+400 °C		+400 °C					(+) 1372 °C
dB	60 dB										
Conductance	50 nS	60 nS	60 nS								
Duty cycle/pulse width	•	•	•								
Motor drive measurements/low pass filter	•	•	•			•					
Continuity with beeper/diode test	•	•	•	•	•	•	•				
Low ohms (50 Ω)	•										
Display											
Dual display	·						•				
Analog bargraph	•	•	•	•	•	•	•				
Backlight	•	•	•	•	•	•	•	•	•	•	•
Wireless display to DMM or PC							•	•	•	•	•
Data storage and exchange											
Min/max recording		•	•	•	•	•	•/—	via software	via software	via software	via software
Min/max recording with time stamp	•						•/—	via software	via software	via software	via software
Fast min/max	250 µs	250 µs	250 µs								
Display hold/auto (touch) hold	•	•	•	•	•	•	•/—				
Relative reference	•	•	•								
PC interface	•							Wireless	Wireless	Wireless	Wireless
Data logging	•							•	•	•	•
Readings memories	15,000							65,000	65,000	65,000	65,000
Other features											
Automatic selection, LoZ					•	•					
LoZ	•										
Non-contact ac voltage detector						•					
Real-time clock	•							via software	via software	via software	via software
Overmolded case, integrated holster	•			•			•	•	•	•	•
Removable holster		•	•		•	•					
ToolPak compatibility	•	•	•	•	•	•	•	•	•	•	•
Closed case calibration/separate battery door	•	•	•	•	•	•	•	•	•	•	•
Completely sealed/watertight			•								
Automatic power off	•	•	•	•	•	•	•	•	•	•	•
Low battery indication	•	•	•	•	•	•	•	•	•	•	•
Operating temperature ranges	–20 °C, +55 °C	–20 °C, +55 °C	–40 °C, +55 °C	–10 °C, +50 °C	–10 °C, +50 °C	–10 °C, +50 °C	–10 °C, +50 °C	–10 °C, +50 °C	–10 °C, +50 °C	–10 °C, +50 °C	–10 °C, +50 °C
Warranty and electrical safety											
Limited lifetime warranty	•	•	•	•							
Warranty (years)					3	3	3	3	3	3	3
Input alert	•	•	•				•				
Dangerous voltage indication	•	•	•	•	•	•	•	•			
CAT III measurements	1000 V	1000 V	1000 V	1000 V	600 V	600 V	1000 V	1000 V	600 V	1000 V	
CAT IV measurements	600 V	600 V	600 V	600 V			600 V	600 V	300 V	600 V	
See page	9	10	11	12	14	15	60	60	60	60	60

Fluke 289 and 287 True-rms Logging Multimeters

Find little problems before they become big ones

The Fluke 289 and 287 are the next generation in high performance industrial logging multimeters.

- Large 50,000 count, 1/4 VGA dot matrix display with white backlight
- Logging function with expanded memory for unattended monitoring of signals over time. Using on-board TrendCapture, users can graphically review logged readings without needing a PC. Store up to 10,000 recorded events
- Save, name, and recall multiple logging sessions before PC download is necessary
- Zoom on trend, provides unprecedented ability to view and analyze TrendCapture data; zoom in up to 14 times
- Two terminal 50 ohm range with 1 milliohm resolution, 10 mA source current. Useful for measuring and comparing differences in motor winding resistance or contact resistance (289)
- Low-pass filter for accurate voltage and frequency measurements on adjustable speed motor drives and other electrically noisy equipment (289)
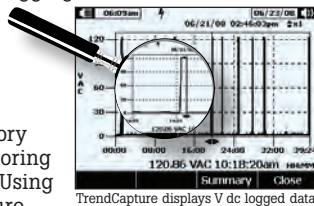
TrendCapture displays V dc logged data.

Recommended accessories

TLK289
Industrial Test Lead Set
See page 64

TLK287
Electronic Test Lead Set
See page 64

TPAK
Magnetic Meter Hanger
See page 71

i410
AC/DC Current Clamp
See page 70

TL175
TwistGuard™ Test Leads
See page 66

C280
Soft Case
See page 63

289/FVF kit includes:
- True-rms industrial logging multimeter with TrendCapture
- FlukeView Forms Software and cable
- Temperature probe
- Silicone test lead set
- Alligator clips
- Meter hanging accessory
- Soft case

287/FVF kit includes:
- True-rms electronic logging multimeter with TrendCapture
- FlukeView Forms Software and cable
- Temperature probe
- Modular test leads (red, black)
- Modular test probes (red, black)
- Alligator clips (red, black)
- Soft case

Features

	287	289
Multiple on screen displays	•	•
True-rms ac bandwidth	100 kHz	100 kHz
dBV/dBm	•	•
DC mV resolution	1 µV	1 µV
Megohm range up to	500 MΩ	500 MΩ
Conductance	50.00 nS	50.00 nS
Continuity beeper	•	•
Elapse time clock/time of day clock	•	•
Min/Max/Avg/duty cycle/pulse width	•	•
Isolated optical DMM interface with USB PC connection	•	•
Auto/touch hold	•	•
Over 200 hours logging capacity with new power saving function	•	•
Lo Ohm capability	–	•
Lo Z volts	–	•
Lo Pass Filter	–	•
Limited lifetime warranty	•	•

Specifications

Functions	Range and resolution	Basic Accuracy
AC volts or dc volts	50.000 mV, 500.00 mV, 5.0000 V, 50.000 V, 500.00 V, 1000.0 V	0.025 % 0.4 % (true-rms) (AC)
AC current dc current	500.00 µA, 5000.0 µA, 50.000 mA, 400.00 mA, 5.0000 A, 10.000 A	0.15 % 0.7 % (true-rms)
Temperature (excluding probe)	–200.0 °C to 1350.0 °C (–328.0 °F to 2462.0 °F)	1.0 %
Resistance	50.000 Ω, 500.00 Ω, 5.0000 kΩ, 50.000 kΩ, 500.00 kΩ, 5.0000 MΩ, 50.00 MΩ, 500.0 MΩ	0.05 %
Capacitance	1.000 nF,10.00 nF, 100.0 nF, 1.000 µF, 10.00 µF, 100.0 µF, 1000 µF, 10.00 mF, 100 mF	1.0 %
Frequency	99.999 Hz, 999.99 Hz, 9.9999 kHz, 99.999 kHz, 999.99 kHz	.005 %

Ordering information

Included accessories	Models	
Test leads, alligator clips, holster, 9 V battery (installed), manual information pack.	FLUKE-289	True-rms Industrial Logging Multimeter with TrendCapture
	FLUKE-287	True-rms Electronics Logging Multimeter with TrendCapture
	FLUKE-289/FVF	True-rms Industrial Logging Multimeter Combo Kit with TrendCapture
	FLUKE-287/FVF	True-rms Electronics Logging Multimeter Combo Kit with TrendCapture

Check price and availability at
www.fluke.com/wtb

For more information, go to **www.fluke.com/dmm**

Fluke 87V Industrial Multimeter
For industrial productivity

The Fluke 87V has measurement functions, trouble-shooting features, resolution and accuracy to solve problems on motor drives, in-plant automation, power distribution and electro-mechanical equipment.

- Unique function for accurate voltage and frequency measurements on adjustable speed motor drives and electrically noisy equipment (87V and 28 II Ex)
- Large digit display with bright two level backlight makes the 87V significantly easier to read
- Measure 20 A for up to 30 seconds, 10 A continuously
- Optional magnetic hanger for easy setup and viewing while freeing your hands for other tasks (TPAK)
- Expanded capacitance range to 10,000 µF

Electrical safety

All inputs are protected to CAT III 1000 V and CAT IV 600 V. They can withstand impulses in excess of 8,000 V to help protect you from arc blast resulting from surges and spikes.

Also available as 83V average responding multimeter, see below for specifications.

Recommended kits

Fluke 87V/E2 Industrial Electrician's Combo Kit
- Industrial multimeter
- 1.5 m silicone test leads
- Removable probes with 4 mm of exposed metal for use on industrial circuits
- Retractable long reach alligator clips
- Meter hanging accessory
- Type K temperature probe
- Soft case

Features

Features	87V	83V
Peak capture to record transients as fast as 250 µs	•	
Measure up to 1000 V ac and dc	•	•
Auto and manual ranging for maximum flexibility	•	•
Analog bargraph	•	•
Frequency to 200 kHz and % duty cycle	•	•
Min/Max and average recording to capture variations automatically	•	•
Relative mode to remove test lead resistance from low ohms measurements	•	•
Access door for fast battery changes without breaking the calibration seal	•	•
Limited lifetime warranty	•	•

Specifications

Functions	Range and resolution	Basic accuracy	
		87V	**83V**
DC volts	600.0 mV, 6.000 V, 60.00 V, 600.0 V, 1000 V	0.05 %	0.1 %
AC volts	600.0 mV, 6.000 V, 60.00 V, 600.0 V, 1000 V	0.7 % (true-rms)	0.5 %
DC current	600.0 µA, 6000 µA, 60.00 µA, 600.0 mA, 6.000 A, 10.00 A	0.2 %	0.4 %
AC current	600.0 µA, 6000 µA, 60.00 µA, 600.0 mA, 6.000 A, 10.00 A	1.0 % (true-rms)	1.2 %
Temperature (excl. probe)	–200 °C to 1090 °C (–328 °F to 1994 °F)	1.0 %	–
Temperature Probe	–40 °C to 260 °C (–40 °F to 500 °F)	2.2 °C or 2 %	–
Resistance	600.0 Ω, 6.000 kΩ, 60.00 kΩ, 600.0 kΩ, 6.000 MΩ, 50.00 MΩ	0.2 %	0.4 %
Capacitance	10.00 nF, 100.0 nF, 1.000 µF, 10.00 µF, 100.0 µF, 9,999 µF	1.0 %	1.0 %
Frequency	199.99 Hz, 1.9999 kHz, 19.999 kHz, 199.99 kHz	0.005 %	0.005 %

Battery life: 400 hours typical with backlight off. **Size (LxWxD):** 201 mm x 98 mm x 52 mm (7.9 in x 3.8 in x 2 in).
Weight: 355 g (22 oz).

Ordering information

Included accessories	Models	
Test leads, alligator clips, holster, batteries (installed), temperature probe (87V only), manual information pack.	FLUKE-87-5	Industrial True-rms Multimeter with Temperature
	FLUKE-83-5	Industrial Multimeter
	FLUKE-87-5/E2	Industrial Electrician's Combo Kit

Fluke 27 II/28 II/28 II Ex Industrial IP67 Digital Multimeters

The 27 II, 28 II and 28 II Ex Digital Multimeters are designed for tough work environments. All three meters have IP 67 waterproof and dustproof rating. They both have an extended operating temperature range of –15 °C to + 55 °C (5 °F to 131 °F) and 95 % humidity.

- Unique function for accurate voltage and frequency measurements on adjustable speed motor drives and other electrically noisy equipment (28 II, 28 II Ex)
- Built-in thermometer conveniently allows you to take temperature readings without having to carry a separate instrument (28 II, 28 II Ex)
- Hi-resolution 20,000 count display mode (28 II, 28 II Ex)
- Resistance and continuity. Relative mode to remove test lead resistance from low ohms measurements
- Large digit display with bright, two-level backlight
- Backlit keypad buttons allow for easy visibility in low-lit areas
- Optional magnetic hanger for easy setup and viewing freeing your hands for other tasks
- U.S. Mine Safety and Health Administration (MSHA) approved (27 II, 28 II)
- Intrinsically safe certifications from the world's leading certification bodies (28 II Ex)

Specialty models

Fluke 28 II Ex Intrinsically Safe True-rms Multimeter

See page 43 for more information.

Recommended accessories

TPAK
Magnetic Meter Hanger
See page 71

TLK-225
SureGrip™ Master Accessory Set
See page 64

PV350
Pressure-Vacuum Module
See page 72

i410
AC/DC Current Clamp
See page 70

CXT80
Extreme Hard Case
See page 63

C550
Tool Bag
See page 63

TL175
TwistGuard™ Test Leads
See page 66

TL225
Stray Voltage Adapter Test Lead Kit

i2000 FLEX
AC Current Clamp
See page 69

C25
Meter Case
See page 63

Features

	27 II	28 II	28 II Ex
Tested to withstand a 3 m (10 ft) drop	•	•	•
Wide 1000 V measurement range	•	•	•
True-rms ac voltage and current for accurate measurements on non-linear signals	–	•	•
Low pass filter	–	•	•
Temperature	–	•	•
Average responding voltage and current measurements	•	–	–
10 A continuous (20 A for 30 seconds)	•	•	•
Frequency and capacitance	•	•	•
Record signal fluctuations using the Min/Max function	•	•	•

Specifications

		27 II	28 II	28 II Ex
DC voltage	Range	0.1 mV to 1000 V		
	Accuracy	0.05 % +1	0.05 % + 1	0.05 % + 1
AC voltage	Range	0.1 mV to 1000 V		
	Accuracy	0.5 % +3	0.7 % +4	0.7 % +4
DC current	Range	0.1 µA to 10 A		
	Accuracy	0.2 % + 4	0.2 % + 4	0.2 % + 4
AC current	Range	0.1 µA to 10 A		
	Accuracy	1.5 % + 2	1.0 % + 2	1.0 % + 2
Resistance	Range	0.1 0 to 50 MΩ		
Display counts		6000	6000/19,999	6000/19,999
Capacitance		1 nF to 9999 µF		10 nF to 9999 µF
Frequency		0.5 Hz to 199.99 kHz		
Temperature			-200 °C to +1090 °C	-200 °C to +1090 °C
Low pass filter (measurement on VSD's)			Yes	Yes
Compliance		CAT IV 600 V, CAT III 1000 V		
Measurement method		Avg. responding	True-rms	True-rms
Power		Three AA batteries		
Battery life		800 hours		400 hours
Dimensions (DxWxH)		6.35 cm x 10.0 cm x 19.81 cm (2.5 in x 3.93 in x 7.8 in)		
Weight with holster		698.5 g (1.54 lb)		

Ordering information

Included accessories	Models	
Test leads, temperature probe, alligator clips, batteries, holster, manual information pack.	FLUKE-27-II	Industrial Multimeter
	FLUKE-28-II	Industrial Multimeter
	FLUKE-28-II EX	Intrinsically Safe Industrial Multimeter

Check price and availability at
www.fluke.com/wtb

For more information, go to **www.fluke.com/dmm**

Fluke 179 Digital Multimeter
For maintenance and field service

The Fluke 179 True-rms Multimeter has the features needed to find most electrical and HVAC problems. Simple to use with significant improvements over the original Fluke 70 Series.

- Wide 1000 V measurement range
- True-rms for precise measurement of non-linear signals
- Capacitance, resistance, continuity and frequency
- Built-in thermometer (Fluke 179 only)
- Large, easy-to-read display
- Backlight for work in dimly lit areas (Fluke 177 and 179 only)
- Min/Max/Avg to record signal fluctuations
- Display hold and auto hold
- Manual and automatic ranging

Electrical safety

All inputs are protected to measurement CAT III 1000 V and CAT IV 600 V. This meter can withstand transient impulses in excess of 8000 V to help protect you from arc blasts resulting from surges and spikes.

Also available the 175 and 177 multimeters, see below for specifications.

Recommended accessories

TPAK
Magnetic Meter Hanger
See page 71

TL81A
Deluxe Electronic Test Lead Set
See page 64

TL175
TwistGuard™ Test Leads
See page 66

i410
AC/DC Current Clamp
See page 70

CXT170
Extreme Hard Case
See page 63

C25
Meter Case
See page 63

Recommended kits

179/EDA2 Electronics Multimeter and Deluxe Accessory Combo Kit
- True-rms digital multimeter
- Electronic test probes
- SureGrip™ silicone test leads
- SureGrip™ heavy duty hook clips
- Type K temperature probe
- Meter hanging accessory
- Soft case

179/1AC-II Electrician's Multimeter and Voltage Tester Combo Kit
- True-rms digital multimeter
- Non-contact voltage detector
- Alligator clips
- SureGrip™ test probes
- Silicone test leads, 1.5 m
- Type K temperature probe
- Meter hanging accessory
- Soft case

Features

Features	179	177	175
Max voltage	1000	1000	1000
True-rms	•	•	•
Temperature	•	—	—
Basic dc accuracy	0.09 %	0.09 %	0.15 %
Backlight	•	•	—
Min/Max/Avg	•	•	•
ToolPak meter hanging kit with magnet	Opt	Opt	Opt
Limited lifetime warranty	•	•	•

Specifications

Functions	Range and resolution	Best accuracy
DC voltage	600.0 mV, 6.000 V, 60.00 V, 600.0 V, 1000 V	± 0.09 % (Models 177 and 179) ± 0.15 % (Model 175)
AC voltage[1]	600.0 mV, 6.000 V, 60.00 V, 600.0 V, 1000 V	± 1.0 % of reading
DC current	60.00 mA, 400.0 mA, 6.000 A, 10.00 A[2]	± 1.0 % of reading
AC current[2]	60.00 mA, 400.0 mA, 6.000 A, 10.00 A[2]	± 1.5 % of reading
Resistance	600.0 Ω, 6.000 kΩ, 60.00 kΩ, 600.0 kΩ, 6.000 MΩ, 50.00 MΩ	± 0.9 % of reading
Capacitance	1000 nF, 10.00 µF, 100.0 µF, 9999 µF	± 1.2 % of reading
Frequency[3]	99.99 Hz, 999.9 Hz, 9.999 Hz, 99.99 kHz	± 0.1 % of reading
Temperature (Model 179)	–40 °C to +400 °C (–40 °F to +752 °F)	1.0 % of reading

[1] All ac voltage and ac current ranges are specified from 5 % of range to 100 % of range.
[2] 10 A continuous, 20 A for up to 30 seconds.
[3] Voltage frequency is specified from 2 Hz to 100 kHz. Current frequency is specified from 2 Hz to 30 kHz.
Battery life: 200 hours typical for alkaline.
Size (HxWxL): 4.3 cm x 9.0 cm x 18.5 cm (1.7 in x 3.5 in x 7.3 in).

Ordering information

Included accessories	Models	
Test leads, 9 V battery (installed) and manual. The Fluke 179 also includes a temperature probe.	FLUKE-179	Digital Multimeter
	FLUKE-175	Digital Multimeter
	FLUKE-177	Digital Multimeter
	FLUKE-179/1AC-II	Electricians Combo Kit
	FLUKE-179/EDA2	Electronics Combo Kit

Check price and availability at
www.fluke.com/wtb

Fluke 233 Remote Display Digital Multimeter

The Fluke 233 Remote Display Digital Multimeter allows you to be in two places at once. The removable display solves several problems. First, you no longer have to hold both the meter and the test leads to make a measurement. It also allows you to measure where the measurement point is separated from controls or where the operator can't stay close to the meter during measurements due to various hazards or moving machinery.

- Wireless technology allows the display to be carried up to 30 feet away from the point of measurement for added flexibility
- The removable magnetic display can be conveniently mounted where it is easily seen
- Low-power 802.15.4 wireless technology does not interfere with measurement accuracy
- Use as a conventional multimeter when the display is connected
- True-rms ac voltage and current
- Built-in thermometer
- Auto power off maximizes battery life (400 hours)
- Radio transmitter automatically turns off when the display is connected to the meter
- Record signal fluctuations using the Min/Max function

Recommended accessories

TPAK
Magnetic Meter Hanger
See page 71

TL220
SureGrip Industrial Test Lead Set
See page 64

80PK-22
SureGrip Immersion Temperature Probe
See page 67

i400s
AC Current Clamp
See page 69

80AK-A
Thermocouple Adapter
See page 67

AC285
SureGrip Alligator Clips
See page 66

TL175
TwistGuard Test Leads Meter Hanger
See page 66

TLK289
SureGrip Industrial Test Lead Set
See page 64

TP175
TwistGuard Test Probes
See page 66

FTP-1
SureGrip Fused Test Probe Set
See page 66

TL224
SureGrip Silicone Insulated Test Leads
See page 66

C35
Soft Carrying Case
See page 63

C101
Hard Case
See page 63

C781
Meter Case
See page 63

Features

Features
Measure up to 1000 V ac and dc
Measure up to 10 A (20 A for 30 seconds)
10,000 µF capacitance range
Frequency to 50 kHz
Resistance, continuity and diode test
Min/Max and average recording to capture variations automatically
Three-year warranty

Specifications

Functions		Specifications
DC voltage	Range	0.1 mV to 1000 V
	Accuracy	0.25 % + 2
AC voltage	Range	0.1 mV to 1000 V
	Accuracy	1.0 % + 3
DC current	Range	0.001 A to 10 A
	Accuracy	1.0 % + 3
AC current	Range	0.001 A to 10 A
	Accuracy	1.5 % + 3
Resistance	Range	0.1 Ω to 40 MΩ
Capacitance		1000 nF to 9999 µF
Frequency		0.1 Hz to 50.00 kHz
Temperature		-40 °C to +400 °C (-40 °F to 752 °F)
Power		Three AA batteries main body, two AA batteries display module
Battery life		400 hours
Compliance		CAT IV 600 V , CAT III 1000 V
Size (HxWxL)		5.3 cm x 5.3 cm x 19.3 cm (2.08 in x 2.08 in x 7.6 in)
Weight		604 g (1.3 lb)

Ordering information

Included accessories	Models	
Test leads, temperature probe, alligator clips, batteries, manual information pack.	FLUKE-233	Remote Display Multimeter

Check price and availability at
www.fluke.com/wtb

Fluke 117 and 115
True-rms Digital Multimeters

The Fluke 117 Digital Multimeter includes integrated non–contact voltage detection to help get the job done faster. The Fluke 115 Digital Multimeter is the solution for a wide variety of electrical and electronic testing applications.

- VoltAlert™ technology for integrated non–contact voltage detection (117)
- AutoVolt feature for automatic ac/dc voltage selection (117)
- LoZ: Low input impedance prevents false readings due to "ghost voltage" (117)
- Large display and white LED backlight to work in poorly lit areas more effectively
- Compact ergonomic design for one–handed operation
- Min/Max/Avg to record signal fluctuations
- Compatible with optional magnetic hanger (TPAK) for hands free operation
- Current measurement 20 A (30 seconds momentary; 10 A continuous)
- Resistance, continuity, frequency and capacitance

Fluke 117

Fluke 115

Specialty model

Fluke 113
- Basic electrical and utility multimeter
- VCHEK™ LoZ low impedance measurement function to simultaneously test for voltage or continuity
- True-rms for accurate ac measurements on non-linear loads
- Record signal fluctuations using the Min/Max function
- Diode and capacitance measurements
- Integral holster with probe holders for easy storage
- Auto and manual ranging for added user functionality
- Meets CAT IV 600 V standards for a higher level of safety

Recommended accessories

TPAK Magnetic Meter Hanger *See page 71*

TL220 SureGrip Industrial Test Lead Set *See page 64*

TL175 TwistGuard™ Test Leads *See page 66*

C115 Soft Carrying Case *See page 63*

Features

Features	117	115	113
VoltAlert™ detector	•	–	–
AutoVolt/LoZ	•	–	LoZ
Analog bargraph	•	•	•
Large backlit digital display	•	•	•
True-rms for accurate measurements on non-linear loads	•	•	•
Min/Max recording	•	•	•
Display hold	•	•	•
3-1/2 digits	•	•	•
6000 counts	•	•	•
CAT III 600 V safety rated	•	•	•
Three-year warranty	•	•	•

Specifications

Functions	117	115	113	Accuracy
Volts ac/dc	600 V	600 V	600 V	0.5 % + 2
Current ac/dc	10 A	10 A	–	1.0 % + 3
Resistance	40 MΩ	40 MΩ	60 kΩ	0.9 % + 2
Capacitance	1 nF to 9,999 µF	1 nF to 9,999 µF	–	1.9 % + 2
Diode test	Yes	Yes	Yes	–
Frequency	5 Hz to 50 kHz	5 Hz to 50 kHz	–	0.1 % + 2

Recommended kits

117/323 Electrician's Combo Kit
- True-rms digital multimeter with non-contact voltage detection
- Compact clamp meter
- Test lead set
- Magnetic meter hanging strap
- Deluxe carrying case with shoulder strap

Ordering information

Included accessories	Models	
Test leads, holster, users manual and 9 V battery (installed).	FLUKE-117	Multimeter with Non-Contact Voltage
	FLUKE-115	Multimeter
	FLUKE-113	Utility Meter
	FLUKE-117/323	Electrician's Combo Kit

Check price and availability at **www.fluke.com/wtb**

Fluke 116 and 114 Digital Multimeters
HVAC/R and electrical troubleshooting

Fluke 116

The Fluke 116 Digital Multimeter was specifically designed for the HVAC professional. The Fluke 114 Digital Multimeter is the best troubleshooting tool for "go/no-go" testing.

- Built in thermometer for HVAC applications (116)
- Microamps to test flame sensors (116)
- AutoVolt: Automatic ac/dc voltage selection (114)
- LoZ: Helps prevent false readings due to ghost voltage
- Min/Max/Avg to record signal fluctuations
- Resistance, continuity, frequency and capacitance
- Large white LED backlight to work in poorly lit areas
- Compact ergonomic design for one-handed operation
- Compatible with optional magnetic hanger (TPAK)

Fluke 114

Recommended accessories
Fluke 116

80AK-A
DMM Adapter
See page 67

80PK-22
SureGrip™ Immersion Temperature Probe
See page 67

80PK-8
Pipe Clamp Temperature Probe
See page 68

80PK-27
SureGrip™ Industrial Surface Probe
See page 67

Recommended kits

116/323 HVAC Combo Kit
- HVAC multimeter with temperature and microamps
- Compact clamp meter
- Test lead set
- Pipe wrap thermocouple
- Thermocouple adapter
- Thermocouple bead probe
- Meter hanging accessory
- Deluxe carrying case with shoulder strap

116/62 MAX+ HVAC Combo Kit
- HVAC multimeter with temperature and microamps
- Infrared thermometer
- Test lead set
- Pipe wrap thermocouple
- Thermocouple adapter
- Type K integrated temperature probe
- Magnetic meter hanging strap
- Deluxe carrying case with shoulder strap

Features

Features	116	114
Temperature	•	—
Microamps	•	—
Frequency	•	—
Capacitance	•	—
Diode test	•	—
AutoVolt/LoZ	•	•
Analog bargraph	•	•
Large backlit digital display	•	•
True-rms for accurate measurements on non-linear loads	•	•
Min/Max recording	•	•
Display hold	•	•
3-1/2 digits	•	•
6000 counts	•	•
CAT III 600 V safety rated	•	•
Three-year warranty	•	•

Specifications

Functions	Range and resolution	Best accuracy
Volts ac/dc	600 V	0.5 % + 2
Current ac/dc (116 only)	600.0 µA	1.0 % + 2
Temperature (116 only)	+400 °C	1.0 % + 18
Resistance	40 MΩ	0.9 % + 2
Capacitance (116 only)	1 nF to 9,999 µF	1.9 % + 2
Frequency (116 only)	5 Hz to 50 kHz	0.1 % + 2

Ordering information

Included accessories	Models	
Test leads, integrated temperature probe (116 only), holster, users manual and 9 V battery (installed).	FLUKE-116	HVAC Multimeter with Temperature and Microamps
	FLUKE-114	Electrical Multimeter
	FLUKE-116/62 Max+	HVAC Combo Kit
	FLUKE-116/323	HVAC Combo Kit

Check price and availability at
www.fluke.com/wtb

Fluke 88V and 77 IV Digital Multimeters

For automotive, field service or bench repair

Fluke 88V Automotive Multimeter

The Fluke 88V Automotive Multimeter is designed to help automotive professionals solve problems faster. This DMM has the measurement functions, troubleshooting features and accuracy to solve virtually any problem with conventional and hybrid vehicles.

- Automotive test functions include dc and ac voltage, resistance and current
- Min/Max recording for logging the highest and lowest readings over time
- Frequency measurements for magnetic sensors and ac/dc frequency signals
- Duty cycle for variable duty cycle signals with selectable trigger, slope and level
- Pulse width for fuel injector on-time measurements
- Conductance testing for secondary ignition coils
- RPM measurements for DIS and conventional ignition systems
- Built-in thermometer

Fluke 77 IV Digital Multimeter

The Fluke 77 IV Digital Multimeter has the features needed to repair most electrical and electronic problems. This meter is simple to use and has significant improvements over Fluke's original 70 Series with more measurement functions, conformance to the latest safety standards, and a much larger display that is easier to view.

- Wide 1000 V measurement range
- Average responding ac measurements
- 0.3 % accuracy
- 10 amps continuous
- Frequency and capacitance
- Resistance and continuity
- Large display
- Backlight for work in dim areas
- Min/Max to record signal fluctuations
- Integral holster with probe holders
- Free your hands with the optional TPAK magnetic hanger
- Auto and manual ranging

Recommended accessories

Fluke 88V

TLK281
Automotive
Test Lead Kit
See page 65

TLK282
Deluxe Automotive
Test Lead Kit
See page 65

Fluke 77 IV

TPAK
Magnetic Meter Hanger
See page 71

i400
AC Current Clamp
See page 69

TL175
TwistGuard™
Test Leads
See page 66

TLK-225
SureGrip™ Master
Accessory Kit
See page 64

i2000 Flex
AC Current Clamp
See page 69

C35
Soft Carrying Case
See page 63

Recommended kits

Buy Combo Pack and Save

88V/A Combo Kit
- Automotive multimeter
- Heat resistant silicone test leads
- Removable sharp point test probes
- Large jaw alligator clips
- Temperature probe
- Inductive pick-up
- Automotive backprobe pins
- Insulation piercing probe
- Meter hanging accessory
- Durable carrying case

Specifications

	88V	77IV
V dc	1000 V	1000 V
V ac	100 V	100 V
A dc	10 A	10 A
A ac	10 A	10 A
Resistance	50 MΩ	50 MΩ
Capacitance	9,999 µF	9,999 µF
Frequency	200.00 kHz	99.99 kHz
Duty Cycle	99.9 %	—
Temperature	1994.0 °F (1090 °C)	—
Conductance	60.00 nS	—

Ordering information

Included accessories	Models	
Test leads, manual information pack and 9 V battery (installed).	FLUKE-88-5	Automotive Multimeter
	FLUKE-77-4	Digital Multimeter
	FLUKE-88-5/A KIT	Automotive Multimeter Combo Kit

Fluke 1587 and 1577 Insulation Multimeters

Fluke 1587

Two powerful tools in one

The Fluke 1587 and 1577 Insulation Multimeters combine a digital 1 kV insulation tester with a full-featured, true-rms digital multimeter in a single compact, handheld unit, which provides maximum versatility for both troubleshooting and preventive maintenance.

- Insulation test (1587: 0.01 MΩ to 2 GΩ) (1577: 0.1 MΩ to 600 MΩ)
- Insulation test voltages (1587: 50 V, 100 V, 250 V, 500 V, 1000 V), (1577: 500 V, 1000 V) for many applications
- Live circuit detection prevents insulation test if voltage > 30 V is detected for added user protection
- Auto-discharge of capacitive voltage for added user protection
- Filter for motor drive measurements (1587 only)
- AC/DC voltage, dc millivolts, ac/dc milliamps, resistance (Ω), and continuity
- Capacitance, diode test, temperature, Min/Max, and frequency (Hz) (1587 only)
- Auto power off to save battery power
- Large display with backlight and large digits
- Included accessories: Remote probe, test leads and probes, alligator clips, (Type K thermocouple, 1587 only)
- Accepts optional Fluke TPAK magnetic hanging system to free your hands for other work
- Rugged, utility hard case allows you to bring everything you need for the job

Fluke 1577

Recommended accessories

TPAK
Magnetic Meter Hanger
See page 71

i400
AC Current Clamp
See page 69

C100
Universal Carrying Case
See page 63

TL27
Heavy Duty
Test Leads

Recommended kits

Get more value and productivity
Establishing a preventive maintenance program is becoming critical to maintaining the uptime of electrical equipment and can significantly reduce both planned and unplanned downtime. Unplanned downtime costs are difficult to calculate, but are often significant. For some industries, it can represent 1 % to 3 % of revenue (potentially 30 % to 40 % of profits) annually.

These kits can help you be proactive and efficient with your maintenance and can save you up to 10 % off the individual price of the tools.

