FLUKE®

- Digital Multimeters
- Clamp Meters
- Electrical Testers
- Insulation Testers
- Earth Ground Testers
- Installation Testers
- Portable Appliance Testers
- Indoor Air Quality Tools
- Digital Thermometers
- Thermal Imagers
- Distance Meters
- Accessories

Electrical Catalog 2010/2011

Contents

Fluke. *Keeping your world up and running*

Fluke Web and Electronic Newsletter

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
- Promotions
- Prices
- Where to buy
- Distributor and sales office locations

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

Europe: www.fluke.eu
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 18 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.

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.

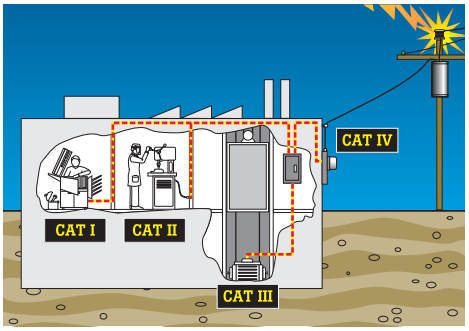


Figure 1. Understanding categories: location

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.

These symbols can only be used if the product successfully completed testing to the agency's standard, which is based on national and international standards. UL 3111, for example, is based on EN61010-1. In an imperfect world, this 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	• 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 d etached building, underground line to well pump.
CAT III	Three-phase distribution, including single-phase commercial lighting	• 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	• 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	• 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 see the Electrical Safety video 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 (Ω = 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)

Installation Testers (MFT)
Single Function Testers

With our complete range of compact, industrial-strength insulation testers, we offer a solution for every troubleshooting and preventive maintenance application.

Our easy-to-use multifunction installation testers can perform tests to ensure that fixed wiring is installed according to IEC 60364, BS7671 17th Edition Wiring regulations.

Basic electrical installation testing

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 / 17th 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).

1650B Series Multifunction Installation Testers

FLUKE®

Fluke 1653B

Fluke 1652B

Fluke 1651B

EN 61557 COMPLIANT

CAT III 500V
CAT IV 300V

BS7671 17th Edition IEE Wiring Regulations IEC 60364.6.61, HD 384

Extra functionality, faster testing, and as rugged as ever

Safer, easier installation testing. The new 1650B Series builds on the rugged reputation of the earlier 1650 Series, only it's re-designed to meet your need for more productive test tools. With new features like the fast, high current loop test (including a non-trip test) and a variable RCD trip current setting, accuracy is even better and the test cycle even faster. And with the addition of a unique zero adapter accessory for accurate mains test lead compensation, the 1650B Series continues to set the standard in installation testers. The 1650B 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 BS 7671 17th Edition wiring regulations.

1653B - The complete tester for advanced users

This is the instrument that has it all, in a word: it's complete. From all the test functions you need to in-built memory for documenting results. This makes it the complete solution for professionals, especially contractors, everyone who would want to have the best tool available and always understands (or know) how to use.

1652B - The ideal tester for professional trouble-shooters

This is the instrument that is indeed ideal for professional users due to its additional functionality. It is also ideal since even though it has high-end features, it is still easy to use – even after longer periods of non-use; because operating it is intuitive and not forgotten easily.

1651B - The everyday tester, for every electrical installer

This is the instrument that can be used every single day (day in, day out), and covers all the basic needs. It is the preferred tester for every front-line electrician/installer.

Features

	1653B	1652B	1651B
Zero adapter	●	●	●
Volts (V)	●	●	●
Frequency (Hz)	●	●	●
Insulation (RISO)	●	●	●
Continuity (RLO)	●	●	●
Fast high current loop test (ZI)	●	●	●
Loop test non trip mode (ZI)	●	●	●
Short Circuit Current (PSC,PEFC, IK)	●	●	●
RCD FI Trip TimeTest (FI, DDR)	●	●	●
Variable RCD current setting	●	●	●
Tests time-delayed RCD´s (S-type)	●	●	●
RCD Ramp Test (FI, DDR)	●	●	
RCD Auto Test (FI, DDR)	●	●	
Test of pulse sensitive RCD´s	●	●	
Earth Resistance (RE)	●		
Phase Sequence	●		
Internal Memory	●		
IR Interface for downloading data	●		
Remote probe	●	●	●*

* Not in the UK

Included Accessories

6 AA Cell batteries
C1600 Hard carrying case
Zero Adapter
Mains test cord
TL165X STD Standard Test Lead Set
TL165/UK Fused Test Lead Set (UK only)
Padded carrying strap
Quick reference guide
TP165X Remote control probe and lead [1]
Users manual on CD-ROM

[1] In the United Kingdom and Ireland: 1652B & 1653B only

Ordering Information

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

Check the Fluke website for the various software modules

Recommended Accessories

See also page 10 for more details

TLK290
Test Probe Kit

MTC1363 (UK)
Mains Test Cord

MTC77 (Europe)
Mains Test Cord

ES165X (1653)
Earth Spike Test Kit

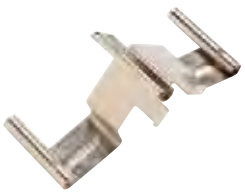
DMS Software

1650B Series Multifunction Installation Testers

FLUKE®

Extra functionality, faster testing, and as rugged as ever

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. This remote probe is powered by the tester so always operable (does not require additional batteries!).



