

FLUKE®

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Fluke. *Keeping your world
up and running.*

Fluke Corporation
P.O. Box 9090
Everett, WA USA 98206

Fluke Europe B.V.
P.O. Box 1186
5602 BD Eindhoven
The Netherlands

For more information call:
In the U.S.A. (800) 443-5853
or Fax (425) 446 -5116
In Europe/M-East/Africa +31 (0)40 2 675 200
or Fax +31 (0)40 2 675 222
In Canada (905) 890-7600
or Fax (905) 890-6866
From other countries +1 (425) 446 -5500
or Fax +1 (425) 446 -5116

Visit us on the world wide web at:
<http://www.fluke.com>

Fluke (UK) Ltd.
52 Hurricane Way
Norwich
Norfolk
NR6 6JB
United Kingdom
Tel.: (020) 7942 0700
Fax: (020) 7942 0701
E-mail: industrial@uk.fluke.nl

Visit us on the world wide web at:
<http://www.fluke.co.uk>

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Test Tools Catalog 2006

FLUKE®

2006

Test Tools Catalog

Digital Multimeters
Clamp Meters
Electrical Testers
Insulation Testers
Installation Testers
Portable Appliance Testers
Indoor Air Quality Tools
Digital Thermometers
Thermal Imagers
Power Quality Tools
ScopeMeter® Test Tools
Field Calibrators
EX Test Tools
Accessories

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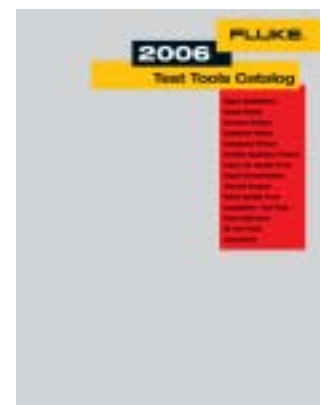
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Fluke web

Complete information

The most complete and in-depth resource for information on Fluke's products and services including:

- Product information
- Interactive selection guides
- Virtual product demonstrations
- Extended specifications
- Application notes
- Product manuals
- Service information
- What's new
- Promotions
- Prices
- Where to buy
- Distributor and sales office locations

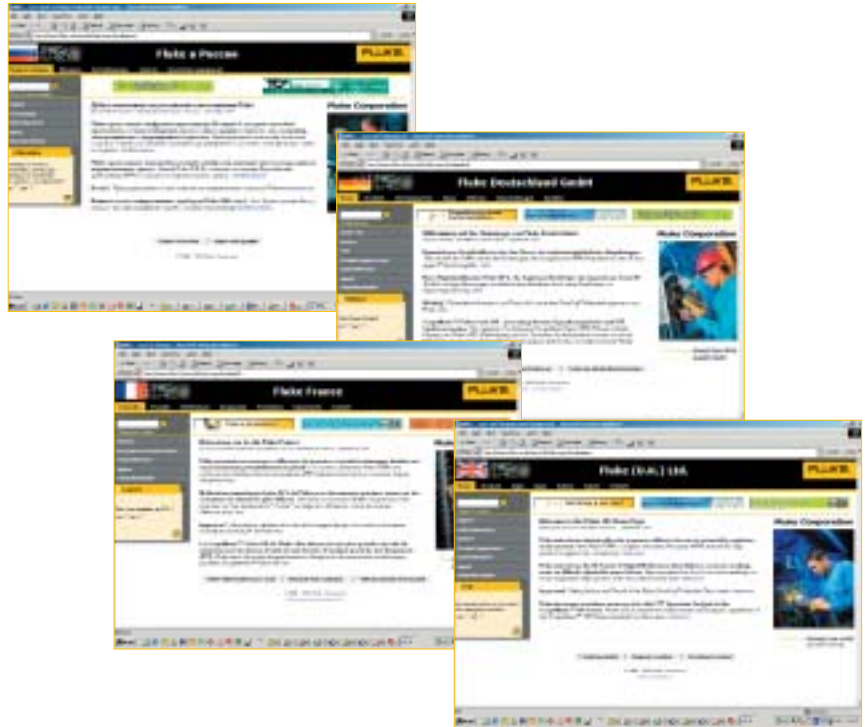
Find information fast

To quickly find more information on the Fluke products, use the "Search by model" box in the top left corner of our web site. All you have to do is type in the model number.

UK: www.fluke.co.uk

IE: www.fluke.ie

Worldwide: www.fluke.com



Fluke web sites are available in all countries around the world and in 14 different languages.



Electronic Newsletter

E-Test-it! is Fluke's regular news publication for professional test tool users. It is electronically available 6 times per year. You will be the first to hear about:

- New Fluke products
- The latest actions and promotions from Fluke
- How to get more out of Fluke tools
- How to use Fluke tools better in your application
- Exclusive offers, promotions and discounts on Fluke Merchandizing
- Exclusive offers on Fluke ex-demo equipment

E-Test-it! is free of charge. If at any point in time you do not want to receive E-Test-it! anymore, you can unsubscribe with a simple mouse click. E-Test-it! is small in size (on average about 12 KB) and does not fill up your mailbox or take long to download.

Try it now and sign-up for your **FREE e-Test-it!** subscription. Go to the Fluke web site and fill in the on-line subscription form.

New from Fluke



Fluke Ti20/Ti30 Thermal Imagers

With the Ti Series Fluke brings the powerful diagnostic and predictive capabilities of infrared thermography to industrial maintenance professionals. These handheld tools display a rich, visual image of surface temperature, allowing the user to easily and safely identify potential problems.

See page 48 and 49.

Fluke 570 Series Precision Infrared Thermometers

The Fluke 570 Series non-contact thermometers are ideal diagnostic tools for maintenance professionals requiring the most accurate temperature readings at all distances.

See page 44.



Fluke 62 Mini Infrared Thermometer

The Fluke 62 Mini non-contact thermometer is the perfect introduction to infrared (IR) thermometers. With the best accuracy in its class, the Fluke 62 Mini offers quick and reliable surface temperature readings.

See page 45.

Fluke 87V Ex and 725 Ex test tools

The Fluke line of intrinsically safe test tools has been extended with the Fluke 87V Ex True RMS Multimeter and the Fluke 725Ex Multifunction Process Calibrator.

See pages 15, 65 and 74.



Fluke 726 Precision Multifunction Process Calibrator

The Fluke 726 Precision Multifunction Process Calibrator is designed specifically for the Process industry with broad workload coverage, calibration power and unsurpassed accuracy in mind.

See page 65.

Fluke 983 Particle Counter and 971 Temperature Humidity Meter

The Fluke 983 is an easy to use tool for troubleshooting and maintaining indoor air quality. The Fluke 971 quickly takes accurate humidity and temperature readings in the air.

See pages 41 and 42.



New from Fluke



Fluke T50 Voltage and Continuity Tester

The Fluke T50 offers a low cost solution to voltage/continuity measurement. It contains an acoustic and optic continuity test and features a single pole test for phase detection.

See page 25.

Fluke 9040/9062 Phase Rotation Indicators

The Fluke 9040 is effective for measuring phase rotation in all areas where three phase supplies are used to feed motors, drives and electrical systems. The unique Fluke 9062 provides rotary field and motor rotation indication with the benefits of contact-less detection.

See page 27.



Fluke 1AC II Volt-Alert

The Fluke VoltAlert AC voltage detector is very easy to use – just touch the tip to a terminal strip, outlet or cord. When the tip glows red and the unit beeps, you know there is voltage on the line.

See page 26.

Fluke 1577/1587 Insulation Multimeters

These tools combine a digital insulation tester with a full-featured True RMS digital multimeter in a single compact, handheld unit.

See page 33.



Fluke 1503/1507 Insulation Testers

When a low cost solution to general purpose insulation testing is needed, the Fluke 1503 and 1507 are the best choice. Both models offer multiple test voltages.

See page 34.

Fluke 6200/6500 PAT Testers

The Fluke 6200 and 6500 PAT testers verify the electrical safety and operation of portable appliances in accordance with relevant guidelines and regulations. Both models perform all the tests required for class I and class II appliances.

See page 38 and 39.



Application/ background articles

As part of our commitment to supporting you in your work we do more than just design and manufacture rugged and versatile test tools: we also provide detailed background information to help you choose the right instrument and offer advice on using it effectively and safely. You can download all Application Notes from our web site.



Why True RMS ?

Can you trust your meter reading ?

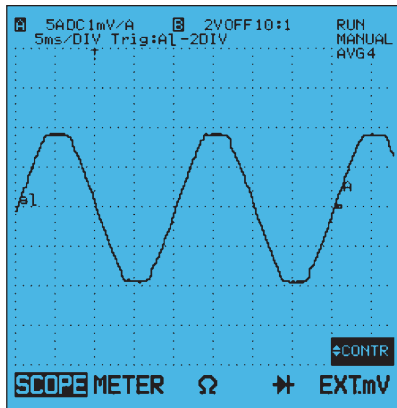


Fig 1. Current waveform of a linear load.

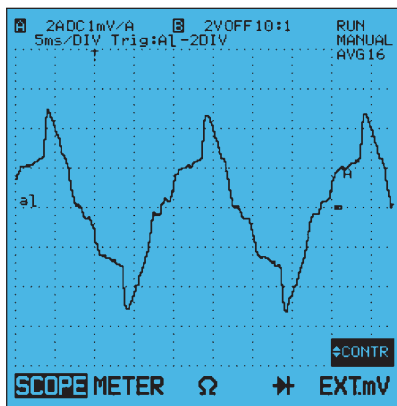


Fig 2. Current waveform of a non-linear load.

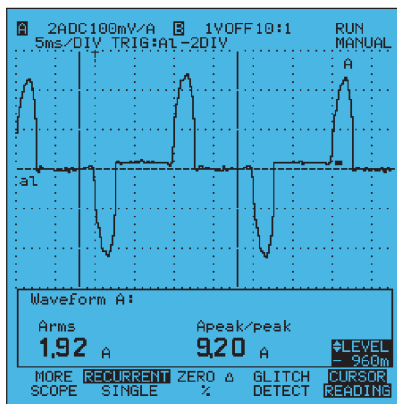


Fig 3. Current waveform of a PC.

Measuring accurately is a difficult job in today's industrial plants and offices. More and more personal computers, adjustable speed drives and other types of equipment that draw current in short pulses rather than at a steady level come on line every day. Equipment like this can cause the readings of conventional average-responding meters to be at least inaccurate. If you have ever experienced blown fuses without any clear cause, then maybe your meter is to blame.

Average-responding

When people talk about values of AC currents, they normally mean the effective heating or RMS (Root Mean Square) value of the current. This value is equivalent to a DC current with the same heating value as the AC current which is being measured. The most common way to measure this RMS value with a meter is to rectify the AC current, determine the average value of this rectified signal and then multiply the result by a factor 1.1. This factor represents the constant relationship between the average and RMS values of a perfect sine wave. However, if the waveform is not a perfect sine wave, this relationship no longer applies. This is why average responding meters often give incorrect readings when measuring currents in today's power systems.

Linear and non-linear loads

Linear loads - consisting purely of resistors, coils and capacitors - always draw a sine wave current, so there is no measurement problem (see fig.1). But non-linear loads like adjustable frequency drives and office equipment power supplies, draw distorted current waveforms (see fig 2 and 3). Measuring the RMS value of these distorted currents with an average-responding meter could give you readings which are up to 50% too low (see fig. 4), leaving you wondering why your 14A fuse blows continuously while the current according to your meter is only 10A.

True RMS

To measure such distorted current waveforms, you could first check the waveform with a waveform capturing device, and only use an average responding meter if the waveform is a perfect sine wave.

Or alternatively you could take no chances by always using a true RMS meter.

A modern true RMS meter uses an electronic measurement technique to provide you with the real effective value of an AC current, no matter if the waveform of the current is a perfect sine wave or a distorted waveform. As long as it is within the meter's crest factor and bandwidth specification.

What about voltage measurements?

What is valid for current measurements in today's power systems also is true for voltage measurements in many industrial and electronic applications. Often voltage waveforms are not perfect sine waves which will result in incorrect readings with average responding meters. Therefore it is recommended to always use True-RMS responding meters for both voltage and current measurements.

Type Of Meter	Measuring Circuit	Response To Sine Wave	Response To Square Wave	Response To Distorted Wave
Average-responding	Multiplies rectified average by 1.1	Correct	10% high	Up to 50% low
True-RMS-responding	RMS-calculating converter calculates heating value	Correct	Correct	Correct

Fig 4. Comparing the Performance of Average-Responding and True-rms Responding Meters.



Fluke: Where safety is built in



As distribution systems and loads become more complex, the possibilities of transient overvoltages increase. Motors, capacitors and power conversion equipment such as variable speed drives can be prime generators of spikes. Lightning strikes on outdoor transmission lines also cause extremely hazardous high-energy transients. If you're taking measurements on electrical systems, these transients are "invisible" and largely unavoidable hazards. They occur regularly on low-voltage power circuits, and can reach peak values in the many thousands of volts. To protect you against transients, safety must be built into the test equipment.

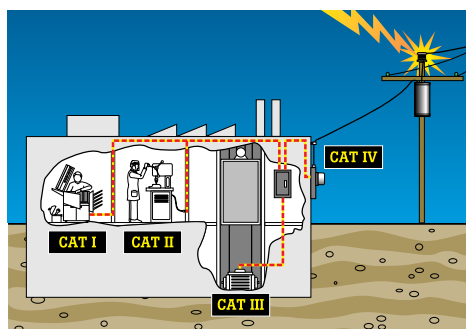


Figure 1. Understanding categories: location

Who Develops Safety Standards?

The IEC (International Electrotechnical Commission) develops international general standards for safety of electrical equipment for measurement, control and laboratory use. IEC61010-1 is used as the basis for the following national standards:

- US ANSI/ISA-S82.01-94
- Canada CAN C22.2 No.1010.1-92
- Europe EN61010-1:2001

Overvoltage Installation Categories

IEC61010-1 specifies categories of overvoltage based on the distance the piece of equipment is from the power source (see Fig. 1 and Table 1) and the natural damping of transient energy that occurs in an electrical distribution system. Higher categories are closer to the power source and require more protection.

Within each installation category there are voltage classifications. It is the combination of installation category and voltage classification which determines the maximum transient withstand capability of the instrument.

IEC 61010 test procedures take into account three main criteria: steady-state voltage, peak impulse transient voltage and source impedance. These three criteria together will tell you a multimeter's true voltage withstand value.

Within a category, a higher working voltage" (steadystate voltage) is associated with a higher transient, as would be expected. For example, a CAT III 600 V meter is tested with 6000 V transients while a CAT III 1000 V meter is tested with 8000 V transients. So far, so good. What is not as obvious is the difference between the 6000 V transient for CAT III 600 V and the 6000 V transient for CAT II 1000 V. They are not the same.

This is where the source impedance comes in. Ohm's Law (Amps = Volts/Ohms) tells us that the 2 Ω test source for CAT III has six times the current of the 12 Ω test source for CAT II. The CAT III 600 V meter clearly offers superior transient protection compared to the CAT II 1000 V meter, even though its so-called "voltage rating" could be perceived as being lower. See Table 2.

Independent testing is the key to safety compliance

How can you tell if you're getting a genuine CAT III or CAT II meter? Unfortunately it's not always that easy. It is possible for a manufacturer to self-certify that its meter is CAT II or CAT III *without any independent verification*. The IEC (International Electrotechnical Commission) develops and proposes standards, but it is not responsible for enforcing the standards. Look for the symbol and listing number of an independent testing lab such as UL, CSA, VDE, TÜV or other recognized approval agency.



That symbol can only be used if the product successfully completed testing to the agency's standard, which is based on national/-international standards. UL 3111, for example, is based on EN61010-1. In an imperfect world, that is the closest you can come to ensuring that the meter you choose was actually tested for safety.

Table 1

Overvoltage category	In brief	Examples
CAT IV	Three-phase at utility connection, any outdoor conductors	<ul style="list-style-type: none"> • Refers to the "origin of installation"; i.e., where low-voltage connection is made to utility power. • Electricity meters, primary overcurrent protection equipment. • Outside and service entrance, service drop from pole to building, run between meter and panel. • Overhead line to detached building, underground line to well pump.
CAT III	Three-phase distribution, including single-phase commercial lighting	<ul style="list-style-type: none"> • Equipment in fixed installations, such as switchgear and polyphase motors. • Bus and feeder in industrial plants. • Feeders and short branch circuits, distribution panel devices. • Lighting systems in larger buildings. • Appliance outlets with short connections to service entrance.
CAT II	Single-phase receptable connected loads	<ul style="list-style-type: none"> • Appliance, portable tools, and other household and similar loads. • Outlet and long branch circuits. • Outlets at more than 10 meters (30 feet) from CAT III source. • Outlets at more than 20 meters (60 feet) from CAT IV source.
CAT I	Electronic	<ul style="list-style-type: none"> • Protected electronic equipment. • Equipment connected to (source) circuits in which measures are taken to limit transient overvoltages to an appropriately low level. • Any high-voltage, low-energy source derived from a high-winding resistance transformer, such as the high-voltage section of a copier.

Overvoltage installation categories. IEC 61010-1 applies to low-voltage (< 1000V) test equipment

Fluke: Where safety is built in

Safety is everyone's responsibility but ultimately it is in your hands. No tool by itself can guarantee your safety when working with electricity. It's the combination of the right tools and safe work practices that gives you maximum protection. Here are a few tips to help you in your work:

Make sure you always comply with (local) regulations.

Work on de-energized circuits whenever possible.

Use proper lock-out/tag-out procedures. If these procedures are not in place or enforced, assume that the circuit is live.