Fluke 1587/ET Advanced Electrical Troubleshooting Kit includes:
- Fluke 1587 Insulation Multimeter
- Fluke i400 Current Clamp
- Fluke 62 MAX+ Infrared Thermometer

Fluke 1587/MDT Advanced Motor and Drive Troubleshooting Kit includes:
- Fluke 1587 Insulation Multimeter
- Fluke i400 Current Clamp
- Fluke 9040 Phase Rotation Indicator

Specifications

Features	1587	1577	1507	1503
Insulation test voltages 50 V, 100 V, 250 V, 500 V, 1000 V	•	–	•	–
Insulation test voltages 500 V, 1000 V	–	•	–	•
Insulation resistance	0.01 MΩ to 2.0 GΩ	0.1 MΩ to 600 MΩ	0.01 MΩ to 10 GΩ	0.1 MΩ to 2 GΩ
Auto-discharge of capacitive voltage	•	•	•	•
Insulation test smoothing reading	•	–	–	–
Frequency	•	–	–	–
Capacitance	•	–	–	–
Diode test	•	–	–	–
Temperature	•	–	–	–
Min/Max	•	–	–	–
Low-pass filter (for work on VSDs)	•	–	–	–
AC/DC voltage	•	•	•	•
DC millivolts	•	•	–	–
AC/DC milliamps	•	•	–	–
Resistance	0.1 Ω to 50 MΩ	0.1 Ω to 50 MΩ	0.1 Ω to 20.00 KΩ	0.1 Ω to 20.00 KΩ
Continuity	•	•	•	–
Warranty	Three-year	Three-year	One-year	One-year
Remote probe, test leads, alligator clips	•	•	•	•
Type K thermocouple	•	–	–	–
Rugged, utility hard case	•	•	•	•
Auto power off	•	•	•	•
Page number	17	17	24	24

Ordering information

Included accessories	Models	
Remote probe, test leads, alligator clips, Type K thermocouple (1587 only), hard case and users manual.	FLUKE-1577	Insulation Multimeter
	FLUKE-1587	Insulation Multimeter
	FLUKE-1587/ET	Advanced Electrical Troubleshooting Kit
	FLUKE-1587/MDT	Advanced Motor and Drive Troubleshooting Kit

Check price and availability at
www.fluke.com/wtb

For more information, go to **www.fluke.com/dmm**

Fluke 8846A/8845A/8808A
Precision Bench Multimeters

Fluke 8846A

Fluke 8845A

Fluke 8808A

Fluke 8846A/8845A 6.5 Digit Precision Multimeters

These digital multimeters perform the functions you would expect to see in a multifunction DMM, including measuring volts, ohms and amps. Basic V dc accuracy of up to 0.0024 %, 10 A current range, and a wide ohms range give you an unbeatable combination of measurement capability.

Extend the meters' utility even more with their graphical display modes, including Trendplot™ paperless recorder mode, statistics and histograms—features you won't find on other multimeters

- 6.5 digit resolution
- Up to 0.0024 % accuracy
- Graphical analysis modes: TrendPlot, Histogram, and Statistics
- Dual measurement inputs: front/rear
- Dual measurement display
- Wide measurement ranges
- IEEE, LAN, RS-232 interfaces
- USB memory device port (8846A)
- TL2X4 wire measurement technique
- Three-year warranty

Fluke 8808A 5.5 Digit Multimeter

The Fluke 8808A multimeter has a broad range of functions, measuring volts, ohms and amps with a basic V dc accuracy of 0.015 %. The meter is easy to use and include innovative functions to simplify routine testing and precision 4 wire resistance measurements.

- 5.5 digit resolution
- Up to 0.015 % accuracy
- Dual measurement display
- Sensitive dc leakage current ranges
- Front panel setup keys
- TL2X4 wire measurement technique
- Three-year warranty

Sample screens
Fluke 8846A/8845A

Built-in TrendPlot graphically plots extent of drift and intermittent events.

Critical measurement statistics are conveniently displayed together.

Histogram mode can reveal stability or noise problems.

Perform two interrelated measurements like volts and amps, or volts ac and frequency (and 8808A).

Measure sensitive dc currents accurately using unique design that minimizes measurement error due to shunt burden voltages (8808A only).

Specifications

	Fluke 8808A	Fluke 8845A	8846A
Display	Dual	Dual, graphical	
Resolution (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, Cont, 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, freq, i-Leakage dedicated setup keys	2x4 wire ohms, freq, period	2x4 wire ohms, freq, period, capacitance, temp (RTD)
Math	Null, dBm, dB, Min, Max	Null, dBm, dB, Min, Max, Ave, Std Deviation, MX+B	
Analysis	Limit Compare	Limit Compare, TrendPlot, Histogram, Statistics	
USB memory device port	No	No	Yes
Interfaces	RS-232, USB via optional adapter	RS-232, IEEE-488.2, LAN, USB via optional adapter	
Safety rating	CAT I 1000 V, CAT II 600 V	CAT I 1000 V, CAT II 600 V	

Ordering information

Included accessories	Models	
Power cord, test lead set, programmers manual/users manual on CD, FVF-BASIC, FlukeView Forms Software Basic Version.	FLUKE-8846A	6.5 Digit Precision Multimeter, 24 ppm USB memory
	FLUKE-8845A	6.5 Digit Precision Multimeter, 35 ppm
Test leads, line cord, getting started guide, users manual on CD.	FLUKE-8808A	5.5 Digit Multimeter

Recommended accessories

TL2X4W-TWZ
2x4-Wire Ohms Tweezers Test Leads

TL2X4W-PTII
2x4-Wire Ohms Test Lead

Y8846D
Rack Mount Kit, Dual

Check price and availability at
www.fluke.com/wtb

Fluke 424D, 419D and 414D
Laser Distance Meters

New

Introducing the next generation of Fluke Laser Distance Meters

Measure farther, with greater accuracy, in more situations.

- **Instant measurements up to 100 m (330 ft):** Just point, click, done
- **Measure with greater accuracy:** Up to ± 1 mm, no scales to interpret or misread
- **Do the work of two:** Instead of holding the tape, your helper can do other jobs
- **Speed up the job:** Easily measure hard-to-access areas, like high ceilings, without climbing a ladder
- **Keep it on the level:** New inclination sensor on the Fluke 424D helps with leveling, height tracking, measuring around obstacles
- **Reduce estimating errors— let the meters do the math:** Find area and volume. Easily add and subtract distances. Use Pythagoras calculations for height
- **Three-year warranty**

Fluke 424D

LASER RADIATION
DO NOT STARE INTO BEAM
CLASS 2 LASER PRODUCT
λ=650nm,<1mW,EN60825-1:2007
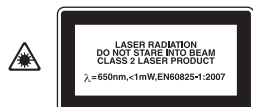
Complies with FDA 21 CFR 1040.10,11 except for deviations pursuant to Laser Notice No 50.

Fluke 419D

Fluke 414D

Recommended kits

414D/62 Max+ Kit
- Fluke 414D Laser Distance Meter
- Fluke 62 Max+ Infrared Thermometer
- Soft pouch for 414D

Other products

Fluke 62 Max and 62 Max+ Infrared Thermometers

Designed with your on-the-job needs in mind, the new Fluke 62 MAX and 62 MAX+ infrared thermometers are everything you'd expect from the experts in measurement tools. Small in size, extremely accurate and very easy to use. IP54 rated for dust and water resistance. Precise yet rugged enough to take a 3-meter drop. In fact, the 62 MAX and 62 MAX+ are so tough, they're the only IR thermometers around you can handle without care..

For more information, go to **www.fluke.com/62max**

Specifications

Features	Fluke 424D	Fluke 419D	Fluke 414D
Maximum measurement distance	100 m (330 ft)	80 m (260 ft)	50m (165ft)
Accuracy	± 1 mm (± 0.04 in)	± 1 mm (± 0.04 in)	± 2 mm (± 0.08 in)
Battery life (number of measurements)	5000	5000	3000
Area measurement	Yes	Yes	Yes
Volume measurement	Yes	Yes	Yes
Pythagoras calculations	Full	Full	1+2
Plus and minus calculations	Yes	Yes	Yes
Measurement storage	20 complete displays	20 complete displays	5 results
Backlight	Yes	Yes	No
Minimum/Maximum	Yes	Yes	Yes(Pyth)
Audible keypad feedback	Yes	Yes	–
Tripod mount	Yes	Yes	-
Corner angle measurement	Yes	–	–
Stake out	Yes	Yes	–
Dust and splash proof	IP54	IP54	IP40
Compass	Yes	–	–
Inclination sensor	Yes	–	–
Display	4 line	3 line	2 line
Automated end-piece xorrection	Yes	–	–

Ordering information

Included accessories	Models	
Two AAA batteries, users manual on CD, quick start guide, nylon carrying case.	FLUKE-424D	Laser Distance Meter 100m (330 ft)
	FLUKE-419D	Laser Distance Meter 80m (260 ft)
	FLUKE-414D	Laser Distance Meter 50m (165 ft)
	FLUKE-414D/62 Max+	Laser Distance Meter/Infrared Thermometer Combo Kit
	FLUKE-62 MAX+	Dual laser infrared thermometer, 12:1 spot
	FLUKE-62 MAX	Single laser infrared thermometer, 10:1 spot

Check price and availability at
www.fluke.com/wtb

Fluke 1625 and 1623
Geo Earth Ground Testers

Fluke 1625

Fluke 1623

The Fluke 1625 and 1623 Earth Ground Testers not only measure ground resistance using the classic "fall of potential test," but also enable time saving testing using "selective" and "stakeless" methods. "Selective" testing does not require the electrode under test to be disconnected during the measurement, thus increasing safety. The simple "stakeless" method quickly checks ground connections using two current transformers (probes) clamped around the ground conductor under test. Offering "one–button" simplicity, the 1623 is an all–in–one earth ground tester, while the 1625 has extra versatility for more demanding applications.

The 1623 is perfect for performing predictive maintenance checks of commercial and industrial applications. The 1625 is intended for electrical utility or other electrically noisy environments.

Earth ground resistance and soil resistivity should be measured when:
• Designing earth ground systems
• Installing new ground system and electrical equipment
• Periodically testing ground and lightning protection systems
• Installing large electrical equipment such as transformers, switchgears, machines, etc.

Recommended accessories

EI-1623
Selective/stakeless clamp set for 1623

EI-1625
Selective/stakeless clamp set for 1625

ES-162P3
Stake/reel set for 3-pole measurements

ES-162P4
Stake/reel set for 4-pole measurements

EI-162BN
Split Core Transformer for use with Fluke 1625

Recommended kits

Fluke 1625 Kit
• Fluke 1625 tester
• Two test leads
• Four earth ground stakes
• Three cable reels with wire (2–25 m, 1–50 m)
• Two clamps (one inducing, one sensing)
• Rugged carrying case

Fluke 1623 Kit
• Fluke 1623 tester
• Two test leads
• Four earth ground stakes (2 m to 25 m)
• Three cable reels with wire (2 m to 25 m, 1 m to 50 m)
• Two clamps (one inducing, one sensing)
• Rugged carrying case

Specifications

Features	1625	1623	1621
One-button measurement concept	–	•	•
3-pole earth ground measurement	•	•	•
4-pole earth ground measurement	•	•	–
4-pole soil resistivity testing	•	•	–
2-pole resistance measurement ac	•	•	•
2-and 4-pole resistance measurement dc	•	–	–
Selective testing, no disconnection of ground conductor (1 clamp)	•	•	–
Stakeless testing, quick ground loop testing (2 clamps)	•	•	–
Measuring frequency 128 Hz	–	•	•
Earth impedance measurement at 55 Hz	•	–	–
Automatic frequency control (AFC), 94 Hz to 128 Hz	•	–	–
Measuring voltage switchable 20 V/48 V	•	–	–
Programmable limits, settings	•	–	•
Continuity with buzzer	•	–	–
Dust/water resistance	IP 56	IP 56	IP 40
Safety rating	CAT II 300 V	CAT II 300 V	CAT II 600 V
Two-year warranty	•	•	•

* In favorable conditions (optimal target surface, room temperature) up to 10 m (33 ft). In unfavorable conditions, such as intensive sunshine, very weak reflecting target surface, or large temperature fluctuations, measuring accuracy may deteriorate to approx. ± 0.25 mm/m (± 0.003 in/ft) for distances above 10 m (33 ft).
** In favorable conditions (optimal target surface, room temperature) up to 10 m (33 ft). In unfavorable conditions, such as intensive sunshine, very weak reflecting target surface, or large temperature fluctuations, the deviation over distances 10 m (33 ft) can increase by approx. ± 0.15 mm/m (± 0.0018 in/ft).

Ordering information

Included accessories	Models	
Test leads, alligator clips, users manual.	FLUKE-1625	Advanced GEO Earth Ground Tester
	FLUKE-1623	Basic GEO Earth Ground Tester
Test leads, alligator clips, stake/reel set 4-pole, selective/stakeless clamp set, rugged carrying case, users manual.	FLUKE-1625 KIT	Advanced GEO Earth Ground Tester Kit
	FLUKE-1623 KIT	Basic GEO Earth Ground Tester Kit

These products are for unpowered installations measuring grounding connections.

Fluke 1621 Basic Earth Ground Tester

Earth ground tester for resistance measurement

The Fluke 1621 Earth Ground Tester is a rugged, easy-to-use tester for three-pole ground resistance measurements and two-pole ac resistance measurements.

Earth ground resistance is measured by installing earth ground test electrodes, and testing with the Fluke 1621. Earth ground resistance measurements are used to ensure safe operation and reduce power quality problems. With a simple user interface and intuitive functionality, the large, clear LCD display provides high visibility results in daylight or poor lighting conditions. The 1621 is lightweight making it ideal to test for lightning protection levels and periodic check-ups during routine maintenance.

- Three-pole earth resistance measurements
- Two-pole ac resistance measurements
- AC/DC voltage measurement
- Large dual backlit display
- Limit settings for automatic measurement evaluation
- CAT II 600 V
- Two-year warranty

Feature comparison on page 20.

Recommended accessories

Cable Reel 50 m
Ground/earth wire
(162.5 ft)

Cable Reel 25 m
Ground/earth wire
(81.25 ft)

ES-162P3
Stake/reel set for
3-pole measurements

Ground/earth
stake

Recommended kits

Fluke 1621 Tester
- Two cable reels with wire (1-50 m, 1-25 m)
- Three earth ground stakes
- One test lead (red and black 2 m)
- Two alligator clips
- Hard carrying case

Fluke 1630 Earth Ground Clamp Meter

The Fluke 1630 Earth Ground Clamp Meter is able to measure ground loop resistances—using the stakeless testing method. This test technique eliminates the dangerous, and time consuming activity, of disconnecting parallel grounds, as well as the process of finding suitable locations for auxiliary ground stakes. You can also perform earth ground tests in places you have not considered before: inside buildings, on power pylons or anywhere you don't have access to soil.

With the stakeless testing method, the Fluke 1630 Earth Ground Clamp Meter is placed around the earth ground rod or the connecting cable. No earth ground stakes are used at all. A known voltage is induced by one half of the clamp and the current is measured by the other half. The tester automatically determines the ground loop resistance at this grounding connection. Gone are the days of spending time placing and connecting stakes for each earth ground rod on your system—a major time saver.

- Quick and easy use—no earth ground stakes are necessary
- Large, 35 mm (1.35 in) jaw opening
- Measures ground resistance from 0.025 Ω to 1500 Ω
- Measures ground leakage current from 0.2 mA to 30 A
- High and low alarming
- Automatic self calibration
- Rugged carrying case and resistance check loop included
- Two-year warranty

Ordering information

Included accessories	Models	
Two measuring leads with alligator clips, 2 m (6 ft), yellow protective holster, 9 V alkaline battery (LR61), users manual, CD.	FLUKE-1621	Basic Earth Ground Tester
1-50 m cable reel, 1-25 m cable reel, 3 earth stakes, 2 test leads, 2 alligator clips, carrying case, yellow protective holster, 9 V alkaline battery (LR61), users manual, CD.	FLUKE-1621 KIT	Basic Earth Ground Tester Kit
Rugged carrying case with belt, resistance test loop, 9 V battery, users manual.	FLUKE-1630	Earth Ground Clamp Meter

These products are for unpowered installations measuring grounding connections.

Check price and availability at
www.fluke.com/wtb

For more information, go to **www.fluke.com/egt**
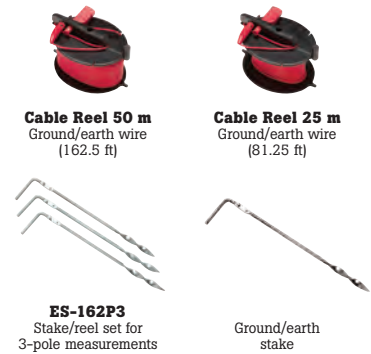
Fluke T5, T+PRO, T+ Electrical Testers and VoltAlert™

Fluke T+PRO and T+ Electrical Testers

- Three forms of ac/dc voltage detection: Light, sound and vibration
- Detects live voltage even when batteries are dead
- Extra heavy-duty, replaceable test leads
- Rotary field indicator for troubleshooting three-phase systems
- Continuity beeper, LED flashlight and GFCI trip

Fluke T+PRO

Fluke T5-1000

Fluke LVD2

Fluke 1AC-II   **Fluke 2AC**

Fluke T5 Voltage, Continuity and Current Testers

- Excellent front-line troubleshooting and measurement tool
- Available in 600 V and 1000 V models
- Digital display
- OpenJaw™ current measurement
- Rotary switch selects volts, amps and ohms functions
- Heavy-duty test leads

Fluke VoltAlert™ Family

The next generation VoltAlert™ ac non-contact voltage testers from Fluke are easy to use. Electricians, maintenance, service and safety personnel, and homeowners can quickly test for energized circuits in the workplace or at home. Certified up to CAT IV 1000 V.

Recommended accessories

H5
Electrical Tester Holster
See page 63

T5-RLS
T5 Replacement Test Leads

T5 Kit
Starter Kit
See page 64

C520A
Premium Leather Holster
See page 63

Recommended kits

T+PRO-1AC Kit
- T+PRO Electrical Tester
- 1AC-II VoltAlert™

62 MAX+/T+PRO/1AC Kit
- 62 MAX+ IR Thermometer
- T+PRO Electrical Tester
- 1AC-II VoltAlert™
- Carrying case

T5-1000 Tester Kit
- T5-1000 Voltage Electrical Tester
- 2AC VoltAlert™ Voltage Detector
- H5 Holster

VoltAlert™ Multi Pack
Includes five Fluke VoltAlert™ voltage detectors. The special kit pricing gets you the fifth VoltAlert™ free.

Specifications

Functions	T+PRO	T+	T5-1000	T5-600
Measure ac/dc voltage	Preset 12 V, 24 V, 48 V, 120 V, 208 V, 240 V, 277 V (Canada 347 V), 480 V, 600 V		1000 V	600 V
Measure ac current (average)	—	—	100 A	100 A
Measure continuity	Yes	Yes	< 25 Ω	< 25 Ω
Measure resistance	9.99 kΩ	—	1000 Ω	1000 Ω
DC polarity indicator	—	—	Yes	Yes
Detachable probe tips with optional probe tips styles	Yes	Yes	Yes	Yes
Digital display	Yes	No	Yes	Yes
Safety rating	CAT IV 600 V/ CAT III 1000 V	CAT IV 600 V/ CAT III 1000 V	1000 V Overvoltage CAT III	600 V Overvoltage CAT III
Warranty	Two-year	Two-year	Two-year	Two-year

*Voltage levels will vary depending on country of intended use.

Functions	2AC	1AC-II	1LAC-II	LVD2
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
Audible alert	—	•	•	•
Flashlight	—	—	—	•
On/Off	Always on	•	•	•
Safety rating	CAT IV 1000 V	CAT IV 1000 V	CAT IV 1000 V	CAT IV 600 V

Ordering information

Included accessories	Models	
The T+ and T+PRO come with attached test probes, lead wrap, users manual.	T+PRO and T+PRO CAN	Electrical Tester
	T+ and T+ CAN	Electrical Tester
	T+PRO-1AC KIT	Electrical Tester and AC Voltage Detector Kit
	T+PRO CAN-1AC KIT	Electrical Tester and AC Voltage Detector Kit
	62 Max+-T+PRO-1AC KIT	IR Thermometer, Electrical Tester and AC Voltage Detector Kit
The T5-1000 and T5-600 come with detachable probes and instruction sheet.	T5-1000	1000 V Voltage, Continuity and Current Tester
	T5-600	600 V Voltage, Continuity and Current Tester
	T5-H5-1AC KIT	Voltage, Continuity and Current Tester Kit
	2AC	VoltAlert™ Voltage Detector
	2AC 5PK	VoltAlert™ Voltage Detector 5 Pack
	1AC-II	VoltAlert™ Voltage Detector
	1AC-II 5PK	VoltAlert™ Voltage Detector 5 Pack
	1LAC-II	VoltAlert™ Voltage Detector
	LVD2	Volt Light

Check price and availability at
www.fluke.com/wtb

Fluke 975 AirMeter™
Simple, one-touch air velocity

The Fluke 975 AirMeter™ combines five powerful air quality tools into one. Identify and diagnose indoor air quality issues quickly and easily with one rugged, handheld device.

- Simultaneously measures, logs and displays temperature, humidity, CO_2 and CO on a bright, backlit LCD display
- % of outside air calculation
- One-touch air flow and velocity with available probe*
- Dew point and wet bulb temperature
- CO_2 and CO field calibration feature
- Min/Max/Avg on all measured and calculated readings
- Audible and visual threshold alarms
- Extensive discrete or continuous data logging capacity, downloadable to PC via USB interface
- Includes NIST-traceable certificate of calibration
- Automatically compensates for barometric pressure changes
- Two-year warranty

*Included with Fluke 975V, optional with Fluke 975.

Fluke 922 Airflow Meter/Micromanometer
Make airflow measurements easy by combining differential pressure, air flow and velocity into a single, rugged meter. Used with any pitot tube, the Fluke 922 is the perfect entry point for technicians measuring air flow for the first time, yet powerful enough for advanced users.

- Measures differential and static pressure, air velocity and flow readings
- User-defined duct shape and size for maximum airflow accuracy
- Bright, backlit display
- Min/Max/Avg/Hold functions
- Auto power off

Recommended accessories

Fluke 975VP
AirMeter Velocity Probe for use with Fluke 975 AirMeter.

Recommended kits

Fluke 975V
- 975 AirMeter™
- Calibration cap
- Air velocity probe
- FlukeView® Forms software
- Power adapter
- International power plugs
- Hard carrying case
- Three AA alkaline batteries
- Users manual with safety information

Fluke 922/Kit
- 922 Airflow meter
- 12 inch pitot tube
- Two rubber hoses
- TPak magnetic strip
- TPak strap, 9 inches
- TPak latch tab
- Four AA 1.5 V alkaline batteries
- Users manual
- Hard carrying case

Specifications

975 features	Range	Display resolution	Accuracy
Temperature	-20 °C to 50 °C (-5 °F to 122 °F)	0.1 °C (0.1 °F)	± 0.9 °C/± 1.62 °F from 40 to 60 °C ± 0.5 °C/ ± 1.00 °F from 5 °C to 40 °C ± 1.1 °C/± 1.98 °F from -20 °C to 5 °C
Relative humidity	10 % to 90 % RH non-condensing	1 %	± 2 % RH (10 % RH to 90 % RH)
Air velocity	50.0 fpm to 3000 fpm 0.25 m/sec to 15 m/sec	1 fpm (0.005 m/sec)	± 4 % or 4 fpm* ± 4 % or 0.02 m/sec* whichever is greater * Accuracy specification only valid for velocity readings above 50 fpm
CO_2	0 ppm to 5000 ppm	1 ppm	Warm up time 1 min (5 minutes for full specification) 2.75 % + 75 ppm
CO	0 ppm to 500 ppm	1 ppm	± 5 % or ± 3 ppm, whichever is greater, @ 20 °C and 50 % RH

922 features	Range	Accuracy
Air pressure	± 4000 Pascals / ± 16 in H2O / ± 400 mm H2O / ± 40 mbar / ± 0.6 PSI	± 1 % + 1 Pascal / ± 1 % + 0.01 in H2O / ± 1 % + 0.1 mm H2O / ± 1 % + 0.01 mbar / ± 1 % + 0.0001 PSI
Air velocity	250 fpm to 16,000 fpm (1 to 80 m/s)	± 2.5 % of reading at 2000 fpm (10.00 m/s)
Air flow (volume)	0 to 99,999 cfm; 0 to 99,999 m 3/hr; 0 to 99,999 l/s	Accuracy is a function of velocity and duct size
Temperature	0 °C to 50 °C (32 °F to 122 °F)	0.1 °C (0.1 °F)
Data storage	99 readings	
Warranty	Two-year	
Power	Four AA batteries	

Ordering information

Included accessories	Models	
Calibration cap, air velocity probe (Fluke 975V only), FlukeView® Forms software, power adapter, international power plugs, hard carrying case, three AA alkaline batteries, users manual with safety information.	FLUKE-975	AirMeter™
	FLUKE-975V	AirMeter™ with Velocity
Two rubber hoses, soft carrying case, four AA alkaline batteries 1.5 V, users manual.	FLUKE-922	Airflow Meter
12 inch pitot tube, two rubber hoses, ToolPak Magnetic Meter Hanging Kit, hard carrying case, four AA alkaline batteries 1.5 V, users manual.	FLUKE-922/KIT	Airflow Meter Kit

Check price and availability at **www.fluke.com/wtb**

For more information, go to **www.fluke.com/IAQ**

Indoor Air Quality Tools
Tools to help you maintain good IAQ

Fluke 971 Temperature Humidity Meter

Temperature and humidity are two important factors in maintaining optimal comfort levels and good indoor air quality. Quickly and conveniently take accurate humidity and temperature readings with the Fluke 971. The Fluke 971 is invaluable for facility maintenance and utility technicians, HVAC-service contractors, and specialists who assess indoor air quality (IAQ). Lightweight and easy to hold, the Fluke 971 is the perfect tool for monitoring problem areas. With a rugged holster and protected sensor, the Fluke 971 is built to perform and made to last.

Features:
- New and improved digital sensor for faster response times
- Backlit dual display of humidity and temperature
- Measures dew point and wet bulb temperatures
- 99 record storage capacity
- Ergonomic design with belt clip and protective holster
- Compact and lightweight at 188 g (6.6 oz)
- Temperature range from –20 °C to 60 °C (–4 °F to 140 °F)
- Relative humidity from 5 % to 95 %
- Min/Max/Avg/Hold functions
- Low battery indicator
- One-year warranty

Fluke 985 Airborne Particle Counter

The new Fluke 985 Particle Counter is ideal for troubleshooting and monitoring indoor air quality issues and verifying HVAC filter performance in critical locations. With its easy to read and fully configurable channel display, lightweight yet rugged form and highly accurate measurements, the Fluke 985 is the perfect tool for the maintenance, HVAC, and IAQ professional.

- **Six channels and particle size range of 0.3 µm to 10.0 µm:** Assures accurate measurements even for critical locations requiring ISO Class 5 – 9 certification.
- **Ultra-lightweight and ergonomic design:** Promises easy single-hand operation in tight or awkward spaces with less operator fatigue
- **Long battery life:** Ten hours of standard-use battery life to last a full work day
- **Large 3.5 inch QVGC color display:** Easy navigation and viewing with the intuitive icons and large font options
- **10,000 record storage:** Quick access to historical data
- **On-screen data presentation:** Data can be viewed in a traditional tabular or trend graph view at the user's preference
- **Personalized setting and configurations:** Customizable settings for the display, sample methods, and alarm settings for sample count
- **Data export options:** Download data to a PC using a USB memory stick, USB cable or Ethernet connection. No special software is required to download or view data
- **Option password control:** Confirms security when required
- **USB/Ethernet charge cradle:** Assures device is always ready to go when needed

Specialty models

Fluke RLD2 UV Refrigerant Leak Detector Flashlight

Leak detection made easy. The compact, easy-to-use, RLD2 UV flashlight uncovers refrigerant leaks instantly. Use the UV light to find the leakage area, then, use the laser pointer to pinpoint the exact leak location. With 100,000 hours of life, and four operating modes, this versatile leak detector is a must have for HVAC technicians.

- Six UV LEDs (395 nm wavelength) detect leak detection dyes
- Laser pointer clearly locates center of the UV field for accuracy
- Three LED flashlight with 100,000 hour LED life
- Operating temperature 0 °C to 50 °C
- Four operating modes: flashlight, UV light, laser light, UV/laser light combination
- Convenient detachable key chain carabiner and AAA battery included

CO-220 Carbon Monoxide Meter
- Stand-alone CO meter that does not require a digital multimeter
- Large backlit LCD displays CO levels from 0 ppm to 999 ppm
- Beeper triggers with increasing frequency as CO levels rise
- MAX hold function stores and displays the maximum CO level
- Automatic sensor zeroing and self-test upon startup

CO-205 Aspirator Kit
The CO-205 flue gas sampling accessory kit includes:
- Stainless steel sampling tube
- Aspirator to draw flue sample
- Replaceable particulate filter
- Nose cap for connection to the Fluke CO-220

Ordering information

Included accessories	Models	
Certificate of Calibration (NIST traceable), cradle for charging and convenient USB and Ethernet communications, ethernet cable, USB cable, power supply, zero count inlet filter, filter adapter, sample inlet protective cap, hard case, and manual.	FLUKE-985	Airborne Particle Counter
Four AAA alkaline batteries, users manual.	FLUKE-971	Temperature Humidity Meter
	FLUKE-CO-205	Aspirator Kit
	FLUKE-CO-220	Carbon Monoxide Meter
	FLUKE-RLD2	Refrigerant Leak Detector Flashlight

Check price and availability at
www.fluke.com/wtb

Fluke 1507/1503 Insulation Resistance Testers

These lightweight, affordable insulation testers are perfect for troubleshooting, commissioning and preventive maintenance applications.

Features
- Automatic calculation of polarization index and dialectric absorption ratio (1507 only)
- Multiple test voltages: 50 V, 100 V, 250 V, 500 V, 1000 V (1507 only)
- Remote test probe for rapid testing
- Insulation test range 0.01 MΩ to 10 GΩ (1507), 0.1 MΩ to 2000 MΩ (1503)
- Compare (Pass/Fail) function for repetitive tests (1507 only)
- Live circuit detection prevents insulation test if voltage > 30 V is detected
- Auto-discharge of capacitive voltage
- AC/DC voltage: 0.1 V to 600 V
- Lo ohms/Earth-bond continuity (200 mA) for checking connections and motor windings
- Resistance: 0.01 Ω to 20.00 Ω
- One-year warranty

Fluke 1507

Fluke 1503

Recommended accessories

TPAK
Magnetic Meter Hanger
See page 71

TL27
Heavy Duty Test Lead Set

C116
Soft Carrying Case
See page 63

C101
Hard Case
See page 63

360
AC Leakage Current Clamp Meter
See page 5

Selection guide

Features	1555	1550C	1507	1503	1587	1577
Insulation test voltages 50 V, 100 V, 250 V, 500 V, 1000 V	–	–	•	–	•	–
Insulation test voltages 500 V, 1000 V	–	–	•	•	–	•
Insulation test voltages: User selectable 250 V to 5000 V	–	•	–	–	–	–
Insulation test voltages: User selectable 250 V to 10,000 V	•	–	–	–	–	–
Insulation resistance	2 TΩ	1 TΩ	0.01 MΩ to 10 GΩ	0.1 MΩ to 2 GΩ	0.01 MΩ to 2.0 GΩ	0.1 MΩ to 600 MΩ
Auto-discharge of capacitive voltage	•	•	•	•	•	•
Insulation test smoothing reading	–	–	–	–	•	–
Frequency	–	–	–	–	•	–
Capacitance	•	•	–	–	•	–
Diode test	–	–	–	–	•	–
Temperature	–	–	–	–	•	–
Min/Max	–	–	–	–	•	–
Low-pass filter (for work on VSDs)	–	–	–	–	•	–
AC/DC voltage	–	–	–	–	•	•
DC millivolts	–	–	–	–	•	•
AC/DC milliamps	–	–	–	–	•	•
Resistance	–	–	0.1 Ω to 20.00 KΩ	0.1 Ω to 20.00 KΩ	0.1 Ω to 50 MΩ	0.1 Ω to 50 MΩ
Continuity	–	–			•	•
Warranty (years)	3	3	1	1	3	3
Remote probe, test leads, alligator clips	•	•	•	•	•	•
Type K thermocouple	–	–	–	–	•	–
Rugged, utility hard case	•	•	•	•	•	•
Auto power off	•	•	•	•	•	•
Page number	26	26	25	25	17	17

Ordering information

Included accessories	Models	
Remote probe, silicone test leads, test probes, large alligator clips, holster, users manual.	FLUKE-1507	Insulation Tester
	FLUKE-1503	Insulation Tester
Soft carrying pouch, users manual.	FLUKE-360	AC Leakage Current Clamp Meter

Check price and availability at
www.fluke.com/wtb

1555 and 1550C Insulation Resistance Testers

Powerful troubleshooting and predictive maintenance tools

The new Fluke 1555 and redesigned Fluke 1550C insulation resistance testers offer digital insulation testing up to 10 kV, making them ideal for testing a wide range of high voltage equipment including switchgear, motors, generators and cables.