Zero Adapter
For easy, always reliable and accurate compensation for test leads and mains cords. This adapter can be used for all different kind of mains plugs as well as test accessories like probes, alligator clips etc.

Complete kit
All 1650B 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.

Specifications

(Check the Fluke web for detailed specifications)

AC Voltage Measurement

Range	Resolution	Accuracy 50 Hz – 60 Hz	Input Impedance	Overload Protection
500 V	0.1 V	± (0.8% + 3 digits)	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
1653B	50 V	10 kΩ to 50 MΩ	0.01 MΩ	1 mA @ 50 kΩ	± (3%+ 3 digits)
1653B	100 V	20 MΩ to 100 MΩ	0.01 MΩ 0.1 MΩ	1 mA @ 100 kΩ	± (3%+ 3 digits)
1653B 1652B 1651B	250 V	20 MΩ to 200 MΩ	0.01 MΩ 0.1 MΩ	1 mA @ 250 kΩ	± (1.5%+ 3 digits)
1653B 1652B 1651B	500 V	20 MΩ 200 MΩ 500 MΩ	0.01 MΩ 0.1 MΩ 1 MΩ	1 mA @ 500 kΩ	± (1.5%+ 3 digits) + 10%
1653B 1652B 1651B	1000 V	20 MΩ 200 MΩ 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	No trip mode: ± (3% + 6 digits) Hi current mode: ± (2% + 4 digits)
200 Ω	0.1 Ω	
2000 Ω	1 Ω	

PFC. PSC Test

Range	1000A / 10kA(50kA)
Resolution and Units	1A / 0.1kA
Accuracy	Determined by accuracy of loop resistance and mains voltage measurements

Computation
Prospective Earth Fault Current (PEFC) or Prospective Short Circuit Current (PSC) determined by dividing measured mains voltage by measured loop (L-PE) resistance or line (L-N) resistance, respectively.

RCD Testing

RCD Type		1651B	1652B	1653B
[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, VAR	x 1/2	+ 0% - 10%	± (1% Reading + 1 digit)
10, 30, 100 mA	X 5	+ 10% - 0%	± (1% Reading + 1 digit)

Tripping Current (Ramp) Test – Fluke 1653B and 1652B only

Current Range	Step size	Dwell time		Trip Current Measurement Accuracy
		Type G	Type S	
50% to 110% of RCD's rated current	10% of I Δ N	300 ms/step	500 ms/step	± 5%

Earth Resistance Test (RE) – Fluke 1653B 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

1503/1507 Insulation Testers

Fluke 1503

Fluke 1507

Truly portable insulation resistance testers

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	●	●
Additional test voltages 50V, 100V, 250V		●
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

600V CAT IV

Included Accessories

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

Ordering Information

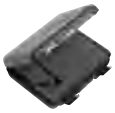
Fluke 1503 Insulation Tester
Fluke 1507 Insulation Tester

Fluke 1503/1507 Applications

Insulation test at a distribution panel

Wiring test in a small distribution box – all in one spot

Recommended Accessories



C101
See page 53

PAK
See page 54

TLK 225
See page 46

AC285
See page 47

I210
See page 55

1550B MegOhmMeter

Fluke 1550B

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 600 V 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

Specifications

Test Voltage (DC)	Range	Accuracy (+/- reading)
250V	200kΩ to 5GΩ 5GΩ to 50GΩ	5% 20%
500V	200kΩ to 10GΩ 10GΩ to 100GΩ	5% 20%
1000V	200kΩ to 20GΩ 20GΩ to 200GΩ	5% 20%
2500V	200kΩ to 50GΩ 50GΩ to 500GΩ	5% 20%
5000V	200kΩ to 100GΩ 100GΩ to 1TΩ	5% 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.	