Use protective gear when working on live circuits:

- Use insulated tools
- Wear safety glasses or a face shield
- Wear insulated gloves, remove watches or jewelry
- Stand on an insulated mat
- Wear flame resistant clothing, not ordinary work clothes



Use protective equipment such as safety glasses and insulated gloves



Use meters with these markings: 1000 V CAT III or 600 V CAT IV

Select the right test tool:

- Choose a test tool rated to the highest category and voltage for which it could possibly be used (most often 600 or 1000 volt CAT III and/or 600 volt CAT IV).
- Look for the category and voltage marking near the recessed input connectors of your test tool and a "double insulated" symbol on the back.
- Verify your test tool has been tested and certified by two or more independent testing laboratories, such as UL in the United States and VDE or TÜV in Europe by looking for the symbols of these agencies on (the back of) your test tool.
- Make sure that the test tool is made of a high-quality, durable non-conductive material.
- Check the manual to verify that the ohms, continuity and capacitance circuits are protected to the same level as the voltage test circuit, to reduce hazards when the test tool is used incorrectly in ohms, continuity or capacitance mode (if applicable).
- Verify that the test tool has internal protection to prevent instrument damage when voltage is incorrectly applied to an amperage measurement function (if applicable).
- Make sure that the amperage and voltage of your test tool's fuses meets specifications. Fuse voltage must be as high or higher than the test tool's voltage rating.
- Be sure to use test leads that have:
 - Shrouded connectors
 - Finger guards and a non-slip surface
 - Category ratings that equal or exceed those of the test tool
 - Double insulation (look for the symbol)
 - A minimum of exposed metal on the probe tips

Inspect and test your test tool:

- Check for a broken case, worn test leads or a faded display.
- Make sure the batteries still deliver sufficient power to get reliable readings. Many test tools have a low battery indicator on the display.
- Check the test leads resistance for internal breaks while moving the leads around (good leads measure 0.1-0.3 Ohm).
- Use the meter's own test capability to ensure that the fuses are in place and working right (see manual for details).

Apply the appropriate working practices when measuring on live circuits:

- Hook on the ground clip first, then make contact with the hot lead. Remove the hot lead first, the ground lead last.
- Use the three-point test method, especially when checking to see if a circuit is dead. First test a known live circuit. Second, test the target circuit. Third, test the live circuit again. This verifies that your test tool worked properly before and after the measurement.
- Hang or rest the test tool if possible. Try to avoid holding it in your hands, to minimize personal exposure to the effects of transients.
- Use the old electrician's trick of keeping one hand in your pocket. This lessens the change of a closed circuit across your chest and through your heart.

For more information or to request the Electrical Safety DVD go to:

United Kingdom: www.fluke.co.uk/safety
 Ireland: www.fluke.ie/safety
 E-Europe/Middle-East/Africa: www.fluke.nl/safety_ex

Table 2

Overvoltage Installation Category	Working Voltage (DC or AC RMS to ground)	Peak Impulse Transient (20 repetitions)	Test Source ($\Omega = V/A$)
CAT I	600 V	2500 V	30 Ohm source
CAT I	1000 V	4000 V	30 Ohm source
CAT II	600 V	4000 V	12 Ohm source
CAT II	1000 V	6000 V	12 Ohm source
CAT III	600 V	6000 V	2 Ohm source
CAT III	1000 V	8000 V	2 Ohm source
CAT IV	600 V	8000 V	2 Ohm source

Transient test values for overvoltage installation categories. (50 V/150 V/300 V values not included)

Troubleshooting Adjustable Speed Drives

FLUKE®

Adjustable Speed Drives (ASDs) deliver huge benefits to industry. They save energy, enable more precise process control and help motors and equipment last longer. However ASDs also cause real difficulties for service engineers. The electrical troubleshooting of a drive can be difficult since most measurement equipment is not designed to handle the complex output signals of the drive.

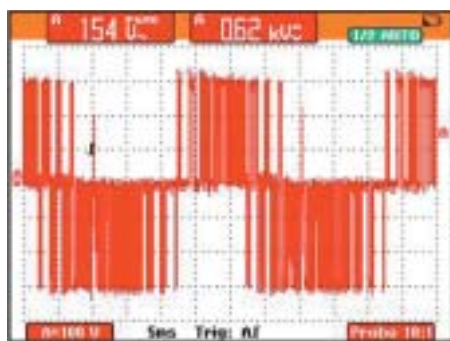


Figure 1. Motor drive output measured using the Fluke ScopeMeter 199C



Figure 2. Output voltage reading without using the low pass filter.



Figure 3. Output voltage reading with low pass filter enabled.

The Pulse Width Modulated (PWM) signal

The basic problem comes from the pulse width modulated, high output voltage of the drive (see figure 1).

Many instruments have difficulties in handling this complex signal:

- The PWM signal is difficult to measure (this has been especially true for DMMs)
- The signal generates high rf noise, making readings unstable
- Safety norms require CAT III or even CAT IV rated measurement equipment.

Fluke has several instruments that now make the troubleshooting of ASDs easy:

Fluke 87V Digital Multimeter

Many of today's true rms digital multimeters have bandwidths up to 20 kHz or more. So they respond not only to the fundamental component, which is what the motor responds to, but also to all the high frequency components generated by the PWM drive. And if the DMM isn't shielded from high frequency noise, the drive controller's high noise levels make the measurement discrepancies even more extreme.

Fluke's new 87V solves this. This new CAT IV rated meter has special shielding and a patented low pass filter that takes accurate motor measurements. The instrument helps troubleshoot the basic performance of an ASD by measuring the proper voltage and frequency on the motor terminals with the drive display, calculating the Volt-Hertz product, measuring the DC Bus ripple, and more.

Fluke ScopeMeter® 190 Series

The Fluke 190 Series ScopeMeters are ideal for further analyzing problems with pulse-width-modulated variable speed drives. They feature a special Vpwm function that measures the voltage actually applied to motor whilst simultaneously measuring the frequency.

The ScopeMeter also provides Connect-and-View™ triggering which automatically displays a stable picture of the real signal.

Other Fluke tools

Many ASDs operate in an industrial environment, where large loads and load changes can result in poor power quality. Often, the performance of ASDs may be impaired by this. Fluke's range of power quality products helps to locate and prevent problems in power distribution systems to keep ASDs running smoothly.

Measuring current is very important when servicing ASDs and motors. One of the more common tools used for this is the current clamp. However, many ASDs are located in areas needing CAT IV safety rated equipment. Fluke's new i400s and i400 current clamps are the first to be CAT IV rated. The 400 A range and small overall size also make them ideal for measuring ASD and motor currents.



For more information download the Application Notes from our web site or request a copy from our local sales office.

There are three Application Notes available:

- Multimeter measurements on adjustable speed drives using the Fluke 87V Digital Multimeter.
- Measuring variable speed-motor drive output voltage with a Fluke ScopeMeter® 190 Series.
- Troubleshooting in 3-phase power networks with the Fluke 430 Series Power Quality Analyzers.

Basic electrical installation testing

FLUKE®

Growing concern for public safety and the increasing complexity of today's fixed electrical installations in domestic, commercial and industrial premises places extra responsibility on electrical test engineers who are charged with verifying conformity to today's stringent international standards.



It is therefore important to have suitable test tools for carrying out the stringent tests imposed by the International Electrotechnical Commission (IEC) and the European Committee for Electrotechnical Standardization (CENELEC). IEC 60364, and its various associated national equivalent standards that are published throughout Europe (see table 1), specifies the requirements for fixed electrical installations in buildings. Section 6.61 of this standard describes the requirements for the verification of the compliance of the installation with IEC 60364.

The basic requirements of IEC 60364.6.61

Many electrical contractors may already be familiar with IEC 60364.6.61 or its national equivalents. It states that verification of the installation shall be carried out in the following sequence:

1. Visual inspection
2. Testing of the following:
 - continuity of protective conductors;
 - insulation resistance;
 - protection by separation of circuits;
 - floor and wall resistance;
 - automatic disconnection of supply;
 - measurements of earth electrode resistance
 - measurements of fault loop impedance
 - testing RCDs
 - polarity;
 - functional performance

To test the protective measures as described above, IEC 60364.6.61 refers to the IEC / EN 61557.

The basic requirements of IEC/EN 61557

The European Norm EN 61557 addresses the requirements for test equipment used in installation testing. It consists of general requirements for test equipment (part 1), specific requirements for combined measuring equipment (part 10) and covers the specific requirements for measuring/-testing:

1. Insulation resistance (part 2)
2. Loop impedance (part 3)
3. Resistance of the earth connection (part 4)
4. Resistance to earth (part 5)
5. RCD performance in TT and TN systems (part 6)
6. Phase sequence (part 7)
7. Insulation monitoring devices for IT systems (part 8)

The Fluke 1650 Series multifunction installation testers are measuring equipment as described in part 10 of EN 61557 and the three different models in the series comply with specific parts of this norm. They are specifically designed to carry out the tests specified in IEC 60364.6.61, and all local standards/regulations derived from it, in the safest and most efficient way. They are lightweight, and feature a unique ergonomic 'curved' form that, when carried by the neck strap, makes operation in the field more comfortable.

Table 1

European equivalents of IEC 60364 (6.61)

Austria	ÖVE/ÖNORM E8001
Belgium	A.R.E.I. / R.G.I.E.
Denmark	Stærkstrømbekendtgørelsen 6
Finland	SFS 6000
France	NF C 15-100
Germany	DIN VDE 0100
Italy	CEI 64-8
Netherlands	NEN 1010
Norway	NEK 400
Portugal	HD 384
Spain	UNE 20460
Sweden	SS 4364661 / ELSÄK-FS 1995:5
Switzerland	NIN / SN SEV 1000
UK	BS 7671 / 16th Edition IEE Wiring Regulations



For more information download the Application Note "Basic Electrical Installation Testing" from our web site or request a copy from our local sales office. (pub_ID: 10641).

Digital Multimeters

Safety, quality and performance: three words that sum up the benefits of our extensive range of digital multimeters. From compact first-level troubleshooters to ultra smart instruments packed with features. Designed to help you do your job faster, more efficiently and with greater accuracy, there's a model for every budget and application.



Test faster and safer with a new Fluke meter

FLUKE®

Move up to better performance

Move up from your old 70 Series and benefit from over 10 improvements. The new 179 has features and diagnostic functions for faster, safer and more accurate testing. See page 17 for more details.



Fluke 79



Fluke 179

	Old Series (10 years ago)	New Series	Benefit
Model numbers	75, 77, 79, 21, 23	175, 177, 179	
Warranty	Expired	Lifetime	Lower cost of ownership.
Example product			
	Old Fluke 79	New Fluke 179	
Do your job safer: Your no 1 priority.			
Electrical safety rating (EN 61010-1)	CAT II	CAT III 1000 V CAT IV 600 V	Maximum safety against arc blasts and transients.
Unsafe Volt Alert above 30 V	No	Yes	Warns user of potentially dangerous voltages.
Test leads	Test leads with 2 mm probe tips	Silicon test leads with 4 mm tips + protective cap	Test leads stay fixed in wall socket. Cap protects user from accidental shock.
Test leads safety rating	Not rated	CAT III 1000 V CAT IV 600 V	Safety of test leads is just as important as the meter.
Do your job faster: New features simplify day to day work.			
Min/Max/Average	No	Yes	Capture intermittent problems.
Display size	Standard	20% larger	Large, easy to read.
Display backlight	No	Yes	Usable in dim areas.
Battery door	No	Yes	Easy battery exchange without opening the complete case.
Optional magnetic hanger	No	Yes	Use ToolPak to hold meter in best position.
Do your job better: More functions, more measurement ranges, more accurate.			
True-rms	No	Yes	Accurate on non-linear signals.
Basic accuracy, dcV	0,30%	0,09%	Three times more accurate.
Max. AC voltage	750	1000	Wider measurement range.
Temperature	No	Yes	No need for a separate thermometer.

Move up from your old 8060 Series and benefit from over 15 improvements.

The new Fluke 189 has new features and functions to troubleshoot more problems with one tool, find intermittent problems and get the job done faster, easier and safer. See page 15 for more details.



Fluke 8060A



Fluke 189

	Old Series (10 years ago)	New Series	Benefit
Model numbers	8062A, 8060A	187, 189	
Warranty	Expired	Lifetime	Lower cost of ownership.
Example product			
	Old Fluke 8060A	New Fluke 189	
Do your job safer: Your no 1 priority.			
Electrical safety rating (EN 61010-1)	IEC348 Class II	CAT III 1000 V CAT IV 600 V	Maximum safety against arc blasts and transients.
Unsafe Volt Alert above 30 V	No	Yes	Warns user of potentially dangerous voltages.
Test leads safety rating	Not rated	CAT III 1000 V CAT IV 600 V	Safety of test leads is just as important as the meter.
Do your job faster: New features simplify day to day work.			
Built in recorder with time stamp	No	Yes	Record and view intermittent problems and drift.
Min/Max/Average	No	Yes	Capture intermittent problems.
Peak capture	No	250 μ s min/max	Find glitches and transients without a scope.
PC interface	No	Isolated IR serial port	Transfer readings to FlukeView® software.
Digital display	Standard	20% larger dual display, backlight and bargraph	Easier to read under all conditions. Display two measurements at once.
Range selection	Manual	Auto and Manual	Faster, most accurate range selected.
Optional magnetic hanger	No	Yes	Use ToolPak to hold meter in best position.
Do your job better: More functions, more measurement ranges, more accurate.			
AC + DC measurement	No	Yes	Measure composite signals.
Best resolution	10 μ V	1 μ V	See more detail, observe trends better.
AC voltage	750 V max.	1000 V max.	Measure higher voltages.
AC and DC current	2 A max.	10 A max.	Measure 5 times more in-line current.
Temperature	No	Yes	No need for a separate thermometer.
Capacitance	No	Yes	Measure motor capacitors and components.
Duty cycle, pulse width	No	Yes	Troubleshoot control circuits.
Frequency range	200 kHz (700 kHz)	1 MHz	Measure high frequency signals.

Fluke Combo Kits

Buy a Combo Kit and save



- Fluke 87V/E Industrial Electrician Combo Kit**
- Fluke 87V True RMS Multimeter
 - TL224 SureGrip™ Silicone Test Lead Set
 - TP238 SureGrip™ Slim Reach Test Probe Set (insulated tips with 4 mm of exposed metal)
 - AC 220 SureGrip™ Alligator Clip Set
 - Magnetic Hanger
 - 80BK Temperature Probe
 - C800 Hard Case

Save 13%



- Fluke 112/322 Kit Electrician's Combo Kit**
- Fluke 112 True RMS Multimeter
 - Fluke 322 Clamp Meter
 - TL76 All-in-one Test Lead Set
 - C800 Hard Meter and Accessory Case

Save 19%



- Fluke 179/MAG Kit Industrial Combo Kit**
- Fluke 179 True RMS Multimeter
 - TL224 SureGrip™ Silicone Test Lead Set
 - AC220 SureGrip™ Alligator Clip Set
 - TP4 Slim Reach Test Probe Set (4 mm)
 - 80BK Integrated DMM Temperature Probe
 - C800 Hard Meter and Accessory Case
 - + Maglite flashlight

Save 20%



New

- Fluke 189/FVF2 Data Logging Multimeter and Software Combo Kit**
- Fluke 189 True RMS Multimeter
 - FVF-SC2 FlukeView Forms Software
 - IR189USB USB Cable Adapter
 - TL71 Test Lead Set
 - AC72 Alligator Clip Set
 - 80BK Temperature Thermocouple
 - BP189 High Capacity Battery Enclosure
 - C25 Soft Carrying Case
 - TPAK Meter Hanging Kit

Save 26%



- Fluke 179/EDA Kit Electronics Combo Kit**
- Fluke 179 True RMS Multimeter
 - TL224 SureGrip™ Silicone Test Lead Set
 - TL910 Electronic Test Probe Set
 - AC280 SureGrip™ Hook Clip Set
 - 80BK Integrated DMM Temperature Probe
 - C800 Hard Meter and Accessory Case

Save 23%



New

- Fluke 1587ET Advanced Electrical Troubleshooting Kit**
- Fluke 1587 Insulation Multimeter
 - Fluke 62 Mini IR Thermometer
 - i400 Current Clamp (includes C101 hard case)

Save 10%



New

- Fluke 1587MDT Advanced Motor and Drive Troubleshooting Kit**
- Fluke 1587 Insulation Multimeter
 - Fluke 9040 Phase Rotation Indicator
 - i400 Current Clamp (includes C101 hard case)

Save 10%

Ordering Information

Fluke 87V/E	Industrial Electrician Combo Kit
Fluke 179/MAG Kit	Industrial Combo Kit
Fluke 179/EDA Kit	Electronics Combo Kit
Fluke 112/322 Kit	Electrician's Combo Kit
Fluke 189/FVF2	Data Logging Multimeter and Software Combo Kit
Fluke 1587ET	Advanced Electrical Troubleshooting Kit
Fluke 1587MDT	Advanced Motor & Drive Troubleshooting Kit

170 Series Digital Multimeters

Versatile meters for field service or bench repair

These meters have the features needed to find most electrical, electro-mechanical and heating and ventilation problems. They are simple to use and have significant improvements over Fluke's original 70 Series like, True-RMS, more measurement functions, conformance to the latest safety standards, and a much larger display that's easier to view.



Fluke 179



Fluke 177



Fluke 175



On all inputs

LISTED



Included Accessories

Test leads with 4 mm lantern tips and protective cap, installed 9V battery and users manual. The 179 also includes the 80BK temperature probe.