- Test voltages up to 5 kV (1550C) and 10 kV (1555) provide solutions for all applications
- Warning function alerts the user that line voltage is present and gives a voltage reading up to 600 V ac or dc for increased user safety
- Measurements can be stored in up to 99 memory locations, and each location is assigned a unique, user–defined label for easy recall
- Long battery life gives the user over 750 tests between changes
- Automatic calculation of Dielectric Absorption (DAR) and Polarization Index (PI) with no additional setup
- Guard system eliminates the effect of surface leakage current on high–resistance measurements
- Large digital/analog LCD for easy viewing
- Capacitance and leakage current measurement
- Ramp function for breakdown testing
- Three–year warranty

Recommended accessories
Fluke 1550C

TLK1550-RTLC Integral Test Lead and 10 kV Clamp	**FVF-Basic** FlukeView Forms Software *See page 72*
IR189USB USB-IR Cable *See page 72*	**CXT1555** Pelican Carrying Case

Recommended kits

1550C/Kit includes:
- 5 kV insulation resistance tester
- Ruggedized 10 kV alligator clips with integral silicone, dual extruded leads
- Test leads with large alligator clips
- IP67 hard carrying case
- USB-IR cable
- NIST traceable certificate of calibration

1555/Kit includes:
- 10 kV insulation resistance tester
- Ruggedized 10 kV alligator clips with integral silicone, dual extruded leads
- Test leads with large alligator clips
- IP67 hard carrying case
- Logging software
- USB-IR cable
- NIST traceable certificate of calibration

Specifications

The tester's accuracy is specified for one year after calibration at operating temperatures of 0 °C to 35 °C. For operating temperatures outside the range (-20 °C to 0 °C and 35 °C to 50 °C), add ± .25 % per °C, except on the 20 % bands add ± 1 % per °C.

Insulation resistance measurement		
Test voltage (dc)	**Range**	**Accuracy (± reading)**
250 V	< 200 kΩ 200 kΩ to 5 GΩ 5 GΩ to 50 GΩ > 50 GΩ	unspecified 5 % 20 % unspecified
500 V	< 200 kΩ 200 kΩ to 10 GΩ 10 GΩ to 100 GΩ > 100 GΩ	unspecified 5 % 20 % unspecified
1000 V	< 200 kΩ 200 kΩ to 20 GΩ 20 GΩ to 200 GΩ > 200 GΩ	unspecified 5 % 20 % unspecified
2500 V	< 200 kΩ 200 kΩ to 50 GΩ 50 GΩ to 500 GΩ > 500 GΩ	unspecified 5 % 20 % unspecified
5000 V	< 200 kΩ 200 kΩ to 100 GΩ 100 GΩ to 1 TΩ > 1 TΩ	unspecified 5 % 20 % unspecified
10000 V (1555 only)	< 200 kΩ 200 kΩ to 200 GΩ 200 GΩ to 2 TΩ > 2 TΩ	unspecified 5 % 20 % unspecified

Functions	Range	Accuracy (± reading)
Leakage current	1 nA to 2 mA	± (5 % + 2 nA)
Capacitance measurement	0.01 uF to 15.00 µF	± (15 % rdg + 0.03 µF)
Live circuit indicator	30 V to 600 V ac/dc, 50/60 Hz	± (5 % + 2 V)

Ordering information

Included accessories	Models	
Test leads with alligator clips, ruggedized alligator clips (kits and 1555 only), infrared adapter with interface cable, FlukeView Forms software, ac power cord, soft carrying case, quick reference guide, users manual.	FLUKE-1550C	5 kV Insulation Tester
	FLUKE-1550C/Kit	5 kV Insulation Tester Kit
	FLUKE-1555	10 kV Insulation Tester
	FLUKE-1555/Kit	10 kV Insulation Tester Kit

Check price and availability at
www.fluke.com/wtb

Power quality tools
For industrial and commercial applications

Basic measurements	Application use	Single-Phase			Three-Phase				
		VR1710	345	43B	1735	1740	430-II	1750	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 monitization							•		
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.		•	•		•	•	•	•
Transient capture		•		•			•	•	•
Flicker		•					•	•	•

Fluke 1735 Three-Phase Power Logger

The Fluke 1735 Three-Phase Power Logger is the ideal electrician or technician's tool for conducting energy studies and basic power quality logging. Set up the 1735 in seconds, with the included flexible current probes and color display. The 1735 logs most electrical power parameters and harmonics and captures voltage events.

- **Ideal for field operation:** Compact, rugged instrument; easy to use, quickly confirm instrument setup with color display of waveforms and trends
- **Full system electrical measurement capability:** Three phases and neutral with included four flexible current probes
- **Prove the benefit of efficiency improvements:** Record power and associated parameters for up to 45 days. Monitor maximum power demand over user-defined averaging periods
- **Check the power quality effects energy saving devices:** Measure harmonics and distortion caused by loads and improve reliability by capturing voltage dips and swells from load switching
- **Easy PC connectivity and operation:** USB interface for plug and play operation; download, view graphs and automatically generate reports with included Power Log software
- **Reliable operation:** Two-year warranty

Recommended accessories
Fluke 1735

I 1A/10A
Mini Current Clamp, PQ4

I 5A/50A
Mini Current Clamp, PQ4

I 20A/200A
Mini Current Clamp, PQ4

FS3000A/6000A TF-4
36 in, 4 phase Thin Flex

Ordering information

Included accessories	Models	
Four flexible current probes (15 A/150 A/3000 A), Power Log software, voltage leads and clips, color localization set, PC interface cable, international ac adapter (115 V/230 V, 50 Hz/60 Hz), soft carrying case, users manual and multi-language manual on CD.	FLUKE-1735	Three-Phase Power Logger

Check price and availability at
www.fluke.com/wtb

Fluke 430-II Series Three-Phase Power Quality Analyzers
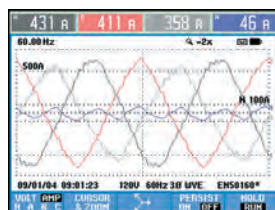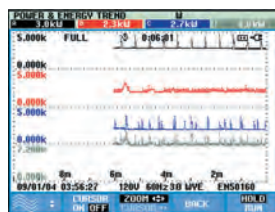
The new Fluke 434-II, 435-II and 437-II help locate, predict, prevent and troubleshoot power quality problems in three- and single-phase power distribution systems. Additionally, the Fluke-patented energy loss algorithm, Unified Power Measurement, measures, quantifies and monitizes energy losses due to harmonics and unbalance issues, allowing the user to pinpoint the origin of energy waste within a system.

- **Patented energy loss management:** Classic active and reactive power measurements unbalance and harmonic power and energy are quantified to pinpoint true system energy losses.
- **Realtime PowerWave data capture:** Capture fast rms data, show single cycle rms value to characterize electrical system dynamics (generator start-ups, UPS switching etc.).
- **Highest safety rating in the industry:** CAT IV 600 V/ CAT III 1000 V rated for use at the service entrance
- **Automatic transient mode:** Capture 200 kHz waveform data on all phases simultaneously up to 6 kV
- **Fully Class-A compliant:** Conduct tests according to the stringent international IEC 61000-4-30 Class-A standard intervals for 435-II and 437-II
- **Troubleshoot real-time:** Analyze the trends using the cursors and zoom tools—even while background recording continues
- **Measure all three phases and neutral:** With included four iFlex flexible current probes
- Monitize energy loss caused by power quality issues

Recommended accessories

I5sPQ3
3 pack of 5 A precision current clamps

i6000s FLEX
AC Current Clamp
See page 69

C437-II
Water-tight hard case with rollers

GPS430
GPS time synchronization module

Energy loss calculator

Useful kilowatts (power available) – Effective kW
Reactive (unusable) power – Reactive kvar
Kilowatts made unusable by unbalance issues – Unbalance kVA
Kilowatts made unusable by harmonics – Distortion kVA
Neutral Current – Neutral
Total cost of wasted kilowatt hours

Energy Loss Calculator

		Total	Loss	Cost
Effective	kW	35.9	W 488	$ 48.83 /hr
Reactive	kvar	21.5	W 175	$ 17.49 /hr
Unbalance	kVA	2.52	W 1.5	$ 0.15 /hr
Distortion	kVA	7.17	W 57.2	$ 5.72 /hr
Neutral	A	29.3	W 57.7	$ 5.77 /hr
Total			k $ 683	/y

11/10/11 10:49:38   230V 50Hz 3Ø WYE   EN50160

| LENGTH 100 m | DIAMETER 25 mm2 | METER | RATE 0.10 /kWh | HOLD RUN |

Features

Features	434-II	435-II	437-II
Measures voltage, current, dips, swells, interruptions, harmonics, power, energy loss monitization, frequency, inrush and power inverter efficiency	•	•	•
Flicker	–	•	•
Transients	–	•	•
Mains signaling	–	•	•
Power wave	–	•	•
Event waveform capture	–	•	•
400 Hz	–	–	•
C1740 Soft Case	•	•	–
C437-II Hard Case with rollers	–	–	•
SD card (Max 32 GB)	8 GB	8 GB	8 GB

Ordering information (basic versions do not include current probes)

Included accessories	Models	
Four thin flexible current probes (i430-TF), five test leads and clips, battery charger, Power Log software, USB cable, color localization set, soft carrying case, 8 GB SD memory card, users manual on CD.	FLUKE-434-II	Three-Phase Energy Analyzer
	FLUKE-435-II	Three-Phase Power Quality and Energy Analyzer
Four thin flexible current probes (i430-TF), five test leads and clips, battery charger, Power Log software, USB cable, color localization set, hard carrying case with wheels, 8GB SD memory card, users manual on CD.	FLUKE-437-II	400 Hz Three-Phase Power Quality and Energy Analyzer

Fluke 345 Power Quality Clamp Meter
The ideal meter to troubleshoot modern electrical loads

The Fluke 345 is more than a power meter. Combining the functions of a clamp meter, oscilloscope, data logger and digital power meter into one handy device. The Fluke 345 is ideal for working with variable frequency motor drives, high efficiency lighting and other loads using switching electronics.

- **AC/DC current:** Clamp-on measurement of ac current up to 1400 A rms and dc current up to 2000 A without breaking the circuit
- **Highest safety rating:** CAT IV 600 V power analyzer is rated for use at the service entrance
- **Accurate in noisy environments:** Clamp meter performs even with distorted waveforms present on electronic loads with low-pass filter
- **Data logging:** Identify intermittent faults by logging any power quality parameter for minutes, or over a month, including harmonics
- **Troubleshoot harmonics:** Analyze and log harmonics digitally or graphically
- **Inrush current:** Capture and analyze nuisance tripping from 3 seconds to 300 seconds
- **View graphs and generate reports:** Use power analyzer with included Power Log software

Recommended accessories
Fluke 345

TP220
Industrial Test Probes
See page 66

AC220
Alligator Clips
See page 66

TLK291
Fused Test Probe Set

C550
Tool Bag
See page 63

Fluke 43B Power Quality Analyzer

The Fluke 43B Power Quality Analyzer performs the measurements you need to maintain power systems, troubleshoot power problems, and diagnose equipment failures. The 43B has 20 storage locations and can store data as well as screens.

- **Basic measurements:** Voltage, current and power harmonics up to 51st, THD
- **Oscillioscope function:** View voltage and current waveforms
- **Transients:** Capture up to 40 voltage transients and waveform events
- **Detailed event capture:** Cursors give time and date of sags and swells
- **FlukeView® software:** Analysis and reporting, supplied with USB connection lead
- **Warranty:** Three-years for analyzer, one-year for accessories

Electrical Safety
600 V CAT III

Fluke VR1710 Power Quality Recorder

- **Fast and easy recording of voltage trends, dropouts and power quality:** Easily pinpoint the root cause of single phase voltage problems
- **Extremely easy to use:** Plugs directly into the mains power socket and capture data
- **Quickly see what happened and when:** Min, Max, and Average RMS values (1/4 cycle) with time stamp, transient display (>100 µs) with time stamp
- **Easily identify problems:** Power quality or equipment related Flicker recording to EN 61000-4-15, individual harmonic and THD values with trends
- **Includes PowerLog software:** For quick download, analysis and automatic reporting
- **Save time:** Generate power quality reports automatically with pre-set templates

Ordering information

Included accessories	Models	
Test leads, alligator clips, test probes, Power Log software, USB cable, international ac adapter/battery eliminator, soft carrying case, users manual, multi-language manual on CD.	FLUKE-345	Clamp-On Power Meter
Voltage and current probes, FlukeView® software, power quality instructional CD, USB interface cable, line voltage adapter/battery charger, hard case, users manual.	FLUKE-43B	Power Quality Analyzer
USB cable, Power Log software CD, universal power cord adapters.	FLUKE-VR1710	Voltage Quality Recorder

Check price and availability at
www.fluke.com/wtb

Fluke Norma 4000 and 5000 Precision Power Analyzers

Recommended accessories

Fluke Norma 4000

Fluke Norma 4000 and 5000 are ideal for field and laboratory testing
Fluke Norma Analyzers offer easy and straight-forward operation with unmatched price performance. Features include: 1 to 6 power phases, 144 mm (5.7 in) color display, harmonic analysis, scope mode, vector diagram display, recorder function, Fluke NormaView PC software and 4 MB RAM data memory.

Fluke Norma 5000

i5s
AC Current Clamp

32 A
Planar Shunt
(Norma 4000/5000)

150 A
Shunt with Cables
(Norma 4000/5000)

100 A
Shunt with Cables
(Norma 4000/5000)

- **Choose the right model for your application:** A variety of standard configurations allows users to choose the exact functionality required for their unique application
- **Electrical measurement integrity and safety:** Inputs are galvanically isolated to avoid short circuits in all applications, and simultaneous parallel acquisition of all phases allows for accurate viewing of dynamic events dc to 3 MHz/10 MHz bandwidth for reliable measurement precision
- **Voltage, current and power harmonics FFT analysis:** To the 40th harmonic, vector diagram, and Digital Oscilloscope (DSO) mode included in the base unit for complete analysis capability
- **Complete electrical and mechanical analysis:** PI1 process interface to measure torque and speed with external sensors, plus four analog outputs for easy use on motor and drive applications
- **Data download, analysis and report writing with:** Supplied Fluke NormaView PC software

Fluke 1740 Series Three-Phase PQ Loggers Memobox

The Fluke 1740 Series Three-Phase Power Quality Loggers are instruments for technicians who troubleshoot and analyze power distribution systems. The included PQ Log software quickly assesses the quality of power at the service entrance, substation, or at the load, according to the latest EN50160 standard.

- **Plug and play:** Setup in minutes with automatic current probe detection and powering
- **Installs inside the cabinet:** Compact, fully-insulated housing and accessories fit easily in tight spaces, next to live power
- **Determines the root cause:** Included PQ Log software quickly analyzes trends, creates statistical summaries, and generates detailed graphs and tables
- **Measure voltage with premium accuracy:** IEC61000-4-30 Class-A compliant voltage accuracy (0.1 %)

Specifications

Features	1743/1744	1745	1750
Measures common power parameters: V, A, W, VA, VAR, PF, energy, flicker, voltage events, and THD	•	•	•
Measures voltage and current harmonics to the 50th, unbalance, and mains signaling	•	•	•
Transient capture	–	–	•
PDA support	–	–	•
GPS clock synchronization	–	–	–
UPS ride through	3s	>5 hours	5 min per interruption, 60 min total
Dimensions	170 mm x 125 mm x 55 mm (6.9 in x 5.1 in x 2.2 in)	282 mm x 216 mm x 74 mm (11.5 in x 8.8 in x 3 in)	215 mm x 310 mm x 35 mm (8.5 in x 12.2 in x 3.5 in)
Weight (approx.)	0.9 kg (2 lb)	1.4 kg (3 lb)	6.3 kg (14 lb)

Ordering information

Included accessories	Models	
Power supply cable, NormaView PC software, test certificate, calibration values, users manual.	Norma 4000	High Precision Power Analyzer
	Norma 5000	High Precision Power Analyzer
Four flexible probes 15/150/1500/3000 A with 2 m cable, PQ Log software, RS-232 interface cable and USB adapter, four dolphin clips, test leads for voltages and power supply, color localization kit, carrying bag, test certificate with measurement values, users manual, multi-language manual CD.	FLUKE-1745	Power Quality Logger – Memobox
	FLUKE-1744	Power Quality Logger – Memobox
	FLUKE-1743	Power Quality Logger – Memobox

In the U.S., these power quality recorders are sold exclusively through power quality representatives. To request a demonstration, or to order, call 1-888-257-9897 or email questions to **fpqsupport@fluke.com**.

Fluke 1744/1743

Fluke 1745

Check price and availability at
www.fluke.com/wtb

Fluke 1750 Three-Phase Power Recorder
Never miss capturing a disturbance

- **Power quality that meets the standard:** All measurements comply with IEC61000-4-30 standards for correct evaluation of all measured values including voltage, current, power, harmonics, flicker etc.
- **Quick and reliable configuration:** PDA wireless "front panel interface" provides a window into what the instrument is recording, enabling quick and reliable configuration even in awkward test locations
- **Threshold-free set up:** Apply thresholds after data is collected with Fluke Power Analyze Software—no need to worry about missed information due to incorrect setups
- **Captures everything:** Cross-channel and current triggering capture every measurement, on every channel, every time
- **Intuitive PC software:** Easily analyze data and generate reports with automated EN50160 reporting and compliance
- **Measure every parameter:** Voltage and current on three phases, neutral and ground

1000 V CAT III
600 V CAT IV

Recommended accessories 1750/1760

3210-PR-TF
1000 A Thin Flexi Clamp

3310-PR-TF
5000 A Thin Flexi Clamp

1750/Case
Soft Carry Bag

Fluke 1760 Three-Phase Power Quality Recorder

- **Fully Class-A compliant:** Conduct tests according to the stringent international IEC 61000-4-30 Class-A standard
- **GPS time synchronization:** Correlate data with events or datasets from other instruments with precision
- **Flexible and fully configurable thresholds and scale factors:** Allows user to pinpoint specific issues by defining the detailed criteria for detection and recording of disturbances.
- **10 MHz, 6000 Vpk waveform capture:** Get a detailed picture of even the shortest event
- **2 GB data memory:** Enables detailed, simultaneous recording of numerous power parameters for long periods of time
- **Comprehensive software included:** Provides trend diagrams for root cause analysis, statistical summaries, report writing and real-time data monitoring in the online mode
- **Plug and play:** Allows quick setup with automatic sensor detection; sensors are instrument powered, eliminating the need for batteries

Recommended accessories 1760 only

TPS FLex 24-TF

TPS Clamp 10 A/1 A

TPS VoltProbe 600 V

Specifications

Features	1760TR	1760	1760TR BASIC	1760 BASIC
Online mode (oscilloscope, transients and events)	•	•	•	•
Fast transient analysis up to 10 MHz	•	–	•	–
Four 600 V voltage probes	•	•	–	–
Four dual-range flexible current probes (1000 A/200 A ac)	•	•	–	–
GPS time sync receiver	•	•	–	–

Ordering information

Included accessories	Models	
Acquisition unit, PDA and charger, power plug adapters, four 400 A current probes, five test leads and clips, SD memory card, Fluke Power View and Fluke Power Analyze software, power cord with international plug set, ethernet cable, color localization set, users manual and CD.	FLUKE-1750	Three-Phase Power Recorder
Acquisition unit, voltage and current probes (depending on model orders) Fluke PQ Analyze software, power cord with international plug set, ethernet cable, color localization set, users manual and CD.	FLUKE-1760	Three-Phase Power Recorder
	FLUKE-1760TR	Three-Phase Power Recorder
	FLUKE-1760 BASIC	Three-Phase Power Recorder
	FLUKE-1760TR BASIC	Three-Phase Power Recorder

In the U.S., these power quality recorders are sold exclusively through power quality representatives. To request a demonstration, or to order, call 1-888-257-9897 or email questions to **fpqsupport@fluke.com**.

Check price and availability at
www.fluke.com/wtb

For more information, go to **www.fluke.com/pq**

Pick the right process tool for you
Process Tools Selection Guides

	Process mA Clamp Meter	ProcessMeter® Test Tool	Loop Calibrator	Pressure Calibrator	Temperature Calibrator	Precision Multifunction Process Calibrator	Intrinsically Safe Calibrator	Documenting Process Calibrator
Models	**773**	**789**	**715**	**719**	**724**	**726**	**725Ex**	**754**
Measure								
V dc	30 V	1000 V	25 V	—	30 V	30 V	30 V	300 V
V ac (true-rms)	—	1000 V	—	—	—	—	—	300 V
Resistance	—	40 MΩ	—	—	3200 Ω	4000 Ω	3200 Ω	11 kΩ
A dc	20.99, 99.9 mA	30 mA, 1 A	24 mA	24 mA	24 mA	24 mA	24 mA	110 mA
A ac	—	•	—	—	—	—	—	—
Frequency	—	20 kHz	—	—	—	15 kHz	10 kHz	50 kHz
Pressure	—	—	—	30 psi, 100 psi	•[1]	•[5]	•[1]	
Temperature: RTDs	—	—	—	—	7 types	8 types	7 types	8 types
Temperature: TCs	—	—	—	—	12 types	13 types	12 types	13 types
Source/Simulate								
V dc	10 V	—	20 V	—	10 V	20 V	10 V	15 V
Resistance	—	—	—	—	3200 Ω	4000 Ω	3200 Ω	11 kΩ
mA dc	24 mA	24 mA	24 mA	24 mA	—	24 mA	24 mA	22 mA
mA source; auto step, auto ramp	•	•	•	•	—	•	•	•
Frequency	—	—	—	—	—	15 kHz	10 kHz	50 kHz
Temperature: RTDs	—	—	—	—	7 types	8 types	7 types	8 types
Temperature: TCs	—	—	—	—	12 types	13 types	12 types	13 types
Record								
Min/Max	—	•	—	•	—	—	—	•
Hold	•	•	—	•	—	—	—	•
As found/As left results	—	—	—	—	—	—	—	•
Log data	—	—	—	—	—	—	—	•
Upload data to PC	—	—	—	—	—	—	—	•
Remote operation	—	•	—	—	—	•	—	—
Features								
24 V loop supply	•	•	•	•	•	•	12 V	•
Non-contact mA measurement	•	—	—	—	—	—	—	—
HART communication	—	—	—	—	—	—	—	•
Integrated hand pressure pump	—	—	—	Electric	—	—	—	—
Intrinsically safe (ATEX)	—	—	—	—	—	—	•	—
Warranty	Three-year	Three-year	Three-year	One-year	Three-year	Three-year	Three-year	Three-year
Traceable calibration certification	—	—	•	•	•	•	•	•
Accessories[3]	—	A/B	A/B	C	A/B	A/B	—	—
Pressure enabled[4]				•		•	•	•
See page	33	34	35	40	38	37	43	36

[1]Fluke 700 Pressure Modules required.
[2]Either the internal sensor or a Fluke 700 Pressure Module may be used.
[3]Accessories: A. Compatible with LockPak B. Compatible with TPAK C. Accepts hanging straps from TPAK D. Optional accessories.
[4]Fluke Process Calibrators in this guide displaying the Pressure Enabled symbol display readings from the 700 Series Pressure Modules.
[5]Fluke 700PEx Pressure Module required.

Model	914x	P3000	152X	9103/ 9140/ 9141	418X	1620A	P5500	2700G	7526A
Temperature	-25°C to 660 °C		-200 °C to 420 °C	-25 °C to 650 °C	-15 °C to 500 °C	0 °C to 50 °C			•
Pressure									•
Min/Max	•		•			•			
Log data	•		•			•			
Upload to PC	•		•			•			
Ethernet						•			
Wireless						•			
RS-232	•		*	•	•	•			•
USB								•	
Temperature	-25°C to 660 °C			-25 °C to 650 °C	-15 °C to 500 °C				
Pressure		To 60,000 psi (400 MPa)					To 20,000 psi (70 MPa)	-15 psi to 10,000 psi (70 MPa)	Optional
RTD									•
Thermocouples									•
DC volt									•
DC current									•
Loop power	•								•
See page	39	41	42	39	39	39	41	41	42

Fluke 771, 772 and 773
mA Process Clamp Meters

Fluke 771   Fluke 772   Fluke 773

CE   CSA   C US   N10140

Use the Fluke 771, 772 and 773 to:
- Measure 4–20 mA signals without "breaking the loop," save time and money troubleshooting 4–20 mA signals

Use the Fluke 772 and 773 to:
- Source 4–20 mA signals for testing control system I/O or I/Ps
- Simulate 4–20 mA signals for testing control system I/O
- Measure 4–20 mA signals with in-circuit measurement
- Power a transmitter with the 24 V loop power supply
- Automatically ramp and step change the 4–20 mA output for remote testing

Use the Fluke 773 to:
- Measure dc voltage to verify 24 V power supplies or voltage I/O signals
- Source dc voltage to test voltage input devices
- Scaled mA output signal enables a logging DMM (289) to record 4–20 mA signal without breaking the loop
- mA in/out: simultaneously source a mA signal while measuring a mA signal with the clamp

Fluke 771, 772 and 773 mA Process Clamp Meters pay for themselves.
- The more you use them the more money you save
- Measuring 4 to 20 mA signals (five) times without operator intervention can pay for the 771
- Saving a trip back to shop to get a loop calibrator can pay for the price difference of the 772
- Saving a trip back to the shop for a voltage test source can pay for the price difference of the 773

Recommended accessories

TL220
SureGrip Industrial Test Lead Set
See page 64

C550
Tool Bag
See page 63

Features

	mA measure w/jaw	mA measure In circuit	mA source	mA sim	Loop power 24 V	DCV source 0-10 V	DCV measure 0-30 V	Scaled mA output to mA input	mA in/out
771	•	–	–	–	–	–	–	–	–
772	•	•	•	•	•	–	–	–	–
773	•	•	•	•	•	•	•	•	•

Specifications

	Function	Resolution and range	Accuracy	Notes
771, 772, 773	mA measurement	0 mA to 20.99 mA	0.2 % + 5 counts	Measured by clamp
		21.0 mA to 100.0 mA	1 % + 5 counts	–
772 and 773	mA measurement	0 mA to 24.00 mA	0.2 % + 2 counts	Measured in series with test jacks
772 and 773	mA source	0 mA to 24.00 mA	0.2 % + 2 counts	Maximum mA drive: 24 mA into 1,000 ohms
772 and 773	mA simulate	0 mA to 24.00 mA	0.2 % + 2 counts	Maximum voltage 50 V dc
773	Voltage source	0 V dc to 10.00 V dc	0.2 % + 2 counts	2 mA maximum drive current
773	Voltage measure	0 V dc to 30.00 V dc	0.2 % + 2 counts	–

General specifications	771	772	773
Battery	Two 1.5 V, Alkaline, IEC LR6	Four 1.5 V, Alkaline, IEC LR6	
Working hours	20 hours typical	12 hours @ 12 mA source into 500 ohms	
Size (HxWxL)	59 mm x 38 mm x 212 mm (2.32 in x 1.5 in x 8.35 in)	41.3 mm x 76 mm x 248 mm (1.625 in x 3 in x 9.75 in)	
Weight	260 g (9.1 oz)	415 g (14 oz)	
Operating temperature	–10 °C to 50 °C		
IP rating	IP 40		
Warranty	Three-year, one-year on mA clamp assembly and cable		

Ordering information

Included accessories	Models	
Soft carrying case, users manual.	FLUKE-771	Milliamp Process Clamp Meter
Test leads, alligator clips and hanging strap, soft carrying case, users manual.	FLUKE-772	Milliamp Process Clamp Meter
	FLUKE-773	Milliamp Process Clamp Meter

Check price and availability at
www.fluke.com/wtb

For more information, go to **www.fluke.com/773**

Fluke 789 and 787 ProcessMeter™ Test Tools

Fluke 789

Fluke 789 ProcessMeter

With the Fluke 789 ProcessMeter, process technicians can do a lot more while carrying a lot less.
- 24 V loop power supply
- CAT IV 600V rating
- HART mode setting with loop power (adds 250 ohm resistor)
- Double-sized, dual display
- 20 mA drive into 1200 ohms
- Backlight with two brightness settings
- 0 % to 100 % mA Span Check buttons to toggle between 4-20 mA
- Infrared I/O serial port compatible with FlukeView® Forms Software
- Improved battery power with four AA batteries
- Plus all the proven 787 features

Fluke 787 ProcessMeter

- Simultaneous mA and % of scale readout on mA output
- 25 % Manual Step plus Auto Step and Auto Ramp on mA output
- Min/Max/Avg/Hold/Relative modes
- Externally accessible battery for easy changes

Fluke 787

Electrical Safety 1000 V CAT III
600 V CAT IV (Fluke 789 only)
True RMS
CE
UL LISTED
CSA C US
TÜV SÜD

Recommended accessories

TPAK
Magnetic Meter Hanger
See page 71

TL220
SureGrip Industrial Test Lead Set
See page 64

80T-150UA
Universal Temperature Probe
See page 68

TL175
TwistGuard™ Test Leads
See page 66

C115
Soft Carrying Case
See page 63

80PK-8
Pipe Clamp Temperature Probe
See page 68

Specifications

Measurement function	Best accuracy range and resolution	(% of reading + LSD)
V dc	400.0 mV, 4.000 V, 40.00 V, 400.0 V, 1000 V	0.1 % + 1
V dc (true-rms)	400.0 mV, 4.000 V, 40.00 V, 400.0 V, 1000 V	0.7 % + 2
mA dc	30.000 mA	.05 % + 2
A dc	1.000 A (0.440 A continuous)	0.2 % + 2
A ac	1.000 A (0.440 A continuous)	1 % + 2
Resistance	400.0 Ω, 4.000 k, 40.00 k, 400.0 k, 4.0 M, 40 M	0.2 % + 1
Frequency (0.5 Hz to 20 kHz)	199.99 Hz, 1999.9 Hz, 19.999 kHz	.005 % + 1
Diode test	789: 2.000 V (shows diode voltage drop) 787: 2.400 V (shows diode voltage drop)	2 % + 1 2 % + 1
Continuity	Beeps for resistance < approx. 100 ohms	

Output function	Range and resolution	Drive capability	Accuracy (% of span)
DC current output (internal battery operation)	0.000 mA to 20.000 mA or 4.000 mA to 20.000 mA (selectable at power-up) Over-range to 24.000 mA	789: 24 V compliance or, 1,200 ohms, @ 20 mA 787: 12 V compliance or, 500 ohms, @ 20 mA	.05 %
DC current simulate (external 24 V loop supply, up to 48 V on 789 only)	0.000 mA to 20.000 mA or 4.000 mA to 20.000 mA, (selectable at power-up) Over-range to 24.000 mA	1000 ohms, @ 20 mA	.05 %
24 V loop supply	789: Minimum 24 V, 787: Not available	250 ohms @ 20 mA	> 24 V
Current adjustment modes	Manual: coarse, fine, 25 % and 100 % step (100 % step 789 only) Automatic: slow ramp, fast ramp, 25 % step		

Temperature range of 18 °C to 28 °C, for one year after calibration.
Maximum voltage applied between any jack and earth ground: 1000 V rms. **Storage temperature:** –40 °C to 60 °C.
Operating temperature: –20 °C to 55 °C. **Relative humidity:** 95 % up to 30 °C; 75 % up to 40 °C; 45 % up to 50 °C; 35 % up to 55 °C.
Safety: Designed in accordance with EN61010, ANSI/ISA S82.01-1994 and CAN/CSA C22.2 No. 61010.1-92 Over-voltage CAT III.
Size (HxWxL)/weight (787 with holster): 52 mm x 98 mm x 201 mm (2.06 in x 3.86 in x 7.93 in)/638 g (1.4 lb).
Size (HxWxL)/weight (789): 50 mm x 100 mm x 203 mm (1.97 in x 3.94 in x 8.00 in)/600 g (1.3 lb).
Warranty: Three-year.

Ordering information

Included accessories	Models	
Test leads, alligator clips, 4 AA alkaline batteries (installed), quick reference guide, users manual, multi-language manual CD.	FLUKE-789	ProcessMeter
Test leads, alligator clips, holster with test lead storage, one 9 V alkaline battery (installed), quick reference guide, users manual, multi-language manual CD.	FLUKE-787	ProcessMeter

Check price and availability at **www.fluke.com/wtb**

Fluke 715, 707 and 705 Loop Calibrators
Complete family of volt/mA calibrators

Fluke 715

Fluke 715 Volt/mA Calibrator
- Source voltage to 200 mV or 20 V
- Measure loop current (0–20 mA, 4–20 mA) signals with 0.01 % accuracy and 1 µA resolution
- Measure voltage output process signals from PLCs, transmitters
- Source or simulate 4–20 mA loop current
- 24 V loop supply with simultaneous current measurement
- Ramp and Step Ramp output functions

Fluke 707 and 705
- Innovative output adjustment dial on 707 provides 1 µA and 100 µA resolution and one–hand operation
- Large display and simple interface for ease of use
- Simultaneous mA and % readout for quick, easy interpretation of readings
- mA accuracy of 0.015 % on the Fluke 707 and 0.02 % on the 705
- HART™ mode on 707 connects 250 ohm resistor in series with 24 V loop for compatibility with HART communicators
- Push button 25 % steps for fast, easy linearity checks
- "Span Check" for fast confirmation of zero and span
- Selectable slow and fast linear step ramp provide ramping outputs for valve slewing, remote testing and loop functional tests
- 24 V internal loop supply, so you can power and read a transmitter at the same time without carrying a DMM
- 0–20 mA or 4–20 mA default start up modes

Fluke 707

Specialty models

Fluke 707 Ex Intrinsically Safe Loop Calibrator

See page 40 for more information.