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

600V CAT III

LISTED UL SA TÜV PRODUCT SERVICE GS DVE

Included Accessories

Test leads, 5000 V-rated probes, Alligator clips, Interface cable
Flukeview Forms Basic, soft carrying case with water-proof bottom, instruction manual

Ordering Information

Fluke 1550B MegOhmMeter

FVF-SC2
See page 54

1650B Series/6000 Series Accessories

FLUKE®

SP Scan 15 Barcode Scanner

EL100 Adaptor

Mains Test Cord for 1650B series
MTC1363 UK plug

Mains Test Cord for 1650B series
MTC77 Schuko plug

ES165X Earth Spike Test Kit
(Fluke 1653B)

TLK 290 Test Probe Kit

EXTL100 Extension Lead Test Adaptor

To maintain a register in accordance with the regulations

IRP1 PAT Log Book

PASS PT250
Appliance Pass Labels QTY: 250

PASS 500 or PASS 250
Appliance Pass Labels QTY: 500

TESTED PT250
Appliance Pass Labels QTY: 250

FAIL 100S

DNSO 100
Do Not Switch Off Labels QTY: 100

APP1000/APP2000
Bar Code Appliance Number Labels
APP1000: Labels numbered 0001-1000
APP2000: Labels numbers 1001-2000
Label number >2000 on request

AUTO 200B – Automatic Test Barcode
Quantity 500

PASS560R Appliance Pass Labels
Quantity 500

PASS WR200
Appliance Pass Labels QTY: 200

FAIL WR100
Appliance Fail Labels QTY: 100

BDST3 Snap Tag Cable Tie
Quantity 20. Without labels

BDST4 Snap Tag Clip On
Quantity 20. Without labels

SP1000 Mini Printer
Without using any additional software the SP1000 can be used to directly printout stored test records on to thermal paper. The printer is compact and easily transported and is ideal for test professionals who need to issue an immediate written account of work carried out. The printer is powered by a rechargeable battery and comes complete with mains charger and RS232 Printer Lead.

SP1000 Paper
Replacement thermal paper for the SP1000 Mini Printer

FVF-SC2 Fluke ViewForms Software (Fluke 1653B)
To address the increasing demands for reporting and documentation, Fluke presents FlukeView Forms documenting software. Download the data from the Fluke 1653B and create an easy report. The Fluke ViewForms Software also supports other Fluke tools. See page 54.

Fluke DMS software for 1650B/6000 Series

The Fluke DMS (Data Management Software) is an efficient program for administration and reporting of installation tests in compliance with EN 60364, DIN VDE 0100/0105, BS7671, 17th edition wiring regulations and portable appliance tests.

DMS100/INST & DMS 0100/INST PROF Software for Installation Tester Fluke 1653B
Supporting reports for Austria, Germany, UK, Switzerland, Netherlands

DMS 0702/PAT & DMS 0702/PAT PROF Software for Portable Appliance Tester Fluke 6500
Supporting reports for Austria, Germany, UK, Netherlands

DMS COMPL PROF Software for the Fluke 1653B and Fluke 6500
Supporting reports for Austria, Germany, UK, Switzerland, Netherlands

Check the Fluke web for more information.

Portable Appliance Testers

Our Portable Appliance Testers verify the electrical safety and operation of portable appliances in accordance with relevant guidelines and regulations. Their simple 'one-touch' controls and fast throughput enable you to perform more tests per day without compromising results.

6000 Series PAT Testers

Fluke 6200

Fluke 6500

Also available with European mains socket.

Versatile PAT testing at your fingertips

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 compromizing 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
- Slot for Compact Flash memory card for back-up data storage and transfer to PC
- Pre-set, auto-test sequences for user convenience

300V CAT II

EN61010-1

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

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 BS1363 Test socket / 230V Mains BS1363 input power plug	●	●

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.

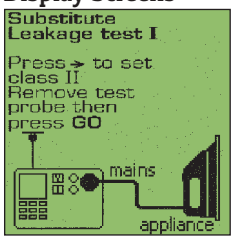
Special PAT Kit

If you need a complete PAT tester solution, a purpose made kit is available.
Fluke 6500/UK Kit Contains:

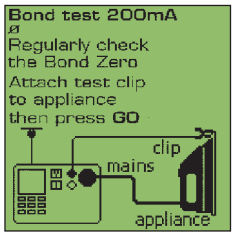
- 6500, Mainframe
- EXTL 100, Extension lead test adaptor
- SP Scan 15, Barcode scanner
- Fluke PowerPat Plus
- Pass 560R, Appliance pass labels
- Fail 100S, Appliance fail labels APP 1000, Barcode appliance number labels

(Kit contents may vary per country)

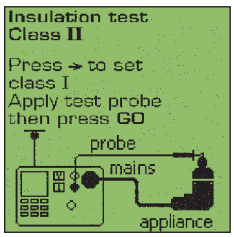
Display Screens



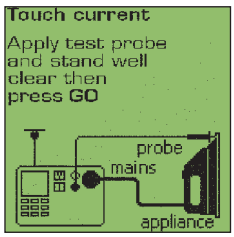
Substitute Leakage Current Test



Earth Bond Test (RPE)