Ordering Information

Fluke 175 True RMS Multimeter
 Fluke 177 True RMS Multimeter
 Fluke 179 True RMS Multimeter
 Fluke 179/EDA Kit Electronics Combo Kit
 Fluke 179/MAG Kit Industrial Combo Kit
 See page 13

	175	177	179
True-RMS measurements	AC	AC	AC
Digital display counts, updates 4 times per second	6000	6000	6000
Display backlight		•	•
Analog bargraph / segments, updates 40 times per second	33-segments	33-segments	33-segments
Auto and Manual ranging	•	•	•
Display Hold and AutoHOLD*	•	•	•
Min-Max-Average recording mode with Min/Max Alert	•	•	•
Temperature readings (bead thermocouple probe included)			•
Smoothing mode allows filtering of rapidly changing inputs	•	•	•
Audible continuity and diode test	•	•	•
Test lead alert	•	•	•
Unsafe voltage alert warns for voltages above 30V	•	•	•
Low battery indication	•	•	•
Ergonomic case with integrated holster	•	•	•
Easy battery exchange without opening the complete case	•	•	•
Selectable sleep mode preserves battery life	•	•	•

Specifications

(Check the Fluke web for detailed specifications)

Functions	Maximum	Max. resolution	175	177	179
Voltage DC	1000V	0.1mV	±(0.15%+2)	±(0.09%+2)	±(0.09%+2)
Voltage AC	1000V	0.1mV	±(1.0%+3)	±(1.0%+3)	±(1.0%+3)
Current DC	10A	0.01mA	±(1.0%+3)	±(1.0%+3)	±(1.0%+3)
Current AC	10A	0.01mA	±(1.5%+3)	±(1.5%+3)	±(1.5%+3)
Resistance	50MΩ	0.1Ω	±(0.9%+1)	±(0.9%+1)	±(0.9%+1)
Capacitance	10000µF	1nF	±(1.2%+2)	±(1.2%+2)	±(1.2%+2)
Frequency	100kHz	0.01Hz	±(0.1%+1)	±(0.1%+1)	±(0.1%+1)
Temperature	-40°C/+400°C	0.1°C			±(1.0%+10)

Accuracies are best accuracies for each function

Battery Life: Alkaline, 200 hrs typical
Size (HxWxD): 190 mm x 85 mm x 45 mm

Weight: 0.42 kg
Lifetime Warranty

Recommended Accessories



1400
See page 80



C90
See page 84



TLK-220
See page 76



SV225
See page 87



I410-11010
See page 81

110 Series Digital Multimeters



Fluke 112



Fluke 111



Fluke 110



On all inputs



Compact general purpose meters

The 110 series True-RMS meters have all the basic measurement features and functions needed for every day tasks. Their simplicity, compact design, and price make them perfect for quick verifications for field service and contractor use.

Features

	110	111	112
True-RMS measurements	AC	AC	AC
Digital display counts, updates 4 times per second	6000	6000	6000
Display backlight			●
Analog bargraph / segments, updates 40 times per second	33-segments	33-segments	33-segments
Auto and Manual ranging	●	●	●
Display Hold	●	●	●
Min-Max-Average recording mode with Min/Max Alert	●	●	●
Audible continuity and diode test	●	●	●
Test lead alert	●	●	●
Unsafe voltage alert warns for voltages above 30V	●	●	●
Low battery indication	●	●	●
Compact case with removable holster	●	●	●
Easy battery exchange without opening the complete case	●	●	●
Selectable sleep mode preserves battery life	●	●	●

Specifications

(Check the Fluke web for detailed specifications)

Functions	Maximum	Max. resolution	110	111	112
Voltage DC	600V	1mV	±(0.7%+2)	±(0.7%+2)	±(0.7%+2)
Voltage AC	600V	1mV	±(1.0%+3)	±(1.0%+3)	±(1.0%+3)
Current DC	10A	1mA		±(1.0%+3)	±(1.0%+3)
Current AC	10A	0.01A		±(1.5%+3)	±(1.5%+3)
Resistance	40MΩ	0.1Ω	±(0.9%+1)	±(0.9%+1)	±(0.9%+1)
Capacitance	10000μF	1nF	±(1.9%+2)	±(1.9%+2)	±(1.9%+2)
Frequency	50kHz	0.01Hz	±(0.1%+2)	±(0.1%+2)	±(0.1%+2)

Accuracies are best accuracies for each function

Battery Life: Alkaline, 300 hrs typical
Size (HxWxD): 160 mm x 96 mm x 46 mm

Weight: 0.35 kg
Three Year Warranty

Included Accessories

Test leads with 4 mm lantern tips and protective cap, C10 holster, installed 9V battery and users manual.

Ordering Information

Fluke 110 True RMS Multimeter
 Fluke 111 True RMS Multimeter
 Fluke 112 True RMS Multimeter
 Fluke 112/322 Electricians Combo Kit
 See page 13

Recommended Accessories



C50
See page 84



TL223
See page 76



SV225
See page 87



MC6
See page 87



TPAK
See page 86

73/77 Digital Multimeters

All-round performers for basic measurement tasks

The model numbers Fluke 73 and 77 are an important part of Fluke's reputation. In many years of service they have become the preferred models for a large number of professionals. The Fluke 73 and 77 offer exactly the right fit for a wide range of measurements. They are truly all-round performers.

The 73 III is perfectly suited for many electronic applications and has the "classic" 70 series design with removable holster. The 77 III has all the features and functions for a wide range of industrial applications packaged in an ergonomic case with integrated holster.



Fluke 77 III



Fluke 73 III

Features

	73 III	77 III
Digital display counts	3200	3200
High contrast digital display with large digits		●
Analog bargraph/segments	31	31
Auto and Manual ranging	●	●
Automatic Touch Hold*	●	●
Audible continuity / diode test	●	●
Ergonomic case with integrated holster		●
"Classic" design with removable holster	●	
Sleep Mode preserves battery life	●	●
EN 61010-1 safety rating	CAT II 600V	CAT III 600V CAT II 1000V



On all inputs (Fluke 77 III)

LISTED



Specifications

Function	Maximum	Max. resolution	73 III	77 III
Voltage DC	600V	0.1mV	±(0.3% + 1)	±(0.3% + 1)
	1000V	0.1mV		
Voltage AC	600V	1mV	±(2.0% + 2)	±(2.0% + 2)
	1000V	1mV		
Current DC	10A	0.01mA	±(1.5% + 2)	±(1.5% + 2)
Current AC	10A	0.01mA	±(2.5% + 2)	±(2.5% + 2)
Resistance	32MΩ	0.1Ω	±(0.5% + 1)	±(0.5% + 1)

Accuracies are best accuracies for each function.

Battery Life: 2000 hours typical

Size (HxWxD): 73 III 188 mm x 85 mm x 48 mm
77 III 190 mm x 89 mm x 45 mm

Weight: 73 III 0.45 kg
77 III 0.42 kg

Lifetime Warranty

Included Accessories

73 III: TL75 test leads, operator's manual, 9V battery (installed) and C70Y holster

77 III: TL75 test leads, operator's manual, 9V battery (installed)

Ordering Information

Fluke 73 III Multimeter
Fluke 77 III Multimeter

Recommended Accessories



C50
See page 84



TLK220
See page 76



SV225
See page 87



i400
See page 80



80TK
See page 82

Electrical Testers and Clamp Meters

The ergonomic clamp meters feature wide-opening jaws for safe, fast non-contact current measurement. The range of electrical testers include two-pole testers for taking quick measurements in tight spaces, phase rotation indicators to take the guesswork out of checking phase/motor rotation, a multipurpose cable locator and handy voltage alerts.



330 Series Clamp Meters



Fluke 337

Fluke 336

Fluke 335

Fluke 334

Fluke 333



LISTED



Take a new look at current measurements

The Fluke 330 Series Clamp Meters offer all the features you need to fit the way you work. The small body and jaws fit perfectly in your hand and into tight places. Meter controls are positioned so that current measurements can be done with one hand. A large backlit display (on most models) is easy to see and a handy Display Hold keeps measurements on the display.

Measuring starting current for motors, lighting, etc. is easy with the in-rush current function (on most models). All models are backed up with a 3 year warranty.

Features

Functions	333	334	335	336	337
True-RMS			●	●	●
Display backlight		●	●	●	●
Auto shut-off	●	●	●	●	●
Display Hold	●	●	●	●	●
Motor start-up current		●	●	●	●
Low battery indication	●	●	●	●	●
Large jaw				●	●
Min/Max					●
Current AC/DC				●	●

Specifications

Functions	Range	333	334	335	336	337
Current AC	0-400.0A	2% ± 5 counts				
	0-600.0A		2% ± 5 counts	2% ± 5 counts	2% ± 5 counts	
	0-999.9A					2% ± 5 counts
Crest Factor	0-600.0A			2.4 @ 500A	3 @ 500A	
				2.0 @ 600A	2.5 @ 600A	
	0-999.9A					3 @ 500A 2.5 @ 600A 1.42 @ 1000A
Current DC	0-600.0A				2% ± 3 counts	
	0-999.9A					2% ± 3 counts
In-rush Current	Integration time		100mS	100mS	100mS	100mS
Voltage AC	0-600.0V	1% ± 5 counts	1% ± 5 counts	1% ± 5 counts	1% ± 5 counts	1% ± 5 counts
Voltage DC	0-600.0V	1% ± 5 counts	1% ± 5 counts	1% ± 5 counts	1% ± 5 counts	1% ± 5 counts
Resistance	0-600.0Ω	1.5% ± 5 counts	1.5% ± 5 counts	1.5% ± 5 counts	1.5% ± 5 counts	1.5% ± 5 counts
	0-6000 Ω	1.5% ± 5 counts	1.5% ± 5 counts	1.5% ± 5 counts	1.5% ± 5 counts	1.5% ± 5 counts
Continuity		≤ 30Ω	≤ 30Ω	≤ 30Ω	≤ 30Ω	≤ 30Ω
Frequency						0.5% ± 5 counts

Battery Life: Alkaline, 150 hours

Size (HxWxD):

238 mm x 79 mm x 41mm (333, 334 and 335)

251 mm x 79 mm x 41 mm (336 and 337)

Jaw Opening: 30 mm (333, 334, 335)

42 mm (336, 337)

Weight: 0.312 kg

Three Year Warranty

Included Accessories

C33 Soft case, TL75 test leads, 2 AA alkaline batteries, instruction card and safety information sheet.

Ordering Information

Fluke 333	Clamp Meter
Fluke 334	Clamp Meter
Fluke 335	True-RMS Clamp Meter
Fluke 336	True-RMS Clamp Meter
Fluke 337	True-RMS Clamp Meter

Recommended Accessories



H3
See page 85



TL223
See page 76



L215
See page 77

320 Series Clamp Meters



Fluke 322

Fluke 321



Big features, small package

The Fluke 321 and 322 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.

Model 322 also offers DC voltage measurements and has a higher resolution for loads below 40 A.

Features

	321	322
Compact design	●	●
Auto shut-off	●	●
Display Hold	●	●
Low battery indication	●	●
Current AC	●	●
Volts DC		●

Specifications

Functions	321		322		321 322	
	Range	Resolution	Range	Resolution	Best Accuracy	
Current AC	400.0A	0.1A	40.00A 400.0A	0.01A 0.1A	1.8% ± 5 counts (50 - 60Hz)	1.8% ± 5 counts (50 - 60Hz)
					3.0% ± 5 counts (60Hz - 400Hz)	3.0% ± 5 counts (60Hz - 400Hz)
Voltage AC	0-400.0V 400-600V	0.1V 1V	0- 400.0V 400 - 600V	0.1V 1V	1.2% ± 5 counts (50 - 400Hz)	1.2% ± 5 counts (50 - 400Hz)
Voltage DC			0 - 400.0V 400 - 600V	0.1V 1V		1% ± 5 counts
Resistance	0 - 400.0Ω	0.1Ω	0 - 400.0Ω	0.1Ω	1% ± 5 counts	1% ± 5 counts
Continuity	≤ 30Ω		≤ 30Ω			

Battery Life: 100 hours typical
(2 AAA carbon zinc)
Size (HxWxD): 190 mm x 63 mm x 35 mm
Jaw Opening: 25 mm

Weight: 0.23 kg
Two Year Warranty

Included Accessories

C23 Soft carrying case, TL75 test leads, (2) AA alkaline batteries, coated instruction card, safety information sheet.

Ordering Information

Fluke 321 Clamp Meter
Fluke 322 Clamp Meter
Fluke 112/322 Kit Electricians Combo Kit

Combo Kit

Fluke 112/322 Kit
See page 13



Recommended Accessories



H3
See page 85



TL223
See page 76



L215
See page 77

T100 Series/T50 Voltage and Continuity Testers

FLUKE®



The fast and easy solution to voltage, continuity and phase rotation testing

Fluke T50

Offers a low cost solution to voltage/-continuity measurement. It contains an acoustic and optic continuity test and features a single pole test for phase detection.

Fluke T100 Series

The fast and easy solution to voltage, continuity and resistance measurements. Ideal for site conditions, the 3 models of the T100 Series 2-pole testers have a rugged construction and ergonomically formed

housing for perfect handling. All models offer a patented three-phase rotation detection system providing quick phase rotation indication. Moreover they have a special electrical torch function for working in low light level environments and have an ingress protection rating of IP65. The T100 Series are compliant with EN 61010-1 and EN61243-3 requirements.

Features

	T50	T100	T120	T140
Display			LCD	LCD
LED Bargraph	10 LED's	12 LED's	12 LED's	12 LED's
Backlight				•
Resistance measurement				•
Voltage test	•	•	•	•
Optical and acoustical continuity test	•	•	•	•
Rotary field indication		•	•	•
Single pole test for phase detection	•	•	•	•
Indication of polarity	•	•	•	•
Electrical torch function		•	•	•
Probe tip protection		•	•	•
The voltage display also functions when using discharged - or no batteries	•	•	•	•

Specifications

	T50	T100	T120	T140
Voltage AC/DC	12 - 690V	12 - 690V	12 - 690V	12 - 690V
Continuity	0 - 200 kΩ	0 - 400 kΩ	0 - 400 kΩ	0 - 400 kΩ
Frequency	45 - 65 Hz	0 - 400 Hz	0 - 400 Hz	0 - 400 Hz
Phase Rotation	-	100 to 690V	100 to 690V	100 to 690V
Resistance measurement	-	-	-	Up to 1999Ω
Response time	< 0.1s	< 0.1s	< 0.1s	< 0.1s

Size T50 (HxWxD): 210 mm x 40 mm x 22 mm

Size T100/T120/T140 (HxWxD):

240 mm x 56 mm x 24 mm

Case: T100/T120/T140: IP65

(water-jet and dust tight protection)

T50: IP54

Weight T50: 130 g

Weight T100/T120/T140: 180 g

Two year warranty

Included Accessories

Two 1.5V batteries and instruction sheet

Ordering Information

Fluke T50 Voltage/Continuity Tester

Fluke T100 Voltage/Continuity Tester

Fluke T120 Voltage/Continuity Tester

Fluke T140 Voltage/Continuity Tester

UK versions are compliant with GS38

Not available in all countries

Recommended Accessories



C23 (T50)
See page 84



C33 (T100 Series)
See page 84

T5/7-600 Electrical Testers 1AC II VoltAlert

FLUKE®



Fluke T5-1000

Fluke 7-600



New



Fluke 1AC II

Included Accessories

T5-600 and T5-1000:

TP4 4 mm detachable probes (detachable GS38 probes for the UK) and instruction sheet

Fluke 7-600:

TL75 Hard Point Test Leads, a 9 volt battery (installed) and owner's manual.

Ordering Information

Fluke T5-600	Electrical Tester
Fluke T5-1000	Electrical Tester
Fluke 7-600	Electrical Tester
Fluke 1AC II	VoltAlert
Fluke 1AC II	5PK VoltAlert (5-pack)

The fast and easy solution to basic electrical testing

Fluke T5-600 and T5-1000 Voltage, Continuity and Current Testers

The Fluke T5 testers let you check voltage, continuity and current with one compact tool. Select volts, ohms or current and the instrument does the rest. Model T5-600 measures 600 volts AC/DC, model T5-1000 is designed for 1000 volts. OpenJaw™ current technology lets you check current up to 100 A, without breaking the circuit. The optional H5 holster keeps the test probes and leads ready to test and lets you clip the T5 onto your belt.

7-600 Electrical Tester

The easiest way to check AC/DC continuity and resistance is with the Fluke 7-600. The Fluke 7-600 can measure up to 600V AC or DC. Just switch the unit on and it will automatically switch to the correct setting. An input impedance of 2KΩ distinguishes real voltage from voltage caused by leakage or capacitive coupling.

Features and Specifications

	T5-600	T5-1000	7-600
Display Count	1000	1000	4000
Automatic Selection	●	●	●
Continuity and Beeper	●	●	●
Sleep Mode	●	●	●
AC Voltage	600V	1000V	600V
DC Voltage	600V	1000V	600V
AC Current	100A	100A	
Resistance	1000Ω	1000Ω	400Ω
Safety range	1000V CAT III	600V CAT III	600V CAT III

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

T5-600/T5-1000

Battery life: 400 hours
Size (HxWxD): 203 mm x 51 mm x 30.5 mm
Weight: 0.38 kg
Two year warranty

7-600

Battery life: Alkaline, 650 hours continuous, sleep mode
Size (HxWxD): 142.3 mm x 70.5 mm x 34.6 mm
Weight: 0.286 kg
Two year warranty

Fluke 1AC II VoltAlert™

The Fluke VoltAlert AC voltage detector is very easy to use – just touch the tip to a terminal strip, outlet or cord. When the tip glows red and the unit beeps, you know there is voltage on the line.

- It continually tests its battery and its circuit integrity with a periodic double flash visual indication.
- Highest safety rating: CAT IV 1000 V
- Detects voltage without metallic contact

Operating range: 200 – 1000 V AC
Batteries: Two AAA Alkaline
Size (H): 148 mm
Two Year Warranty

Fluke 1AC II VoltAlert™ 5-pack
• Buy 4 get 1 FREE



Recommended Accessories T5



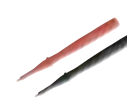
H5
See page 85



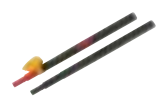
ACC-T5-Kit
See page 77



AC285
See page 77



TP38
See page 77



L210
See page 87

9040/9062 Phase Rotation Indicators

FLUKE®

New



Fluke 9040

Fluke 9062

Take the guess work out of phase/motor rotation measurements

Fluke 9040

The Fluke 9040 is effective for measuring phase rotation in all areas where three-phase supplies are used to feed motors, drives and electrical systems. The Fluke 9040 is a rotary field indicator and can provide clear indication of the 3 phase via an LCD display and the phase rotation direction to determine correct connections. It allows rapid determination of phase sequence and has a voltage (up to 700V) and frequency range suitable for commercial and industrial applications. Test probes supplied with the instrument have a variable clamping range for safe contact, especially in industrial sockets.

Fluke 9062

The unique Fluke 9062 provides rotary field and motor rotation indication with the benefits of contact-less detection. Purpose made for commercial and industrial environments, the Fluke 9062 provides rapid indication of 3 phase rotation using test leads supplied or can be used to determine motor rotation on synchronous and asynchronous 3 phase motors. The contact-less detection is ideal for use on motors where the shaft is not visible. Test probes supplied with the instrument have a variable clamping range for safe contact, especially in industrial sockets.