Recommended accessories

TL28A
Heavy Duty
Test Lead Set

TL220
SureGrip Industrial
Test Lead Set
See page 64

C550
Tool Bag
See page 63

PV350
Pressure Vacuum
Module
See page 72

Specifications

Functions	Fluke 705 and 707	Fluke 715	
Voltage measurement			
Range	0 V to 28 V	0 mV to 200 mV	0 V to 25 V
Resolution	1 mV	10 µV	1 mV
Accuracy	705: 0.025 % Rdg + 1 LSD 707, 707Ex: 0.015 % Rdg + 2 LSD	0.01 % Rdg + 2 LSD	
Current measurement			
Range	0 mA to 24 mA	0 mA to 24 mA	
Resolution	0.001 mA	0.001 mA	
Accuracy	705: 0.02 % Rdg + 2 LSD 707, 707Ex: 0.015 % Rdg + 2 LSD	0.01 % + 2 LSD	
Current sourcing			
Range	0 mA to 20 mA or 4 mA to 20 mA	0 mA to 20 mA or 4 mA to 20 mA	
Accuracy	705: 0.025 % Rdg + 2 LSD 707, 707Ex: 0.015 % Rdg + 2 LSD	0.01 % Rdg + 2 LSD	
Drive capability	705: 1000 Ω @ 24 mA 707: 1200 Ω @ 24 mA 707Ex: 700 Ω @ 20 mA	1000 Ω @ 24 mA	
Loop power while measuring mA	24 V	24 V	
Voltage sourcing		0 mV to 200 mV or 0 V to 20 V	
Display current and % of span	Yes	mA or %	
Auto step, auto ramp	Yes	Yes	
Span Check	Yes	Yes	
Battery life	18 hours typical, at 12 mA	18 hours typical, at 12 mA	
Warranty	Three–year		

Ordering information

Included accessories	Models	
Test leads, alligator clips, holster, traceable calibration report and data, single 9 V alkaline battery, instruction sheet (14 languages).	FLUKE-715	Volt/mA Calibrator
	FLUKE-707	Loop Calibrator
	FLUKE-707 Ex	Intrinsically Safe Loop Calibrator
	FLUKE-705	Loop Calibrator

Check price and availability at
www.fluke.com/wtb

For more information, go to **www.fluke.com/loop**

Fluke 753 and 754 Calibrators
Calibrate/troubleshoot process control instrumentation

Fluke 754

Pressure Enabled

HART
COMMUNICATION PROTOCOL

CE   CSA C US

- Calibrate temperature, pressure, voltage, current, resistance and frequency instruments
- Built-in procedures for transmitters, square root transmitters, pressure and temperature switches
- Simultaneously measure and source
- Automatically capture calibration results
- Document procedures and results to meet ISO 9000, EPA, FDA, OSHA and other requirements
- Measure/simulate 13 types of thermocouples and eight RTDs
- Store up to 8,000 readings in data logging mode
- Protected against dirt, dust and moisture; unaffected by vibration
- Includes a USB interface
- Operate in English, French, German, Italian and Spanish
- One- and two-year calibration cycles and a three-year warranty (one-year for pressure modules)

754: Get HART-ability™
The Fluke 754 offers all of the capabilities of the 753, plus the ability to calibrate, maintain and troubleshoot HART instrumentation. Integrated HART communication functions permit you to monitor, control and calibrate HART instrumentation. It handles fast pulsed instruments such as RTD transmitters and PLCs responding to pulses within 1 ms.

753: A complete documenting calibrator
The 753 is a complete multifunction documenting calibrator and includes a PC interface that lets you load procedures, lists and instructions created with software—or unload data for printing, archiving, and analysis. The 753 can hold a full week of calibrations and procedures.

Fluke 753

Recommended software

Instrumentation management software
The Fluke 753 and 754 are compatible with Fluke 750SW DPC/TRACK2 software and with software from Cornerstone, Emerson, Honeywell, On Time Support, Prime Technologies, Yokogowa, Intools, Meridium and Beamex.

For more information, visit **www.fluke.com/software**

Recommended accessories

700Pxx
Pressure Modules
See page 40

750SW
DPC/TRACK2 Software

700PTP-1
Pneumatic
Test Pump
See page 68

C799
Field Soft Case
See page 63

Fluke 709/709H Precision Current Loop Calibrators
- Best-in-class accuracy at 0.01 % reading
- HART Communication (709H only) communicate with and test HART smart instruments
- Compact rugged design
- Intuitive user interface with quick-set knob for fast setup, easy to use
- 24 V dc loop power with mA measure mode
- Resolution of 1 µA on mA ranges
- Built in selectable 250 Ω resistor for HART communications
- Simple two wire connection for all measurements
- Valve test (source and simulate defined mA values with % keys)
- Upload logged mA measurements and HART device data using the 709H with optional 709H/TRACK software

New

HART
COMMUNICATION PROTOCOL

Specifications

Functions	Measure	Sourcing
DC voltage	0.020 % reading + 0.005 % full scale	0.01 % output + 0.005 % full scale
DC current	0.01 % reading + 5 µA	0.01 % output + 0.003 mA
Resistance	0.05 % reading + 50 mΩ	0.01 % output + 240 mΩ
Frequency	0 to 50 KHz, ± 0.5 Hz to 1100 Hz	0 to 50 KHz, ± 0.1 Hz to 1099.9 Hz
Thermocouples	0.3 °C	0.2 °C
RTDs	0.3 °C	0.1 °C
Pressure	To 0.025 % of full scale, per pressure module specifications	

Summary specifications: best case, mid-range, one year.
Battery life: Typically over eight hours
Internal battery pack: Li ion 4400 mAh
Battery replacement: Via twist lock fastener without opening calibrator; no tools required
Weight: 1.2 kg (2.7 lb)
Size (HxWxD): 245 mm x 136 mm x 63 mm (9.6 in x 5.4 in x 2.5 in)

Ordering information

Included accessories	Models	
Three sets of stackable test leads, three sets of test probes with three sets of "extended tooth" alligator clips, two sets of hook clips, li-ion battery pack, battery charger, field soft case, USB communication cable, getting started guide, instruction manual on CD, traceable certificate of calibration, DPC/TRACK2 sample software that enables upload and printing of calibration records. Model Fluke-754 includes HART communication cable.	FLUKE-754	Documenting Process Calibrator-HART
	FLUKE-753	Documenting Process Calibrator
Software media, instruction manual, USB cable.	FLUKE-750SW	DPC/TRACK2 Software
Test leads, test probes and alligator clips. Quick reference guide, traceable certificate of calibration, manual on CD. Additional hook clips (709H only) for HART communication.	FLUKE-709	Precision Current Loop Calibrator
	FLUKE-709H	Precision Current Loop Calibrator-HART
Special Lemo to USB cable for upload-download, software media and manual on CD.	FLUKE-709H/TRACK	Datalogging Cable and Software

HART is a registered trade mark of the HART Communications Foundation.

Check price and availability at
www.fluke.com/wtb

Fluke 726 and 725 Multifunction Process Calibrators

Fluke 726 Precision Multifunction Process Calibrator

The Fluke 726 measures and sources nearly all process parameters and can calibrate almost anything. Interpret results without the help of a calculator and store measurement data for later analysis.

- Precise measurement and calibration source performance, accuracies of 0.01 %
- Transmitter error % calculation, interpret calibration results without a calculator
- Memory storage for up to eight calibration results, return stored calibration data from the field for later analysis
- Frequency totalizer and frequency pulse train source mode for enhanced flowmeter testing
- HART mode inserts 250 ohm resistor in mA measure and source for compatibility with HART instrumentation
- Integrated pressure switch test allows you to capture the set, reset and deadband of a switch
- Custom RTD curves, add calibration constants for certified RTD probes for temperature measurement
- Voltage input protection design for improved reliability

Fluke 725 Multifunction Process Calibrator

- Measure volts, mA, RTDs, thermocouples, frequency and ohms to test sensors and transmitters
- Source/simulate volts, mA, thermocouples, RTDs, frequency, ohms and pressure to calibrate transmitters
- Measure/source pressure using any of 29 Fluke 700Pxx Pressure Modules
- Source mA with simultaneous pressure measurement to conduct valve and I/P tests
- Support flow meter testing with frequency and counts per minute (CPM) functions
- Perform fast linearity tests with auto step and auto ramp features

Intrinsically safe version available (see page 43)

Recommended accessories

TPAK
Magnetic Meter Hanger
See page 71

80PK-27
Industrial Surface Temperature Probe
See page 67

700Pxx
Pressure Modules
See page 40

C125
Soft Carrying Case
See page 63

Specifications

Measure and source

Functions	Range or type	Resolution	Accuracy	Notes
Voltage	0 to 100 mV 0 to 10 V (source) **0 to 20 V (source)** 0 to 30 V (measure)	0.01 mV 0.01 V 0.01 V 0.01 V	**0.01 %**, 0.02 % Rdg + 2 LSD	Max load, 1 mA
mA	0 to 24	0.001 mA	**0.01 %**, 0.02 % Rdg + 2 LSD	Max load, 1000 Ω
mV (TC terminals)	–10.00 mV to +75.00 mV	.01 mV	**0.01 %**, 0.02 % of range + 1 LSD	—
Ohms	15 Ω to 3,200 Ω **5 Ω to 4,000 Ω**	0.01 Ω to 0.1 Ω	0.10 Ω to 1.0 Ω **0.015 %**	—
Hz - CPM	2.0 to 1,000 CPM 1 to 1000 Hz 1.0 to 10.0 kHz **10.0 to 15.0 kHz**	0.1 CPM 1 Hz 0.1 kHz **0.1 kHz**	± 0.05 % ± 0.05 % ± 0.25 % **± 0.05 %**	Source; 5 V p-p **1 V to 20 V p-p** squarewave, –0.1 V offset
Loop supply	24 V dc	N/A	10 %	—
T/C	J, K, T, E, L, N, U, XK	0.1 °C, 0.1 °F	to 0.7 °C **to 0.2 °C**	—
T/C	B, R, S, BP	1 °C, 1 °F	to 1.7 °C **to 1.2 °C**	—
RTDs	**Cu (10)**, Ni120 (672) Pt 100, 200, 500, 1000 (385) Pt 100 (3916), Pt 100 (3926)	**0.01 °C, 0.01 °F** 0.1 °C, 0.1 °F	**to 0.15 °C** to 0.2 °C	—

Unique 726 specifications are bolded.

General specifications
Storage temperature: –20 °C to 71 °C
Operating temperature: –10 °C to 55 °C
Relative humidity: 90 % (10 °C to 30 °C); 75 % (30 °C to 40 °C); 45 % (40 °C to 50 °C); 35 % (50 °C to 55 °C)
Shock: 1 meter drop test
Safety: CSA C22.2 No. 1010.1:1992
EMC: EN50082-1:1992 and EN55022:1994 Class B
Size (HxWxD): 200 mm x 96 mm x 47 mm (7.9 in x 3.8 in x 1.9 in)
Weight: 650 g (23 oz)
Battery: Four AA alkaline batteries
Battery life: 25 hours typical
Warranty: Three-years

Simultaneous function capability	Channel A	Channel B
24.000 mA dc	M	M or S
24.000 mA dc with 24 V loop supply	M	—
100.00 mV dc	—	M or S
30.000 V dc measure	M	—
20.000 V dc measure; 10.000 V dc source; 20.000 V dc source	—	M or S
15 Ohms to 3200 Ohms (725); 5 Ohms to 4000 Ohms (726)	—	M or S
Thermocouple J, K, T, E, R, S, B, M, L, U, N, XK, BP	—	M or S
RTD Cu 10, Ni120; Pt100 (392); Pt100 (JIS); Pt100, 200, 500, 1000 (385), XK and BP	—	M or S
Pressure (requires Fluke 700PXX Modules)	M	M used as S
Frequency; 10 kHz; (15 KHz 726)	—	M or S

M = Measure, S = Source/Simulate

Ordering information

Included accessories	Models	
Test leads, test clips, one pair of stackable test leads, product overview manual, users manual in 14 languages on CD.	FLUKE-726	Precision Multifunction Process Calibrator
	FLUKE-725 Ex	Intrinsically Safe Precision Multifunction Process Calibrator
	FLUKE-725	Multifunction Process Calibrator

For more information, go to **www.fluke.com/726**

Fluke 712, 714 and 724 Temperature Calibrators

The Fluke 710 Series temperature calibrators deliver outstanding performance, durability and reliability. And with a push-button interface, similar to the multifunction Fluke 750 Series Documenting Process Calibrators, the 710 Series are easy to use. Each calibrator is EMI tolerant, dust- and splash-resistant, and features a removable battery door for quick battery changes.

Fluke 714 Thermocouple Calibrator
- Measure temperature from TC probes
- Simulate TC output
- Operable with nine types of thermocouples
- Calibrate linear TC transmitter with mV source function
- Selectable °F or °C
- 25 % stepping, auto-step and auto-ramp
- Available as accessories: Fluke 700TC1 and TC2 Thermocouple Mini-plug Kits
- Ramp and Step Ramp output functions

Fluke 712 RTD Calibrator
- Compatible with pulsed current transmitters
- Measure temperature from an RTD probe
- Simulate RTD output
- Operates with seven types of RTD
- Measure additional RTDs using ohms measurement function
- Simulate additional RTDs using ohms source function
- °F or °C selectable
- 25 % stepping, auto-step and auto-ramp
- Ramp and Step Ramp output functions

Specialty model

Fluke 724 Temperature Calibrator
- Source/measure TCs, RTDs, volts and ohms
- Measure mA while supplying loop power
- 25 % and 100 % stepping, auto-step and auto ramp

Recommended accessories

TL175 (712/724)
TwistGuard™ Test Leads
See page 66

TL220 (712/724)
SureGrip Industrial Test Lead Set
See page 64

80PK-24 (714/724)
SureGrip Air Temperature Probe
See page 67

80PK-3A (712/724)
Surface Probe
See page 67

TPAK
Magnetic Meter Hanger
See page 71

AC220
SureGrip Alligator Clips
See page 66

C101 (724)
Meter Hard Case
See page 63

C25 (712/714)
Large Soft Case
See page 63

Specifications

Models	Functions	Range	Resolution	Accuracy	Notes
Fluke 712	Measure/simulate RTD	–200 °C to 800 °C (Pt 100–385)	0.1 °C, 0.1 °F	0.2 °C, 0.4 °F (Pt 100–385)	Pt; 100 200 500 1000 (385); Pt 100 (392); Pt 100 (392) JIS; Ni 120 (672)
	Measure/simulate resistance	5 Ω to 4000 Ω	0.1 Ω	0.025 %	—
Fluke 714	Measure/simulate thermocouple	–200 °C to 1800 °C, depending on type (K, –200 °C to 1370 °C)	0.1 °C or °F (1 °C or °F; BRS)	0.5 °C, 0.8 °F (Type K)	9 TC types; J K T E R S B per NIST 175 and ITS-90 L U per DIN 43710 and PTS-68
	Measure/simulate mV	–10 mV to 75 mV	0.01 mV	0.015 % +10 µV	—

General specifications for all Fluke 712 through 718 calibrators.
Maximum voltage: 30 V. **Non-operating temperature:** –40 °C to 60 °C. **Operating temperature:** –10 °C to 55 °C.
Relative humidity: 95 % (10 °C to 30 °C); 75 % (30 °C to 40 °C); 45 % (40 °C to 50 °C); 35 % (50 °C to 55 °C).
Operating altitude: 3,000 m max. **Shock:** 1 m drop test. **Vibration:** Random, 2 g, 5–500 Hz.
Safety: CSA C22.2 No. 1010.1:1992. **EMC:** EN50082-1:1992 and EN55022:1994 Class B.
Size/weight (HxWxD) (712-717): 187 mm x 87 mm x 32 mm (7.35 in x 3.41 in x 1.25 in) 330 g (12 oz).
Size/weight (HxWxD) (712-717 with holster): 201 mm x 98 mm x 52 mm (7.93 in x 3.86 in x 2.06 in) 600 g (21 oz).
Size/weight (HxWxD) (718): 210 mm x 83 mm x 62 mm (8.25 in x 3.27 in x 2.44 in) 737 g (26 oz).
Size/weight (HxWxD) (718 with holster): 216 mm x 94 mm x 66 mm (8.50 in x 3.72 in x 2.60 in) 992 g (35 oz).
Power: 9 V battery ANSI/NEDA 1604A or IEC 6LR619V alkaline; two batteries in 718 .
Battery life: 4 to 20 hours, typical, depending on functions used.
Warranty: Three-year (one-year on pressure pump in Fluke 718).

Ordering information

Included accessories	Models	
Test leads, test clips, one pair of stackable test leads, product overview manual, users manual in 14 languages on CD.	FLUKE-724	Temperature Calibrator
Test leads, alligator clips (excluding model 714), holster with test lead storage, single 9 V alkaline battery and instruction sheet (14 languages).	FLUKE-714	Thermocouple Calibrator
	FLUKE-712	RTD Calibrator

Check price and availability at
www.fluke.com/wtb

Fluke Calibration Temperature Sources

9142/9143/9144 Field Metrology Wells

Small dry wells for big field applications
- Lightweight, portable, and fast
- Cool to –25 °C in 15 minutes and heat to 660 °C in 15 minutes
- Built-in two-channel readout for PRT, RTD, thermocouple, 4–20 mA current
- Stability to ± 0.01 °C

9103/9140/9141 Field Dry-Well Calibrators

- Lightweight and very portable
- Three models ranging from –25 °C to 650 °C
- Accuracy to ± 0.25 °C
- Stability to ± 0.02 °C

4180/4181 Precision Infrared Calibrators

Accredited performance for point-and-shoot calibrations
- Calibrated radiometrically for meaningful, consistent results
- Accredited calibration included
- Accurate, reliable performance from –15 °C to 500 °C

Recommended accessories

9142-CASE
Carrying Case

9936A LogWare III
Temperature Data Logging Software

4180-CASE
Carrying Case

4080-DCAS
Carrying Case w/wheels

1620A Digital Thermometer-Hygrometer

The most accurate temperature and humidity graphical data logger on the market
- Superior accuracy
- Network enabled
- Powerful logging and analysis tools

Ordering information

Models		Specify X, X = A, B, C, or D included insert	
9103-X	Field Dry-Well Calibrator, –25 °C to 140 °C	Insert A:	1/16" (1.6 mm), 1/8" (3.2 mm), 3/16" (4.8 mm), 1/4" (6.35 mm), 3/8" (9.5 mm) and 1/2" (12.7 mm)
9140-X	Field Dry-Well Calibrator, 35 °C to 350 °C		
9141-X	Field Dry-Well Calibrator, 50 °C to 650 °C	Insert B:	2 at 3/16" (4.8 mm), 2 at 1/4" (6.35 mm), and 2 at 3/8" (9.5 mm)
		Insert C:	6 at 1/4" (6.35 mm)
		Insert D:	2 at 3 mm, 2 at 4 mm, and 2 at 6 mm

Models		Well inserts X in the model number to be replaced with A, B, C, D, E, or F as appropriate for the desired insert.	
9142-X	Field Metrology Well, –25 °C to 150 °C	9142-INSA	Insert A, 9142, misc holes
9142-X-P	Field Metrology Well, –25 °C to 150 °C, process version	9142-INSB	Insert B, 9142, comp holes
		9142-INSC	Insert C, 9142, 6 x 0.25 in holes
9143-X	Field Metrology Well, 33 °C to 350 °C	9143-INSA	Insert A, 9143, misc holes
9143-X-P	Field Metrology Well, 33 °C to 350 °C, process version	9143-INSB	Insert B, 9143, comp holes
		9143-INSC	Insert C, 9143, 6 x 0.25 in holes
9144-X	Field Metrology Well, 50 °C to 660 °C	9144-INSA	Insert A, 9144, misc holes
9144-X-P	Field Metrology Well, 50 °C to 660 °C, process version	9144-INSB	Insert B, 9144, comp holes
		9144-INSC	Insert C, 9144, 6 x 0.25 in holes

Included accessories	Models	
Report of Calibration (NVLAP accredited), power cord, user's guide, documentation CD, target cover, serial cable.	4180	Precision Infrared Calibrator, –15 °C to 120 °C
	4181	Precision Infrared Calibrator, 35 °C to 500 °C

Included accessories	Models	
Accessories vary by model. For details see www.flukecal.com/DewK	1621A	"DewK" Thermo-Hygrometer*
	1622A	"DewK" Thermo-Hygrometer*

*Each model comes in "–H" version (High-Accuracy Value Kit) and "–S" version (Standard-Accuracy Value Kit).

Fluke 717, 718 and 719 Pressure Calibrators

Accurate and rugged, temperature calibration tools

FLUKE ®

Fluke 719

Fluke 719 Electric Pressure Calibrators
- Electric pump enables one-handed pressure pumping and makes pressure calibration quicker and easier
- Best in class 0.025 % pressure measurement accuracy
- Programmable pump limit settings can eliminate over-pressurization—set 'pump to' pressure values
- Two ranges, 30 psi and 100 psi

Fluke 718 Pressure Calibrators
- 1, 30, 100 and 300 psi ranges available
- Pump to 300 psi, 20 bar with internal pump (718-300G)
- 718-1G includes special low volume pump and high measurement resolution for low pressure calibration

Fluke 717 Pressure Calibrators
- Measure up to 10,000 psi/690 bar sensor (10000G model)
- Compatible with non-corrosive gases and liquids

718 and 719
- Precision vernier for fine pressure adjustment
- Variable release rate bleed valve for controlled pressure release

Fluke 718

Fluke 717

717, 718 and 719 common features
- Pressure switch test makes a difficult task easy, captures set, reset and deadband values of a pressure switch
- 717 and 718, measure pressure to 0.025 % of full scale with internal sensor
- Measure mA with 0.015 % accuracy and 0.001 mA resolution, while sourcing 24 V loop power

Pressure modules

Fluke 700 Series Pressure Modules
- 29 pressure modules
- 8 intrinsically safe pressure modules*
- Ranges from 1.000 in H_2O (0.2491 kPa) to 10,000 psi (68.948 MPa)
- Gage, differential, dual (compound), absolute and vacuum modules
- Rugged cases protect the modules from harsh environments
- Full-accuracy performance from 0 °C to 50 °C

*For use with 718Ex and 725Ex only

Pressure Enabled — Fluke Process Calibrators in this catalog displaying the Pressure Enabled symbol display readings from the 700 Series Pressure Modules.

Recommended accessories

700ILF
In-Line Filter
See page 68

700LTP-1
Low Pressure Test Pump
See page 68

700HTP-2
Hydraulic Test Pump
See page 68

C116
Large Soft Case
See page 63

Specifications

Models	Range	Resolution	Comment
717-1	+/- 1 psi, 27.5 in H_2O, (-7 - +7 kPa)	+0.0001 psi, 0.0001 kPa, 0.0001 in H_2O	Fluke 718 dry air only and includes on board pump
718-1G			
717-15G	-12 to 15 psi, -83 to 103 kPa	0.001 ps1, 0.01 kPa, 0.01 in H_2O	—
717-30G	-12 to + 30 psi, (-83 to 207 kPa)	0.001 psi, 0.001 kPa, 0.001 in H_2O	Fluke 718 and Fluke 719 dry air only and includes on board pump
718-30G* and 719-30G			
717-100G	-12 to + 100 psi, (-83 to 690 kPa)	0.01 psi, 0.01 kPa, 0.01 in H_2O	Fluke 718 and Fluke 719 dry air only and includes on board pump
718-100G*			
717-300G	-12 to +300 psi, (-83 to +2070 kPa)	0.01 psi, 0.01 kPa, 0.01 in H_2O	Fluke 718 dry air only and includes on board pump
718-300G* and 719-100G			
717-500G	0-500 psi, 0-3450 kPa	0.01 psi, 0.1 kPa	Compatible with non-corrosive gases and fluids
717-1000G	0-1000 psi, 0-6900 kPa	0.01 psi, 0.1 kPa	Compatible with non-corrosive gases and fluids
717-1500G	0-1500 psi, 0-10342 kPa	0.1 psi, 1 kPa	Compatible with non-corrosive gases and fluids
717-3000G	0-3000 psi, 0-20700 kPa	0.1 psi, 1 kPa	Compatible with non-corrosive gases and fluids
717-5000G	0-5000 psi, 0-34500 kPa	0.1 psi, 1 kPa	Compatible with non-corrosive gases and fluids
717-10000G	0-10000 psi, 0-69000 kPa	1 psi, 1 kPa	Compatible with non-corrosive gases and fluids
Pressure accuracy	0.035 % of range, 1 year. 0.025 % for 6 months, 717 and 718-1G: 0.05 % 6 months, 1 year, 718 and 717-300G 0.035 % 6 months, 0.05 % 1 year		
mA measurement	0-24 mA range	0.001 mA resolution	Accuracy: ± 0.015 % + 1 count
Loop power	24 V dc		Accuracy: ± 10 %

*Intrinsically safe models available, see page 39. **Warranty:** Three-year on calibrator, one-year on pump.

Ordering information

Included accessories	Models			
Test leads, alligator clips, holster, test hose (719), one 9 V alkaline battery (two 9 V batteries in 718 and 719), safety sheet.	FLUKE-719 30G	Electric Pressure Calibrator	FLUKE-719-100G	Electric Pressure Calibrator
	FLUKE-718 1G	Pressure Calibrator	FLUKE-718 30US	Pressure Calibrator
	FLUKE-718 100US	Pressure Calibrator	FLUKE-718 300G	Pressure Calibrator
	FLUKE-717 1G	Pressure Calibrator		
	FLUKE-717 15G	Pressure Calibrator	FLUKE-717 30G	Pressure Calibrator
	FLUKE-717 100G	Pressure Calibrator	FLUKE-717 300G	Pressure Calibrator
	FLUKE-717 500G	Pressure Calibrator	FLUKE-717 1000G	Pressure Calibrator
	FLUKE-717 1500G	Pressure Calibrator	FLUKE-717 3000G	Pressure Calibrator
	FLUKE-717 5000G	Pressure Calibrator	FLUKE-717 10000G	Pressure Calibrator

For a full list of Fluke 700 Pressure Modules, visit **www.fluke.com/pressure**.

Check price and availability at
www.fluke.com/wtb

2700G Series Reference Pressure Gauges

The 2700G Reference Pressure Gauges provide best-in-class measurement performance in a rugged, easy-to-use, economical package. Improved measurement accuracy allows it to be used for a wide variety of applications. It is ideal for calibrating pressure measurement devices such as pressure gauges, transmitters, transducers, and switches. In addition, it can be used as a check standard or to provide process measurements with data logging.

- Precision pressure measurement from 100 kPa (15 psi) to 70 MPa (10,000 psi)
- Accuracy to 0.02 % of full scale
- Easy-to-use, rugged construction for reliable performance
- Combine with a Fluke PTP or HTP pump kit or P551X comparison test pump for a complete pressure testing solution

Combine P5500 comparison test pumps with one or more 2700G reference pressure gauge for a complete 0.02 % accuracy calibration system:

- **P5510:** integrated pneumatic hand pump with pressure generation to 300 psi (2 MPa), vacuum to –12 psi (–80 kPa)
- **P5513:** pneumatic pressure adjustment to 3,000 psi (21 MPa) with fine adjust inlet and outlet valves and precise screw press
- **P5514:** hydraulic pressure generation and adjustment to 10 k psi (70 MPa) with fine screw press and reservoir
- **P5515:** integrated hydraulic pressure generation and adjustment to 20 k psi (140 MPa) with high volume priming pump and fine screw press

All P5500 comparison test pumps feature two pressure ports to connect both 2700G and the device to be tested. Test ports are unique o-ring design allowing quick, hand-tight operation to full pressure without the need for PTFE tape or wrenches. Includes adapters for 10 different NPT, BSP and metric sizes.
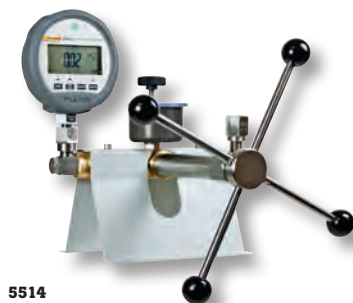
5514

5515

Specialty models

P3000 Deadweight Testers

With features designed to improve accuracy and performance, increase reliability and simplify operation these high performance deadweight testers can be used to calibrate virtually any pressure sensing device, including transducers, transmitters, gauges or pressure switches.

- Piston/cylinder design provides stability and repeatability
- Built-in pressure generation and control options for vacuum, gas and hydraulic models
- Mounted spirit level and adjustable feet
- Test station design with O-rings eliminates the need for PTFE tape or wrenches
- Sturdy enclosure and weight boxes for easy transport

P5500 Comparison Test Pumps

These test pumps are designed for testing pressure measuring instruments against master test instruments.

Ordering information

Included accessories	Models	
Items included with gauge: Manual on CD-ROM in 14 languages, calibration certificate, ¼ NPT female to ¼ BSP male adapter, ¼ NPT female to M20X1.5 adapter, universal ac power supply, USB communication cable	2700G-BG100K	Reference Pressure Gauge, –15 to 15 psi (–100 to 100 kPa)
	2700G-BG200K	Reference Pressure Gauge, –15 to 30 psi (–100 to 200 kPa)
	2700G-BG700K	Reference Pressure Gauge, –12 to 100 psi (–80 to 700 kPa)
	2700G-BG2M	Reference Pressure Gauge, –12 to 300 psi (–80 kPa to 2 MPa)
	2700G-BG3.5M	Reference Pressure Gauge, –12 to 500 psi (–80 kPa to 3.5 MPa)
	2700G-BG7M	Reference Pressure Gauge, –12 to 1000 psi (–80 kPa to 7 MPa)
	2700G-G20M	Reference Pressure Gauge, 0 to 3000 psi (0 to 20 MPa)
	2700G-G35M	Reference Pressure Gauge, 0 to 5000 psi (0 to 35 MPa)
	2700G-G70M	Reference Pressure Gauge, 0 to 10 000 psi (0 to 70 MPa)

Included accessories	Base model	Available ranges	Accuracy
Included: Traceable certificate of calibration, transportable carry cases, M20X1.5, M14X1.5 and 1/8 inch, 1/4 inch, 3/8 inch and 1/2 inch NPT and BSP female adapters, operating fluid (where applicable) and spare seals.	P301X and P302X gas/vacuum deadweight tester, 1 or 2 pistons	Ranges from vacuum to 500 psi (3.5 MPa)	0.15 % rdg (0.008 % optional)
	P303X, liquid lubricated gas deadweight tester, single piston	Ranges to 2000 psi (14 MPa)	0.15 % rdg (0.008 % optional)
	P31XX oil deadweight tester, 1 or 2 pistons	Ranges to 20 k psi (140 MPa)	0.15 % rdg (0.008 % optional)
	P32XX, water-operated deadweight tester, 1 or 2 pistons	Ranges to 10 k psi (70 MPa)	0.15 % rdg (0.008 % optional)
	P38XX, oil deadweight tester, single piston	Ranges to 60 k psi (400 MPa)	0.2 % rdg (0.015 % optional)

Base model	Available ranges
P5510, gas/vacuum comparison test pump	Generation and control from vacuum to 300 psi (2 MPa)
P5513, high pressure gas comparison test pump	Ranges to 3000 psi (20 MPa)
P5514, hydraulic comparison test pump	Generation and control to 10 k psi (70 MPa)
P5515, hydraulic comparison test pump	Generation and control to 20 k psi (140 MPa)

Fluke 1523/1524 Reference Thermometers

The 1523/1524 Reference Thermometers from Fluke Calibration measure, graph and record PRTs, thermocouples and thermistors. You can measure up to 0.3 seconds per sample and plot and scale trends in real time. Both thermometers have memory for up to 25 readings with statistics. The 1524 has two inputs with data logging memory for 15,000 measurements with date and time stamps.

- High accuracy PRTs: ± 0.011 °C; Thermocouples: ± 0.24 °C; Thermistors: ± 0.002 °C
- A simple user interface to see trends quickly
- Smart connectors to load probe information automatically
- Use a PC and optional LogWare II software to monitor and log more data over time

Fluke 1524

Fluke 1523

1551A/1552A "Stik" Thermometers

1551A/1552A

Best substitute for precision mercury-filled glass thermometers

Finally, a digital substitute for your mercury-in-glass thermometers! Accurate and repeatable to ± 0.05 °C over its full range, the 1551A/1552A "Stik" Thermometer is the new gold standard of industrial temperature calibration. Whether working outdoors in environments where potentially explosive gases may be present or on the floor of a processing plant, the intrinsically-safe, battery operated, portable reference thermometer is designed to go where you work.

- Accuracy of ± 0.05 °C (± 0.09 °F) over full range
- Intrinsically safe (ATEX and IECEx compliant)
- Two models to choose from (–50 °C to 160 °C or –80 °C to 300 °C)

Specifications

Temperature	Accuracy – 1523/1524 with 5616-12 PRT	Accuracy – 1523/1524 with 5610-9 Thermistor
–200 °C (–328 °F)	0.014	–
0 °C (32 °F)	0.021	0.009
100 °C (212 °F)	0.027	0.030
300 °C (572 °F)	0.040	–
420 °C (788 °F)	0.050	–

Equivalent temperature readout accuracy for measuring type K thermocouples is ± 0.24 °C (± 0.43 °F) from 0 °C to 1370 °C (32 °F to 2498 °F) and ± 0.61°C (± 1.10 °F) from –200 °C to 0 °C (–328 °F to 32 °F). Additional errors for thermocouple accuracy or calibration must be added separately.