Features

	9040	9062
3 phase indication	Via LCD	Via LED
Indication of phase rotation	●	●
Indication of motor rotation direction		●
Contact free determination of the rotation direction of running motors		●
Clear LCD display	●	
No battery required	●	

Specifications

	9040	9062
Voltage range	40-700V	Up to 440V
Phase Display	-	120-440V AC
Frequency range	15-400Hz	2-400Hz
Operating time	Continuous	Continuous

Size (HxWxD) Fluke 9040:

124 mm x 61 mm x 27 mm

Size (HxWxD) Fluke 9062:

124 mm x 61 mm x 27 mm

Power supply 9040: from unit under test

Power supply 9062: 1 x 9V

Weight 9040: 0.20 kg

Weight 9062: 0.15 kg

Two Year Warranty



Included Accessories

Fluke 9040: Alligator clips - black (3)

Flexible test probes - black (3)

Fluke 9062: Alligator clips - black (3)

Flexible test probes - black (3)

Test leads - black (3)

Ordering Information

Fluke 9040 Phase Rotation Indicator

Fluke 9062 Motor and Phase Rotation Indicator

Not available in all countries

Fluke 9062 applications



Determine the presence of phase sequence of multiphase electrical supplies.



Determine the rotation of running motors simply by placing the instrument on the motor casing.



Check the correct rotation of motors prior to connection.

Recommended Accessories



TLK290
See page 77



TLK291
See page 77



C25
See page 84

2042 Cable Locator

New



Receiver

Transmitter

Fluke 2042



Included Accessories

- TL27 Heavy Duty Test Lead Set (2)
- TP74 Lantern Tip Test Probe Set
- AC285 Alligator Clip Set
- Soft carrying case
- Hard case

Ordering Information

- Fluke 2042 Cable Locator (transmitter + receiver)
- Fluke 2042T Cable Locator Transmitter

Not available in all countries

The multipurpose solution to cable location

The Fluke 2042 is a professional general purpose cable locator. It is ideal for tracing cables in walls and underground, locating fuses/breakers on final circuits and locating interruptions and short-circuits in cables and electrical floor heating systems. It can also be used for tracing metallic water and heating pipes. The unit is supplied as a complete kit comprising of a transmitter and receiver in a purpose-made carry case. The receiver also incorporates a torch function for working in dimly lit locations.

- For all applications (live or dead cables) without additional instruments
- Set includes a transmitter and a receiver
- Proven digitally coded sender signal guarantees clear signal identification
- Transmitter with LC-display for transmitting level, transmitting code and external voltage

- Receiver with a backlight LC-display for level of receiving signal, code of receiving signal and live voltage indication
- Automatic or manual adjustment of receiving signal sensitivity
- Switchable acoustic receiving signal
- Auto-Power-Off
- Additional torch lamp function for working in dark environments
- Additional transmitters are available for extension or to distinguish between several signals.

Specifications

	Transmitter	Receiver
Voltage Measurement Range	12V, 50V, 120V, 230V, 400V	
Frequency Range	0..60Hz	
Output signal	125 kHz	
Voltage	Up to 400V AC/DC	
Tracing depth cable location		0...2.5m wall/underground cables
Main voltage detection		0...0.4m

Batteries Transmitter: 6 pc Batteries 1.5V

Batteries Receiver: 1 pc Battery 9V

Size (HxWxD) Transmitter:

190 mm x 85 mm x 50 mm

Size (HxWxD) Receiver:

250 mm x 65 mm x 45mm

Weight Locator: 0.45 kg

Weight Receiver: 0.36 kg

Two Year Warranty

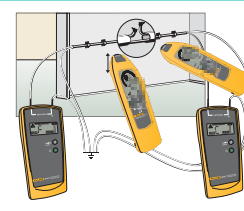
Fluke 2042 applications



Location of fuses/breakers and assignment to circuits



Tracing of underground cables (max. depth 2.5 m)



Precise location of cable interruptions with additional transmitter

Recommended Accessories



Fluke 2042T

Insulation Testers

With a 5000 V MegOhmMeter for industrial-strength insulation testing, a 1000 V workhorse for truly dependable insulation testing and a range of compact hand-held instruments, we offer a solution for every troubleshooting and preventive maintenance application. Two of the digital hand-held insulation testers also include full-featured multimeters for 'two-in-one' convenience.



Insulation Tester Selection Guide

	Two in one tools					
	1577	1587	1503	1507	1520	1550B
Installation Test Functionality						
Test Voltages	500 V, 1000 V	50 V, 100 V, 250 V, 500 V, 1000 V	500 V, 1000 V	50 V, 100 V, 250 V, 500 V, 1000 V	250 V, 500 V, 1000V	250 V, 500 V, 1000 V, 2500 V, 5000 V
Insulation Resistance Test Range	0.1 MΩ - 600 MΩ	0.01 MΩ - 2 GΩ	0.1 M - 2 GΩ	0.01 M - 2 GΩ	4 M - 2 GΩ	200 KΩ - 1TΩ
Polarization Index/Dielectric Absorption Ratio			●	●		●
Auto Discharge	●	●	●	●	●	●
Time Ramp test (Breakdown)				●		●
Pass/Fail Comparison				●		●
Estimated Number of Insulation resistance Tests	1000	1000	2000	2000	5000	
Voltage > 30 V Warning	●	●	●	●	●	●
Memory					(last reading only)	(99 locations)
Remote Test Probe	●	●	●	●		
Lo Ohms						
Display	Digital LCD	Digital LCD	Digital LCD	Digital LCD	Digital LCD/ Analog Bar Graph	Digital LCD/ Analog Bar Graph
Continuity	●	●	(200 mA)	(200 mA)	●	
Multimeter Functionality						
AC/DC Volts	●	●	●	●	●	
Current	●	●				
Resistance	●	●	●	●	●	
Temperature (contact)						
Lo-Pass Filter						
Capacitance						●
Diode Test						
Frequency						
MIN/MAX						
Other						
Hold/Lock	●	●	●	●	●	●
Backlight	●	●	●	●	●	●
Software						[Fluke View® Forms Basic]
Warranty (in years)	3	3	1	1	3	2
Battery	4 AA (NEDA 15A or IEC LR6)	4 AA (NEDA 15A or IEC LR6)	4 AA (NEDA 15A or IEC LR6)	4 AA (NEDA 15A or IEC LR6)	4 C-cell (NEDA 14A or IEC LR14)	Rechargeable

1550B MegOhmMeter

Digital insulation testing up to 5000 Volts

The Fluke 1550B is a digital insulation tester capable of testing switchgear, motors, generators and cables at up to 5000 V DC. It can be used for a wide range of tests: from simple spot checks to timed tests and breakdown tests. Measurement storage and PC interface software make it ideal for preventive maintenance.

- Test voltages of 250 V, 500 V, 1000 V, 2500 V, 5000 V
- Capable of testing in 50 V increments between 250 V and 1000 V and 100 V increments between 1000 V and 5000 V
- Measures 0 to 1 Tera-Ohm
- Warning voltage function alerts the user that line voltage is present and gives the voltage reading up to 600V AC or DC

- Guard system eliminates the effect of surface leakage current on high-resistance measurements
- Large digital/analog LCD shows detailed measurement data
- Cable or insulation capacitance
- Leakage current
- Ramp function (0-5000 V DC) for breakdown testing
- Timer 1 to 99 minutes
- Polarization index and dielectric absorption calculated automatically
- 99 memory locations store all measurements parameters
- Includes Quicklink 1550B Software and Optical Interface cable



Fluke 1550B



Specifications

Test Voltage [DC]	Range	Accuracy (+/- reading)
250V	200kΩ to 5GΩ	5%
	5GΩ to 50GΩ	20%
500V	200kΩ to 10GΩ	5%
	10GΩ to 100GΩ	20%
1000V	200kΩ to 20GΩ	5%
	20GΩ to 200GΩ	20%
2500V	200kΩ to 50GΩ	5%
	50GΩ to 500GΩ	20%
5000V	200kΩ to 100GΩ	5%
	100GΩ to 1TΩ	20%
Short circuit current	greater than 1 mA and less than 2mA	
Bar graph range	0 to 1TΩ	
Insulation test voltage accuracy	0% to + 10% at 1mA load current	
Induced AC mains current rejection	2 mA maximum	
Charging rate for capacitive load	5 seconds per μF	
Leakage current	1nA to 2mA	± (5% + 2nA)
Capacitance measurements	0.01μF to 15.00μF	± (15% rdg + 0.03μF)
Live circuit indicator	30V to 600V AC/DC, 50/60Hz	± (5% + 2V)
Timer increments; indicated to within 1 second	1 to 99 minutes; settable in 1 minute	
Ramp	0% to 100% of selected test voltage, or until breakdown.	

Included Accessories

Test leads, 5000 V-rated probes, Alligator clips, Interface cable
Quicklink 1550B PC software, soft carrying case with water-proof bottom, instruction manual

Ordering Information

Fluke 1550B MegOhmMeter

Operating Temperature: -20°C to 50°C
Storage Temperature: -20°C to 65°C
Relative humidity: 80% at 31°C, 50% at 50°C
Dust/water resistance: IP40
Operating Altitude: 0 to 2,000 mtrs.

Batteries: 12 volt, lead-acid, rechargeable
Size (HxWxD): 170 mm x 242 mm x 330 mm
Weight: 4 kg (with battery)
Two Year Warranty

1520 MegOhmMeter



Fluke 1520



LISTED



Insulation testing you can depend on

The Fluke 1520 MegOhmMeter is a handy insulation resistance tester that also measures voltage and checks connections with its Lo-Ohms function.

- Large, backlit LCD with analog bar graph and digital display
- Three output voltages for insulation resistance testing: 250V, 500V, 1000V
- Insulation resistance testing up to 4000 MΩ; switches automatically to voltage measurement when voltage is greater than 30V AC or 30V DC.
- ac/dc voltage measurement up to 600V

- Lo-Ohms function for testing connections
- Last reading memory display
- 4 C-cell batteries for up to 5,000 tests per EN61557-2, with battery-life indicator and auto shut-off.
- Autodischarge of capacitive voltage charges
- Rugged, splash-proof case with impact absorbing holster

Specifications

Function	Range	Accuracy	Resolution
Insulation Resistance			
Auto ranges	4.000 MΩ, 40.00 MΩ, 400.0 MΩ, 4000 MΩ	To 100 MΩ: 2% + 2 counts over 100 MΩ: 10% + 2 counts + 1%/GSΩ	0.001 MΩ to 10 MΩ
Test voltages	250V, 500V, 1000V	+ 20%, - 0%	
Max. measurement current	1 mA		
Audible/visible voltage warning	≥30V ac or dc		
Lo-Ohms			
Resistance	0 to 40.00Ω	2% + 2 counts	0.01Ω
Analog bar graph	0 to 100Ω		
Audible/visible voltage warning	≥30V ac or dc		
Resistance			
Resistance	4 kΩ	2% + 2 counts	1Ω
Analog bar graph	0 to 10kΩ		
Voltage			
Voltage	0 to 600V ac (50/60 Hz)	2% + 2 counts	1V

Operating Temperature: -10°C to +50°C

Storage Temperature: -40°C to +70°C

Humidity (Without Condensation):

75% RH (40°C)

Dust/ water resistance: IP42 per IEC 529

Operating Altitude: 2,500 meters

Batteries: 4 C size 1.5V alkaline

Size (HxWxD): 241 mm x 108 mm x 72 mm

Weight: 1.1 kg

Three Year Warranty

Included Accessories

TL27 heavy duty test leads, TP74 lantern tip test probes, AC285 large jaw alligator clips, protective holster with hand strap, C43 carrying case, instruction manual

Ordering Information

Fluke 1520 MegOhmMeter

Recommended Accessories



SH100
See page 85



TL223
See page 76



TPAK
See page 86



L210
See page 87



TL27
See page 76

1503/1507 Insulation Testers

New



Fluke 1503



Fluke 1507



The cost effective solution to insulation testing

When you need a low cost solution to general purpose insulation testing look no further than the new Fluke insulation tester range. The Fluke 1507 and 1503 Insulation Testers are compact, rugged, reliable and easy to use.

The multiple test voltages on both models make them ideal for many troubleshooting, commissioning and preventive maintenance applications. Additional features like the remote probe save both time and money when performing tests.

Features

	1503	1507
User selectable test voltages for many applications	●	●
Special remote control probe for easy and safe measurements	●	●
Auto-discharge of capacitive voltage for added user protection	●	●
Live circuit detection prevents insulation test if voltage > 30 V is detected for added user protection	●	●
Save both time and money with Automatic calculation of Polarization Index and Dielectric Absorption Ratio		●
Auto Power off to save batteries	●	●
Large display with backlight	●	●
Continuity function (200 mA)	●	●
Compare function (pass/fail) for fast repetitive tests		●

Specifications

Insulation specifications	1503	1507
Insulation test range	0.1 MΩ to 2 GΩ	0.01 MΩ to 10 GΩ
Test voltages	500 V, 1000 V	50 V, 100 V, 250 V, 500 V, 1000 V
Test voltage accuracy	+ 20 %, - 0 %	+ 20 %, - 0 %
Insulation test current	1mA nominal	1mA nominal
AC/DC Voltage measurement	600 V (0.1 V resolution)	600 V (0.1 V resolution)
Resistance measurement range	0.01 Ω to 20 kΩ	0.01 Ω to 20 kΩ
Auto discharge	Discharge time < 0.5 second for C = 1 μF or less	Discharge time < 0.5 second for C = 1 μF or less
Maximum capacitive load	Up to 1 μF	Up to 1 μF
Open circuit test voltage	> 4 V, < 8 V	> 4 V, < 8 V
Short circuit current	> 200 mA	> 200 mA

Battery life: Insulation Test: > 1000 tests
Size (HxWxD):
 203 mm x 100 mm x 50 mm

Weight: 0.55 kg
One Year Warranty

Included Accessories

- TP165x Remote Test Probe
- TL224 SureGrip Silicone Test Lead Set
- TP74 Lantern Tip Test Probe Set
- Alligator clips

Ordering Information

- Fluke 1503 Insulation Tester
- Fluke 1507 Insulation Tester

Recommended Accessories



C101
See page 85



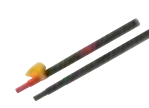
TPAK
See page 86



TLK 225
See page 76



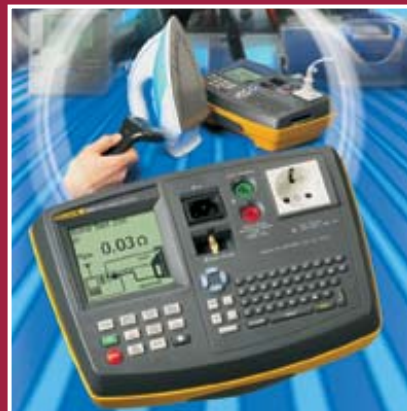
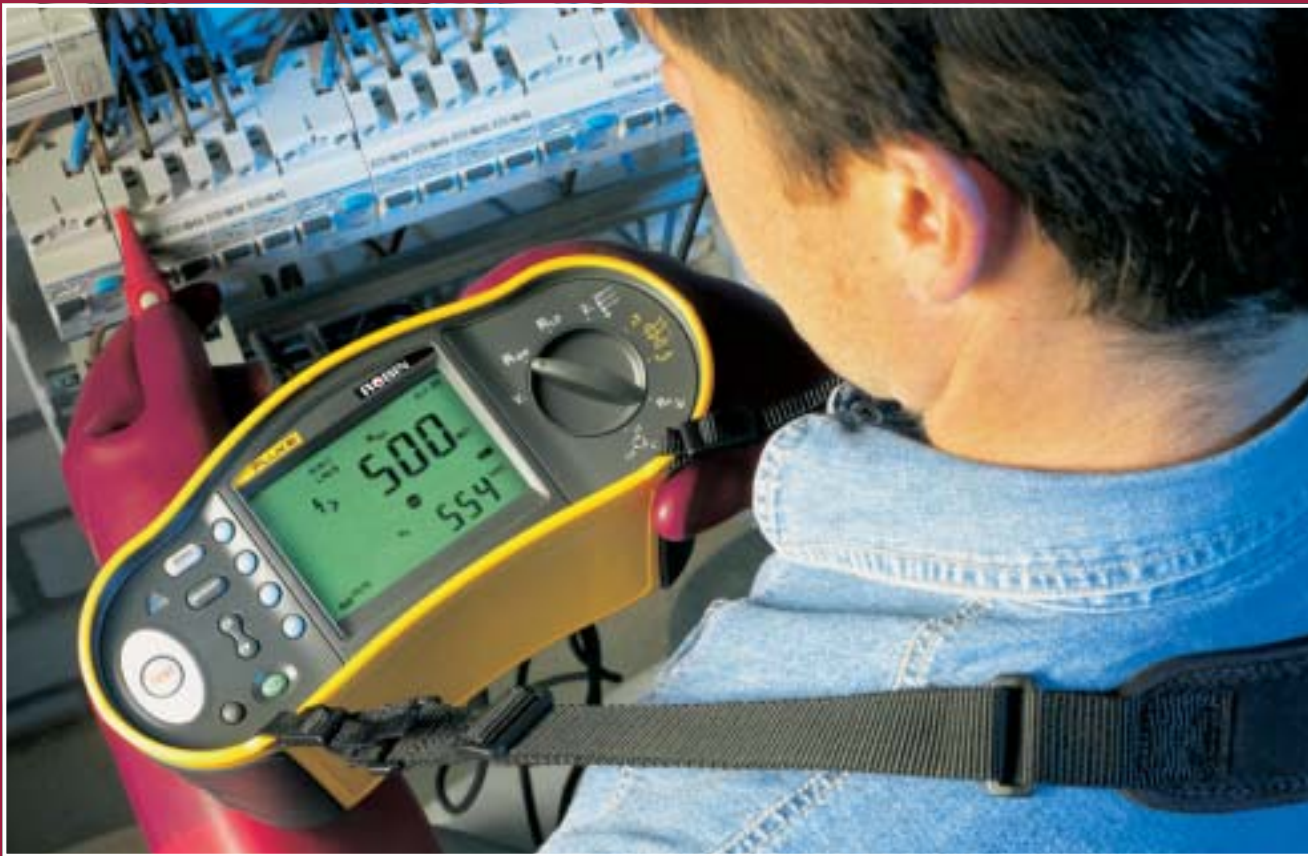
AC285
See page 77



L210
See page 87

Installation Testers

Our multifunction testers have redefined the standards for ease-of-use. Designed for ensuring fixed wiring is installed according to IEC 60364, they perform all tests required to verify safety. Our Portable Appliance Testers verify the safety and operation of portable appliances, and are designed for 'one-touch' operation and a fast throughput.



1650 Series Multifunction Installation Testers

FLUKE®



Fluke 1653



Fluke 1652



Fluke 1651

The future of installation testing is here

The Fluke 1650 Series testers verify the safety of electrical installations in domestic, commercial and industrial applications. They can ensure that fixed wiring is safe and correctly installed to meet the requirements of IEC 60364,

HD 384 and all relevant local standards. The unique ergonomic design, low weight and padded neck-strap to free your hands, make operating a Fluke 1650 multifunction tester a pleasure. With easy-to-operate controls and large display with exceptionally wide viewing angle, it's also comfortable and safe to use.

- **Easy:** simply turn the knob, press the button and see the results

- **Efficient:** measure loop impedance without tripping RCDs, eliminating the need to bypass them
- **Rugged:** withstands a one-meter drop for demanding field use
- **Safe:** slim probe with test button keeps your eyes on the panel while probing hard to reach points
- **Comfortable:** compact and lightweight (less than 1.2 kg) for all day testing
- **Compliant:** meets all relevant standards including EN 61557 and VDE 0413

Rotary knob labeling is available in six versions. Select from English, French, German, Italian, Spanish or a user-friendly Symbols version.



BS7671 16th Edition IEE Wiring Regulations IEC 60364.6.61, HD 384

Features

Measurement functions	1651	1652	1653
Voltage & Frequency	●	●	●
Wiring polarity	●	●	●
Insulation Resistance	500, 1000 V	250, 500, 1000 V	50, 100, 250, 500, 1000 V
Continuity	●	●	●
Loop & Line Resistance	●	●	●
PFC/PSC (short-circuit current)	●	●	●
RCD tripping time	●	●	●
RCD tripping current level		●	●
Automatic RCD test sequence		ramp test	ramp test
Test of pulse sensitive RCD's		●	●
Earth Resistance			●
Phase Sequence Indicator			●
Other features			
Self-test	●	●	●
EN 61557*/VDE 0413 compliant	●	●	●
Illuminated Display	●	●	●
Line voltage indicator	●	●	●
Battery indicator and battery test function	●	●	●
Memory, Interface			
Memory (500 measurements)			●
Computer interface			●
Time stamp (with FlukeView® Forms)			●
Software			option

* 1651: sections 1, 2, 3, 4, 6, 10
1652: sections 1, 2, 3, 4, 6, 10
1653: sections 1, 2, 3, 4, 5, 6, 7, 10

Included Accessories

TP165X Remote Control Probe
TL165X STD Standard Test Lead Set
C1600 Hard Carrying Case
Mains Test Cord
Padded Carrying Strap
Quick Reference Guide
6 AA Cell batteries

Ordering Information

Fluke 1651 Multifunction Installation Tester
Fluke 1652 Multifunction Installation Tester
Fluke 1653 Multifunction Installation Tester

Recommended Accessories



MTC1363 (UK)
Mains Test Cord



MTC77 (Europe)
Mains Test Cord



ES165X (1653)
Earth Spike Test Kit



FVF-SC2 (1653)
See page 86

1650 Series Multifunction Installation Testers

FLUKE®

The future of installation testing is here

Specifications



Slim probe design

Thanks to its slim probe with integral test button, you can safely make one-handed measurements on hard to reach points, while keeping your eyes on the panel.



Professional reports

Up to 500 test results can be stored in the 1653 installation tester. The data stored for each measurement consists of the test function, user selectable test conditions and unique references. Model 1653 has an IR port and adaptor to enable the results to be uploaded to a computer for preparing professional reports using (optional) FlukeView® Forms software.



Complete kit

All 1650 models are equipped with detachable leads that can be replaced in case of damage or loss. A durable hard case will protect your instrument in tough field conditions. A probe with built-in test button comes with every instrument.

AC Voltage Measurement					
Range	Resolution	Accuracy 50 Hz – 60 Hz	Input Impedance	Overload Protection	
500 V	0.1 V	0.8% + 3	3.3 MΩ	660 Vrms	
Continuity Testing					
Range (autoranging)	Resolution	Test Current	Open Circuit Voltage	Accuracy	
20 Ω	0.01 Ω	> 200 mA	> 4 V	± (1.5%+3 digits)	
200 Ω	0.1 Ω				
2000 Ω	1 Ω				
Insulation Resistance Measurement					
Model	Test Voltage	Insulation Resistance Range	Resolution	Test Current	Accuracy
1653	50 V	10 kΩ to 50 MΩ	0.01 MΩ	1 mA @ 50 kΩ	± (3%+ 3 digits)
1653	100 V	100 kΩ to 20 MΩ 20 MΩ to 100 MΩ	0.01 MΩ 0.1 MΩ	1 mA @ 100 kΩ	± (3%+ 3 digits) ± (3%+ 3 digits)
1653, 1652	250 V	100 kΩ to 20 MΩ 20 MΩ to 200 MΩ	0.01 MΩ 0.1 MΩ	1 mA @ 250 kΩ	± (1.5%+ 3 digits)
1653, 1652, 1651	500 V	100 kΩ to 20 MΩ 20 MΩ to 200 MΩ 200 MΩ to 500 MΩ	0.01 MΩ 0.1 MΩ 1 MΩ	1 mA @ 500 kΩ	± (1.5%+ 3 digits) + 10%
1653, 1652, 1651	1000 V	100 kΩ to 200 MΩ 200 MΩ to 1000 MΩ	0.1 MΩ 1 MΩ	1 mA @ 1 MΩ	± (1.5%+ 3 digits) + 10%
Loop Impedance Measurement					
Range	Resolution		Accuracy		
20 Ω	0.01 Ω		± (3% + 10 digits)		
200 Ω	0.1 Ω				
2000 Ω	1 Ω				
PFC. PSC Test					
Range	0 to 50 kA				
Resolution and Units	$I_K < 1000 \text{ A}$		1 A		
	$I_K \geq 1000 \text{ A}$		0.1 kA		
Accuracy	Determined by accuracy of loop resistance and mains voltage measurements				
RCD Testing					
RCD Type		1651	1652	1653	
¹ AC	² G	●	●	●	
AC	³ S	●	●	●	
⁴ A	G		●	●	
A	S		●	●	
¹ AC – responds to AC ² G – General, no delay ³ S – Time delay ⁴ A – Responds to pulsed signal					
Tripping Time Test (ΔT)					
Current Settings		Multiplier	Test Current Accuracy	Trip Time Accuracy	
10, 30, 100, 300, 500, 1000 mA		x 1/2	± 0% - 10%	± (1% Reading + 1 digit)	
10, 30, 100, 300, 500, 1000 mA		x 1	± 10% - 0%	± (1% Reading + 1 digit)	
10, 30 mA		x 5	± 10%	± (1% Reading + 1 digit)	
Tripping Current (Ramp) Test – Fluke 1653 and 1652 only					
Current Range	Step size	Dwell time		Trip Current Measurement Accuracy	
50% to 110% of RCD's rated current	10% of I _{ΔN}	Type G	Type S	± 5%	
		300 ms/step	500 ms/step		
Earth Resistance Test (R _E) – Fluke 1653 only					
Range	Resolution		Accuracy		
200 Ω	0.1 Ω		± (2%+ 5 digits)		
2000 Ω	1 Ω		± (3.5%+ 10 digits)		

Battery type: Alkaline supplied, usable with 1.2 V NiCD or NiMH rechargeable batteries
Size (HxWxD): 100 mm x 250 mm x 125 mm

Weight: 1.17 kg
Three Years Warranty

6000 Series PAT Testers

New



Fluke 6200



Fluke 6500

Also available with European mains socket.



Portable appliance testing The low weight, small size, one-touch solution

The Fluke 6200 and 6500 PAT testers verify the electrical safety and operation of portable appliances in accordance with relevant guidelines and regulations. With powerful auto test capabilities and simplified controls they increase the number of tests you can perform per day without compromising results.

A choice of automatic and manual PAT testers

Both models perform all the tests required for class I and class II appliances. For manual testing and low volume applications, choose the cost-effective 6200 PAT model. If you need a more powerful instrument to test large numbers of appliances, the 6500 is the right choice.

Fluke simplifies portable appliance testing

- Compact and lightweight... Efficient to work with and easy to carry around – and has extra space in the hard case for accessories.
- One touch simplicity... Pre-set and user-definable test routines are initiated from a single button – to speed up test procedures and save you time on site.
- A better way of working... Rapid data entry via a QWERTY keyboard (or optional Fluke barcode scanner) and fast data transfer from the main memory or the Compact Flash memory card (6500).

6200

- Dedicated key for each test for 'one-touch' testing
- Pre-set pass/fail levels to save time
- Large backlit display for easy reading

6500

- As 6200 but also with:*
- Integral QWERTY keyboard for rapid data entry
 - Additional Compact Flash memory card for back-up data storage and transfer to PC
 - Pre-set, auto-test sequences for user convenience

Features

Measurement functions	6200	6500
L N Mains Volts	●	●
Outside Limits Indicators	●	●
Null out facility for earth bond lead	●	●
Protective Earth Resistance PE (200mA)	●	●
Protective Earth Resistance PE (25A)	●	●
Insulation 500V dc	●	●
Protective Earth Conductor Current	●	●
Touch Current	●	●
Substitute Leakage Current	●	●
Appliance Power kVA	●	●
Appliance Load Current	●	●
Seven Segment Custom LCD	●	
Graphical LCD		●
Back Light	●	●
Compact Flash Card receptacle		●
Serial Port - Printing / Downloading	●	●
External printer output	●	●
Front Panel QWERTY Key pad		●
IEC Lead Test	●	●
Auto-testing		●
Pass / Fail Level Programmable Indicators		●
Data Storage		●
Limited Data Storage	●	
Polarity Checks	●	●
Graphical Help Menu On Line		●
Programme Mode		●
Real time clock		●
Front panel results management		●
230V Schuko Test socket / 230V Mains Schuko input power plug	●	●

Included Accessories

Test lead, Test probe, Crocodile clip, Mains cord

Ordering Information

Fluke 6200 PAT Tester
Fluke 6500 PAT Tester

Not available in all countries

6000 Series PAT Testers



Separate hard case

The compact Fluke PAT testers are supplied with a hard carrying case that not only offers protection during transit but also includes extra storage space for accessories and other tools. They're extremely light, weighing approximately 3 kg (without case) and have integral carrying handles for extra convenience.



Special PAT Kit

If you need a complete PAT tester solution, a purpose made kit is available.

Fluke 6500/UK Kit Contains:

- 6500, Mainframe
- EXTL 100, Extension lead test adaptor
- SP Scan 15, Barcode scanner
- Fluke PowerPat Plus
- Pass 560R, Appliance pass labels
- Fail 100S, Appliance fail labels APP 1000, Barcode appliance number labels

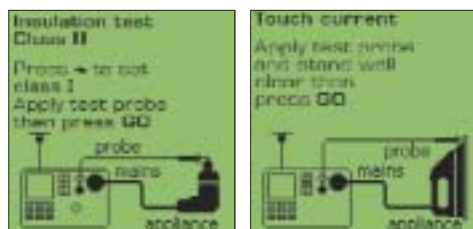
(Kit contents may vary per country)

Display Screens



Substitute Leakage Current Test

Earth Bond Test (Rpe)



Insulation Test (Riso)

Touch Current Test

Size (HxWxD): 200 mm x 275 mm x 100 mm

Weight: 3 kg

Two Years Warranty

Specifications

The accuracy specification for the display range is defined as \pm (%reading + digit counts) at 23 °C \pm 5 °C, \leq 75 % RH. Between 0 °C and 18 °C and between 28 °C and 40 °C, accuracy specifications may degrade by 0.1 x (accuracy specification) per °C. The measurement range meets the service operating errors specified in EN61557-1: 1997, EN61557-2: 1997, EN61557-4: 1997.

Power-on Test

The test indicates reversed L-N, missing PE, and measures the mains voltage and frequency.

Display Range	90 V to 264 V
Accuracy at 50 Hz	\pm (2% + 3 counts)
Resolution	0.1 V (1V - model 6200)
Input Impedance	> 1 M Ω // 2.2 μ F
Maximum Input Mains Voltage	300 V

Earth Bond Test (Rpe)

Display Range	0 to 19.99 Ω
Accuracy (after Bond Test zeroing)	\pm (5% + 2 counts)
Resolution	0.01 Ω
Test Current	200 mA ac -0% +40% into 1.99 Ω 25 A ac \pm 20% into 25 m Ω at 230 V
Open Circuit Voltage	> 4 V ac, < 24 Vac
Bond Test Zeroing	can subtract up to 1.99 Ω

Insulation Test (Riso)

Display Range	0 to 299 M Ω
Accuracy	\pm (5% + 2 counts) from 0.1 to 50 M Ω \pm (10% + 2 counts) from 50 to 299 M Ω
Resolution	0.01 M Ω (0 to 19.99 M Ω) 0.1 M Ω (20 to 199.9 M Ω) 1 M Ω (200 to 299M Ω)
Test Voltage	500 V dc -0% +25% at 500 k Ω load
Test Current	>1 mA at 500 k Ω load, < 15 mA at 0 Ω
Auto discharge time	< 0.5 s for 1 μ F
Max. Capacitive Load	operational up to 1 μ F

Touch Current Test

Display Range	0 to 1.99 mA ac
Accuracy	\pm (4% + 2 counts)
Resolution	0.01 mA
Internal Resistance (via probe)	2 k Ω
Measuring method	Probe

The appliance under test is energized at mains potential.

Substitute Leakage Current Test

Display Range	0 to 19.99 mA ac
Accuracy	\pm (5% + 5 counts)
Resolution	0.01 mA
Test Voltage	35 V ac \pm 20%

Load/Leakage Test: Load Current

Display Range	0 to 13 A
Accuracy	\pm (4% + 2 counts)
Resolution	0.1 A

The appliance under test is energized at mains potential.

Load/Leakage Test: Load Power

Display Range	0 to 999 VA 1.0 kVA to 3.2 kVA
Accuracy	\pm (5% + 3 counts)
Resolution	1 VA (0 to 999 VA) 0.1 kVA (1.0 kVA to 3.2 kVA)

The appliance under test is energized at mains potential.

Load/Leakage Test: Leakage Current

Display Range	0 to 19.99 mA
Accuracy	\pm (4% + 2 counts)
Resolution	0.01 mA

The appliance under test is energized at mains potential.

PELV Test

Accuracy at 50 Hz	\pm (2% + 3 counts)
Overload protection	300 Vrms
Warning threshold	25 Vrms

Recommended Accessories



Fluke PowerPat Plus software

SP1000-02 Mini printer

SP-SCAN-15 Barcode scanner (6500 Fluke only)

EXTL100-02 Extension Test Lead Adapter

PASS Appliance 560R Pass Labels

Indoor Air Quality Tools

In response to growing attention on air quality in public buildings, workplaces and homes, Fluke has introduced a range of instruments to help troubleshoot, diagnose and fix problems. There is a Temperature Humidity Meter, a Carbon Monoxide Meter, a Carbon Monoxide Probe for use with multimeters, and a 6-channel Particle Counter.



971 Temperature Humidity Meter Carbon Monoxide Meters

FLUKE®



Fluke 971

Fluke 971 Temperature Humidity Meter

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

- Simultaneously measures humidity and temperature
- Measures dew point and wet bulb
- 99 record storage capacity
- Min/Max/Avg Data Hold
- Ergonomic design with built-in belt clip and protective holster
- Backlit, dual readings display
- Twist-open protective cap
- Low battery indicator

Specifications

Temperature range	-20 °C to 60 °C
Temperature accuracy	
0 °C to 45 °C	± 0.5 °C
-20 °C to 0 °C and 45 °C to 60 °C	± 1.0 °C
Resolution	0.1 °C
Response time (temperature)	500 ms
Temperature sensor type	NTC
Relative humidity range	5% to 95% R.H.
Relative humidity accuracy	
10 % to 90 % R.H. @ 23 °C	± 2.5 % R.H.
<10 %, > 90 % R.H. @ 23 °C	± 5.0 % R.H.
Humidity sensor	Electronic capacitance polymer film sensor
Data storage	99 points
Response time (humidity)	For 90% of total range – 60 sec with 1 m/s air movement

Operating temperature:

Temperature: -20 °C to 60 °C

Humidity: 0 °C to 60 °C

Storage temperature: : -20 °C to 55 °C

Battery life: 4 AA alkaline, 200 hours

Safety: Complies with EN61326-1

Weight: 0.188 kg

Size (HxWxD): 194 mm x 60 mm x 34 mm

One Year Warranty

Included Accessories

Fluke CO-220 + CO-210

C50 soft carrying case and battery

CO-210

cord to plug into a digital multimeter

Ordering Information

Fluke 971 Temperature Humidity Meter

Fluke CO-220 Carbon Monoxide Meter

CO-205 Aspirator Kit

CO-210 Carbon Monoxide Probe

Carbon Monoxide Meters

CO-220 Carbon Monoxide Meter

The CO-220 Carbon Monoxide Meter makes it easy to take quick and accurate measurements of CO levels. A large, backlit LCD display shows CO levels from 0 to 1000 PPM. The MAX Hold function stores and displays the maximum CO level. 1 year warranty.



Fluke CO-220

CO-210 Carbon Monoxide Probe

As an accessory to a digital multimeter with dc mV inputs, the Fluke CO-210 displays CO levels from 0 to 1000 PPM. As a standalone device, the LED indicator and beeper trigger with increasing frequency as the CO level rises. 1 year warranty.