Ordering information

Included accessories	Models	
12 V dc universal power supply, RS-232 cable, NIST traceable calibration certificate, technical manual and 9940 IO ToolKit software on CD, three AA batteries, users guide.	FLUKE-1524	Thermometer Readout (2 inputs)
	FLUKE-1523	Thermometer Readout (1 input)
TPAK, 2373-LTC, carrying case.	FLUKE-1524-P1	1524 Bundled with 5616 PRT
	FLUKE-1523-P1	1523 Bundled with 5616 PRT
	FLUKE-5616-12-P	Precision PRT w/calibration, 305 mm x 6.35 mm (–200 °C to 420 °C)
	FLUKE-5610-9-P	Precision Thermistor w/calibration, 229 mm x 3.2 mm (0 °C to 100 °C)
NVLAP-accredited report of calibration, user's guide on CD-ROM, 3 AAA batteries.	1551A-9	Thermometer, Fixed RTD, –50 °C to 160 °C, 3/16 x 9 in
	1551A-12	Thermometer, Fixed RTD, –50 °C to 160 °C, 1/4 x 12 in
	1552A-12	Thermometer, Fixed RTD, –80 °C to 300 °C, 1/4 x 12 in
Traceable calibration report, user manual CD, getting started guide, power cord, thermocouple shorting jumper, and USB-to-serial adapter cable.	7526A	Precision Process Calibrator

Model number appended with a -9, -12, -20 indicates probe sheath length in inches. All probe diameters are 6.35 mm (1/4 in) with the exception of the 1551A-9, which is 4.8 mm diameter (3/16 in).

Recommended accessories 1523/1524
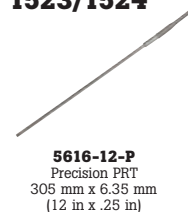
5616-12-P
Precision PRT
305 mm x 6.35 mm
(12 in x .25 in)

5610-9-P
Precision Thermistor
229 mm x 3.2 mm
(9 in x 1/8 in)

1523-CASE
1523/1524 Readout
and Probe Carrying Case

2384-P, 2384-T
INFO-CON Connectors, PRT
(gray cap) or TC (blue cap)

Recommended accessories 1551A/1552A

1551-CASE
Carrying Case

7526A Precision Process Calibrator

- Source and measure dc voltage, current, resistance, thermocouples and RTDs
- Precision pressure measurement
- Built-in 24 V dc transmitter loop power supply
- Measure 4 mA to 20 mA loop current

Intrinsically Safe Products

Calibrators, thermometers and multimeters designed to intrinsic safety standards

What is "Intrinsically Safe"?

Intrinsic safety is a protection method employed in potentially explosive atmospheres. Devices that are certified as "intrinsically safe" 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).

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

FM APPROVED

Factory Mutual – In the United States, Factory Mutual Research, managed by Factory Mutual (FM) Global, is a non-profit 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.

C CSA US

Canadian Standards Association (CSA) – Accreditation body for North American regulations, based in Toronto, Canada.

Ex

ATEX – The primary intrinsically safe standard, which has been set in the European Union with the Directive 94/9/EC, commonly called ATEX (Atmosphères Explosibles), French for explosive atmospheres.

Fluke products	ATEX certified	North American Certification	For additional product detail
28 II Ex: Intrinsically Safe True-rms Multimeter	Ex II 2 G Ex ia IIC T4	FM Approval Pending	See page 11
707Ex: Intrinsically Safe mA Calibrator	Ex II 2 G Ex ia IIC T4	FM APPROVED N.I. Class I, Div 2, Groups A-D T4	See page 35
718Ex: Intrinsically Safe Pressure Calibrator	Ex II 1 G Ex ia IIC T4	CSA LR 110480 I.S. Class I, Div 1, Groups A-D T4	See page 40
725Ex: Intrinsically Safe Multifunction Calibrator	Ex II 1 G Ex ia IIB 171 °C	CSA LR 110480 I.S. Class I, Div 1, Groups B-D, 171 °C	See page 37
700PEx: Intrinsically Safe Pressure Modules	Ex II 1 G Ex ia IIC T4	CSA 221839 I.S. Class I, Div 1, Groups A-D T4	See page 40
574-NI Nonincendive Infrared Thermometer		FM APPROVED Class I, Division 2, Groups A, B, C, D; Class I, Zone 2 IIC	See page 55
700G Series Intrinsically Safe Pressure Gauges	Ex II 3 G Ex ia IIB T6	CSA LR 110480 CSA Class I, Div. 2 Groups A-D rating	See page 43

Pressure gauges

Fluke-700G Series Pressure Gauges

- Rugged robust design
- Nine pressure ranges from 0–15 psi up to 10,000 psi
- CSA Class I, Div. 2 Groups A-D rating
- Ex ii 3 G Ex nA IIB T6 ATEX certification
- 0.05 % of full scale accuracy
- Measurement logging to internal memory for upload (requires optional 700G/Track Software)
- Backlit display

Fluke 574-NI Nonincendive Thermometer

For data loading and extra safety the Fluke 574 Nonincendive (NI) Thermometer has the same great features as the 574 model thermometer with the extra confidence of a Factory Mutual approval for use in hazardous environments.

Class I, Division 2, Groups A, B, C, D: Class I, Zone 2 IIC; T4 Ta=50 °C when used with 1.5 V alkaline batteries.

Ordering information

Models		Models	
FLUKE-28 II Ex	IS True-rms Multimeter	FLUKE-707Ex	IS Loop Calibrator
FLUKE-718Ex	IS Pressure Calibrator	FLUKE-725Ex	IS Multifunction Process Calibrator
FLUKE-700PEx	Pressure Modules (700P: 01, 5, 6, 9, 24, 27, 29, A4Ex)	FLUKE-574-NI	Precision Infrared Thermometer w/Logging SW Nonincendive
FLUKE-700G	Pressure test Gauge, (9) models Fluke-700G04 0–15 psi, 1 BAR Fluke-700G05 0 to 30 psi, 2 BAR Fluke-700G06 0 to 100 psi, 7 BAR Fluke-700G27 0 to 300 psi, 20 BAR		Fluke-700G07 0 to 500 psi, 34 BAR Fluke-700G08 0 to 1000 psi, 70 BAR Fluke-700G29 0 to 3000 psi, 200 BAR Fluke-700G30 0 to 5000 psi, 345 BAR Fluke-700G31 0 to 10000 psi, 690 BAR

Check price and availability at **www.fluke.com/wtb**

Fluke ScopeMeter® Test Tools

Handheld oscilloscopes for industrial, instrumentation and electronic applications

ScopeMeter test tools are the rugged, safe choice for a wide variety of field service installation and maintenance applications. These handheld battery-powered oscilloscopes are easy to use, with a built-in multimeter, paperless recording and analysis capabilities. They are rugged and IP 51 dust- and drip-proof rated to IEC529 standards to withstand harsh environments.

The new 190 Series II, with two and four isolated input channels and 60 MHz, 100 MHz, 200 MHz or 500 MHz bandwidth, are ideal for industrial electronics, automation, process control, and industrial machinery applications measuring three-phase power electronic circuits, or three-axis control systems comparing and contrasting multiple signals simultaneously. These tools are safety rated at CAT III 1000 V/ CAT IV 600 V with longer battery life and up-to-date USB interface technology.

The 120 series with 20 MHz or 40 MHz bandwidth, dual DMMs and paperless recording is the optimal choice for electrical and electro-mechanical applications, safety rated to IEC EN61010-1 CAT III 600 V.

For Industrial network applications, the Fluke 125 adds industrial network physical layer analog measurement algorithms to validate the network bus health.

Connect and View™

Selection guide

	120 Series			190 Series II					
	123	124	125	190-062	190-102	190-202	190-104	190-204	190-502
Bandwidth									
20 MHz	•	–	–	–	–	–	–	–	–
40 MHz	–	•	•	–	–	–	–	–	–
60 MHz	–	–	–	•	–	–	–	–	–
100 MHz	–	–	–	–	•	–	•	–	–
200 MHz	–	–	–	–	–	•	–	•	–
500 MHz	–	–	–	–	–	–	–	–	•
Input channels									
2Ch + 2 DMM	•	•	•	–	–	–	–	–	–
2Ch + DMM	–	–	–	•	•	•	–	–	•
4Ch	–	–	–	–	–	–	•	•	–
Isolated inputs	–	–	–	•	•	•	•	•	•
Triggering									
Connect-and-View	•	•	•	•	•	•	•	•	•
Advanced triggering	–	–	–	•	•	•	•	•	•
Advanced measurement function									
Cursors	–	•	•	•	•	•	•	•	•
TrendPlot	•	•	•	•	•	•	•	•	•
ScopeRecord	–	–	–	•	•	•	•	•	•
100 screen replay	–	–	–	•	•	•	•	•	•
Industrial BusHealth	–	–	•	–	–	–	–	–	–
Harmonics	–	–	•	–	–	–	–	–	–
FFT	–	–	–	•	•	•	•	•	•
Power measurements	–	–	•	•	•	•	•	•	•
Waveform mathematics	–	–	•	•	•	•	•	•	•
EN61010-1 safety									
CAT II 1000 V	–	–	–	•	•	•	•	•	•
CAT III 600 V	•	•	•	•	•	•	•	•	•
CAT III 1000 V	–	–	–	•	•	•	•	•	•
CAT IV 600 V	–	–	–	•	•	•	•	•	•
Interface									
Optical RS-232	•	•	•	–	–	–	–	–	–
USB PC interface	Opt	Opt	Opt	•	•	•	•	•	•
USB memory port	–	–	–	•	•	•	•	•	•
Power									
Ni-MH	•	•	•	–	–	–	–	–	–
Li-Ion	–	–	–	•	•	•	•	•	•
Battery (hours)	7	7	7	4 (opt 8)	4 (opt 8)	4 (opt 8)	7	7	7
General specifications									
Size (HxWxD)	232 mm x 115 mm x 50 mm (9.2 in x 4.5 in x 2 in)			270 mm x 190 mm x 70 mm (10.5 in x 7.5 in x 2.8 in)					
Weight	1.2 kg (2.6 lb)			2.2 kg (4.8 lb)					

Fluke 123, 124 and 125 ScopeMeter® Test Tools

Three-in-one simplicity
The compact ScopeMeter 123 and 124 are the rugged solution for industrial troubleshooting and installation applications. Each is a truly integrated test tool, with oscilloscope, multimeter and "paperless" recorder in one affordable, easy-to-use instrument. Find fast answers to problems in machinery, instrumentation, control and power systems.

- Dual-input 40 MHz or 20 MHz digital oscilloscope
- Two 5,000-count true-rms digital multimeters
- A dual-input TrendPlot™ recorder
- Connect-and-View™ trigger simplicity for hands-off operation
- Shielded test leads for oscilloscope, resistance and continuity measurements
- Bus Health mode gives a clear "Good/Weak/Bad" indication for the electrical signals on industrial buses and networks (Fluke 125)
- CAT III 600 V safety certified
- Optically isolated RS-232 interface
- IP 51 rated, rugged compact case

Connect-and-View™ triggering for an instant, stable display
Scope users know how difficult triggering can be. Incorrect settings show unstable and sometimes incorrect results. Fluke's unique Connect-and-View recognizes signal patterns and automatically and continuously sets up correct triggering. It provides a stable, reliable and repeatable display of virtually any signal.

Use TrendPlot™ to help find intermittents
The toughest faults to find are those that happen only once in a while—intermittents. They can be caused by bad connections, dust, dirt, corrosion or simply broken wiring or connectors. Other factors, like line outages and sags, can also cause a machine to stop. You may not be around to see it—your Fluke ScopeMeter will. In this "paperless recorder" mode, you can plot the minimum and maximum peak values and average over time—up to 16 days.

Battery powered mobility
Up to seven hours of battery operation frees you from mains outlets for true on-the-move working. The rugged and drip proof case assures long life and reliable operation in the harshest industrial environments.

Safety rated
The ScopeMeter 123 and 124 are safety rated for measurements on CAT III 600 V rms industrial power systems with the included test leads.

125 quickly tests critical bus physical layer characteristics.

Connect-and-View captures even the most complex motor drive signals.

Use TrendPlot to help find intermittents, fast.

Dual input oscilloscope, meter and paperless recorder.

Recommended accessories

AC120
Alligator Clip Set

i30s
AC/DC Current Clamp
See page 70

DP120
Differential Probe Kit

i410
AC/DC Current Clamp
See page 70

C125
Soft Carrying Case
See page 63

i5s
AC Current Clamp

BHT190
Bus Health Test Adapter,
DB-9 and M-12

Recommended kit

SCC 120 Kit
- Software
- Cable
- Hard carrying case

Ordering information

Included accessories	Models	
Test lead set, alligator clips, hook clips, battery pack, battery charger/line voltage adapter, BNC adapter, getting started guide, users manual on CD.	FLUKE-124S	Industrial ScopeMeter, 40 MHz, with SCC120 kit
	FLUKE-124	Industrial ScopeMeter, 40 MHz
	FLUKE-123S	Industrial ScopeMeter, 20 MHz, with SCC120 kit
	FLUKE-123	Industrial ScopeMeter, 20 MHz
Test lead set, battery charger/line voltage adapter, battery pack (installed), getting started guide, multi-lingual users manual on CD.	FLUKE-125	Industrial ScopeMeter, Bus Health, Power and Harmonics
	FLUKE-125S	Industrial ScopeMeter, Bus Health, Power and Harmonics with SCC-Kit
	SCC120	Kit containing FlukeView software for Windows, USB interface adapter/cable and hard case

Check price and availability at
www.fluke.com/wtb

Fluke 190 Series II ScopeMeter® Test Tools
See more, fix more, in harsh industrial environments

Fluke 190-204

Goes where ordinary scopes can't go
Safety rated for industrial applications, the 190 Series ScopeMeter portable oscilloscopes combine rugged portability with high performance to take you all the way from troubleshooting microelectronics to power electronic applications.

The first high-performance four-channel scopes built for harsh industrial environments
For the first time, plant maintenance engineers and technicians can take a high-performance four-channel scope into the harsh world of industrial electronics. The new Fluke 190 Series II is the only portable oscilloscope with two or four independent isolated input channels, a CAT III 1000 V/CAT IV 600 V safety rating, and sealed case IP 51 dust-proof and drip-proof rated.
- 60 MHz, 100 MHz or 200 MHz bandwidth
- 2 or 4 independent isolated inputs, up to 1000 V
- High-speed sampling: Up to 2.5 GS/sec
- Deep memory: 10,000 points per trace waveform capture
- CAT III 1000 V/CAT IV 600 V safety rated for high voltage environments
- 5,000 count multimeter 2 channel models or 999 count volt meter 4 channel models
- Li-Ion battery and easy-access battery door for extended usage
- Isolated USB host port for direct data storage to a USB memory
- USB-B-device port for PC connectivity
- Sealed compact case weighing only 2.2 kg (4.8 lb)

Automatic capture and replay of 100 screens
ScopeMeter users know how frustrating it is to see a one-time anomaly flash by—never to be seen again. Not with the ScopeMeter 190 Series II. Now you can look back in time with a touch of the replay button. In normal use, the instrument continuously memorizes the last 100 screens, on a first in-first out basis. At any moment you can "freeze" the last 100 screens and scroll through picture-by-picture or replay as a "live" animation. Cursors can be used for further analysis.

ScopeRecord™ mode for high-resolution waveform recording up to 48 hours
ScopeRecord memory stores up to 27,000 data points per channel, capturing fast intermittents and glitches as short as 8ns.
- Stores events like motion profiles, UPS, power supply and motor start-ups

- In Stop On Trigger mode, ScopeMeter automatically recognizes a power failure and stores the waveform data
- With the waveform zoom (up to 100x) you can look at the smallest details, like individual power cycles

TrendPlot™ Paperless Recorder
The toughest faults to find are those that happen once in a while. These intermittents can be caused by bad connections, dust, dirt, corrosion, or simple broken wiring or connectors. Line outages, sags or starting and stopping of a motor can also cause a machine to stop. You may not be around when it happens, but the Fluke ScopeMeter will.
- Plot minimum and maximum plot values and average over time up to 16 days
- Plot any combination of voltages, amps, temperature, frequency and phase for all four inputs, all with time and date stamp to pinpoint faults

Sample screens
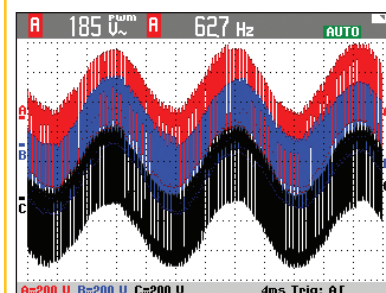
Connect-and-View™ captures even the most complex motor drive signals.
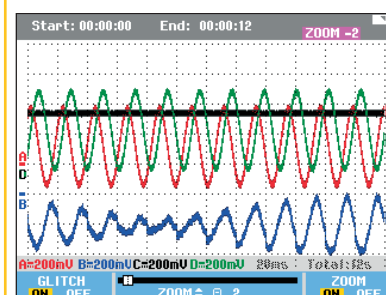
Use the 27,000 points memory of ScopeRecord and zoom in for maximum detail.
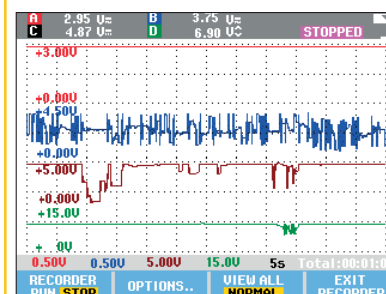
Cursors and zoom features of the Fluke 190 Series II help you to analyze the captured TrendPlot.
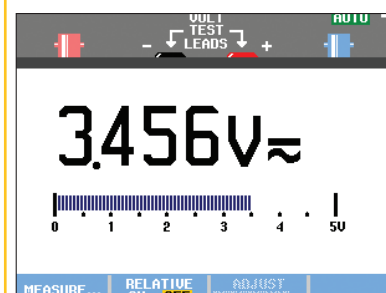
5,000 count dedicated digital multimeter on 2 channel models.

Ordering information

Included accessories	Models	
Battery charger/mains adapter, Li-Ion battery pack, voltage probe sets, test leads, handstrap affixed to instrument, hangstrap (user selectable for left- or righthand use), multi-language users manuals on CD-ROM, FlukeView® demo package (with restricted functionality), USB interface cable for PC connectivity.	FLUKE-190-204	Color ScopeMeter, 200 MHz, 4 channels
	FLUKE-190-204/S	Color ScopeMeter, 200 MHz, 4 channels, with SCC-290 kit included
	FLUKE-190-104	Color ScopeMeter, 100 MHz, 4 channels
	FLUKE-190-104/S	Color ScopeMeter, 100 MHz, 4 channels, with SCC-290 kit included
	FLUKE-190-202	Color ScopeMeter, 200 MHz, 2 channels plus DMM/Ext.input
	FLUKE-190-202/S	Color ScopeMeter, 200 MHz, 2 channels plus DMM/Ext.input, with SCC-290 kit included
	FLUKE-190-102	Color ScopeMeter, 100 MHz, 2 channels plus DMM/Ext.input
	FLUKE-190-102/S	Color ScopeMeter, 100 MHz, 2 channels plus DMM/Ext.input, with SCC-290 kit included
	FLUKE-190-062	Color ScopeMeter, 60 MHz, 2 channels plus DMM/Ext.input
	FLUKE-190-062/S	Color ScopeMeter, 60 MHz, 2 channels plus DMM/Ext.input, with SCC-290 kit included
	SCC290	Kit containing FlukeView software for Windows, USB interface adapter/cable and hard case

Check price and availability at
www.fluke.com/wtb

Fluke 190-502 ScopeMeter®
Handheld Oscilloscope
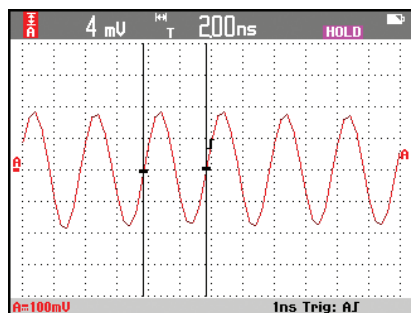
500 MHz, 5 GS/sec—the legacy of leadership continues

After 20 years, Fluke ScopeMeter® industrial scopes still lead, now with 500 MHz bandwidth and 5 GS/s sampling speed.

The Fluke 190 Series II extends your troubleshooting arsenal, showing you waveform shape, timing, distortion and disturbance in greater detail than ever before. Two- and four-channel models fit any application, measuring signals from 60 MHz to 500 MHz. ScopeMeter® test tools are number one in ruggedness, the only completely sealed, drip-proof, dust-proof IP51 rated handheld scopes.

- 500 MHz bandwidth
- Two independent isolated inputs, up to 1000 V
- High-speed sampling: Up to 5.0 GS/sec
- Deep memory: 10,000 points per trace waveform capture
- CAT III 1000 V/CAT IV 600 V safety rated for high voltage environments
- 5000 count multimeter
- Li-ion battery and easy-access battery door for extended usage
- Isolated USB host port for direct data storage to a USB memory
- USB–B-device port for PC connectivity
- Sealed compact case weighing only 2.2 kg (4.8 lb)

New 500 MHz two-channel ScopeMeter test tool advantages in today's applications?

A faster sample rate and higher bandwidth means greater accuracy and clarity. The scope will capture and display unknown waveform shapes, amplitudes and any disturbances. In order to display at least the fifth harmonic component of a signal, a good rule of thumb is to select a scope with a bandwidth of at least five times the maximum clock rate of the device under test. The faster the sample interval, the more accurate and detailed the scope will display a signal edge (dV/dt) and peaks of any reflections or transients.

Recommended accessories

"S" version kit includes mainframe and carry case and software
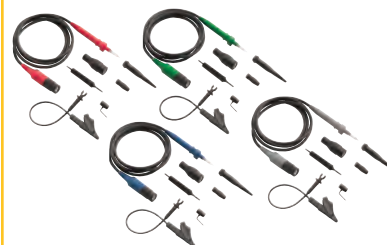
VPS510-x
Red, Green, Blue and Grey Voltage Probes

TRM50
50 Ohm Termination

Accurately capture noise, distortion and other signal characteristics with 500 MHz bandwidth and 5 GS/sec sampling rate.

1.7 ns rise time response accurately captures signals with fast edges with signs of reflections.
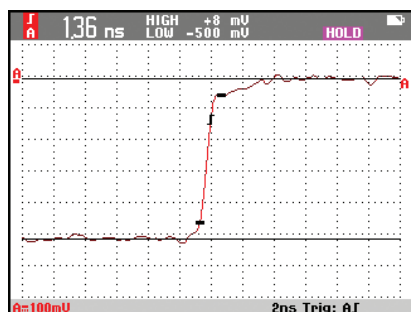
Ordering information

Included accessories	Models	
Battery charger/mains adapter, li-ion battery pack, voltage probe sets, 50 Ohm terminator, test leads, and strap affixed to instrument, hangstrap (user selectable for left- or righthand use), multilanguage users manuals on CD-ROM, FlukeView® demo package (with restricted functionality), USB interface cable for PC connectivity.	FLUKE-190-502	Color ScopeMeter, 500 MHz, 2 channels plus DMM/Ext. input
	FLUKE-190-502S	Color ScopeMeter, 500 MHz, 2 channels plus DMM/Ext. input, with SCC-290 kit included

Check price and availability at
www.fluke.com/wtb

For more information, go to **www.fluke.com/scopemeter**

TEMPERATURE
THERMAL IMAGERS/ INFRARED/VISUAL IR/ CONTACT

THERMAL IMAGERS
Thermal imaging is the non-contact detection and calculation of apparent surface temperature, and the creation of a thermal image based upon those temperature variations.
(see page 49)

VISUAL IR THERMOMETERS
Breakthrough new tool category - the ultimate in-between tool for when a single temperature reading isn't enough and a high-resolution thermal image is more than you need or can afford!
(see page 56)

INFRARED THERMOMETERS
Ultra-rugged, handheld IR non-contact thermometers instantly measure surface temperatures in hard-to-reach or hazardous areas.
(see page 54)

CONTACT THERMOMETERS
Handheld digital thermometers designed to use with external thermocouples for temperature measurement for laboratory accuracy where ever you go.
(see page 55)

High Performance Industrial Thermal Imagers

Ti32 shown with optional telephoto lens

The ultimate tools for troubleshooting and maintenance

The perfect tools to add to your problem solving arsenal. Built for tough work environments, these high-performance, fully radiometric imagers are ideal for troubleshooting electrical systems, electro-mechanical equipment, process equipment, HVAC/R equipment and others.

- Enhanced problem detection and analysis capabilities with patented IR-Fusion® Technology—only available from Fluke
- Optimized for field use in harsh work environments
  - Engineered and tested to withstand a 2 m (6.5 ft) drop
  - Withstands dust and water—tested to an IP 54 rating
  - Innovative protective lens cover protects the lens when not in use
- Delivers clear, crisp images needed to find problems fast
  - Identify even small temperature differences that could indicate problems with excellent thermal sensitivity (NETD)
  - Even the smallest details become visible with the large, widescreen full color LCD display
- Intuitive, three-button menu is easy to use... simply navigate with the push of a thumb

The flexibility of Fluke IR-Fusion® technology

Full infrared.

IR-Fusion® Picture-in-picture, AutoBlend™ mode.

IR-Fusion® with color alarms.

IR-Fusion® Full visible light – viewed in SmartView® software.
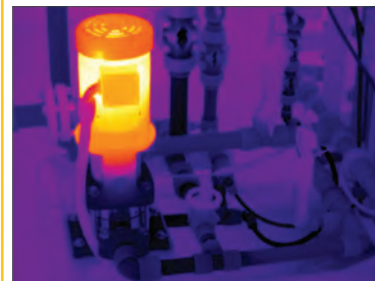
Specifications

Features	Ti32	Ti29	Ti27
Temperature measurement range (not calibrated below –10 °C)	–20 °C to +600 °C (–4 °F to +1112 °F)		
Temperature measurement accuracy	± 2 °C or 2 % (at 25 °C nominal, whichever is greater)		
On-screen emissivity correction	Yes		
On-screen reflected background temperature compensation	Yes		
On-screen transmission correction	Yes		
Image capture frequency	9 Hz refresh rate or 60 Hz refresh rate depending upon model variation		
Detector type	320 X 240 Focal Plane Array, uncooled microbolometer	280 x 210 Focal Plane Array, uncooled microbolometer	240 x 180 Focal Plane Array, uncooled microbolometer
Thermal sensitivity (NETD)	≤ 0.45 °C at 30 °C target temp. (45 mK)	≤ 0.05 °C at 30 °C target temp. (50 mK)	
Field of view (standard lens)	23 ° x 17 °		
Spatial resolution (IFOV)	1.25 mRad	1.43 mRad	1.67 mRad
Optional telephoto infrared lens	Yes		
Optional wide-angle infrared lens	Yes		
Standard palettes	Ironbow, Blue-Red, High Contrast, Amber, Amber Inverted, Hot Metal, Grayscale, Grayscale Inverted		
Ultra Contrast™ palettes	Ironbow Ultra, Blue-Red Ultra, High Contrast Ultra, Amber Ultra, Amber Inverted Ultra, Hot Metal Ultra, Grayscale Ultra, Grayscale Inverted Ultra		
IR-Fusion®	Yes		
Color alarms (user-selectable)	High-temperature alarm		
Voice annotation	60 seconds maximum recording time per image; reviewable playback on imager		
Storage medium	SD Memory Card (2 GB memory card will store at least 1200 fully radiometric (.is2) IR and linked visual images each with 60 seconds voice annotations, or 3000 basic bitmap (.bmp) images, or 3000 jpeg (.jpeg) images; transferrable to PC via included multi-format USB card reader		
Export file formats w/SmartView® software	BMP, DIB, GIF, JPE, JFIF, JPEG, JPG, PNG, TIF, and TIFF		
Batteries	Two Lithium Ion rechargeable smart battery packs with 5-segment LED Display to show charge level. Battery life: 4+ hours; Battery charge: 2.5 hours to full charge		
AC battery charging	Two-bay AC battery charger (110 V ac to 220 V ac, 50/60 Hz) (included), or in-imager charging, ac mains adapters included		
AC operation	AC operation with included power supply (110 V ac to 220 V ac, 50/60 Hz), ac mains adapters included		
Enclosure rating	IP54		
Drop tested	2 m (6.5 ft)		
Warranty	Two-year (additional optional extended warranty available)		

A complete specification list for these products can be downloaded at **www.fluke.com/tidatasheet**

Ordering information

Included accessories	Models	
AC power supply and battery charger (including mains adapters); SD memory card, multi format USB memory card reader for downloading images to your computer, SmartView® software with free upgrades for life, rugged, hard carrying case, soft transport bag, adjustable hand strap, users manual and warranty registration card. Ti32, Ti29, Ti27 also come with two, rugged lithium-ion smart battery packs.	FLK-Ti32 9 Hz	Industrial-Commercial Thermal Imager
	FLK-Ti32 60 Hz	Industrial-Commercial Thermal Imager
	FLK-Ti29 9 Hz	Industrial-Commercial Thermal Imager
	FLK-Ti29 60 Hz	Industrial-Commercial Thermal Imager
	FLK-Ti27 9 Hz	Industrial-Commercial Thermal Imager
	FLK-Ti27 60 Hz	Industrial-Commercial Thermal Imager

Check price and availability at
www.fluke.com/wtb

For more information, go to **www.fluke.com/thermal_imaging**

Fluke Ti125, Ti110, Ti105 and Ti100

Industrial-commercial thermal imagers

CNX Wireless Enabled

A Fluke thermal imager can save you time and money by finding potential problems before they become costly failures. With the innovative features and functionality in the Fluke Ti125, Ti110, Ti105 and Ti100 imagers, you can perform infrared inspections faster and more efficiently and thoroughly document problem areas for additional follow-up.

Key features

- Exclusive IR-OptiFlex™ focus system—ensures that images are in good focus from 1.2 meters (4 feet) and beyond for optimum image clarity and scanning convenience. For shorter distances change to manual mode with the touch of a finger (Ti110 and Ti125)
- Capture additional measurements fast and conveniently from up to five Fluke CNX wireless modules at once
- Always have references handy—IR-PhotoNotes™ annotation system—Quickly identify and keep track of inspection locations by adding digital images of important information and surrounding areas (Ti110 and Ti125)
- Find problems faster and easier with Fluke IR-Fusion® technology (Ti125, Ti110, Ti105). Accurately identify potential issues by combining digital and IR images
- Get further clarification with AutoBlend™ mode—the blending of a digital and partially transparent IR image into a single information-filled image (Ti125 only)
- Multi-mode video recording—focus-free video in visible light and infrared with full IR-Fusion. (Ti110 and Ti125 only)
- Easily communicate the location of problems with the Electronic 8-Point Cardinal Compass (Ti110 and Ti125 only)
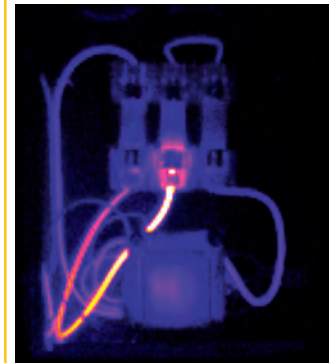
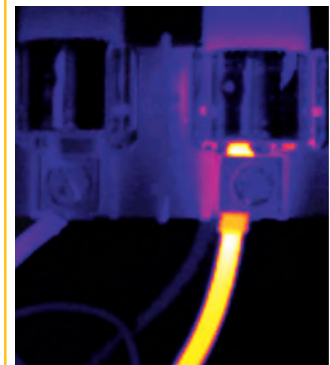See page 53 recommended accessories—only available from Fluke.

Fluke Ti125

Fluke Ti110

Fluke Ti100

Fluke Ti105

New

New features — Ti1XX Series

The Fluke IR-OptiFlex™ focus system difference

From 1.2 m (4 ft) and beyond, you're in clear focus.

Plus, you have the option to manually focus for closer views.

Electronic Compass

Make sure you and others know the location of the problem. Compass readings easily appear in images and reports.

77.8°F   Auto 86.0

NE   73.5

7/11/11   1:16:59 PM

Specifications

	Ti125	Ti110	Ti105	Ti100
	Industrial-Commercial			General use
CNX Wireless enabled	Yes			
IR resolution (FPA size)	160 x 120 FPA Uncooled Microbolometer			
Spectral band	7.5 µm to 14 µm (long wave)			
Capture or refresh rate	9 Hz or 30 Hz versions			9 Hz
NETD (Thermal sensitivity)	≤ 0.10 °C at 30 °C target temp (100 mK)			
FOV (Field of view)	22.5 °H x 31 °V			
IFOV (Spatial resolution)	3.39 mRad			
Temperature measurement range (not calibrated below –10 °C)	–20 °C to +350 °C (–4 °F to +662 °F)	–20 °C to +250 °C (–4 °F to +482 °F)		
Temperature measurement accuracy	± 2 °C or 2 % (at 25 °C nominal, whichever is greater)			
Focus mechanism	IR-OptiFlex™ focus system		Focus-free 1.2 m (4 ft) and beyond	
IR-Fusion® technology	PIP, FULL IR, FULL VISIBLE, AutoBlend™	PIP, FULL IR, FULL VISIBLE	PIP (1.2 m (4 ft) to 4.6 m (15 ft)), FULL IR, FULL VISIBLE	No, full IR only
Color alarms	High temperature, low temperature, isotherm	High temperature	–	
Standard palettes	Blue-Red, Grayscale, Inverted Grayscale, High-contrast, Hot Metal, Ironbow, Amber, Inverted Amber		Blue-Red, Ironbow, Grayscale, Amber	
Ultra Contrast™ palettes	Blue-Red, Grayscale, Inverted Grayscale, High-contrast, Hot Metal, Ironbow, Amber, Inverted Amber	Blue-Red, Grayscale, Ironbow	–	
Hot/cold markers	Yes	–		

	Ti125	Ti110	Ti105	Ti100
	Industrial-Commercial			General use
User definable spot markers	Three on camera and in SmartView®		in SmartView® only	
Centerpoint	Yes			
Centerbox (MIN/AVG/MAX)	Yes	–		
Level and span control	Manual and auto			
Minimum span in auto mode	5 °C			
Minimum span in manual mode	2.5 °C			
Minimum IR focus distance	15.25 cm (6 in)		122 cm (48 in)	
Weight	0.726 kg (1.6 lb)			
Size	28.4 x 8.6 x 13.5 cm (11.2 x 3.4 x 5.3 in)			
LCD display	3.5 inch diagonal (portrait format)			
Visible camera	2 megapixel industrial-grade			N/A
Minimum parallax	~45.7 – 55.9 cm (~ 18 in – 22 in)		~122 cm (48 in)	N/A
IR-PhotoNotes™ annotation system	Yes (3 images)		–	
Laser pointer	Yes			
Torch	Yes			–
Electronic (cardinal) compass	Yes		–	
Emissivity correction	Yes			
Transmission correction	Yes		–	
Background (reflected) compensation	Yes			
Voice annotation (audio)	Yes (60 seconds) per image		–	
Video output	Streaming USB video output (infrared, visible and IR-Fusion modes)	–		
Video recording (standard avi w/mpeg encoding)	Yes (AVI with MPEG encoding, up to 5 minutes)	–		
Video recording (radiometric .is3)	Yes, radiometric .is3 for approx. 2.5 to 5 minutes depending upon thermal scene	–		
Memory review	thumbnail review			
Battery (field-replaceable, rechargeable)	Two	One		
Battery life	4+ hours (each)*			
External battery charging base	Yes	Optional (accessory)		
Charging power supply	Yes			
Drop test	2 meter (6.5 feet)			
Ingress protection (IP) rating (IEC 60529)	IP54			
Recommended calibration cycle	Two-years			
Multifunction card reader	Included	–		
Memory storage	2 GB SD memory card			
Direct download capability	mini USB download direct to PC			
Operating temperature range	–10 °C to +50 °C (14 °F to 122 °F)			
Storage temperature range	–20 °C to +50 °C (–4 °F to 122 °F)			
Operating humidity	Operating and storage 10 % to 95 %, non-condensing			
Vibration and shock	2G, IEC 68-2-26 and 25G, IEC 68-2-29			
Safety standards	CSA (US and CAN): C22.2 No. 61010-1-04, UL: UL STD 61010-1 (2nd Edition), ISA: 82.02.01			
C Tick	IEC/EN 61326-1			
EMI, RFI, EMC	EN61326-1; FCC Part 5			
User manuals	Czech, English, Finnish, French, German, Italian, Japanese, Korean, Polish, Portuguese, Russian, Simplified Chinese, Spanish, Swedish, Traditional Chinese, Turkish, Dutch, and Hungarian			
Standard warranty period	Two-years (additional optional extended warranty available)			
Extended warranty and service plans	Yes			

*Assumes 50 % brightness of LCD.

Ordering information

Included accessories	Models	
Thermal imagers are shipped with ac power adapter, lithium ion smart battery (Ti125 includes 2 each, other models 1 each), USB cable, SD memory card, hard carrying case, soft transport bag, adjustable hand strap (left- or right-handed use), printed users manual, all other manuals on CD, SmartView® software and warranty registration card. Ti125 models also include a two-bay charging base and a multi-format USB memory card reader.	FLK-Ti125 30 Hz	Industrial-Commercial Thermal Imager
	FLK-Ti125 9 Hz	Industrial-Commercial Thermal Imager
	FLK-Ti110 30 Hz	Industrial-Commercial Thermal Imager
	FLK-Ti110 9 Hz	Industrial-Commercial Thermal Imager
	FLK-Ti105 30 Hz	Industrial-Commercial Thermal Imager
	FLK-Ti105 9 Hz	Industrial-Commercial Thermal Imager
	FLK-Ti100 9 Hz	General Use Thermal Imager

New features cont.

IR-Fusion® technology

The industry's first point-and-shoot IR-Fusion technology camera gives you aligned digital and infrared images.
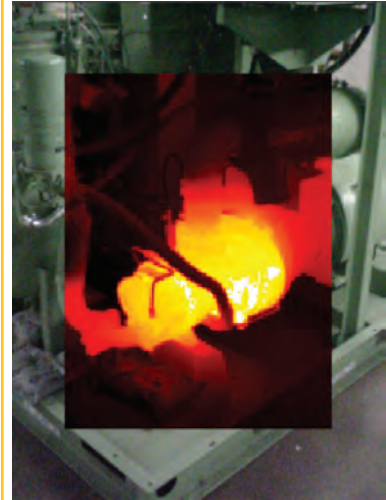
Excellent alignment in Picture-in-Picture mode.

Capture additional measurements with Fluke CNX Wireless Modules
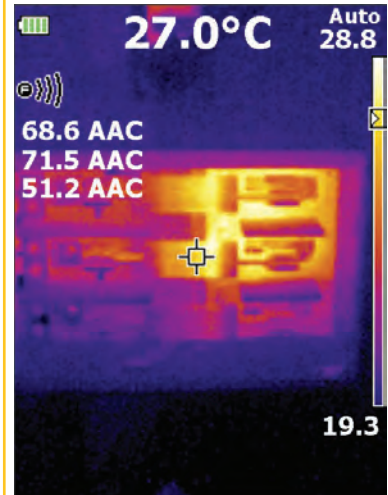
Up to five additional measurements can be added to your thermal image with Fluke CNX wireless modules.

Check price and availability at
www.fluke.com/wtb

Ti Series Buildings Thermal Imagers
Optimized for energy audits and building inspection

FLUKE ®

CNX Wireless Enabled

The ultimate tools for energy audits, building maintenance, restoration and remediation.

- Enhanced problem detection and analysis capabilities with patent-pending IR-Fusion® Technology—only available from Fluke
- Capture additional measurements fast and conveniently from up to five wireless modules at once (Fluke Ti1XX Series only)
- Optimized for field use
  - Engineered and tested to withstand a 2 m (6.5 ft) drop
  - Withstands dust and water—tested to an IP 54 rating
  - Innovative protective lens cover protects the lens when not in use
- Delivers the clear, crisp images needed to find problems fast
  - Identify even small temperature differences that could indicate problems with excellent thermal sensitivity (NETD)
  - Even the smallest details become visible with the large, full color LCD display
- Intuitive menu is easy to use... simply navigate with the push of a thumb

IR-Fusion®

TiR32 shown with optional wide angle lens

See page 53 recommended accessories—only available from Fluke.

Fluke TiR125

Specifications

| Features	TiR32	TiR29	TiR27	TiR125	TiR110	TiR105
CNX Wireless enabled	—			Yes		
Temperature measurement range (not calibrated below –10 °C)	-20 °C to +150 °C (–4 °F to +302 °F)					
Temperature measurement accuracy	± 2 °C or 2 % (at 25 °C nominal, whichever is greater)					
On-screen emissivity correction	Yes					
On-screen reflected background temperature compensation	Yes					
On-screen transmission correction	Yes					—
Image capture frequency	9 Hz refresh rate or 60 Hz refresh rate depending upon model variation			9 Hz refresh rate		
Detector type	320 X 240 Focal Plane Array, uncooled microbolometer	280 x 210 Focal Plane Array, uncooled microbolometer	240 x 180 Focal Plane Array, uncooled microbolometer	160 X 120 Focal Plane Array, uncooled microbolometer		
Thermal sensitivity (NETD)	≤ 0.04 °C at 30 °C target temp. (40 mK)	≤ 0.045 °C at 30 °C target temp. (45 mK)		≤ 0.08 °C at 30 °C target temp. (80 mK)		
Field of view (standard lens)	23 ° x 17 °; Minimum focus distance: 15 cm (approx. 6 in)			22.5 °H x 31 °V		
Spatial resolution (IFOV)	1.25 mRad	1.43 mRad	1.67 mRad	3.39 mRad		
Optional telephoto infrared lens	Yes			—		
Optional wide-angle infrared lens	Yes			—		
Standard palettes	Ironbow, Blue-Red, High Contrast, Amber, Amber Inverted, Hot Metal, Grayscale, Grayscale Inverted					Ironbow, Blue-Red, Amber, Grayscale
Ultra Contrast™ palettes	Ironbow Ultra, Blue-Red Ultra, High Contrast Ultra, Amber Ultra, Amber Inverted Ultra, Hot Metal Ultra, Grayscale Ultra, Grayscale Inverted Ultra			Ironbow, Blue-Red, High Contrast, Amber, Amber Inverted, Hot Metal, Grayscale, Grayscale Inverted	Ironbow, Blue-Red, Grayscale	—
IR-Fusion®	Yes					
Color alarms (user-selectable)	Dewpoint temperature alarm			High temperature, low temperature (dewpoint), and isotherm	low temperature (dewpoint)	—
Voice annotation	60 seconds maximum recording time per image; reviewable playback on imager					—
Video output	Streaming USB video output (infrared, visible and IR-Fusion modes)				—	
Video recording (standard avi w/mpeg encoding)	Yes (AVI with MPEG encoding, up to 5 minutes)					—
Video recording (radiometric .is3)	Yes, radiometric .is3 for approx. 2.5 to 5 minutes depending upon thermal scene			—		
Storage medium	SD Memory Card (2 GB memory card will store at least 1200 fully radiometric (.is2) IR and linked visual images each with 60 seconds voice annotations, or 3000 basic bitmap (.bmp) images, or 3000 jpeg (.jpeg) images; transferrable to PC via included multi-format USB card reader)					
Export file formats w/SmartView® software	BMP, DIB, GIF, JPE, JFIF, JPEG, JPG, PNG, TIF, and TIFF					
Batteries	Two Lithium Ion rechargeable smart battery packs with 5-segment LED Display to show charge level. Battery life: 4+ hours; Battery charge: 2.5 hours to full charge			One Lithium Ion rechargeable smart battery packs with 5-segment LED Display to show charge level. Battery life: 4+ hours; Battery charge: 2.5 hours to full charge		
AC battery charging	Two-bay AC battery charger (110 V ac to 220 Vac, 50/60 Hz) (included), or in-imager charging, ac mains adapters included			Optional (accessory)		
AC operation	AC operation with included power supply (110 V ac to 220 V ac, 50/60 Hz), ac mains adapters included					
Enclosure rating	IP54					
Drop tested	2 m (6.5 ft)					
Warranty	Two-year					

Ordering information

Included accessories	Models	
AC power supply and battery charger (including mains adapters), SD memory card, multi format USB memory card reader for downloading images to your computer, SmartView® software with free upgrades for life, hard carrying case, soft transport bag, adjustable hand strap, users manual and warranty registration card. Ti32, TI29, Ti27 also come with two, rugged lithium-ion smart battery packs.	FLK-TiR32 9 Hz	Building Diagnostics Thermal Imager
	FLK-TiR32 60 Hz	Building Diagnostics Thermal Imager
	FLK-TiR29 9 Hz	Building Diagnostics Thermal Imager
	FLK-TiR29 60 Hz	Building Diagnostics Thermal Imager
	FLK-TiR27 9 Hz	Building Diagnostics Thermal Imager
	FLK-TiR27 60 Hz	Building Diagnostics Thermal Imager
AC power adapter, lithium ion smart battery (TiR125 includes two each—other models one each), USB cable, SD memory card, SmartView® software, hard carrying case, soft transport bag, adjustable hand strap (left- or right-handed use), users manual and warranty registration card. TiR125 model also includes a two-bay charging base and a multi-format USB memory card reader.	FLK-TiR125 9 Hz	Building Diagnostics Thermal Imager
	FLK-TiR110 9 Hz	Building Diagnostics Thermal Imager
	FLK-TiR105 9 Hz	Building Diagnostics Thermal Imager

Fluke SmartView® Software
Analysis and reporting software
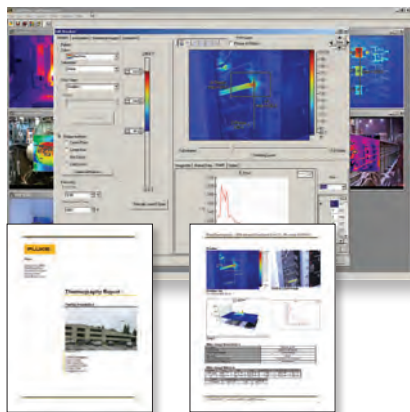
Powerful
Everything you need for image optimization, analysis and reporting.
- Extensive optimization tools and viewing options with full IR-Fusion® capabilities
- Complete analysis tools including CNX measurements to characterize potential problems
- Multiple reporting options and templates to generate reports with the push of a button or completely customize professional reports

View, optimize and analyze infrared video recordings
- SmartView tools and controls allow easy access to viewing and editing functions
- Step through videos frame by frame and convert frames to still images for analysis and to include in reports

Fluke Training Solutions
Getting started with Fluke Ti Thermal Imagers

Unsure where to begin with your new thermal imager?
Don't worry. Fluke utilizes an extensive network of industry experts to deliver a full portfolio of training solutions.
- **Free online webinars**
- **Hands-on training seminars**
- **Advanced training**

Visit **www.fluke.com/titraining** for training options and schedules.

Fluke authorized training is provided by our partner, The **Snell**Group

Fluke IR-Windows
Got switchgear

Fluke CLKT

Fluke CLV

Fluke CLKTO

Why open enclosures and expose yourself to arc flash hazards when you don't have to?
NFPA 70E compliant infrared inspections are time consuming and painful without IR Windows. So skip the headache of lock-out/tag-out, live work permits and cumbersome PPE. IR Windows provide increased safety, speed and frequency of inspection.

Fluke IR Windows offer NFPA 70E compliance without having to compromise on product performance:
- **ClirVu® optic** – Gives you a clear, unobstructed view
- **AutoGround™** – Effortless compliance with grounding requirements
- **Ease of installation** – Installs quickly and easily to the front of the panel only

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Recommended accessories

BOOK-ITP
Introduction to Thermography Principles Book

FLK-LENS/TELE1
Telephoto Infrared Lens (Ti32, TiR32, Ti29, TiR29, Ti27 and TiR27 only)

FLK-LENS/WIDE1
Wide-Angle Infrared Lens (Ti32, TiR32, Ti29, TiR29, Ti27 and TiR27 only)

TI-CAR-CHARGER
Thermal Imager Car Charger

TI-VISOR
Thermal Imager Sun Visor (Ti32, TiR32, Ti29, TiR29, Ti27 and TiR27 only)

TI-SBP3
Smart Battery Pack

TI-SBC3
Charging Base

TI-TRIPOD
Ti Tripod Mounting Base

For models Ti125, TiR125, Ti110, TiR110, TiR105, Ti100 only

TI-VISOR2
Sun Visor

TI-TRIPOD2
Tripod Mounting Accessory

Specifications

	Outdoor			Indoor
	FLK-050-CLKT	**FLK-075-CLKT**	**FLK-100-CLKT**	**FLK-075-CLKTO**
Crystal insert diameter	50 mm(1.97 in)	73 mm (2.96 in)	100 mm (3.94 in)	75 mm (2.96 in)
Viewing aperture diameter	43 mm (1.7 in)	68 mm (2.7 in)	89 mm (3.5 in)	68 mm (2.7 in)
Viewing aperture area	1452 mm^2 (2.25 in^2)	3632 mm^2 (5.63 in^2)	6322 mm^2 (9.79 in^2)	3632 mm^2 (6.36 in^2)
Warranty	Lifetime replacement against manufacturing defects			

For more detailed specifications download datasheets at **www.fluke.com\irwindows**

Ordering information

Included accessories	Models	
Installation CD, self-adhesive drilling template, security access key, warranty statement.	FLK-075-CLKT	75 mm (3 in) C-Range IR Window, Kwik Twist
	FLK-050-CLKT	50 mm (2 in) C-Range IR Window, Kwik Twist
	FLK-100-CLKT	100 mm (4 in) C-Range IR Window, Kwik Twist
	FLK-075-CLKTO	75 mm (3 in) Kwik-twist aluminium cover KT

Check price and availability at
www.fluke.com/wtb

Fluke 560 Series
Infrared Thermometers

Fluke 566 and 568 IR and Contact Thermometers

With a straight-forward user interface and soft-key menus, the Fluke 566 and 568 make even complex measurements easy. With just a few pushes of a button you can easily adjust emissivity, start data logging, or turn on and off alarms. With a rugged, easy-to-use design, the Fluke 566 and 568 can stand up to tough industrial, electrical, and mechanical environments.

- Measure up to 800 °C (1470 °F)
- Easily access advanced features with the soft-key buttons and graphical display
- Measure smaller objects from further away
- Compatibility with most type K thermocouples
- Confidently measure more surfaces, with adjustable emissivity and built-in materials table
- Log and download measurements for reporting (568)
- Two levels of backlight
- Audible and visual alarms alert you to measurements outside of set limits
- Min/Max/Avg/Dif functions
- Includes KTC bead probe
- 1 % measurement accuracy
- Versatile interface with six languages

CAUTION
LASER RADIATION DO NOT STARE INTO BEAM
CLASS II (2) LASER PRODUCT
OUTPUT: <1mW   COMPLIES WITH
WAVELENGTH: 630~670 nm   FDA 21 CFR 1040.10,11

Specialty models

Fluke 561 Infrared and Contact Thermometer
The Fluke 561 combines the temperature measurement functions that professionals need for most HVAC and industrial jobs, all in one tool.
- Pipe probe for superheat and sub-cooling and other contact and ambient measurements
- Min/Max/Dif functions help you quickly identify problems
- Scan large areas or small objects quickly and efficiently

Fluke 61 Infrared Thermometers
- Easy to use one button operation
- Easy targeting with bright laser
- Shock-absorbing molding increases ruggedness
- Two-year conditional warranty
- Temperature measurement range up to 275 °C (525 °F)
- 8:1 optics
- Accurate to within ± 2 % of reading or 2 °C, whichever is greater
- Recommended optional carrying case, C25

Specifications

Models	Fluke 561	Fluke 566	Fluke 568
Infrared temperature range	−40 °C to 535 °C (−40 °F to 1022 °F)	−40 °C to 650 °C (−40 °F to 1200 °F)	−40 °C to 800 °C (−40 °F to 1470 °F)
Accuracy	greater of ± 1 % or ± 1 °C (2 °F)		
Distance to Spot (D:S)	12:1	30:1	50:1
Sighting	Laser point		
Typical distance to target	Up to 2.5 m (7 ft)	Up to 4.5 m (15 ft)	Up to 7.5 m (25 ft)
Probe type	Thermocouple K		
Contact temperature range	−40 °C to 550 °C (−40 °F to 1022 °F)	−270 °C to 1372 °C (−454 °F to 2501 °F)	
Number of on-board memory locations	—	20	99
PC download and software	—	—	Yes, with FlukeView® Forms
Soft-key feature menu navigaton	—	Yes	
Min/Max/Avg/Dif	Min/Max/Dif	Min/Max/Avg/Dif	
English, French, Chinese, Spanish, Portuguese, German user interface	—	Yes	
Material type adjustment (emissivity)	Hi/Med/Lo	Material table or 0.1 to 1.00 by 0.01	
Two levels of backlight	—	Yes	
High and low alarms	—	High and low alarms	
Hands-free logging	—	—	Yes
Battery	2 AA		
Included case	Hard case (except 561/R and 561/P)	Hard case	
Warranty	Two-year		

Ordering information

Included accessories	Models	
USB cable, FlukeView® Forms software, thermocouple type K bead probe, carrying case, two AA batteries, users manual, quickstart guide.	FLUKE-568	Infrared Thermometer
Thermocouple type K bead probe, carrying case, two AA batteries, users manual and quickstart guide.	FLUKE-566	Infrared Thermometer
Thermocouple type K pipe probe, carrying case, two AA batteries, users manual.	FLUKE-561	Infrared Thermometer
9 V battery, instruction sheet.	FLUKE-61	Infrared Thermometer

Recommended accessories

80PK-11
Pipe Clamp Probe
See page 67

80PK-27
Industrial Surface Temperature Probe
See page 67

80PK-8
Pipe Clamp Probe
See page 68

80PK-18
Pipe Clamp Probe Kit
See page 68

80PK-22
SureGrip™ Immersion Probe
See page 67

C1600
Gear Tool Box
See page 63

Check price and availability at
www.fluke.com/wtb

Fluke 62 Max and 62 Max+ Infrared Thermometers

New

- **Dust and water-resistant:** IP54 rated for dust/water resistance
- **Rugged:** 3 m (9.8 ft) drop tested
- **Ergonomically designed:** Completely redesigned for a more natural hand fit
- **Distance to spot:** Precise laser technology makes for more accurate and repeatable measurements
- **Dual lasers:** The 62 MAX+ has dual rotating lasers to help you identify area to be measured. The measurement area is the spot between the dots
- **Min/Max/Avg/Dif:** Displays the minimum, maximum or average temperature, or the difference between two measurements
- **Alarm:** Hi and Lo alarms for rapid display of measurements outside the limits

⚠ **CAUTION** ⚠
LASER RADIATION DO NOT STARE INTO BEAM
CLASS ■ (2) LASER PRODUCT
OUTPUT: <1mW   COMPLIES WITH
WAVELENGTH: 630~670 nm   FDA 21 CFR 1040.10,11

	62 Max	62 Max⁺
Temperature range	–30 °C to 500 °C (–22 °F to 932 °F)	–30 °C to 650 °C (–22 °F to 1202 °F)
Accuracy	± 1.5 °C or ± 1.5 % of reading, whichever is greater –10 °C to 0 °C: ± 2.0 –30 °C to –10 °C: ± 3.0	± 1.0 °C or ± 1.0 % of reading, whichever is greater –10 °C to 0 °C: ± 2.0 –30 °C to –10 °C: ± 3.0
Emissivity	0.10 to 1.00	
Optical resolution	10:1 (calculated at 90 % energy)	12:1 (calculated at 90 % energy)
Power	AA battery	
Compliance	EN/IEC 61010-1: 2001	
Laser safety	FDA and EN 60825-1 Class II	
Warranty	Three-year (conditional)	

Fluke 50 Series II Thermometers
Lab accuracy in a field thermometer

All models offer:
- Laboratory accuracy: ± (0.05 % + 0.3 °C)
- Large backlit dual display
- Min/Max/Avg
- Electronic offset function maximizes overall accuracy
- Supports a wide range of thermocouple types
- Temperatures displayed in °C, °F, or Kelvin (K)

Powerful data logging capabilities
The Fluke 53 II B and 54 II B can log up to 500 points of data to internal memory.
- User-adjustable recording intervals
- Real-time clock captures the exact event time
- Recall function lets logged data be easily reviewed
- Download data to optional FlukeView® PC software

Features

Features	54 II B	53 II B	52	51
Thermocouple types	K,J,T,E,N,R,S	K,J,T,E,N,R,S	K,J,T,E	K,J,T,E
Number of inputs	Dual	Single	Dual	Single
Time stamp	Time of day	Time of day	–	–

Ordering information

Included accessories	Models	
Instruction sheet and battery.	FLUKE-62 Max	Infrared Thermometer
	FLUKE-62 Max⁺	Infrared Thermometer, Dual Lasers
	FLUKE-62 Max+/T+PRO/1AC	IR Thermometer, Voltage Tester and Voltage Detector Kit
	FLUKE-T5-600/62 Max+/1AC	IR Thermometer, Electrical Tester and Voltage Detector Kit
	FLUKE-62 Max+/323/1AC	IR Thermometer, Clamp Meter and Voltage Detector Kit
	FLUKE-414D/62 Max⁺	IR Thermometer and Laser Distance Meter Kit
Bead thermocouple(s), batteries, overview manual and instructional guide on CD.	FLUKE-54-2-B	Datalogging Thermometer, Dual Input
	FLUKE-53-2-B	Datalogging Thermometer, Single Input
	FLUKE-52-2	Digital Thermometer, Dual Input
	FLUKE-51-2	Digital Thermometer, Single Input
Thermocouple K probe (574), power supply (574), RS-232 data cable (574), data graphing, storage and analysis software on CD (574), hard case, two AA batteries, operator's guide on CD.	FLUKE-574-CF	Precision Infrared Thermometer w/Logging SW Close Focus
	FLUKE-574	Precision Infrared Thermometer w/Logging SW
	FLUKE-572-CF	Precision Infrared Thermometer with Close Focus Option
	FLUKE-572	Precision Infrared Thermometer

Specialty models

Fluke 570 Series Infrared Thermometers
The Fluke 572 and 574 are ideal diagnostic tools for maintenance professionals requiring accurate temperature readings at all distances. Predictive maintenance professionals requiring analysis and documentation use the 574 model, with 100-point data logging with the included software for graphing and analysis for follow-up reporting and documentation.
- Backlit display for poorly lit areas
- Displays last ten temperature readings
- Enhanced optics (distance to spot ratio up to 60:1)

Intrinsically safe model on page 43.

Recommended kits

62 MAX+/T+PRO/1AC Kit
- 62 MAX+ IR Thermometer
- T+PRO Electrical Tester
- 1AC-II Voltage Detector
- Carrying case

Buy Combo Pack and Save

T5-600/62 MAX+/1AC-II Kit
- 62 MAX+ IR Thermometer
- T5-600 Voltage Electrical Tester
- 1AC-II Voltage Detector
- Carrying case

Buy Combo Pack and Save

62 MAX+/323/1AC-II Kit
- 62 MAX+ IR Thermometer
- 323 Clamp Meter
- 1AC-II Voltage Detector
- Test leads
- Carrying case

Buy Combo Pack and Save

414D/62 MAX+ Kit
- 62 MAX+ IR Thermometer
- 414D Laser Distance Meter
- Soft pouch for 414D

Buy Combo Pack and Save

Fluke VT02 Visual IR Thermometer
See beyond temperature

The VT02 Visual IR Thermometer combines the convenience of an infrared thermometer with the visual advantage of a thermal imager creating a brand new tool category—a troubleshooting camera with infrared heat map.

- Blend between thermal and visual images on camera and in included software. Captures both visual and thermal image with every pull of the trigger
- Incredibly intuitive Point & Shoot focus free design; built-in intelligence requires little to no training required
- Hot and cold spot trackers identify issues quickly
- NEAR/FAR feature, exclusive to Fluke Visual IR Thermometer products, allows the user to take simultaneous visual images with thermal heat map images that are accurately aligned close in ≤ 15.25 cm (6 in) with the NEAR feature, as well as beyond with the FAR feature
- On-screen emissivity improves accuracy across a wide range of materials
- On-screen center spot cursor easily identifies specific target of temperature reading
- Store up to 10,000 images on micro-SD card, easy download to PC and import into included software

VT02 revolutionizes temperature measurements with thermal blending

Traditional IR thermometer
Optimized for single point measurements.

Visual IR thermometer
Visual and thermal blending provide context and instantly tells you the exact location.

Full infrared only thermal imagers
Challenging to see exact location without visual context.

Specifications

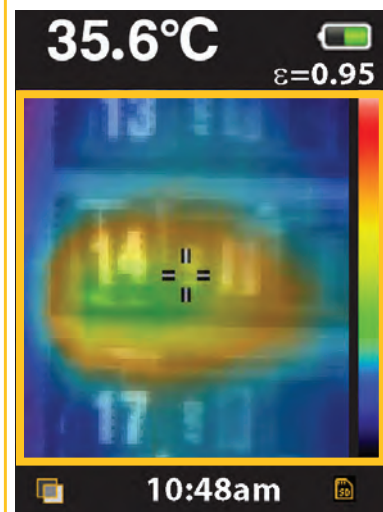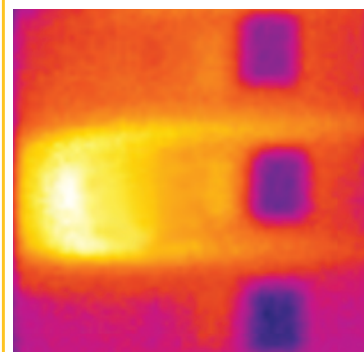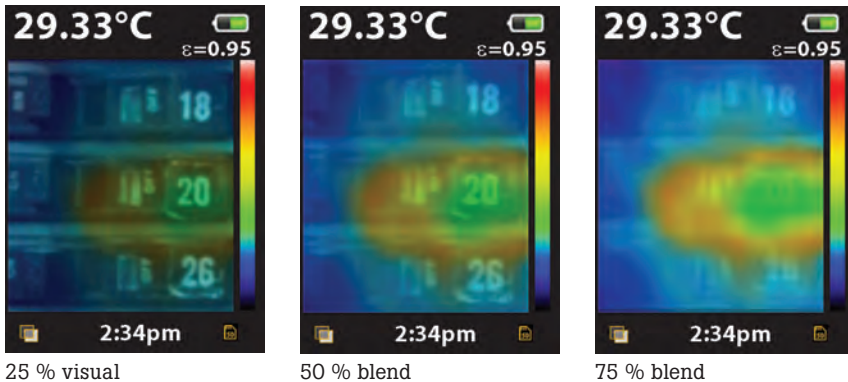| Temperature	
Temperature measurement range	–10 °C to +250 °C (14 °F to 482 °F)
Temperature measurement accuracy	± 2 °C or ± 2 % of reading in °C, whichever is greater (at 25 °C nominal), as tested
Imaging performance	
Detector type	Uncooled hyper-thin pyroelectric ceramic
Infrared spectral band	6.5 µm to 14 µm
Field of view	20° X 20°
Image presentation	
Level and span	Auto
Viewing options	Blending of the visual and the infrared from full infrared to full visual in 25 % steps.
Image capture and data storage	
Storage medium	4 GB micro SD card
File format	.is2 format saved to SD card. When imported to included SmartView® reporting software, user can create professional reports or images can be exported into multiple formats (BMP, DIB, GIF, JPE, JFIF, JPEG, JPG, PNG, TIF AND TIFF)
Memory review	Scroll through all saved images and view on screen
General specifications	
Operating temperature	–10 °C to +45 °C (14 °F to 113 °F)
Storage temperature	–20 °C to +60 °C (–4 °F to 140 °F)
Relative humidity	10 % to 90 % non-condensing
Display	2.2 in diagonal
Controls and adjustments	Select color palette User selectable temperature scale (°F/°C) Time/date set Emissivity selection
Software	SmartView® analysis and reporting software, included
Batteries	Four AA
Battery life	Eight hours
Power savings	Power down after 10 minutes of inactivity
Electromagnetic compatibility	CE/EN61326-1:2006
US FCC	CFR47: 2009 Class A. Part 15 subpart B
Size (HxWxL)	21 cm x 7.5 cm x 5.5 cm (8.3 in x 3 in x 2.2 in)
Weight (battery included)	< 300 gm (10.5 oz)
Warranty	Two-year

Ordering information

Included accessories	Models	
Hard case, micro, SD card, Micro SD conversion adapter to standard, 4 AA batteries, lanyard, printed quick start guides, SmartView® software, manual and quick start guides on CD.	FLK-VT02	Visual IR Thermometer

Check price and availability at www.fluke.com/wtb

Visual and thermal blending with the VT02

Until now, it hasn't been possible to combine the convenience of a digital camera with a thermal heat map at breakthrough affordability. Unlike other technologies, the blended image eliminates guesswork and tells you the exact location of the issue.

25 % visual

50 % blend

75 % blend

Key benefits

- **Measure with confidence:** Traditional infrared thermometers only show an average temperature of an area that doesn't accurately identify what you are measuring. The VT02 gives you the visual image of what you are measuring.
- **Detect issues instantaneously:** Eliminate the task of taking multiple grid readings and manual temperature measurements. In one blended image, you get the complete picture and can compare readings from different dates.
- **Pinpoint with hot and cold markers:** A picture speaks a thousand words. The blended image of the VT02 captures a center point temperature measurement and hot and cold markers all at once with a click of a button. Pinpoint the exact location of potential problems faster and easier.
- **Document problems with SmartView® software:** Producing a professional report with Smartview is just as powerful as the VT02. You will be able to communicate issues or document that repairs have been fixed.
- **Troubleshoot efficiently:** Compact and intuitive, the point and shoot focus-free design of the VT02 starts finding problems right out of the box with little to no training required.