Fluke CO-210

CO-205 Aspirator Kit

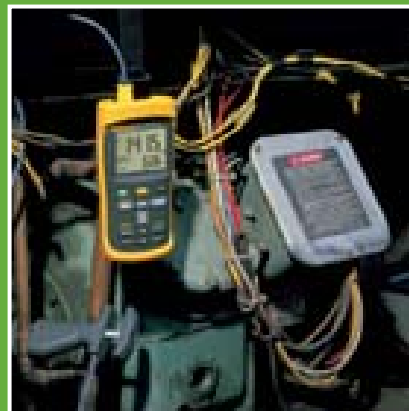
Allows flue gas samples up to 371°C to be drawn with the CO-210 or CO-220 for carbon monoxide measurement. 1 year warranty.



Fluke CO-205

Digital Thermometers

For troubleshooting systems where temperature is a critical symptom, our digital thermometers provide you with laboratory accuracy wherever you need it. We offer a choice of non-contact, laser-guided infrared thermometers for safely getting at hard-to-reach, electrically live or particularly hot targets, and contact thermometers with a full range of thermocouple probes.



60 Series Infrared Thermometers

FLUKE®



Fluke 68

Fluke 66

Fluke 63

Fluke 62

New

Fluke 65

Fluke 61

The Fluke FoodPro™ thermometer series provide advanced temperature measurement solutions for the foodservice industry. Check the Fluke web for more information.

Point, press and read temperature

The Fluke 60 Series non-contact thermometers are the ideal professional diagnostic tools for quick and accurate temperature measurements.

These handheld tools are ideal for measuring surface temperatures of rotating, hard-to-reach, electricity live or dangerously hot targets like electrical motors and – panels, and heating and ventilation systems. The laser sighting system guides measurements to the right target and in less than a second, the large temperature display provides a readout of the surface temperature.

The 60 Series IR thermometers feature:

- Laser guided sighting system for easy targeting with 1% accuracy
- Up to 12 points datalogging with Min, max average functions
- Up to 50:1 optical resolution
- Choice between models with fixed or adjustable emissivity
- Backlit display for easy reading in the dark
- Temperatures up to 760°C

Features

	61	62	63	65	66	68
Form factor	Flat grip	Pistol grip	Pistol grip	Flat grip	Pistol grip	Pistol grip
Temperature range	-18 to 275°C	-30 to 500 °C	-32 to 535°C	-40 to 500°C	-32 to 600°C	-32 to 760°C
Optical resolution	8:1	10:1	12:1	8:1	30:1	50:1
Laser beam for accurate targeting	●	●	●	●	●	●
Backlit LCD display	●	●	●	●	●	●
Use selectable °C or °F	●	●	●	●	●	●
MIN/MAX/AVG/DIF readings		Max	MAX only	Min/Max/avg only	●	●
Datalogging				●	●	●
Hi/Lo Alarm					●	●
Adjustable emissivity					●	●

Specifications

	61	62	63	65	66	68
Range	-18 to 275°C	-30 to 500 °C	-32 to 535°C	-40 to 500°C	-32 to 600°C	-32 to 760°C
Response time	< 1 second	<500ms (95 % of reading)	≤ 0.5 second	<1 second	≤ 0.5 second	≤ 0.5 second
Resolution	0.2°C	0.2°C	0.2°C	0.1°C to 200°C, 1°C over 200°C	0.1°C	0.1°C
Repeatability (% of reading)	± 2% or ± 2°C*	±0.5% or ±1°C*	± 0.5% or ≤ ± 1°C*	± 1% or ± 1°C*	± 0.5% or ± 1°C*	± 0.5% or ≤ ± 1°C*
Accuracy: (assumes ambient operating temperature of 23°C)	For targets at: -18 to -1°C: ± 3°C -1 to 275°C: ± 2% of reading or ± 2°C*	For targets at: -32 to -26°C: ± 3°C ± 1.5% of reading or ± 1.5°C whichever is greater over the balance of the range	For targets at: -32 to -26°C: ± 3°C -26 to -18°C: ± 2.5°C -18 to 23°C: ± 2°C 23°C -510°C: ± 1% of reading or ± 1°C* For targets above 510°C: ± 1.5% of reading	For targets at: -40 to 0°C: ± 5°C 0 to 100°C: ± 2°C 100 to 500°C: ± 2% of reading	For targets at: -32 to -26°C: ± 3°C -26 to -18°C: ± 2.5°C -18 to 23°C: ± 2°C For targets above 23°C: ± 1% of reading or ± 1°C*	For targets at: -32 to -26°C: ± 3°C -26 to -18°C: ± 2.5°C -18 to 23°C: ± 2°C For targets above 23°C: ± 1% of reading or ± 1°C*
Typical distance to target	Up to 1 m	Up to 1.5 m	Up to 2 m	Up to 1 m	5 m	8 m
Emissivity	Fixed at 0.95	Pre-set to 0.95	Fixed at 0.95	Fixed at 0.95 from 0.1 to 1.0 by 0.01	Digitally adjustable from 0.1 to 1.0 by 0.01	Digitally adjustable

* whichever is greater

Battery Life:

Fluke 66 and 68: 20 hours with laser and backlight on 50%
 Fluke 65: 15 hours with laser and backlight on
 Fluke 63: 10 hours with laser and backlight on
 Fluke 62: 12 hours with laser and backlight on
 Fluke 61: 12 hours with laser and backlight on

Size (HxWxD):

Fluke 63, 66 and 68: 200 mm x 160 mm x 55 mm
 Fluke 65: 185 mm x 64 mm x 38 mm
 Fluke 62: 152 mm x 101 mm x 38 mm
 Fluke 61: 184 mm x 45 mm x 38 mm

Weight:

Fluke 63, 66 and 68: 0.320 kg
 Fluke 65: 0.284 kg
 Fluke 62: 0.200 kg
 Fluke 61: 0.227 kg

Fluke 62: 2 years

Other models: one year warranty

Included Accessories

Fluke 61: 9V Battery
 Fluke 62: 9V Battery, storage holster
 Fluke 63, 66 and 68: Hard carrying case, 9V batteries
 Fluke 65: C50 Soft carrying case and 2 AA batteries

Ordering information

Fluke 61 Infrared Thermometer
 Fluke 62 Mini Infrared Thermometer
 Fluke 63 Infrared Thermometer
 Fluke 65 Infrared Thermometer
 Fluke 66 Infrared Thermometer
 Fluke 68 Infrared Thermometer

Recommended Accessories



C23
See page 85



80PR-60
See page 83



H6
See page 85

50 Series II Thermometers



Fluke 54 II



Fluke 51 II



Fluke 52 II



Fluke 53 II



Included Accessories

- Impact absorbing holster
- Two bead probe thermocouples 80PK-1 (54+52)
- One bead probe thermocouple 80PK-1 (51+53)

Ordering Information

- Fluke 51 II Thermometer
- Fluke 52 II Thermometer
- Fluke 53 II Thermometer
- Fluke 54 II Thermometer
- FVF-SC1 FlukeView Forms Software including interface cable

Laboratory accuracy. Wherever you go.

The Fluke 50 Series II contact thermometers offer fast response and laboratory accuracy (0.05% + 0.3°C) in a rugged handheld test tool.

- Large backlit dual display shows any combination of T₁, T₂ (52 and 54 only), T₁-T₂ (52 and 54 only) plus MIN, MAX, or AVG
- Relative time clock on MIN, MAX, and AVG provides a time reference for major events
- Electronic Offset function allows compensation of thermocouple errors to maximize overall accuracy
- Readout in °C, °F, or Kelvin (K)
- Sleep mode increases battery life
- Battery door allows easy battery replacement without breaking the calibration seal

Additional features for the 53 and 54 Series II:

- Data Logging up to 500 points of data with user adjustable recording interval
- Real time clock captures the exact time of day when events occur
- Recall function allows logged data to be easily reviewed on the meter display
- IR communication port allows data to be exported to optional FlukeView® Temperature PC software

Features

	51 II	52 II	53 II	54 II
Thermocouple types	J,K,T,E	J,K,T,E	J,K,T,E,N,R,S	J,K,T,E,N,R,S
Number of inputs	Single	Dual	Single	Dual
Time stamp	Relative Time	Relative Time	Time of Day	Time of Day
Splash/Dust resistant	●	●	●	●
Dual display with backlight	●	●	●	●
Min/Max/Avg recording	●	●	●	●
(T ₁ -T ₂) True differential		●		●
Data logging up to 500 points			●	●
IR data port for interface to PC			●	●
Compatible with optional FlukeView Software			●	●

Specifications

Temperature range:			
J-type Thermocouples		-210°C to 1200°C	(-346°F to 2192°F)
K-type Thermocouples		-200°C to 1372°C	(-328°F to 2501°F)
T-type Thermocouples		-250°C to 400°C	(-418°F to 752°F)
E-type Thermocouples		-150°C to 1000°C	(-238°F to 1832°F)
N-type** Thermocouples		-200°C to 1300°C	(-328°F to 2372°F)
R** and S-type** Thermocouples		0°C to 1767°C	(32°F to 3212°F)
Temperature accuracy			
Above -100°C (-148°F):			
J, K, T, E, and N-type**		± [0.05% + 0.3°C (0.5°F)]	
R** and S-type**		± [0.05% + 0.4°C (0.7°F)]	
Below -100°C (-148°F):			
J, K, E, and N-types		± [0.20% + 0.3°C (0.5°F)]	
T-type		± [0.50% + 0.3°C (0.5°F)]	

**Only the Fluke Models 53 and 54 Series II thermometers are capable of measuring N, R, and S-type thermocouples.

Battery life: 1000 hours typical, AA
Size (HxWxD): 173 x 86 x 38 mm

Weight: 0.4 kg
Three Year Warranty

Recommended Accessories



C25
See page 84



80PK-26
See page 82



80PK-25
See page 82



FVF-SC1
See page 86



TPAK
See page 86

General Accessories

The best test tools deserve accessories designed and manufactured to the same high quality and safety standards. So we also provide a comprehensive range of test leads, probes and clips, current clamps, temperature accessories and dedicated electronic and automotive accessories. And to protect your valuable instrument, choose a rugged Fluke tailor-made holster or case.



Industrial Test Leads, Probes & Clips

FLUKE®

Test Leads

TL71 Premium Test Lead Set

- One pair (red, black) comfort grip probes with silicone insulated, right-angle test leads
- Recommended for μ V measurements
- CAT IV 600 V, CAT III 1000 V, 10 A rating. UL listed



TL75 Hard Point™ Test Lead Set

- One pair (red, black) comfort grip probes with PVC insulated, test leads with right-angle shrouded banana plugs
- Recommended for general purpose measurements
- CAT IV 600 V, CAT III 1000 V, 10 A rating. UL listed



TL76 All-in-one Test Lead Set

- One pair (red, black) 1.5 meter long silicone test leads with right angle shrouded banana plug
- Lantern tip (removable) for use with European wall sockets (4 mm \varnothing)
- Lantern tip can be removed for easy access to terminal blocks (2 mm \varnothing)
- Removable, insulated IC caps allow probing on closely spaced leads and compliance with GS38.
- Cat IV 600 V, CAT III 1000 V, 10 A rating, UL listed



Modular Test Leads

TL221 SureGrip™ Extension Lead Set

- One pair (red, black) of silicone insulated leads with straight connectors on both ends
- Reinforced strain relief
- Includes one pair (red, black) of female couplers
- Extends test leads by 1.5 m
- 600 V CAT IV, 1000 V CAT III, 10 A rating. UL listed



TL222 SureGrip™ Silicone Test Lead Set

- DMM test leads (red, black) with safety shrouded, standard diameter banana plugs
- Right angle connector on both ends
- Reinforced strain relief
- 1.5 meter silicone-insulated wire resists heat & cold
- CAT IV 600 V, CAT III 1000 V, 10 A rating. UL listed



TL224 SureGrip™ Silicone Test Lead Set

- DMM test leads (red, black) with safety shrouded, standard diameter banana plugs
- Right angle connector on one end and straight connector on the other
- Reinforced strain relief
- 1.5 meter silicone-insulated wire resists heat & cold
- CAT IV 600 V, CAT III 1000 V, 10 A rating. UL listed



TL27 Heavy Duty Test Lead Set

- DMM test leads (red, black) with safety shrouded, standard diameter banana plugs
- Heavy duty EPDM insulation
- Length 1.5 m
- CAT III 1000 V, 10 A rating. UL listed



Kits

TL220 SureGrip™ Industrial Test Lead Kit

Handy all-in-one kit that includes:

- AC220 SureGrip™ Alligator Clip Set
- TP220 SureGrip™ Test Probe Set
- TL222 SureGrip™ Silicone Test Lead Set (right to right)



TL223 SureGrip™ Electrical Test Lead Kit

Handy all-in-one kit that includes:

- AC220 SureGrip™ Alligator Clip Set
- TP1 Slim-Reach™ Test Probes (flat bladed)
- TL224 SureGrip™ Silicone Test Lead Set (straight to right)



TL238 SureGrip™ High Energy Test Lead Kit

Kit includes:

- TP238 SureGrip™ Insulated Tip Test Probes with less than 4 mm of exposed metal (GS38) with flexible removable finger banner
- TP280 20 cm Test Probe Extenders
- TL224 SureGrip™ Silicone Test Lead Set



TLK-220 EUR SureGrip™ Accessory Kit

Handy all-in-one kit that includes:

- AC220 SureGrip™ Alligator Clip Set
- AC285 SureGrip™ Large Jaw Alligator Clip Set
- TP74 Slim Reach Test Probe Set (4 mm)
- TL224 SureGrip™ Silicone Test Lead Set
- Large zippered soft case with moveable divider



TLK-225 SureGrip™ Master Accessory Kit

Kit includes all the SureGrip™ leads and probes in a handy roll-up pouch:

- AC220 SureGrip™ Alligator Clip Set
- AC280 SureGrip™ Hook Clip Set
- AC283 SureGrip™ Pincer Clip Set
- AC285 SureGrip™ Large Jaw Alligator Clip Set
- TP220 SureGrip™ Test Probe Set
- TL224 SureGrip™ Silicone Test Lead Set
- 6-Pocket Storage Pouch



SureGrip™ accessories are designed to improve steadiness in slippery hands. Rubber overmolded surfaces and finger-hugging curves give the user a comfortable, reliable grip on the accessory so they can focus on making an accurate measurement.



Industrial Test Leads, Probes & Clips

FLUKE®

Kits

ACC-T5-KIT Accessory Kit for use with T5

This kit completes the offering of a T5 with add-on probes and carrying case.

- TP220 SureGrip™ Test Probe Set
- AC285 SureGrip™ Large Jaw Alligator Clip Set
- C33 Soft Meter Case



L215 SureGrip™ Kit with Probe Light and Extender

- L200 Probe Light
- TP280 20 cm Test Probe Extenders
- TP220 SureGrip Test Probes
- TL224 SureGrip Silicon Test Lead Set
- Foldable soft pouch with six pockets and hook-and-loop



Modular Test Probes

(for use with Modular Test Leads)

TP220 SureGrip™ Test Probe Set

- One pair (red, black) of Industrial test probes
- Sharp, 12 mm stainless steel tip provides reliable contact
- Flexible finger barrier improves grip
- Recommended for use with TL222 and TL224 test leads
- CAT IV 600 V; CAT III 1000 V, 10 A rating. UL listed



TP74 Lantern Tip Test Probe Set

- One pair (red, black)
- Tips include banana-style spring contacts with nickel-plated brass ends
- CAT III 1000 V, 10 A rating. UL listed



TLK290 Test Probe Kit

- Kit includes three flexible socket probes and a large alligator clip
- To be used on three phase sockets.
- Probes have flexible width test points that fit securely in 4 to 8 mm sockets.
- CAT III 1000 V, 8 A

New



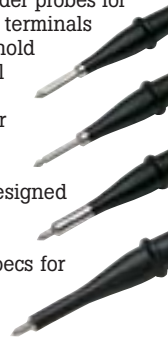
Modular Test Probes

(for use with Modular Test Leads)

TP1, TP4, TP38 SlimReach Test Probe Sets

SlimReach Test Probe Sets

- One pair (red, black) of slender probes for closely spaced or recessed terminals
- **TP1:** Flat blade design to hold securely in blade type wall sockets
- **TP2:** 2 mm diameter tip for electronics work. Also compatible with AC72.
- **TP4:** 4 mm diameter tip designed to fit into IEC wall outlets
- **TP38:** Insulated probe tip (designed to meet GS38 specs for United Kingdom).
- CAT IV 600 V, CAT III 1000 V, 10 A rating. UL listed



TP80 Electronic Test Probe Set

Recommended for use with TL222 and TL224

- One pair (red, black)
- IC insulated cap prevents shortening of IC legs for probing high density components or boards
- CAT III 1000 V, 10 A rating. UL listed



Modular Clips

(for use with Modular Test Leads)

AC220 SureGrip™ Alligator Clip Set

- One pair (red, black) of small, insulated, nickel plated jaws
- Blunt tip grabs round screw heads up to 9.5 mm
- Recommended for use with TL222 and TL224 test leads
- CAT IV 600 V, CAT III 1000 V, 10 A rating. UL listed



AC280 SureGrip™ Hook Clip Set

- One pair (red, black) of nickel plated clips
- Profile narrows to 5.6 mm at tip, hook opening 6.4 mm at front, 2 mm at base
- Recommended for use with TL222 and TL224 test leads
- CAT IV 600 V, CAT III 1000 V, 3 A rating. UL listed



AC283 SureGrip™ Pincer Clip Set

- One pair (red, black) of nickel plated pincers open to 5 mm
- 11.4 cm flexible insulated shaft
- Recommended for use with TL222 and TL224 test leads
- CAT IV 600 V, CAT III 1000 V, 1 A rating. UL listed



Modular Clips

(for use with Modular Test Leads)

AC285 SureGrip™ Large Jaw Alligator Clip Set

Large Jaw Alligator Clip Set

- One pair (red, black) of large alligator clips with nickel-plated steel jaws
- Multi-purpose tooth pattern grips anything from fine gauge wire to a 20 mm bolt
- Recommended for use with TL222 and TL224 test leads
- CAT IV 600 V; CAT III 1000 V, 10 A rating. UL listed



AC87 Heavy Duty Bus Bar Clip Set

- One pair (red, black) of flat, right angle design for connecting to bus bars
- Adjustable collar provides 2 ranges of jaw openings up to 30 mm
- CAT III 600 V, 5 A rating. UL listed



AC89 Heavy Duty Insulation Piercing Test Clip

- Single probe pierces 0.25 to 1.5 mm insulated wire
- Small pin allows self-healing of the insulation
- CAT IV 600V, CAT III 1000 V, 5 A rating. UL listed



TLK291 Fused Test Probe Set

- One pair (red, black) fused test probes
- Designed to meet GS38 specs for United Kingdom
- CAT III 1000V, 0.5A
- Fuse rating: 500 mA/1000 V/FF/50 kA



New

Push-on Clip

(for use with TL71 and TL75 Test Lead Sets)

AC72 Alligator Clip Set

- Slide-on alligator clips (red, black) for TL71/TL75
- Jaws provide 8 mm opening
- CAT IV 600 V, CAT III 1000 V, 10 A rating. UL listed



All accessories have a one year warranty

Electronic Test Leads, Probes & Clips

FLUKE®

Test Leads

TL910 Electronic Test Lead Set

- Very small 1 mm tips to access hard to reach test points
- Probe tip length up to 100 mm, test lead length: 1 m
- Included: 3 sets of spring loaded gold tips and 2 sets of stainless steel tips
- CAT IV 600 V, CAT III 1000 V, 3 A rating



TP912 Replacement Tips for TL910

- Replacement tips for TL910
- Five sets of gold plated and stainless steel tips



TL40 Retractable Tip Test Lead Set

- One pair (red, black) of test leads with sharp needle point tips adjustable to desired length from 0 to 76 mm
- Extra hard probe tips to provide long service life
- Flexible silicone insulated test leads
- CAT II 150 V, 3 A rating, UL listed



TL940 Mini-Hook Test Lead Set

- 1 pair (red, black) of test leads with multi-stacking 4 mm banana plugs and mini-hooks
- Mini-hooks attach to component leads up to 1.5 mm diameter
- 90 cm long PVC insulated leads
- 30 V rms or 60 V DC, 15 A



TL950 Mini-Pincer Test Lead Set

- 1 pair (red, black) of test leads with multi-stacking 4 mm banana plugs and mini-pincers
- Mini-pincers open to 2.3 mm
- 90 cm long PVC insulated leads
- 30 V rms or 60 V DC, 15 A



Test Leads

TL960 Micro-Hook Test Lead Set

- 1 pair (red, black) of test leads with multi-stacking 4 mm banana plugs and micro-hooks
- Micro-hooks attach to component leads up to 1 mm diameter
- 90 cm long PVC insulated leads
- 30 V rms or 60 V DC, 15 A



Patch Cords

TL930 Patch Cord Set (60 cm)

- 1 pair (red, black) multi-stacking 4 mm banana plug patch cords
- Nickel-plated banana plugs
- 61 cm long PVC insulated leads
- 30 V rms or 60 V DC, 15 A



TL932 Patch Cord Set (90 cm)

- 1 pair (red, black) multi-stacking 4 mm banana plug patch cords
- Nickel-plated banana plugs
- 90 cm long PVC insulated leads
- 30 V rms or 60 V DC, 15 A



TL935 Patch Cord Kit (60, 90, 120 cm)

- 3 sets (red and black pairs) of multi-stacking 4 mm banana plug patch cords
- Nickel-plated banana plugs
- 60 cm, 90 cm, 120 cm long PVC insulated leads
- 30 V rms or 60 V DC, 15 A



H900 Test Lead Holder

- Heavy duty construction with mounting holes
- Holder has 10 slots for wires up to 8 mm in diameter
- Over-all dimensions: 27.9 cm L x 8.9 cm W x 3.2 cm H



Kits

TP920 Test Probe Adapter Kit

- Set of push-on adapters for TL71 and TL75 test probes
- IC test adapters, extended probe tips, medium alligator clips (max. opening 7.6 mm)
- CAT II 300 V, 5 A rating



TL970 Hook and Pincer Kit

- Handy all-in-one kit that includes 3 Test Lead Sets:
- TL940 Mini-Hook Test Lead Set
- TL950 Mini-Pincer Test Lead Set
- TL960 Micro-Hook Test Lead Set



TL80A Basic Electronic Test Lead Kit

- One pair (red, black) each 1 meter long silicone test lead set, alligator clip and probe tip extender.
- C75 soft carrying case
- CAT II 300 V, UL listed



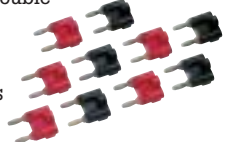
TL81A Deluxe Electronic Test Lead Kit

- Includes components of TL80, plus one pair (red, black) each modular 1 meter long silicone test lead, test probe, hook-style and pinch style clip, alligator clip, IC probe tip adapter and spade lugs
- Quadfold soft carrying case
- CAT II 300 V, UL listed



BP980 Double Banana Plug Kit

- 5 pair (red, black) of double 4 mm banana plugs
- Each plug has 3.1 mm holes for mounting wires and components
- Brass plugs/jack, beryllium copper springs
- 30 V rms or 60 V DC, 15 A



Automotive Accessories

Piercing Clips

TP81 and TP82 Insulation Piercing Clip Set

- Banana jack accepts all DMM and banana jack leads
- Available for 4 mm input, modular connection with TP81 or available as a 2 mm input to slip onto probe tips with the TP82
- Tested to 60 V DC



TP84 Oxygen Sensor Insulation Piercing Clip

- Banana jack accepts all DMM and banana jack leads (4 mm)
- Tested to 60 V DC



Probe Pins

TP88 Rigid Back Probe Pin Set

- Slides onto test probes measuring 2 mm
- Tested to 60 V DC



TP40 Automotive Back Probe Pins (five)

- Banana jack accepts all DMM and banana jack leads (4 mm)
- Tested to 60 V DC



Banana Plugs

BP880 BNC to Female Double Stacking Banana Plug

BP881 BNC to Male Double Stacking Banana Plug

- Allows for hands-free testing in controlled voltage environments 500 VRMS maximum
- Banana plug is nickel-plated, beryllium copper for low contact resistance
- The BNC shell is plated for tarnish resistance
- Operating temperature +50°C maximum



Pressure Module

PV350 Pressure Vacuum Module

- Compatible with all Fluke and most popular DMMs
- Digital pressure and vacuum measurements in a single module
- Transducer sealed in 316 stainless steel compatible with variety of liquids and gases
- Measures vacuum to 76 cm Hg
- Display results in English (psig or Hg) or metric (kPa or cm Hg) units
- Measures pressure to 500 psig (3447 kPa)



Test Leads

TL28A Automotive Test Lead Set

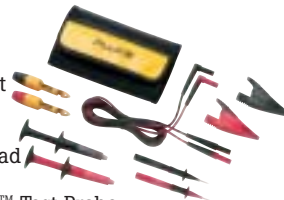
- Flexible silicone insulated leads are heat and cold resistant
- Cat I 30 V, 10 A



TLK281 SureGrip™ Automotive Test Lead Kit

Kit contains:

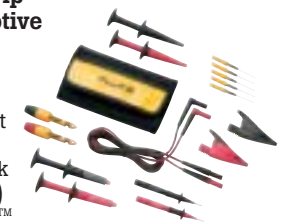
- TP81 Insulation Piercing Clip Set
- TL224 Suregrip™ Silicone Test Lead Set
- TP220 Suregrip™ Test Probe Set
- AC220 Suregrip™ Alligator Clip Set
- AC285 Suregrip™ Large Jaw Alligator Clip Set
- Soft Case



TLK282 SureGrip™ Deluxe Automotive Test Lead Kit

Kit contains:

- TP81 Insulation Piercing Clip Set
- TP40 Automotive Back Probe Pins (five)
- TL224 Suregrip™ Silicone Test Lead Set
- TP220 Suregrip™ Test Probe Set
- AC220 Suregrip™ Alligator Clip Set
- AC285 Suregrip™ Large Jaw Alligator Clip Set
- AC280 Suregrip™ Hook Clip Set
- Soft Case



TL 82 Automotive Pin & Socket Adapter Kit

This set of male and female adapters allows you to make firm connection to pin and socket connectors.

Kit contains:

- Retractable shrouded test lead set
- Complete set of 8 pin-and-socket adapters with flexible tips
- One red and black in different sizes
- Rated to 60 V DC



Current Probe

90i-610s AC/DC Current Probe (600 A)

- Current Range: 2 to 600A DC or AC Peak
- Basic Accuracy (DC to 400Hz): ± (2% of reading + 1A)
- Output Signal: 100A range: 10mV/A 600A range: 1mV/A
- Frequency Range: 40Hz to 400Hz
- Working Voltage: 600V AC rms
- Maximum Conductor Diameter: 34 mm



Inductive Pick-up

RPM80 Inductive Pick-up

- Provides RPM readings



ScopeMeter Accessory Kits

SCC128 Automotive Accessory Kit (120 Series)



SCC198 Automotive Accessory Kit (190 Series)



These kits provide a host of accessories that allow you to easily and quickly make measurements on automotive electronic systems using a 120 or 190 Series ScopeMeter.

All accessories have a one year warranty

Current Clamps

AC Models



Specifications

	i5s	i200	i200s	i400	i400s	i1000s	i2000 flex	i3000s
Nominal current range(s)	5 A	200 A	20 A 200 A	400 A	40 A 400 A	10 A 100 A 1000 A	200 A 2000 A	30 A 300 A 3000 A
Continuous AC current range	0.01 A - 6 A	0.5 A - 200 A	0.1 - 24 A 0.5 A - 200 A	5 A - 400 A	0.5 - 40 A 5 A - 400 A	0.1 A - 10 A 0.1 A - 100 A 1 A - 1000 A	2 A - 200 A 20 A - 2000 A	1 A - 30 A 1 A - 300 A 1 A - 2400 A
Highest current	70 A	240 A	240 A	1000 A	1000 A	2000 A	4000 A	4000 A
Lowest measurable current	10 mA	0.5 A	0.1 A	5 A	0.5 A	0.1	2 A	1 A
Basic accuracy (48-65 Hz) ¹⁾	1%	1% + 0.5 A	1.5%+0.5 A	2%+0.15	2%+0.15	1%+1 A	1% F.S.	2%+ 2 A
Useable frequency	40 Hz - 5 kHz	40 Hz - 10 kHz	40 Hz - 10 kHz	45 Hz - 3 kHz	45 Hz - 3 kHz	5 Hz - 100 kHz	1 Hz - 20 kHz	10 Hz - 100 kHz
Max. working voltage	600 V AC	600 V AC	600 V AC	1000 V	1000 V	600 V AC	600 V AC	600 V AC
Maximum conductor diameter	15 mm	20 mm	20 mm	32 mm	32 mm	54 mm	160 mm	64 mm
Output level(s)	400 mV/A	1 mA/A	100 mV/A 10 mV/A	1 mA/A	10 mV/A 1 mV/A	100 mV/A 10 mV/A 1 mV/A	10 mV/A 1 mV/A	10 mV/A 1 mV/A 0.1 mV/A
Battery, battery life							9 V, >100 h.	
Output cable (m)	2.5	1.5	2.0	2.5	2.5	1.6	2.3	2.1
Shrouded banana plugs		●		●				
BNC adapter	●		●		●	●	●	●
BNC to banana adapter included			●		●		●	●
Safety	CAT III, 600 V	CAT III, 600 V	CAT III, 600 V	CAT III 1000V / CAT IV 600 V	CAT III 1000V / CAT IV 600 V	CAT III, 600 V	CAT III, 600 V	CAT III, 600 V

¹⁾ Basic Accuracy: % reading + floorspec

Current Clamp Compatibility Chart

	12	16	110/111/112	175/177/179	187/189	27	45	73 III	77 III	78	83V/87V	88V	43B	430 Series	120 Series	190 Series	1577 / 1587	715	724	725	741B/743B/744	787	789
AC Models																							
i5s														●									
i200				●	●	●	●	●	●	●	●	●					●					●	●
i200s	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●					●	●
i400				●	●	●	●	●	●	●	●	●	●	●	●	●	●					●	●
i400s	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2					2	2
i1000s	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2					2	2
i2000flex	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●					●	●
i3000s	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●					●	●
AC/DC Models																							
80i-110s	2	2		2	2	2	2	2	2	2	2	2	●	●	●	●	2					2	2
i410	●	●	1	●	●	●	●	●	●	●	●	●			3	3	●	1	1	1	●	●	●
i1010	●	●	1	●	●	●	●	●	●	●	●	●			3	3	●	1	1	1	●	●	●
Other																							
90i-610s*	2	2		2	2	2	2	2	2	2	2	●	●	●	●	2						2	2
CS20MA															●	●							
700 IV																						●	

* For specifications of 90i-610s see page 79

1 For DC only

2 Requires PM 9081 (see page 61)

3 Requires PM 9082 (see page 61)

Current Clamps

AC/DC Models



80i-110s



i410



i1010



CS20MA



700-IV

Specifications

	80i-110s	i410	i1010	CS20MA	700-IV
Measurement type	Hall sensor	Hall sensor	Hall sensor	Current shunt	Current shunt
Nominal current range(s)	10 A, AC/DC 100 A, AC/DC	400 A, AC/DC	600 A, AC 1000 A, DC	4 mA - 20 mA	4 mA - 20 mA
Continuous current range	0.1A - 10 A AC/DC 1 A - 100 A AC/DC	1 A - 400 A AC/DC	1 A - 600 A, AC 1 A - 1000 A, DC	0 mA - 20 mA	0 mA - 55 mA
Highest current	140 A - 2 kHz	400 A	1000 A	20 mA	55 mA
Lowest measurable current	0.1 A	0.5 A	0.5 A	0 mA	0 mA
Basic accuracy ¹⁾	3% + 50 mA (@ 10 A)	3.5% + 0.5 A	2% + 0.5 A	0.1%	0.025%
Useable frequency	DC - 100 kHz	DC - 3 kHz	DC - 10 kHz	DC - ≥ 10 kHz	
Zero error adjustment	●	●	●		
Max. working voltage	600 V	600 V	600 V	30 V	30 V
Maximum conductor diameter	11.8 mm	30 mm 2 x 25 mm	30 mm 2 x 25 mm		
Output level(s)	100 mV/A 10 mV/A	1 mV/A	1 mV/A	10 mV/mA	10 mV/mA
Battery, battery life	9 V, 55 h	9 V, 60 h	9 V, 60 h		
Output cable length (m)	1.6	1.6	1.6		
Shrouded banana Plugs		●	●	●	●
BNC adapter	●				
Safety	CAT II, 600 V CAT III, 300 V	CAT III, 600 V	CAT III, 600 V	30 V	30 V

¹⁾ Basic Accuracy: % reading + floorspec



i410 Kit AC/DC Current Clamp (400A) with soft case

i1010 Kit AC/DC Current Clamp (1000A) with soft case

- Combination of current clamp with carrying case
- Zippered soft case with moveable divider
- Soft case is large enough to hold a meter



i2000flexPQ4 i2000flex AC Current Clamp, 4-pack

- The perfect accessory for three-phase measurement tools such as the Fluke 430 Series
- The flex clamps fit around bus bars and large or hard-to-reach conductors
- Buy 4-pack and save 25% on the price of the individual items



New

i5sPQ3 AC Current Clamp, 3-pack

A pack of 3 pieces of the i5s current clamps, specially configured to provide low current accuracy while taking measurements on secondary current transformers. This cost-saving 3-pack is perfect for use with 3-phase tools such as the Fluke 433 or Fluke 434.

All accessories have a one year warranty

Temperature Accessories

Contact Probes

80PK-22 SureGrip™ Immersion Probe

- Type-K thermocouple for use in liquids and gels
- Measurement range: -40 to 1090°C



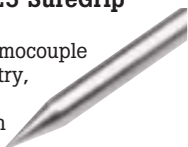
80PK-24 SureGrip™ Air Probe

- Type-K thermocouple for use in air and non-caustic gas measurements
- Bead protected by perforated baffle
- Measurement range: -40 to 816°C



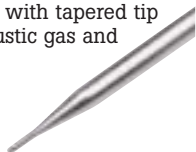
80PK-25 and 80PT-25 SureGrip™ Piercing Probe

- 80PK-25: Type-K thermocouple suitable for food industry, liquids and gels
- 80PT-25 operates with T-type thermometers
- Measurement range: 80PK-25: -40 to 350°C
80PT-25: -196 to 350°C



80PK-26 SureGrip™ General Purpose Probe

- Type-K thermocouple with tapered tip for use in air, non-caustic gas and surface applications
- Measurement range: -40 to 816°C



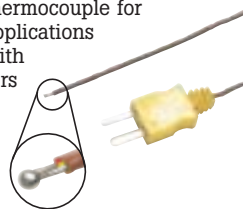
80PK-27 SureGrip™ Industrial Surface Probe

- Type-K thermocouple for surfaces in rugged environment
- Durable ribbon sensor
- Measurement range: -127 to 600°C



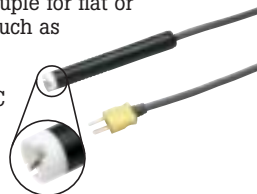
80PK-1 and 80PJ-1 Bead Probe

- 80PK-1: Type-K thermocouple for general purpose applications
- 80PJ-1 operates with J-type thermometers
- Measurement range: -40 to 260°C



80PK-3A Surface Probe

- Type-K thermocouple for flat or curved surfaces such as plates and rollers
- Measurement range: 0 to 260°C



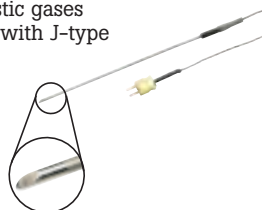
80PK-8 Pipe Clamp Temperature Probe

- Type-K thermocouple for fast temperature and superheat measurements of pipe surfaces
- Durable ribbon sensor
- Measurement range: -29 to 149°C for pipe diameters from 6.4 to 34.9mm



80PK-9 and 80PJ-9 General Purpose Probe

- 80PK-9: Type-K thermocouple surface, air and non-caustic gases
- 80PJ-9 operates with J-type thermometers
- Measurement range: -40°C to 260°C



DMM Probes

80AK Thermocouple Adapter

- Adapts Type-K thermocouple mini-connector to dual banana plug inputs
- Measurement range and accuracy: probe dependent
- Suitable for low voltage applications (below 30 V AC, 60 V DC)



80BK Integrated DMM Probe

- Type-K thermocouple with standard banana jack
- Convenient one piece construction
- Compatible with DMMs with temperature measurement functions
- Measurement range: -40 to 260°C



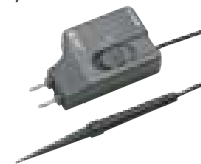
80TK Thermocouple Module

- Converts a DMM to a thermometer
- For use with type-K thermocouples in low voltage applications (below 24 V AC, 60 V DC)
- Measurement range: -50 to 1000°C (probe dependent)



80T-150U Universal Temperature Probe

- Compatible with Fluke DMM
- High accuracy, fast reading for low voltage (below 24 V AC, 60 V DC) applications
- Measurement range: -50 to 150°C
- Output: 1 mV/°C or 1 mV/°F (switchable)





SureGrip™ accessories are designed to improve steadiness in slippery hands. Rubber overmolded surfaces and finger-hugging curves give the user a comfortable, reliable grip on the accessory so they can focus on making an accurate measurement.