Key applications

Industrial maintenance

Identify possible malfunctions by pinpointing hot spots and identifying wear conditions of equipment. Maintain optimum production efficiency and safety conditions.
- Motors
- Pumps, bearings and windings
- Belts and drive shafts
- Electrical overloads and wiring issues
- Performance verifications

Electrical

Eliminate the tedious tasks of taking multiple grid readings and manual recording of temperature readings. Show work was completed properly with saved images and professional reports.
- Check temperature of equipment and transformers
- Detect heating of fuses, wires, insulators, connectors, splices and switches
- Prevent overloaded motors due to possible harmonic currents

HVAC/R

See beyond temperature with 25 %, 50 % and 75 % blended images that help you see potential issues faster and with more detail. Show work was completed properly with saved images and professional reports.
- Heating and cooling systems
- Troubleshoot failed bearing components
- Verify surface temperatures and calibrate zone temperatures

Automotive

Detect blockages in heater cores and cooling systems. Diagnose automotive electrical issues. Determine failed bearing components quickly without the use of other less-efficient tools
- Check engine, brakes and heating/cooling systems
- Performance verification
- Wiring, bearings and exhaust systems
- Hydraulics, compressor and seals
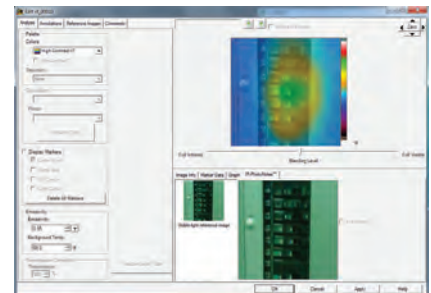
SmartView® software

Document problems

Producing a professional report with Smartview software is just as powerful as the VT02 tool itself. You will be able to communicate the issues that you've detected or document repairs that have been fixed.

Free upgrades. Free to share.

We don't charge you for software upgrades. They're free for the life of the product. We enable you to share this software with others.

The smart choice

- Extensive optimization and analysis tools with multiple viewing options
- Multiple reporting options and templates
- Enhance and analyze images quickly and easily
- Report Wizard guides you through automatic report generation
- Communicate image details with text annotation drag and drop feature
- Lifetime software upgrades, and no sharing limitations

Sample SmartView software view.

Fluke 810 Vibration Tester

Take a vibration expert along

Get answers now!

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

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

Use the Fluke 810 to:

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

Simple 3 step process

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

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

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

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

Breakthrough diagnostic technology

The Fluke 810's diagnostic technology combines powerful algorithms with a database of real-world measurement experience, making the Fluke 810 the most advanced troubleshooting tool for mechanical maintenance teams.

Analyze most common equipment:
- Motors
- Fans and blowers
- Belt and chain drives
- Gearboxes
- Pumps
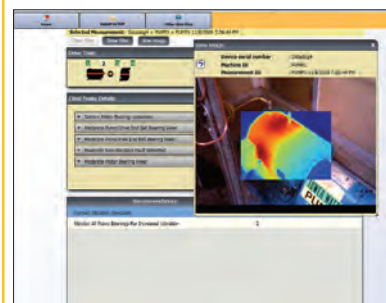- Compressors
- Spindles

Detect the most common causes of mechanical failure:
- Bearing problems
- Misalignment
- Unbalance
- Looseness

Software and resources

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

Interactive, self-paced training on DVD

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

Specifications

Diagnostic specifications	
Analysis for	Motors, fans, blowers, belts and chain drives, gearboxes, couplings, centrifugal pumps, piston pumps, sliding vane pumps, propeller pumps, screw pumps, rotary thread/gear/lobe pumps, piston compressors, centrifugal compressors, screw compressors, closed coupled machines, spindles
Standard faults	Unbalance, looseness, misalignment and bearing failures
Motor rotational speed range	200 rpm to 12000 rpm
Diagnosis details	Plain-text diagnosis, fault severity (slight, moderate, serious, extreme), repair details, cited peaks, spectra
Tester specifications	
IP rating	IP 54
A/D converter	4 channel, 24 bit
Dynamic range	128 dB
FFT resolution	800 lines
Battery	Lithium-ion, rechargeable, 8 hours operating life
Onboard storage capacity	2 GB internal + user accessible slot for additional storage
Warranty	Three-years (tester), One-year (sensor and tachometer)
Sensor specifications	
Sensor type	Tri-axial accelerometer , 100 mV/g (± 5 %, 25 °C)
Tachometer specifications	
Tachometer type	Laser Diode Class 2

Ordering information

Included accessories		Models	
Tri-axial accelerometer, magnet mount, mounting pad kit with adhesive, quick-disconnect accelerometer cable, laser tachometer with storage pouch, battery pack with cable and adapters, shoulder strap, adjustable hand strap, Viewer PC software, mini USB to USB cable, carrying case, training DVD, getting started guide, quick reference guide, users manual on DVD.		FLUKE-810	Vibration Tester
Additional accessories		810SC-20	Sensor Cable, 20 ft

Fluke 805 Vibration Meter
Forget the pens. Think METER.

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

Trust the Fluke 805 for:
Reliable bearing assessments with Crest Factor+ technology.
Repeatable measurements time after time with an innovative sensor design.
Consistent data quality at both low and high frequency ranges.

Key features:
- Four-level severity scale assesses urgency of vibration problems
- Exportable data via USB and trending in Microsoft® Excel using built-in templates
- Overall vibration measurement (10 Hz to 1,000 Hz) for acceleration, velocity and displacement units of measurement for a wide variety of machines
- Colored lighting system (green, red) and on-screen comments indicate how much pressure needs to be applied to take measurements
- Non-contact temperature measurement increases diagnostic capabilities
- On-board memory stores up to 3,500 measurements
- Audio output enables listening to bearing tones directly
- External accelerometer support for hard to reach locations
- Flashlight for viewing measurement locations in dark areas
- Large screen with high resolution for easy navigation and viewing

What is Crest Factor+?

Crest Factor (CF) is used to identify bearing faults and is the ratio of the peak value/RMS value of a time domain vibration signal. A key limitation of using Crest Factor is that it does not increase linearly as the bearing degrades. In fact, it can actually decrease as a bearing nears failure due to large RMS values.

To overcome this limitation, Fluke uses a proprietary algorithm known as Crest Factor + (CF+). CF+ values range from 1 to 16. As the bearing condition worsens, the CF+ value increases. Fluke has also included a four-level severity scale that identifies the bearing health as Good, Satisfactory, Unsatisfactory or Unacceptable.
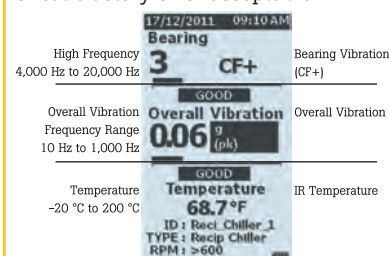
Exporting and trending in Excel
Trending, or repeated vibration measurements kept in a spreadsheet over time, is the best method to track machine health. With the Fluke 805 you can easily:
- Export your results to Excel through a USB connection
- Trend the readings with the pre-built Excel templates and plot graphs
- Compare the overall vibration readings to ISO Standards (10816-1, 10816-3, 10816-7)

Import measurements from the 805 Vibration Meter to an Excel template on your PC in order to trend the bearing parameters: overall vibration, CF+, and temperature. The user can now see a clear picture of the changing bearing condition and deteriorating health of the machine.

Sample trend plot using the Fluke 805 trending template.

Specifications

|		
Vibration meter	Low frequency range (overall measurement)	10 Hz to 1,000 Hz
	High frequency range (CF+ measurement)	4,000 Hz to 20,000 Hz
	Severity levels	Good, Satisfactory, Unsatisfactory, Unacceptable
	Vibration limit	50 g peak (100 g peak-peak)
	A/D converter	16-bit
	Signal to noise ratio	80 dB
	Sampling rate	Low frequency: 20,000 Hz; high frequency: 80,000 Hz
	Real time clock backup	Coin battery
Sensor	Sensitivity	100 mV / g ± 10%
	Measurement range	0.01 g to 50 g
	Low frequency range (overall measurement)	10 Hz to 1,000 Hz
	High frequency range (CF+ measurement)	4,000 Hz to 20,000 Hz
	Resolution	0.01 g
	Accuracy	At 100 Hz ± 5 % of measured value
Amplitude units	Acceleration	g, m/sec²
	Velocity	in/sec, mm/sec
	Displacement	mils, mm
Infrared thermometer (temperature measurement)	Range	–20 °C to 200 °C (–4 °F to 392 °F)
	Accuracy	±2 °C (4 °F)
	Focal length	Fixed, at ~3.8 cm (1.5)
External sensor (Fluke supports, but does not provide, external sensors)	Frequency range	10 Hz to 1,000 Hz
	Bias voltage (to supply power)	20 V dc to 22 V dc
	Bias Current (to supply power)	Maximum 5 mA
Firmware	External interfaces	USB 2.0 (full speed) communication
	Data capacity	Database on internal flash memory
	Upgrade	through USB
	Memory	Up to 3,500 measurements
Environmental	IP rating	IP54
	Drop test	1 meter
General specifications	Battery type	AA (2) Alkaline or Lithium-ion 2 V dc
	Battery life	250 measurements
	Size (L x W x H)	25.72 cm x 16.19 cm x 9.84 cm (10.13 in x 6.38 in x 3.875 in)
	Weight	1.16 kg (2.55 lb)
	Connectors	USB mini-B 7-pin, stereo audio output jack (3.5 mm Audio Plug), external sensor jack (SMB connector)

Ordering information

Included accessories	Models	
USB cable, storage case, belt holster, quick reference guide, CD-ROM (includes MS Excel template and documentation), and two AA batteries.	FLUKE-805	Vibration Meter

Check price and availability at
www.fluke.com/wtb

CNX Wireless System (3000 Series Test Tools)

New

Find it. Fix it. Fast.

Take readings quicker and solve problems faster with a CNX Wireless System. All CNX 3000 Series tools operate independently, but with the push of a button, they can also work together wirelessly as a team to save you time and keep you safe.

All CNX 3000 Series tools are sold individually and in kits so you can create your own team.

- **Isolate problems quickly** by viewing multiple live measurements at once, on the DMM screen
- **Stay out of harm's way** by separating yourself from the test point
- **Spend less time waiting** for intermittents or keeping records by logging with the CNX modules

Possible applications

Load study

Car wash system
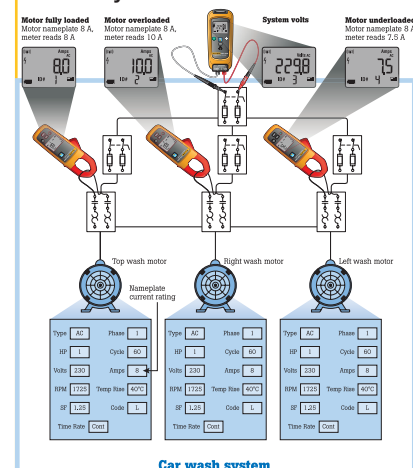
Measure voltage unbalance

Meet the team (see specs on pg 8)

Fluke CNX Wireless Multimeter
The CNX 3000 Wireless Multimeter has all the essentials for convenient troubleshooting. Plus, the CNX 3000 Multimeter can wirelessly display the measurements from up to three CNX modules at the same time—from up to 20 m (66 ft) away!
- AC and dc voltage measurements to 1000 V
- AC and dc current to 400 mA with 0.01 mA resolution
- Continuity, resistance, diode test, capacitance and frequency measurements
- MIN/MAX recording
- CAT III 1000 V, CAT IV 600 V; IP54

Fluke CNX i3000 Wireless iFlex™ AC Current Module
- True-rms ac flexible current probe
- Measure up to 2500 A
- Log MIN/MAX/AVG readings

Fluke CNX v3000 Wireless AC Voltage Module
- Measure up to 1000 V true-rms ac
- Log MIN/MAX/AVG readings

Fluke CNX a3000 Wireless AC Current Clamp Module
- True-rms ac current clamp
- Measure up to 400 A
- Log MIN/MAX/AVG readings

Fluke CNX t3000 Wireless Temperature Module
- K-type thermocouple thermometer
- Measure up to 1372 °C
- Log MIN/MAX/AVG readings

Fluke CNX pc3000 Wireless PC Adapter
- Communicate real-time readings from CNX tools to your computer
- Download logged data from CNX Wireless Modules to your computer

Recommended accessories

CNX C3000
Premium Modular Tool Bag

CNX C3001
Small Modular Case

CNX C3002
Modular DMM Two-Compartment Soft Case

CNX C3003
Modular DMM Three-Compartment Soft Case

Check price and availability at **www.fluke.com/wtb**

Fluke CNX 3000 Wireless Kits
Kits tailored for your specific application

Industrial

CNX 3000 Industrial System
- CNX 3000 Wireless Multimeter
- CNX v3000 AC Wireless Voltage Module
- Three CNX i3000 iFlex AC Wireless Current Modules
- Three iFlex i2500–10 Flexible Current Probes
- CNX pc3000 Wireless PC Adapter and Software
- TL224 Test Leads
- TL175 Test Leads
- AC175 Alligator Clips
- AC285 Alligator Clips
- Four magnetic hanging straps

HVAC

CNX 3000 HVAC System
- CNX 3000 Wireless Multimeter
- CNX a3000 AC Wireless Current Clamp Module
- CNX t3000 K–Type Wireless Temperature Module
- CNX pc3000 Wireless PC Adapter and Software
- TL175 Test Leads
- AC175 Alligator Clips
- 80PK-1 K–Type Bead Thermocouple
- Magnetic hanging strap
- Soft carrying case

General maintenance

CNX 3000 General Maintenance System
- CNX 3000 Wireless Multimeter
- CNX v3000 AC Wireless Voltage Module
- CNX i3000 iFlex AC Wireless Current Module
- iFlex i2500–10 Flexible Current Probe
- CNX pc3000 Wireless PC Adapter and Software
- TL224 Test Leads
- TL175 Test Leads
- AC175 Alligator Clips
- AC285 Alligator Clips
- Two magnetic hanging straps
- Soft carrying case

Additional kits

CNX a3000 AC Current Clamp Kit
- CNX 3000 Wireless Multimeter
- CNX a3000 AC Wireless Current Clamp Module
- TL175 Test Leads
- AC175 Alligator Clips
- Soft carrying case

CNX i3000 iFlex AC Current Kit
- CNX 3000 Wireless Multimeter
- CNX i3000 iFlex AC Wireless Current Module
- iFlex i2500–10 Flexible Current Probe
- TL175 Test Leads
- AC175 Alligator Clips
- Magnetic hanging strap
- Soft carrying case

CNX t3000 Temperature Kit
- CNX 3000 Wireless Multimeter
- CNX t3000 K–Type Wireless Temperature Module
- TL175 Test Leads
- AC175 Alligator Clips
- 80PK-1 K–Type Bead Thermocouple
- Magnetic hanging strap
- Soft carrying case

CNX v3000 AC Voltage Kit
- CNX 3000 Wireless Multimeter
- CNX v3000 AC Wireless Voltage Module
- TL224 Test Leads
- TL175 Test Leads
- AC175 Alligator Clips
- AC285 Alligator Clips
- Magnetic hanging strap
- Soft carrying case

Ordering information

Included accessories	Models	
Test leads, alligator clips, info pack	FLK-CNX 3000	Wireless Multimeter
Flexible current probe, magnetic hanging strap, info pack	FLK-CNX i3000	iFlex™ AC Current Clamp Module
	FLK-CNX a3000	AC Current Clamp Module
Test leads, alligator clips, magnetic hanging strap, info pack	FLK-CNX v3000	AC Voltage Module
K-type bead thermocouple, magnetic hanging strap, info pack	FLK-CNX t3000	K-Type Temperature Module
	FLK-CNX pc3000	PC Adapter and Software
Industrial kit: all accessories included with individual items	FLK-CNX 3000 IND	Industrial System
All other kits: all accessories included with individual items, plus C3003	FLK-CNX 3000 GM	General Maintenance System
	FLK-CNX 3000 HVAC	HVAC System
	FLK-CNX t3000 Kit	Temperature Measurement Kit
	FLK-CNX i3000 Kit	iFlex AC Current Measurement Kit
	FLK-CNX a3000 Kit	AC Current Clamp Kit
	FLK-CNX v3000 Kit	AC Voltage Kit

For more information, go to **www.fluke.com/cnx**

FLUKE ®

ACCESSORIES
AS TOUGH AS
YOUR METER

TPAK Meter Hanger—
hang your meter from
magnetic surfaces and
free both hands
(see page 71)

iFlex® Flexible Current Probe
Expands measurement
range to 2500 A ac
and provides ultimate
measurement flexibility
(see page 4)

TL175 TwistGuard™ Test
Leads—get two category
ratings with one set of
test leads and a wire that
changes color when the
leads need to be replaced
(see page 66)

**When your job depends on your meter...your
meter depends on Fluke Genuine Accessories**

Genuine Fluke Accessory

Fluke cases and holsters
A premium meter deserves a premium case

C35	CAMO-C25	C550	CXT80	H5	C520A

Soft cases

CAMO-C25 Camouflage Carrying Case
- High quality 1000D fabric
- Dimensions (HxWxD): 20.3 x 12.1 x 4.6 cm (8 x 4.8 x 1.8 in)

CAMO-C37 Camouflage Carrying Case
- High quality 1000D fabric
- Dimensions (HxWxD): 26.5 x 9 x 3 cm (10.5 x 3.5 x 1.2 in)

C12A Meter Case
- Case with inside pockets and belt loop
- Dimensions (HxWxD): 172 x 128 x 38 mm (6.8 x 5 x 1.5 in)

C75 Accessory Case
- Zippered carrying case
- Dimensions (HxWxD): 179 x 103 x 26 mm (7 x 4 x 1 in)

C50 Meter Case
- Case with inside pocket, belt loop and inside meter strap
- Dimensions (HxWxD): 192 x 90 x 38 mm (7.56 x 3.5 x 1.5 in)

C25 Large Soft Case for DMMs
- Case with padding and inside pocket
- Dimensions (HxWxD): 218 x 128 x 64 mm (8.6 x 5 x 2.52 in)

C90 Soft Case for DMMs
- Case with inside pocket and belt loop
- Dimensions (HxWxD): 205 x 90 x 72 mm (8 x 3.5 x 2.8 in)

C35 Soft Carrying Case
- Made of durable polyester 600D
- Dimensions (HxWxD): 220 x 140 x 65 mm (8.7 x 5.5 x 2.6 in)

C23 Soft Carrying Case
- Case with inside pocket and belt loop
- Dimensions (HxWxD): 225 x 95 x 58 mm (8.9 x 3.75 x 2.3 in)

C280 Soft Case
- Made of durable polyester 600D
- Dimensions (HxWxD): 230 x 185 x 65 mm (9 x 7.3 x 2.6 in)

C115 Soft Carrying Case
- Made of durable polyester 600D
- Dimensions (HxWxD): 240 x 205 x 75 mm (9.5 x 8 x 3 in)

C116 Soft Carrying Case
- Made of durable polyester 600D
- Dimensions (HxWxD): 240 x 230 x 65 mm (9.5 x 9 x 2.6 in)

C781 Meter Case
- Made of durable polyester 600D
- Dimensions (HxWxD): 269 x 141 x 90 mm (10.6 x 5.6 x 3.5 in)

C33 Soft Carrying Case
- Case with inside pocket and belt loop
- Dimensions (HxWxD): 280 x 115 x 55 mm (11 x 4.5 x 2.2 in)

C789 Meter and Accessory Case
- Made of durable polyester 600D
- Dimensions (HxWxD): 308 x 256 x 77 mm (12 x 10 x 3 in)

C43 Soft Carrying Case
- Made of durable polyester 600D
- Dimensions (HxWxD): 318 x 230 x 90 mm (12.5 x 9.1 x 3.5 in)

C550 Tool Bag
- Made of ballistic cloth with heavy-duty hardware
- Dimensions (HxWxD): 333 x 513 x 231 mm (13 x 20.2 x 9.1 in)

C345 Soft Case
- Made of durable polyester 600D
- Dimensions (HxWxD): 360 x 200 x 240 mm (14 x 8 x 9.5 in)

Hard cases

CXT Series Extreme Cases
- Models CXT80, CXT170, and CXT280 for various meter compatibility
- Unbreakable, watertight, airtight, chemical resistant and corrosion proof

C800 Meter and Accessory Case
- Dimensions (HxWxD): 230 x 385 x 115 mm (9 x 15 x 4.5 in)

C101 Hard Case
- Dimensions (HxWxD): 305 x 360 x 105 mm (12 x 14.2 x 4.1 in)

C100 Universal Carrying Case
- Dimensions (HxWxD): 397 x 346 x 122 mm (15.7 x 13.6 x 4.8 in)

C1600 Gear Box
- Includes five hook and loop straps to wrap cords and test leads
- Dimensions (HxWxD): 260 x 390 x 200 mm (10 x 15 x 7.8 in)

Leather cases

C520A Leather Tester Case
- Dimensions (HxWxD): 256 x 154 x 106 mm (10 x 6 x 4 in)

C510 Leather Meter Case
- Dimensions (HxWxD): 287 x 179 x 106 mm (11 x 7 x 4 in)

Holsters

H80M Protective Holster
- Includes a hanging magnet, general purpose hanger, and hook and loop straps
- Dimensions (HxWxD): 190 x 95 x 43 mm (7.5 x 3.7 x 1.7 in)

H5 Electrical Tester Holster
- Dimensions (HxWxD): 192 x 90 x 38 mm (7.5 x 3.5 x 1.5 in)

H3 Clamp Meter Holster
- Dimensions (HxWxD): 231 x 90 x 64 mm (9 x 3.5 x 2.5 in)

H6 IR Thermometer Holster
- Dimensions (HxWxD): 302 x 178 x 57 mm (11.9 x 7 x 2 in)

Cases and Holsters Selection Guide

Cases and Holsters Selection Guide	113/114/115/116/117	27 II/28 II	77-4/175/177/179	83V/87V	233	287/289	8845A/8846A/8808A	120/190/22X Series	51-II/52-II/53-II B/54-II B	561/566/568	63/66/68	321/322	355	365/373/902	374/375/376/381	705/707	712/714/715/717/72X Series	718/719	753/754	787/789	T+/T+PRO	T5-600/T5-1000	1503/1507/1577
C12A	•																•						
C23	•		•	•	•							•											
Camo-C25	•	•	•	•	•	•			•			•					•			•	•		•
C25	•	•	•	•	•	•			•			•					•			•	•		•
C33												•		•	•								•
C35			•		•															•	•		
Camo-C37												•		365	•					•			
C43		•	•	•		•		•				•	•							•			
C50	•																			•			
C75	The C75 is designed to hold test leads, probes, clips and other required accessories																						
C90	•	•							•											•			
C100		•	•	•				•				•					71X			787			
C101	•	•	•	•	•	•		•	•	•	•	•		•	•	•	•	•	•			•	•
C115/C116	•	•	•	•	•	•		•						365			•	•					•
C125		•	•	83V	•																		
C280	•	•	•						•							•	•	•		•	•		
C345	The perfect case for carrying a wide range of Fluke handheld test tools and accessories																						
C510		•							•									•	•	787			
C520A																					•	•	
C550/C1600	The C550 and C1600 are large enough to hold accessories and multiple test tools																						
C781			•									•		•			72X	•	•	789			•
C789								•		•			•	365				•	•				
C799																			•				
C800		•	•			•						•	•	•			71X			787			
CXT80		•	•														72X			•			
CXT170	•	•							•								71X			•			•
CXT280				•													•						

Fluke accessory sets and kits
Get an outstanding value with our most popular accessories

TL220 Industrial Test Lead Set
- Starter kit for industrial applications
- TP238 has insulated stainless steel tip
- Includes 1 pair: AC220, TP220, TL222
- CAT III 1000 V, CAT IV 600 V, 10 A

TL223 Electrical Test Lead Set
- Starter kit for electrical applications
- TP1 has flat blades for wall sockets
- Includes 1 pair: AC220, TP1, TL224
- CAT II 1000 V, 10 A

TLK-220 SureGrip™ Accessory Kit with Meter Carrying Case
- Plunger style alligator clips
- Large jaw alligator clips
- Sharp test probes
- Right to straight test leads
- Zippered vinyl carry case with moveable divider
- Holds large DMMs

TLK287 Electronics Master Test Lead Set
The perfect test lead kit for today's electronics test and design.
- Precision electronic probes with multiple spring-loaded sharp tips to maximize contact with SMD test points
- Micro–grabbers and leads to enable fine SMD test
- Modular mini–alligator clips, grabbers, leads, probes, and couplers for virtually every electronics need

TLK289 Industrial Master Test Lead Set and Case
Designed for electrical and electronics test in today's industrial environment.
- SureGrip™ alligator clips, grabbers and hook clips for dependable contact with a variety of test points
- TP175 TwistGuard™ Test Probes
- Magnetic hanger for suspension of your DMM
- Temperature adapter with type K thermocouple for direct temperature measurement with your DMM's

TLK-225 SureGrip™ Master Accessory Kit
- TP175 TwistGuard™ Test Probes
- Plunger style alligator clips
- Plunger style hook clips
- Plunger style pincer clips
- Large jaw alligator clips
- Right to straight test leads
- Six–pocket storage pouch, keeps the entire set together

T5-Kit, Tester Starter Kit
Getting started kit for electricians who already own a Fluke T5 Tester.
- Test probes
- Large jaw alligator clips
- Zippered soft case

Test Lead Kits Selection Guide	113/114/115/116/117	27 II/28 II/27	77 IV	175/177/179	83V/87V/233	287/289	434/435	8845A/8846A/8808A	120 Series	190 Series	225C	321/322	355	365/373	374/375/376/381	902	705/707	71X Series	724/725/726	753/754	787/789	T+/T+Pro	T5-600/T5-1000	1503/1507/1577/1587
TLK287	•	•	•	•	•	•	•	•	•	•		•	•				•	•	•	•	•			•
TLK289	116	•	•		•	•		•	•	•	•			•	•	•				•				
TL220	•	•	•	•	•	•	•	•	•	•			•				•	•	•	•	•			•
TL223	•	•	•	•	•	•	•	•	•	•			•							•				
TL225	•	•	•	•	•	•		•					•				•	•	•	•	•			•
TL238	•	•	•	•	•	•		•									•	•	•	•	•			•
TL80A	•	•	•	•	•	•		•									•	•	•	•	•			•
TL81A	•	•	•	•		•											•	•	•	•	•			•
80K-8, 80K-15, 80K-40	dc only	•	•	•	•		•	•	•	•	•		•							•				

Fluke test leads, probes and clips
The best leads for all your measurement needs

For electronic applications

TL80A Basic Electronic Test Lead Set
- Six piece set with zippered case
- Probes, alligator clips and tip extenders for electronic applications
- CAT II 300 V
- CAT III 1000 V, CAT IV 600 V with protective cap

TL910 Electronic Test Probes with Replacement Tips
- Small profile provides accessibility
- Comes with five sets of replaceable tips
- Replacement tips: TP912
- CAT II 1000 V, 3 A

TP80 Electronic Test Probes
- Tapered tip ideal for probing electronic components or boards
- Removable guard for IC probing
- CAT III 1000 V, 10 A

TP920 Test Probe Adapter Kit
- IC test tip adapters, extended tips, medium alligator clips fit over TL71 and TL75 test lead sets
- IC test tip Adapter, 3 A
- Extended probe tip, 3 A
- Med. alligator clip, 5 A
- CAT II 300 V

TL40 Retractable Probe Assembly
- Retractable, insulated sharp probe tip
- CAT III 300 V, 3 A

TL26A Telecom Test Lead Set
- Five-way multi-point test clips for telecommunications applications
- Flexible silicone insulated leads are heat and cold resistant
- CAT I 30 V, 8 A

For automotive applications

TP81 and TP82
- Stainless steel probe pierces insulation on 14, 16 and 18 gauge wire
- Design provides complete insulation while working on fuel injectors or sensors
- TP81 for use with modular test leads (Fluke TL224)
- TP82 slips over probe tips (Fluke TL71)
- Rated to 60 V dc

TP88 Rigid Backprobe Pin Set
- Two inch long pins pass between the weather pack seal and wire
- Use with Fluke TL71 or TL75 test lead sets
- Rated to 60 V dc

TLK281 Automotive Test Lead Kit
- Insulation piercing probes
- SureGrip™ silicone test leads
- SureGrip test probes
- SureGrip plunger style alligator clips
- SureGrip alligator clips
- Carrying case

TLK282 Deluxe Automotive Test Lead Kit
- Insulation piercing probes
- Set of five automotive back probe pins
- SureGrip silicone test leads
- SureGrip test probes
- SureGrip plunger style alligator clips
- SureGrip alligator clips
- SureGrip hook clips
- Carrying case

TP40 Automotive Back Probe Pin Set
- Set of five 1.5 inch pins
- Rated to 60 V dc
- Provide an easy connection past weather pack seals to connector conductors
- Use with Fluke TL71 or TL75 test lead sets

TL82 Automotive Pin & Socket Adapter Set
- Collection of male and female adapters allows you to make firm connection to pin and socket connectors
- Adapters with flexible tips come in the following sizes: 22, 20, 16 and 12
- Rated to 60 V dc

High-voltage probes

80K-6, 80K-15, 80K-40 High Voltage Probes
- Allows a digital multimeter to measure up to 6,000 volts peak, 15,000 volts peak and 40,000 volts peak respectively
- 1000:1 division ratio output when connected to 10 MΩ multimeter
- Ground clip included
- Intended for low energy applications that are referenced to ground
- 80K-15 (not available in Europe)

For more information, go to **www.fluke.com/accessories**

Fluke SureGrip™ accessories
As tough as your meter

Modular test leads and test probes (use test probes with test leads)

TP175, TwistGuard™ Test Probes
- Converts probe tip length between 4 mm, a CAT III 1000 V, CAT IV 600 V measurement and 19 mm, a CAT II 1000 V measurement
- Fits standard modular test leads

FTPL-1 SureGrip™ Fused Test Probes with Leads
- FTP-1 Fused Test Probes with built-in fuses for added protection
- TL224 Silicone Insulated Test Leads
- CAT III 1000 V, CAT IV 600 V, 10 A

TL221 SureGrip™ Silicone Test Lead Extension Kit
- Superior strain relief
- Includes two adapters to extend leads 1.5 m
- CAT III 1000 V, CAT IV 600 V, 10 A

TL222 SureGrip™ Silicone Insulated Test Leads
- Superior strain relief
- Recommended for use with AC220, AC280, AC283 test clips
- CAT III 1000 V, CAT IV 600 V, 10 A

TL224 SureGrip™ Silicone Insulated Test Leads
- Superior strain relief
- 1.5 m silicone-insulated wire resists heat and cold
- CAT III 1000 V, CAT IV 600 V, 10 A

FTP-1 SureGrip™ Fused Test Probes
- Built-in fuses for added protection
- 2 mm threaded probe tips include removable 4 mm lantern-style spring contacts
- Removable GS38 insulated caps
- CAT III 1000 V, CAT IV 600 V, 10 A

TP1, TP2, TP4 and TP38 Slim Reach™ Test Probes
- Slender probe bodies for probing closely spaced or recessed points
- TP1 has a flat blade
- TP2 has 2 mm diameter tip
- TP4 has 4 mm diameter tip
- TP38 has stainless steel insulated probe to help lessen the risk of arc flash explosion
- CAT II 1000 V, 10 A
- CAT III 1000 V, CAT IV 600 V (TP38 only)

TP220 SureGrip™ Industrial Test Probes
- Sharp, .5 inch stainless steel tip provides reliable contact
- Flexible finger barrier improves grip
- CAT II 1000 V, 10 A

Modular clips (use with test leads, includes one red, one black)

AC220 SureGrip™ Alligator Clips
- Insulated, nickel plated jaws grip objects up to .375 inch
- Blunt tip grabs round screw heads
- CAT III 1000 V, CAT IV 600 V, 10 A

AC280 SureGrip™ Hook Clips
- Profile narrows to .22 inch at tip
- Hook opening .20 inch at front, .08 inch at base
- CAT III 1000 V, CAT IV 600 V, 3 A

AC283 SureGrip™ Pincer Clips
- 4.5 inch flexible, insulated shaft
- Nickel plated pincers open to .20 inch
- CAT III 1000 V, CAT IV 600 V, 1 A

AC285 SureGrip™ Alligator Clips
- Multi-purpose tooth pattern grips anything from fine gauge wire to a .75 inch nut
- Nickel-plated steel jaws
- Accepts standard modular 4 mm test leads
- CAT III 1000 V, CAT IV 600 V, 10 A

AC175 Threaded Alligator Clips
- Threads securely onto TL175 or TP175 probes
- Insulated alligator clips with flexible boots
- Jaw opening: 7 mm (0.275 in), jaw contact material: nickel-plated steel
- CAT III 1000 V, CAT IV 600 V

### AC173 Extended Tooth Alligator Clips
- Extended tooth jaw with front placement for attaching to screw heads
- Accepts standard 4 mm modular test leads
- Jaw opening: 8 mm (0.31 in), jaw contact material: nickel-plated steel
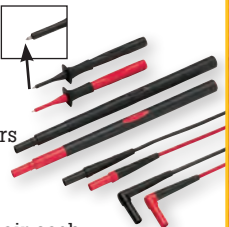- CAT III 1000 V, CAT IV 600 V

The new standard for safety

TL175 TwistGuard™ Test Leads
- Probes meet new IEC 61010-031 requirements for safety
- Patented extendable tip guard meets new CAT III 1000 V, CAT IV 600 V requirements while providing the flexibility you need for CAT II measurements
- **New** Wear-Guard™ test lead wear indicator that changes color when leads are damaged and in need of replacement
- Probes always show correct category rating for tip being used
- Advanced strain relief exceeds 5,000 bend life
- TP175 probes fit modular test leads
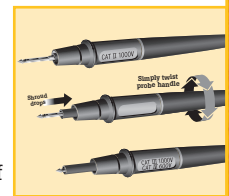
TL238 SureGrip™ Test Lead Set for high energy environments
- Insulated tip probes help lessen risk of arc flash explosion
- Probe extenders keep hands away from live current
- Includes one pair each, insulated test tip probes, probe extenders and TL224 Test Leads
- Probes and leads CAT III 1000 V, CAT IV 600 V, 10 A, extenders CAT III 1000 V 10 A

TL71 Premium DMM Test Lead Set
- Flexible silicone insulated leads are heat and cold resistant
- Distinctive comfort grip probes
- Recommended for µV measurements
- CAT II 1000 V, 10 A
- CAT III 1000 V, CAT IV 600 V with protective cap

TL75 Hard Point Test Lead Set
- Extremely hard alloy tips resist wear
- Distinctive comfort grip probes
- 1.5 m PVC leads
- CAT II 1000 V, 10 A
- CAT III 1000 V, CAT IV 600 V with protective cap

Fluke temperature accessories
Hot probes with cool designs

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.