All accessories have a one year warranty

Temperature Accessories

Other Temperature Accessories

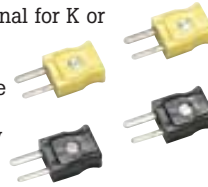
80PR-60 RTD Temperature Probe

- For simultaneously taking contact and non-contact temperature measurements with Fluke 66 or 68
- Measurement range: -40 to 260°C



80CK-M & 80CJ-M type K & 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



Thermocouple Plug Kits

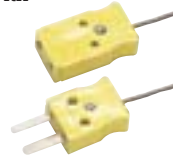
700TC1

- A kit of 10 mini-plug connectors
 Type J (black), one
 Type K (yellow), one
 Type T (blue), one
 Type E (purple), one
 Type R/S (green), one
 Type B or CU (white), one
 Type L (J-DIN) (blue), one
 Type U (T-DIN) (brown), one
 Type C (red), one
 Type N (orange), one



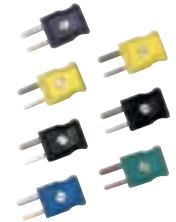
80PK-EXT, 80PJ-EXT and 80PT-EXT Extension Wire Kits

- Extending and repairing J, K or T-type thermocouple wires
- Kit includes 3 meters of thermocouple wire and 1 pair of male/female mini-connectors
- Maximum continuous exposure temperature: 260°C
- 80PK-EXT is compatible with K-type thermometers, 80PJ-EXT is designed for J-type thermometers and 80PT-EXT for T-type thermometers



700TC2

- A kit of 7 mini-plug connectors
 Type J (black), two
 Type K (yellow), two
 Type E (purple), one
 Type T (blue), one
 Type R/S (green), one



Temperature Probe Compatibility Chart

	12	16	110/111/112	175/177	179	187/189	27	45	73 III	77 III	78	83V	87V	88V	43B	120 Series	190 Series	1577	1587	51/52/53/54 II	66/68	705 / 707	714	715	724	725	71B/743B/744	787	789		
Contact Probes																															
80PK-1 ... 80PK-27	1	2	1	1	2	2	1	1	1	1	2	1	2	2	1	1	1	1	2	•	•	1	•	1	•	•	•	•	1	1	
80PJ-1, 80PJ-9																				•	•										
80PT-25																				•	•										
DMM probes																															
80AK		•			•	•					•		•	•					•												
80BK		•			•	•					•		•	•					•												
80TK	•		•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•			•		•				•	•	•
80T-150U	•		•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•			•		•				•	•	•
Miscellaneous																															
80CK-M, 80CJ-M																				•			•		•	•	•	•			
80PK-EXT, 80PJ-EXT																				•			•		•	•	•	•			
80PT-EXT																				•			•		•	•	•	•			
700TC1, 700TC2																				•			•		•	•	•	•			
80PR-60																						•									

1) Requires 80TK
 2) Requires 80AK

Cases and Holsters

Soft Cases

Zippered carrying cases protect your meter; most cases come with belt loops so your meter is stored conveniently on your tool belt.



C12A



C23



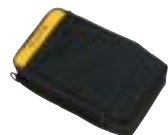
C25



C33



C570



C43



C50



C75



C90



C125/C781

C195

- Zippered carrying case with storage compartments
- Allows hand or shoulder use



C789

- Large fabric carrying case with 3 compartments, removable handle and shoulder strap



C550 Tool Bag

- Steel reinforced frame
- Rugged ballistic cloth with heavy duty hardware
- Large zippered storage compartment with 25 pockets
- Weather resistant
- Carry all your tools to the job



Cases & Holsters Compatibility Chart

	12	16	110/111/112	175/177/179	187/189	1503 / 1507 / 1577 / 1587	1520	43B	120 Series	190 Series	971	51/52/53/54 II	570 Series	61 / 65	63/66/68	705 / 707	712	714	715	717	718	724	725 / 726	741E / 743B / 744	787	789
Soft Cases																										
C12A	•	•														•										
C23																										
C25					•	•					•	•						•	•	•	•		•	•		•
C33																										
C43							•	•	•													•	•	•		
C50			•									•														
C75																										
C90																										
C125				•		•		•	•									•	•	•	•		•	•		•
C195									•	•												•	•	•		•
C550													•													
C570																										
C781					•	•		•	•													•	•	•	•	•
C789								•	•													•	•	•	•	•
Hard Cases																										
C20																										
C100	•	•		•														•	•	•	•				•	•
C101	•	•	•	•	•	•					•	•			•							•	•		•	•
C120								•	•													•	•		•	•
C190											•											•	•		•	•
C800	•	•	•	•																		•	•		•	•
C1600																										
Leather Cases																										
C510	•	•	•	•	•	•						•						•	•	•	•		•	•	•	•
C520A																										
Holsters																										
C10	•	•														•										
C70Y																										
H80M											•							•	•	•	•				•	•
Other																										
H3																										
H5																										
H6															•											
SH100							•																	•		
Hanging and Locking Kits (see page 72)																										
ToolPak			•	•	•	•						•			•	•	•	•	•	•	•	•	•	•	•	•
LockPak						•	•																	•	•	•

Cases and Holsters

Hard Cases

C20 Meter Case

- Heavy duty case with carrying handle and accessories storage compartment
- Top cover snaps onto back to serve as tilt stand



C100 Meter and Accessory Case

- Tough polypropylene case



C101 Hard Case

The hard case that fits all Fluke industrial test tools. Configure the diced foam interior to store and protect what you need to carry with you.

- Tough polypropylene exterior shell
- Interior cavity measures



C120 and C190 Cases

- Heavy duty cases with accessory storage compartments



C800 Meter and Accessory Case

- Tough polypropylene case
- Accessories and manual compartments
- Detachable lid



C1600 Meter and Accessories Case

- Rugged molded plastic case
- Deep interior large enough to hold and protect your tools
- Lift out tray keeps everything organized
- Snap open compartment on top of lid



Holsters

C10 Meter Holster

- Snap-on yellow holster absorbs shocks and protects meter from rough handling
- Includes built-in stand and hanger loop



C70Y Meter Holster

- Snap-on holster absorbs shocks and protects meter from rough handling.
- Flex Stand™ allows meter to hand, lean or stand for convenience and best viewing
- Built-in probe and lead storage



H80M Holster + Magnetic Hanger

- Snap-on yellow holster absorbs shocks and protects meter from rough handling
- Magnet, hook and loop straps
- General purpose hanger



H3 Clamp Meter Holster

- Fabric holster absorbs shocks and protects meter from rough handling.
- Built-in pocket for lead storage
- Convenient belt-loop with snap



H5 Electrical Tester Holster

- Rugged fabric holster includes flap for lead storage and built-in belt loop
- Fits Fluke T3 and T5 testers



H6 Infrared Thermometer Holster

- Durable nylon holster
- For Fluke 63, 65 and 68 Infrared Thermometers



Leather Cases

C510 Leather Meter Case

- Oiled genuine top grain cowhide
- Rugged construction with heavy duty stitching and reinforced rivets
- Large tool belt loop and top flap to secure meter
- Holds most Fluke DMMs, Thermometers, and Process Calibrators



C520A Leather Tester Case

- Oiled genuine top grain cowhide
- Oil tanned for long life
- Rugged construction with heavy duty stitching and reinforced rivets
- Large tool belt loop and top flap to secure tester
- Holds Fluke Electrical Testers



Shoulder Strap

SH100 Shoulder Strap

- Shoulder strap for Fluke 1520



All accessories have a one year warranty

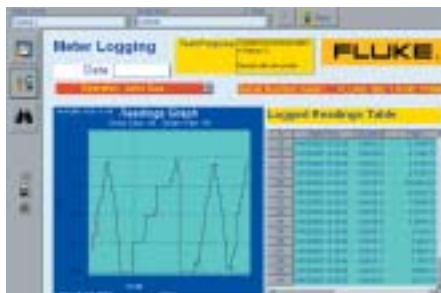
Software and other Accessories

Software FlukeView® Forms

FlukeView Forms increases the power of your Fluke tool by enabling you to document, store and analyze individual readings or series of measurements, then convert them into professional-looking documents.

FlukeView Forms supports the following meters:

- Fluke 180 Series Digital Multimeters (Model FVF-SC2)
- Fluke 87-IV & 89-IV Digital Multimeters (Model FVF-SC1)
- Fluke 53-II & 54-II Thermometers (Model FVF-SC1)
- Fluke 45 Bench Meter (Model FVF-SC3)
- Fluke 789 ProcessMeter™ (Model FVF-SC2)
- Fluke 1653 (Model FVF-SC2 release 2.2 and higher)
- Fluke 1550B MegOhmMeter (model FVF-SC2)



FlukeView® Forms Basic

Owners of Fluke 180 series, 789 and 1550B, who do not need the full power of FlukeView forms, can use FlukeView® Basic version. Transfer data points from your meter to your PC and use the two standard, non-customizable forms to display your readings in table or graphical form. For a larger array of forms or to use FlukeView® Forms Designer to customize your forms, upgrade to FlukeView® Forms version 3.0 with FVF-UG.



IR189USB

IR to USB interface cable (included with FVF-SC2 and FVF-Basic)

- For customers who want to upgrade from their existing RS232 cable
- Small adapter to connect the cable to the 189, 1653 or the 1550B is included.
- CD-Rom with drivers for use with older versions of FVF-SC1 included.



Make extended logging easier

BP189 High Capacity Battery Enclosure (for Fluke 180 Series DMM)

- Expand the battery life of your Fluke 187/189 up to 450 hours (over two weeks of continuous use).
 - Houses 4 'C' cell batteries.
 - CAT III 1000 V, CAT IV 600 V
- Batteries and meter sold separately



Hanging & Locking Kits

ToolPak (TPAK)

The meter hanging solution

- Kit includes, universal hanger clips (2), hook & loop straps (2 lengths) and strong magnet
- Combine components to meet most hanging needs

See page 84 for compatibility chart



LockPak (LPAK)

The meter locking solution

- Kit includes a locking accessory
- Attaches to back of a 187/189 meter or 724/725/789 to help deter theft
- Accepts most common locks (not included)



Fiber Optics

FOC Fiber Optic Patch Cords

A variety of patch cords allow you to test a different type of cable

- FOC-ST/ST, FOC-ST/FC, FOC-ST/SC, FOC-ST/SMA, FOA-ST/STA-Fiber Optic Coupler for FOC-ST/ST Patch Cords

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 function 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 & FOS 850/1300 Fiber Optic Light Sources

A variety of light sources allow you to test different cable lengths.

Other Accessories

Lights

L200 Probe Light

- Attaches to any Fluke test probe
- Bright white LED
- 120 hours of battery life



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 for all the light you need.

- 3 super bright white LEDs – never burn out
- Special hard-hat attachment included
- 40-hour battery life
- Includes three AAA batteries



L210 Probe Light + Probe Extender

- Includes L200 Probe Light and TP280 Test Probe Extenders
- 20 cm probe extenders keep hands away from live circuits
- Extender fits between modular test probe and test lead (total reach 30 cm)



IVD1 Volt Light

Dual sensitivity voltage detector

- Detects voltage from 40 V to 300 V AC
- Blue light means you're close
- Red light means you're at the source
- Comes with a versatile clip to secure light to pocket, hat or even panel door



Stray Voltage Adapter

SV225 Stray Voltage Adapter (10-pack)

New

Stray voltage can appear in electrical installations, due to the capacity between wires. This may result in erroneous readings on high impedance meters.



The SV225 solves this without compromising safety.

- On energized wires, the meter will indicate the real voltage.
- On non-energized circuits the meter will read close to zero (even if there are stray voltages).
- It can be used with all modern meters with standard input spacing.
- Rated CAT III 1000 V, CAT IV 600 V



TL225 SureGrip™ Stray Voltage Adapter Test Lead Kit

New

Kit includes:

- SV225 Stray Voltage Eliminator
- TL224 SureGrip™ Silicone Test Lead Set (right to straight)
- TP220 SureGrip™ Test Probe Set
- C75 Accessory Case



High Voltage Probes

80K-6 and 80K-40

A high voltage probe that allows a multimeter to measure up to 6,000V or 40,000V respectively.

Intended for low energy applications only



Meter Cleaners

MC6 MeterCleaner™ Wipes (6-pack)

MC50 MeterCleaner™ Wipes (50-pack)

- Pre-moistened wipe removes dirt, oil and grease
- One wipe easily cleans one meter
- Safe on rubber, plastic and for environment (non-toxic)



All accessories have a one year warranty

Fuse and Warranty Information



Product Warranty

Each Fluke product is warranted to be free from defects in material and workmanship under normal use and service, for the warranty period listed unless local law requires a longer period. The warranty period is listed in the ordering information section of the product specification and begins on the date of shipment. This warranty extends only to the original buyer or end-user customer of a Fluke authorized reseller, and does not apply to fuses, disposable batteries or to any product which, in Fluke's opinion, has been misused, altered, neglected or damaged by accident or abnormal conditions of operation or handling. Fluke warrants that software will operate substantially in accordance with its functional specifications for 90 days and that it has been properly recorded on non-defective media. Fluke does not warrant that software will be error free or operate without interruption.

Lifetime Warranty

Each Fluke 20, 70, 80, 170 and 180 Series DMM purchased after October 1, 1996 will be free from defects in material and workmanship for its lifetime. This warranty does not cover fuses, disposable batteries and damage from accident, neglect, contamination, misuse or abnormal conditions of operation or handling, including overvoltage failures caused by use outside the DMM's specified rating, or normal wear and tear of mechanical components. This warranty covers the original purchaser only and is not transferable. For ten years from the date of purchase, this warranty also covers the LCD. Thereafter, for the lifetime of the DMM, Fluke will replace the LCD for a fee based on then current component acquisition costs.

To establish original ownership and prove date of purchase, please complete and return the registration card accompanying the product.

Service

Fluke will, at its option, repair at no charge, replace or refund the purchase price of a defective product purchased through a Fluke authorized sales outlet and at the applicable international price. Fluke reserves the right to charge for importation costs of repair/replacement parts if product purchased in one country is sent for repair elsewhere.

Send defective product with a description of the problem to the nearest Fluke Authorized Service Center, postage and insurance prepaid. Fluke will pay return transportation for product repaired or replaced in-warranty. Before making any non-warranty repair, Fluke will estimate cost and obtain authorization, then invoice you for repair and return transportation.

THIS WARRANTY IS YOUR ONLY REMEDY. NO OTHER WARRANTIES, SUCH AS FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSED OR IMPLIED. FLUKE IS NOT LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, INCLUDING LOSS OF DATA, ARISING FROM ANY CAUSE OR THEORY. AUTHORIZED RESELLERS ARE NOT AUTHORIZED TO EXTEND ANY DIFFERENT WARRANTY ON FLUKE'S BEHALF.

Since some states do not allow the exclusion or limitation of an implied warranty or of incidental or consequential damages, this limitation of liability may not apply to you.

Fuse Replacement Information

A	V	IR	Size in mm	Part nr qty 1
125mA	250V		5x20	4822 070 31251
440mA	1000V	10kA	10.3x34.9	943121
500mA	250V	1500A	5x20	838151
630mA	250V	1500A	5x20	740670
1A	600V	10kA	10.3x34.9	830828
1.25A	500V		6.35x32	2040349
3A	600V	10kA	10.3x38.1	475004
3.15A	500V		6.35x32	2030852
11A	1000V	17kA		Replaced by 11A, 1000V, 20kA fuse; 803293
11A	1000V	20kA	10.3x38.1	803293
15A	600V	100kA	10.3x38.1	820829
20A	600V			Replaced by 15A, 600V, 100kA fuse; part nr. 820829

See the back of your Fluke test tool or user manual for the fuses installed.
 For manuals check the Fluke website in the product section.
 For Fuse Replacement Guide check the Fluke website in the service section.

Other catalogs from Fluke

In addition to the products featured in this Test Tools Catalog, Fluke also offers a variety of other products, an overview of which is shown in the following catalogs.



Fluke Precision Measurement products

Total Solutions in Precision Measurement

A variety of products covering DC/LF Electrical Calibration, Power Calibration, Calibration Software, Pressure Calibration, Time and Frequency, Temperature and Humidity Calibration including Hart Scientific, as well as Data Acquisition and General Purpose Test products like arbitrary waveform generators and VXI products.

To get a copy, please click "Request a catalog" on your local Fluke web site.

Fluke Networks products

Network SuperVision Solutions for the Copper and Fiber Cabling Infrastructure.

The most comprehensive line of premises network testing tools for the inspection, verification, certification and documentation of copper and fiber optic cabling systems.



Network SuperVision Solutions for the testing, monitoring and analysis of enterprise networks.

A complete line of handheld network testers for fast and efficient problem solving, maintenance and troubleshooting, as well as a line of products for distributed network management, analysis and monitoring.



To get a copy, please contact the local Fluke Networks sales organization: www.flukenetworks.com/contact.