Cleans up with soap and water
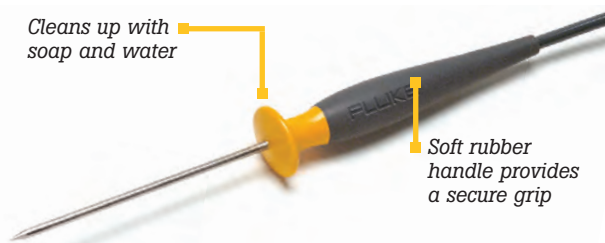
Soft rubber handle provides a secure grip

	Bead	Bead	HVAC	Immersion	Surface	Air	Piercing	General purpose	Industrial surface
	80BK-A	80PK-1 80PJ-1	80PK-11	80PK-22	80PK-3A	80PK-24	80PK-25 80PT-25	80PK-26	80PK-27
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)
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)
Probe material	Type K wire with teflon insulation		Velcro	Inconel 600	Type K sensor with teflon body	Inconel	316 Stainless Steel	304 Stainless Steel	
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)
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	No	No	No	Yes	No	Yes	Yes	Yes	Yes
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 non-caustic 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.
Thermocouple types	K	K, J	K	K			K, T	K	
Typical use									
General purpose	•	•	•	•	•	•	•	•	•
HVAC	–	•	•	•	•	•	–	•	•
Food service	–	–	–	•	–	–	•	–	–
Industrial	•	•	•	–	–	–	–	–	•
Residential	•	•	–	•	•	•	–	•	–
Commercial	•	•	•	•	•	•	•	•	•

The 80TK enables your meter to read temperature using mV.
For the Fluke Thermometer, 51, 52, 53, and 54 III, no adapter is necessary for thermocouple types K, J, T and E.

Temperature Accessories Selection Guide	110/111/112	114/115/117	116	27 II	28 II	175/177	179	233	80 Series III/83V	87V	187/189	287/289	45/8845/8846	43B	120 Series	190 Series	51-II/52-II/ 53-II B/54-II B	561	574/576	714	715	725/726	741/743/744/754	787/789	902	1587	1577
80BK-A	–	–	•	–	–	•	–	–	–	•	•	•	–	–	–	–	–	–	–	–	–	–	–	–	•	•	–
All 80PK Probes	✱	✱	▲	✱	▲	✱	▲	▲	✱	▲	▲	▲	✱	✱	✱	✱	•	•	•	•	✱	•	•	✱	•	▲	▲
80PJ-1/80PJ-9	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	•	–	•	–	•	•	–	–	–	–	–
80PT-25	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	•	–	•	–	•	•	–	–	–	–	–
80TK	•	•	–	–	–	•	–	•	–	–	–	–	•	•	•	•	–	–	–	•	–	•	–	–	•	–	–
80T-150UA	•	•	–	–	•	–	–	•	–	–	–	–	•	•	•	•	–	–	–	•	–	•	–	–	•	–	–
80PJ-EXT	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	•	–	•	–	•	•	–	–	–	–	–
80PK-EXT	✱	✱	▲	✱	▲	✱	▲	✱	▲	▲	▲	▲	✱	✱	✱	✱	•	–	•	–	✱	•	•	✱	•	▲	–
80PT-EXT	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	•	–	•	–	•	•	–	–	–	–	–
80CK-M	✱	✱	▲	✱	▲	✱	▲	▲	✱	▲	▲	▲	✱	✱	✱	✱	•	–	•	–	✱	•	•	✱	•	▲	–
80CJM	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	•	–	•	–	•	•	–	–	–	–	–

✱ Requires 80TK ▲ Requires 80AK-A — N/A

Fluke Temperature accessories
Turn your digital multimeter into a thermometer

Genuine Fluke Accessory

Other temperature accessories

80TK Thermocouple Module
- Converts type K thermocouple signals into mV output
- Connects to DMM via standard banana plugs
- Switch selectable °C or °F
- Range: –50 °C to 1000 °C (–58 °F to 1832 °F)
- Includes 80PK-1 probe

80T-150UA Universal Solid State Temperature Probe
- For measurement of air, surface and non-corrosive materials
- Measurement range: –50 °C to 150 °C (–58 °F to 302 °F)
- Output: 1 mV/°C or 1 mV/°F (switch selectable)
- Connects to DMM via standard banana plugs

80PK-8, 80PK-10, Pipe Clamp Temperature Probes
- Type K thermocouples clamp securely onto pipes for fast temperature and superheat measurements
- Durable ribbon sensors
- 1 m (39 in) lead
- Measure from –29 °C to 149 °C
- 80PK-8 for 6.4 mm to 34.9 mm (0.25 in to 1.375 in)
- 80PK-10 for 32 mm to 64 mm (1.25 in to 2.5 in)

Thermocouple Plug Kits

700TC1
A kit of ten mini-plug connectors. One each of the following:
Type J (black)
Type K (yellow)
Type T (blue)
Type E (purple)
Type R/S (green)
Type B or Cu (white)
Type L (J-DIN) (blue)
Type U (T-DIN) (brown)
Type C (red)
Type N (orange)

700TC2
A kit of seven mini-plug connectors.
Type J (black), two
Type K (yellow), two
Type E (purple), one
Type T (blue), one
Type R/S (green), one
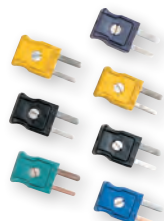
80PK-18, Pipe Clamp Temperature Probe Kit
- Includes both 80PK-8 and 80PK-10 Type K clamps
- Provides full range of pipe measurement sizes
- Includes soft carrying case to conveniently keep both clamps handy for any situation

80CK-M and 80CJ-M Type K and J Male Mini-Connectors
- Isothermal screw terminal for K or J wire
- Suitable for up to 20 gauge thermocouple wire
- Color coded to industry standards (K-yellow, J-black)
- Two per package

80PJ-EXT, 80PK-EXT, 80PT-EXT Thermocouple Wire Extension Kits
For extending and repairing type J, K or T thermocouple wires.
- Kit includes 3 m (9 ft) of thermocouple wire and 1 pair of male/female mini-connectors
- Maximum continuous exposure temperature: 260 °C (500 °F)
- 80PK-EXT is compatible with type K thermometers; 80PJ-EXT is designed for type J thermometers, and 80PT-EXT is designed for type T thermometers

Process tools accessories

BP7240
- Li-ion rechargeable battery; nominal 7.2 volt, 4400 mA hr
- Use with 750 Series Calibrators

BP7235
- NiMH rechargeable battery; nominal 7.2 volt, 3500 mA hr
- Use in 700 and 740 Series Calibrators

700LTP-1 Low Pressure Test Pump
Hand operated pressure pump designed to generate either vacuum to –13 psi/ –.90 bar or pressures to 100 psi/6.9 bar. Ideal for low pressure applications requiring accurate low pressure testing.

700ILF In-line Filter
The Fluke 700ILF can be used to isolate the calibrator from incidental contact with fluids. Particularly useful with the 718 calibrator to help keep moisture or oils from contaminating the on-board pump.

700PTP-1 Pneumatic Test Pump
The Fluke 700PTP is a handheld pressure pump designed to generate either vacuum to –11.6 psi/–0.8 bar or pressure to 600 psi/40 bar.
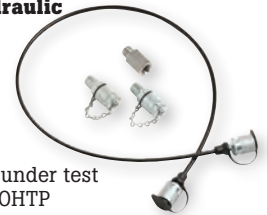
700HTP-2 Hydraulic Test Pump
The Fluke 700HTP is designed to generate pressures up to 10,000 psi/700 bar. Use the Fluke 700PRV adjustable relief valves to limit pressures from 1360 psi to 5450 psi.

700HTH-1 Hydraulic Test Hose
The 700HTH is a 10,000 psi, 700 bar test hose that connects to a calibration unit under test from a Fluke 700HTP hydraulic test pump.

700PMP Pressure Pump
The 700PMP is a hand-operated pressure pump to provide pressures up to 150 psi/1000 kPa. Output fitting is 1/8 FNPT.

Fluke 700-IV Current Shunt
Conversion factor: 10 mV = 1 mA
Accuracy (% of input, one-year): 0.025 %
Input current: 0 mA to 55 mA
Input resistance: 250 Ω nominal
Output resistance: 10 Ω nominal
Accuracy specification applies from +18 °C and 28 °C to 50 °C
Maximum input voltage: 30 V dc

Fluke current clamps
For use with multimeters, portable oscilloscopes and power quality analyzers

Genuine Fluke Accessory

AC only models

i200

i200s

i400

i400s

i800

i1000s

i3000s

i3000s Flex/i6000s

i3000s Flex-24 (24 in dia), i3000s Flex-36 (36 in dia), i6000s Flex-24 (24 in dia) i6000s Flex-36 (36 in dia)

AC current clamp specifications

	i200	i200s	i400	i400s	i800	i1000s	i3000s	i2000 Flex	i3000s Flex	i6000s
AC current range	1 A to 200 A	1 A to 200 A	1 A to 400 A	0.5 A to 400 A	1 A to 800 A	0.2 A to 1000 A	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	60 A to 6000 A
Accuracy	≤ 3 % + 0.5 A 48 to 65 Hz	≤ 1 % + 0.5 A 48 Hz to 65 Hz	2 % + 0.06 A 45 Hz to 400 Hz	.5 A to 40 A, 2 % + .015 A, 5 A to 400 A, 2 % + .04 A, 45 to 400 Hz	0.1 A to 10 A ± 3 % + .01 A, 10 A to 200 A ± 2 %, 200 A to 800 A ± 1 %	0.2 to 10 A: 3 % + 0.1 A 10 A to 100 A: 2 % + 0.5 A 100 A to 1000 A: 1 % + 1 A 48 to 65 Hz	1 to 30 A: 2 % + 0.1 A 1 to 300 A: 2 % + 0.5 A 1 to 3000 A: 2 % + 2 A 48 to 65 Hz	± 1 % of range 45 to 65 Hz Ranges: 20 A, 200 A, 2000 A	± 1 % of range, 45 to 65 Hz Ranges: 30 A, 300 A, 3000 A	± 1 % of range 45 to 65 Hz
Bandwidth (–3 dB)	40 Hz to 40 kHz	40 Hz to 40 kHz	5 kHz to 20 kHz	5 Hz to 10 kHz	30 Hz to 10 kHz (typical)	5 Hz to 100 kHz	10 Hz to 100 kHz	10 Hz to 20 kHz	10 Hz to 50 kHz	10 Hz to 50 kHz, (– 3 dB)
Maximum conductor diameter	20 mm (0.8 in)	20 mm (0.8 in)	32 mm (1.25 in)	32 mm (1.25 in)	54 mm (2.13 in)	54 mm (2.13 in)	64 x 100 mm (2.52 x 3.94 in)	177 mm (7 in)	177 mm (7 in) or 265 mm (10.4 in)	193 mm (7.6 in) or 289 mm (11.4 in)
Maximum conductor size	300 MCM	300 MCM	750 MCM	750 MCM	2–500 MCM or 1–1000 MCM	2–500 MCM or 1–1000 MCM	64 mm (2.52 in)	610 mm (24 in) circumference	610 mm or 915 mm circumference	610 mm (24 in) or 915mm (36 in)
Output levels	1 mA/A	10 mV/A 100 mV/A	1 mA/A	10 mV/A 1 mV/A	1 mA/A	1 mV/A 10 mV/A 100 mV/A	10 mV/A 1 mV/A 0.1 mV/A	100 mV/A 10 mV/A 1 mV/A	100 mV/A 10 mV/A 1 mV/A	50 mV/A 5 mV/A 0.5 mV/A
Output cable	1.5 m shrouded banana plugs	2 m to BNC termination	1.5 m shrouded banana plugs	2.5 m to BNC termination	1.6 m shrouded banana plugs	1.6 m to BNC termination	2.1 m to BNC termination	2 m with double shrouded banana plugs	2.1 m to BNC termination	2 m to BNC, 4 mm plug adapter supplied
Warranty	One-year	One-year	One-year	One-year	One-year	One-year	One-year	One-year	One-year	One-year
Safety rating	CAT III 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 III 600 V	CAT III 600 V	CAT III 600 V	CAT III 600 V	CAT III 600 V

AC current clamp selection guide

Meter	i200	i200s	i400	i400s	i800	i1000s	i3000s	i2000 Flex[1]	i3000s Flex	i6000s
114/116		1 A to 200 A		0.6 A to 400 A*		0.6 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
115/117	60 A to 200 A	1 A to 200 A	60 A to 400 A	0.6 A to 400 A*	60 A to 800 A	0.6 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
233	60 A to 200 A	1 A to 200 A	60 A to 400 A	0.6 A to 400 A*	60 A to 800 A	0.6 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
27II	2 A to 200 A	1 A to 200 A	2 A to 400 A	1 A to 400 A*	2 A to 800 A	0.1 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
28II	1.8 A to 200 A	1 A to 200 A	1.8 A to 400 A	1.8 A to 400 A	1.8 A to 800 A	0.2 A to 1000 A*	2 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
77 IV		1 A to 200 A		1 A to 400 A*		0.1 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
175/177/179	3 A to 200 A	1 A to 200 A	3 A to 400 A	1 A to 400 A*	3 A to 800 A	0.3 A to 1000 A*	3 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
1577/1587 Insulation Meter	3 A to 200 A	1 A to 200 A	3 A to 400 A	3 A to 400 A*	3 A to 400 A	0.3 A to 1000 A*	3 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
83V/88V	2 A to 200 A	1 A to 200 A	2 A to 400 A	1 A to 400 A*	2 A to 800 A	0.1 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
87V	2 A to 200 A	1 A to 200 A	2 A to 400 A	2 A to 400 A*	2 A to 800 A	0.2 A to 1000 A*	2 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
287/289	1 A to 200 A	1 A to 200 A	1 A to 400 A	0.5 A to 400 A*	1 A to 800 A	0.2 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
43B Power Quality Analyzer		1 A to 200 A		0.35 A to 400 A		0.1 A to 1000 A	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
434/435 Power Quality Analyzer		1 A to 200 A		1.2 A to 400 A		0.3 A to 1000 A	1.2 A to 3000 A	Best to use i430Flex	Best to use i430Flex-TF	
120 Series ScopeMeters		1 A to 200 A		2.5 A to 400 A		0.25 A to 1000 A	2.5 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
190 Series Scopemeters		1 A to 200 A			1 A to 400 A	0.1 A to 1000 A	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
8808A	1 A to 200 A	1 A to 200 A	1 A to 400 A	0.5 A to 400 A*	1 A to 800 A	0.1 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
8845A/8846A	1 A to 200 A	1 A to 200 A	1 A to 400 A	1 A to 400 A*	1 A to 800 A	0.2 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
787/789 Process Meters	50 A to 200 A	1 A to 200 A	50 A to 400 A	2 A to 400 A*	50 A to 440 A	0.2 A to 1000 A*	2 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF

* Requires PM9081/001 Adapters.
[1] Three range version.
[2] Current and watt readings will be multiples of 10 higher or lower than actual on some ranges.

For more information, go to **www.fluke.com/accessories**

Fluke current clamps
For use with multimeters, portable oscilloscopes and power quality analyzers

FLUKE ®

AC/DC models

80i-110s

i1010

i30s

i410

i310s

i30

i310s, i30s and i30 Hall Effect AC/DC Current Clamps
Especially useful for low current measurements down to 30 milliamps.

AC/DC current clamp specifications

	80i-110s	i410	i1010	i30	i30s	i310s
DC range	0.1 A to 100 A	1 A to 400 A	1 A to 1000 A	30 mA to 30 A	30 mA to 30 A	0.1 A to 450 A
AC range	0.1 A to 70 A	1 A to 400 A	1 A to 600 A	30 mA to 20 A rms	30 mA to 20 A rms	0.1 A to 300 A
Accuracy	0.1 A to 10 A; dc to 1 kHz: ± 3 % + 50 mA; up to 100 A add 15 %; up to 20 kHz add 12 %	3.5 % + 0.5 A for dc or ac (45 to 400 Hz)	2 % + 0.5 A for dc or ac (45 to 400 Hz)	± 1 % of reading, ± 2 mA	± 1 % of reading, ± 2 mA	30 A range: 1 % + 50 mA 300 A range: 1 % + 300 mA
Bandwidth (–3 dB)	100 kHZ	3 kHz	10 kHz	dc to 20 kHz (–0.5 dB)	dc to 100 kHz (–0.5 dB)	DC to 20 kHz
Zero error adjustment	Yes	Yes	Yes	Yes	Yes	Yes
Maximum conductor diameter	11.8 mm (0.46 in)	30 mm (1.18 in)	30 mm (1.18 in)	19 mm (0.75 in)	19 mm (0.75 in)	19 mm (0.75 in)
Maximum conductor size	1 AWG	750 MCM or 2–500 MCM	750 MCM or 2–500 MCM	250 MCM	250 MCM	250 MCM
Output levels	10 mV/A, 100 mV/A	1 mV/A	1 mV/A	100 mV/A	100 mV/A	1 mV/A, 10 mV/A
Output cable	1.6 meter with BNC termination	1.2 meter with shrouded banana plugs	1.2 meter with shrouded banana plugs	1.5 meter with shrouded dual banana plue	2 meter with BNC termination	2 meters with BNC termination and a BNC to safety shrouded banana adapter
Battery life	40 hours	60 hours	60 hours	30 hours	30 hours	30 hours
Warranty	One-year	One-year	One-year	One-year	One-year	One-year
Safety	CAT II 600 V; CAT III 300 V	CAT III 600 V	CAT III 600 V	CAT III 300 V	CAT III 300 V	CAT III 300 V

AC/DC current clamp selection guide

Meter	80i-110s	i410	i1010	i30	i30s	i310s
114/115/116/117	0.1 A to 100 A dc/ 0.1 A to 70 A ac*	1.4 A to 400 A dc/ 6 A to 400 A ac	1.4 A to 1000 A dc/ 6 A to 600 A ac	30 mA to 30 A dc/ 60 mA to 20 A ac	30 mA to 30 A dc/ 60 mA to 20 A ac	0.1 A to 450 A dc/ 0.6 A to 300 A ac
233	0.1 A to 100 A dc/ 0.1 A to 70 A ac*	1.4 A to 400 A dc/ 6 A to 400 A ac	1.4 A to 1000 A dc/ 6 A to 600 A ac	30 mA to 30 A dc/ 60 mA to 20 A ac	30 mA to 30 A dc/ 60 mA to 20 A ac	0.1 A to 450 A dc/ 0.6 A to 300 A ac
27II	0.1 A to 100 A dc/ 0.1 A to 70 A ac*	1 A to 400 A dc/ 1 A to 400 A ac	1 A to 1000 A dc/ 1 A to 600 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	0.1 A to 450 A dc/ 0.1 A to 300 A ac
28II	0.1 A to 100 A dc/ 0.2 A to 70 A ac*	1 A to 400 A dc/ 6 A to 400 A ac	1 A to 1000 A dc/ 6 A to 600 A ac	30 mA to 30 A dc/ 60 mA to 20 A ac	30 mA to 30 A dc/ 60 mA to 20 A ac	0.1 A to 450 A dc/ 2 A to 300 A ac
77-IV	0.1 A to 100 A dc/ 0.1 A to 70 A ac*	1 A to 400 A dc/ 5 A to 400 A ac	1 A to 1000 A dc/ 5 A to 600 A ac	30 mA to 30 A dc/ 40 mA to 20 A ac	30 mA to 30 A dc/ 40 mA to 20 A ac	0.1 A to 450 A dc/ 0.4 A to 300 A ac
175/177/179	0.11 A to 100 A dc/ 0.3 A to 70 A ac*	1.6 A to 400 A dc/ 30 A to 400 A ac	1.6 A to 1000 A dc/ 30 A to 600 A ac	30 mA to 30 A dc/ 300 mA to 20 A ac	30 mA to 30 A dc/ 300 mA to 20 A ac	0.1 A to 450 A dc/ 3 A to 300 A ac
1577/1587 Insulation Meter	0.1 A to 100 A dc/ 0.3 A to 70 A ac*	1.2 A to 400 A dc/ 30 A to 400 A ac	1.2 A to 1000 A dc/ 30 A to 600 A ac	30 mA to 30 A dc/ 300 mA to 20 A ac	30 mA to 30 A dc/ 300 mA to 20 A ac	0.1 A to 450 A dc/ 3 A to 300 A ac
83V/88V	0.1 A to 100 A dc/ 0.1 A to 70 A ac*	1 A to 400 A dc/ 1 A to 400 A ac	1 A to 1000 A dc/ 1 A to 600 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	0.1 A to 450 A dc/ 0.1 A to 300 A ac
87V	0.1 A to 100 A dc/ 0.2 A to 70 A ac*	1 A to 400 A dc/ 20 A to 400 A ac	1 A to 1000 A dc/ 20 A to 600 A ac	30 mA to 30 A dc/ 200 mA to 20 A ac	30 mA to 30 A dc/ 200 mA to 20 A ac	0.1 A to 450 A dc/ 2 A to 300 A ac
287/289	0.1 A to 100 A dc/ 0.1 A to 70 A ac*	1 A to 400 A dc/ 1 A to 400 A ac	1 A to 1000 A dc/ 1 A to 600 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	0.1 A to 450 A dc/ 0.1 A to 300 A ac
123/124 ScopeMeters	0.1 A to 100 A dc/ 0.25 A to 70 A ac	1 A to 400 A dc/ 25 A to 400 A ac**	1 A to 1000 A dc/ 25 A to 600 A ac**	30 mA to 30 A dc/ 250 mA to 20 A ac**	30 mA to 30 A dc/ 250 mA to 20 A ac	0.1 A to 450 A dc/ 2.5 A to 300 A ac
190 Series Scopemeters	0.1 A to 100 A dc/ 0.1 A to 70 A ac	1 A to 400 A dc/ 5 A to 400 A ac**	1 A to 1000 A dc/ 5 A to 600 A ac**	30 mA to 30 A dc/ 50 mA to 20 A ac**	30 mA to 30 A dc/ 50 mA to 20 A ac	0.1 A to 450 A dc/ 0.5 A to 300 A ac
8808A	0.1 A to 100 A dc/ 0.1 A to 70 A ac*	1 A to 400 A dc/ 2 A to 400 A ac	1 A to 1000 A dc/ 2 A to 600 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	0.1 A to 450 A dc/ 0.2 A to 300 A ac
8845A/8846A	0.1 A to 100 A dc/ 0.1 A to 70 A ac*	1 A to 400 A dc/ 1 A to 400 A ac	1 A to 1000 A dc/ 1 A to 600 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	0.1 A to 450 A dc/ 0.1 A to 300 A ac
705/707	0.1 A to 100 A dc, No ac*	4 A to 400 A dc, No ac	4 A to 1000 A dc, No ac	40 mA to 30 A dc, No ac	40 mA to 30 A dc, No ac	0.4 A to 450 A dc, No ac
715	0.1 A to 100 A dc, No ac*	4 A to 400 A dc, No ac	4 A to 1000 A dc, No ac	40 mA to 30 A dc, No ac	40 mA to 30 A dc, No ac	0.1 A to 450 A dc, No ac
787/789 Process Meters	0.1 A to 100 A dc/ 0.2 A to 70 A ac*	1 A to 400 A dc/ 20 A to 400 A ac	1 A to 1000 A dc/ 20 A to 600 A ac	30 mA to 30 A dc/ 200 mA to 20 A ac	3 mA to 30 A dc/ 200 mA to 20 A ac	0.1 A to 450 A dc/ 2 A to 300 A ac

* Requires PM9081 Adapter
** Requires PM9082/001 Adapter
***Only for use with the 430 Series Power Quality Analyzers

Fluke lights and hangers
Free your hands and shed light on the contact point

LVD1 Volt Light
- Exclusive dual-sensitivity
- Detects voltages from 40 V ac to 300 V ac
- Voltage detector glows blue at 50 Hz to 60 Hz or 2.5 cm to 38 cm (1 in to 5 in) away from source
- Ultra-bright white LED with 100,000 hour bulb life
- AAA battery included

LVD2 Volt Light
- Non-contact ac voltage detector and bright white LED flashlight
- Detects voltage from 90 V to 600 V ac from one to five inches away
- CAT IV rated, one-year warranty

L205 Mini Hat Light
Rugged, high-intensity Xenon worklight.
- Attaches to a baseball cap
- Includes a hat clip
- Includes two AAA batteries
- Waterproof

L206 Deluxe LED Hat Light
(hard hat not included)
Attach it to a hard hat, a baseball cap, or even a panel door.
- Three super bright white LEDs—never burn out
- Special hard-hat attachment included
- 40-hour battery life
- Includes three AAA batteries

TPAK ToolPak™ Magnetic Meter Hanger
- Free both hands to make measurements
- Hang your meter from metallic surfaces like panels and pipes
- Kit includes universal hanger clips (two), hook and loop straps (two lengths), adapter and strong magnet
- Attaches to back of many Fluke meters, including 110, 170, 180, 280 Series, 87V and 83V DMMs, 724, 725 and 789 Process Calibrators, 70 Series III DMMs, 1503, 1507, 1577 and 1587 Insulation Multimeters and 50 Series II Digital Thermometers
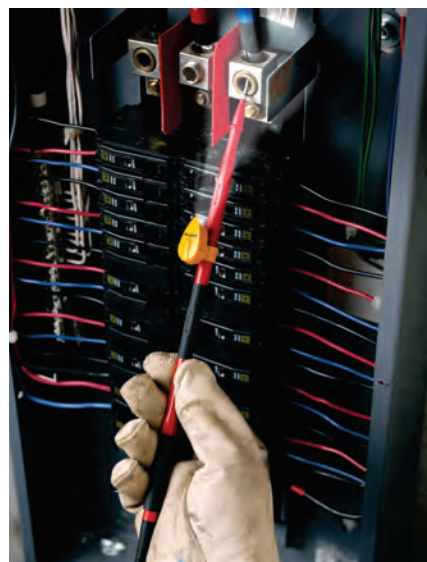

LeadWrap Test Lead Fasteners
- Keep your favorite leads together
- Hook and loop fasteners
- Three per package

L215 SureGrip™ Kit with Probe Light and Probe Extenders
- L200 probe light
- TP220 SureGrip test probes
- TL224 SureGrip test leads
- TP280 test probe extenders
- Soft foldable pouch, keeps the entire set together

L210 Probe Light and Probe Extenders
- 8 inch probe extenders fit modular test probes
- Probe and extender length complies with NFPA recommendations
- Bright white LED illuminates contact area
- Probe light fits on extender or test probe

For more information, go to **www.fluke.com/accessories**

Specialty accessories and software
Get more out of your multimeter

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Stray voltage

SV225
- Eliminates stray voltage due to capacitance between wires in electrical installations
- Compatible with all instruments and test leads that accept standard 4 mm shrouded banana connectors

Pressure and vacuum

PV350 Pressure Vacuum Module
- Digital pressure and vacuum measurements in a single module
- Measures HVAC/R, hydraulic and pneumatic pressures to 350 psig/2413 kPa (usable to 500 psig)
- Measures to 76 cm Hg (29.9 in Hg) vacuum (not intended for measuring microns of vacuum)
- Compatible with most digital multimeters

Fiber optics

FOM Fiber Optic Meter
The Fluke Fiber Optic Meter (FOM) helps you test and maintain fiber optic cable without having to buy a whole new meter. Plug the FOM directly into any DMM with a mV dc funtion and a 10 mΩ input impedance, and quickly and accurately verify fiber optic cable system loss. Light sources and patch cords sold separately.

FOS 850 and FOS 850/1300 Fiber Optic Light Sources
A variety of LED light sources allow you to test different cables.

Logging software

FlukeView® Forms
Harness the power of the data logging function on your Fluke Digital Multimeter, Thermometer or ProcessMeter. Log live readings while connected to a PC, or leave your Fluke 289, 789 or 54-II in place to capture up to 1,000 readings for download to a PC.

Choose the model that's right for you:
- **FVF-SC2:** Includes software and cable used with 280 Series DMMs and 789 ProcessMeters, and the 1550B Insulation Tester
- **FVF-SC3:** Includes software and cable used with 45 Bench Meters
- **FVF-SC4:** Includes software and cable used with 8845A and 8846A Multimeters

Go to **www.fluke.com/flukeviewforms** to download the demo.

FlukeView® Forms Basic
An abridged version of FlukeView Forms.
- Available for use with 280 Series DMMs and 789 ProcessMeters, only
- Upgrade to the full FlukeView Forms with FVF-UG
- Compatible with the 280 and 789 series only

Choose the model that's right for you:
- **FVF-Basic:** FlukeView Forms Basic transfers data from Fluke test tool to a PC. Displays readings in table or graphical format.
- **FVF-SC2, -SC4:** FlukeView Forms Full provides Basic software functions plus customizable documents and templates.
- **FVF-UG:** FlukeView Forms Upgrade, compatible with all forms of FlukeView Forms (Basic and Full)

Fuse selection guide

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

Model	Fuse Requirements
21-III/75-III/73-III	P/N 871173 630mA 250V fuse P/N 803293 11A 1000V fuse
27 (S/N<7247001)	P/N 871173 630mA 250V fuse P/N 871202 3A 600V fuse P/N 892583 15A 600V fuse
27 (S/N>7247001)	P/N 943121 440mA 1000V fuse P/N 803293 11A 1000V fuse
83/85/87 (S/N>6565000)	P/N 943121 440mA 1000V fuse P/N 803293 11A 1000V fuse
83-III/85-III/87-III 87-IV/89-IV/187/189/287/289/ 77-III/79-III/23-III/26-III/175/177/179/77-IV/27-II/28-II	P/N 943121 440mA 1000V fuse P/N 803293 11A 1000V fuse
111/112/115/117/233	P/N 803293 11A 1000V fuse
1577/1587	P/N 943121 440mA 1000V fuse
1503/1507	P/N 2279339 315mA 1000V fuse
787/789	P/N 943121 440mA 1000V fuse (Qty 2)

Selection Guide	110/111/112	114/115/116/117	27 II/28 II/27	175/177	179	80 Series III/83V	87/89 IV	87V	233	287/289/187/189	43B	120 Series	190 Series	51/52/53/54 II	705/707	715	725/726	741/743	744	787/789	1587	1577
TPak	•	•		•	•	83V	•	•	•				•			•			789	•	•	
PV350 (pressure)	•	•	•	•	•	•	•	•	•	•			•	•	•		•	•	•	•		
FOM (fiber optic)	•	•	•	•	•	•	•	•	•	•			•	•	•		•	•	•			
CO-210	•	•	•	•	•	•	•	•	•	•			•	•	•		•	•	•			

*53 B II, 54 B II only.

Model	Instrument compatibility	Cable
FVF-BASIC	Fluke 280 Series, 789, 1550B, 1653, 180 Series	USB / IR
FVF-SC2	Fluke 280 Series, 789, 1550B, 1653, 180 Series	USB / IR
FVF-SC4	Fluke 8808A, 8845A, 8846A, 45*	USB / Serial
IR189USB	USB cable for Fluke-18X, 28X DMMs	USB / IR

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We design our products with you in mind. Yeah, we have guys in lab coats, developing and testing our tools in rooms we dare not enter. But our ideas, the things that drive our intense development process, come straight from the job site—from pros like you. You are the voice of innovation. Tell us what you think. Visit our social media sites, and get the conversation started. **We're listening.**

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Fluke Thermal Imagers:
1-800-760-4523 (U.S. only) all other regions 1-425-446-4620

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