Insulation Test (RISO)



Touch Current Test

Specifications

The accuracy specification for the display range is defined as ± (%reading + digit counts) at 23 °C ± 5 °C, ≤ 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	± (2% + 3 counts)
Resolution	0.1V (1V - model 6200)
Input Impedance	> 1 MΩ // 2.2 µF
Maximum Input Mains Voltage	300 V

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

Insulation Test (Riso)	
Display Range	0 to 299 MΩ
Accuracy	± (5% + 2 counts) from 0.1 to 50 MΩ ± (10% + 2 counts) from 50 to 299 MΩ
Resolution	0.01 MΩ (0 to 19.99 MΩ) 0.1 MΩ (20 to 199,9 MΩ) 1 MΩ (200 to 299 MΩ)
Test Voltage	500 V DC - 0% + 25% at 500 kΩ load
Test Current	> 1 mA at 500 kΩ load, < 15 mA at 0 Ω
Auto discharge time	< 0.5 s for 1 µF
Max. Capacitive Load	Operational up to 1 µF

Touch Current Test	
Display Range	0 to 1.99 mA ac
Accuracy	± (4% + 2 counts)
Resolution	0.01 mA
Internal Resistance (via probe)	2 kΩ
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	± (5% + 5 counts)
Resolution	0.01 mA
Test Voltage	35 V AC ± 20%
Operational Error	10%

Load/Leakage Test: Load Current	
Display Range	0 to 13 A
Accuracy	± (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	± (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	0.25 to 19.99 mA
Accuracy	± (4% + 4 counts)
Resolution	0.01 mA
The appliance under test is energized at mains potential	

PELV Test	
Accuracy at 50 Hz	± (2% + 3 counts)
Overload protection	300 Vrms
Warning threshold	25 Vrms

Size (HxWxD): 200 mm x 275 mm x 100 mm
Weight: 3 kg
Two Years Warranty

Recommended Accessories

Fluke PowerPat Plus software

SP1000-02
Mini printer
Page 10

SP-SCAN-15
Barcode scanner
(6500 Fluke only)
Page 10

BDST3 Snap Tags
Cable Tie
Page 10

PASS
Appliance 560R
Pass Labels
Page 10

Portable Appliance Tester Kits

If you need a complete PAT solution, select from one of the following Fluke kits:

Fluke 6500/UK Kit

Fluke 6500/UK
Portable Appliance Tester Kit

This kit contains:
- Fluke 6500, Portable Appliance Tester
- EXTL100, Extension lead test adaptor
- SPScan15, Barcode scanner
- Fluke PAT data management Software
- Pass560R, Appliance pass labels
- Fail100S, Appliance fail labels
- APP1000, Barcode appliance number labels

Fluke 6200/UK Kit

Fluke 6200/UK
Portable Appliance Tester Kit

This kit contains:
- Fluke 6200 Portable Appliance Tester
- EXTL100, Extension lead test adaptor
- Pass560R, Appliance pass labels
- Fail100S, Appliance fail labels
- IRP1, Register for PAT (log book)

Ordering Information

Fluke 6500/UK	Portable Appliance Tester Kit
Fluke 6200/UK	Portable Appliance Tester Kit

Earth Ground Testers

Our complete line of Earth Ground Testers can perform all four types of earth ground measurement, including stakeless testing with earth ground loop resistance using only clamps.

Checking ground electrode impedance for commercial, industrial and residential buildings

FLUKE®

Most facilities have grounded electrical systems, so that in the event of a lightning strike or utility overvoltage, current will find a safe path to earth. A ground electrode provides the contact between the electrical system and the earth. To ensure a reliable connection to earth, electrical codes, engineering standards, and local standards often specify a minimum impedance for the ground electrode. The International Electrical Testing Association specifies ground electrode testing every three years for a system in good condition with average up-time requirements. This application note explains earth/ground principles and safety in more depth and then describes the principle testing methods: 3 and 4 pole Fall-of-Potential testing, selective testing, stakeless testing and 2 pole testing.

The Fall-of-Potential Method

The Fall-of-Potential method is the "traditional" method for testing electrode resistance. The procedure is specified in the IEEE-81 standard "Guide for Measuring Earth Resistivity, Ground Impedance and Earth Surface Potentials of a Ground System" and in numerous other national standards. In it's basic form, it works well for small electrode systems like one or two ground rods. We will also describe the Tagg Slope Technique which can help you draw accurate conclusions about larger systems. Remember: for this method, the ground electrode must be disconnected from the building electrical service.

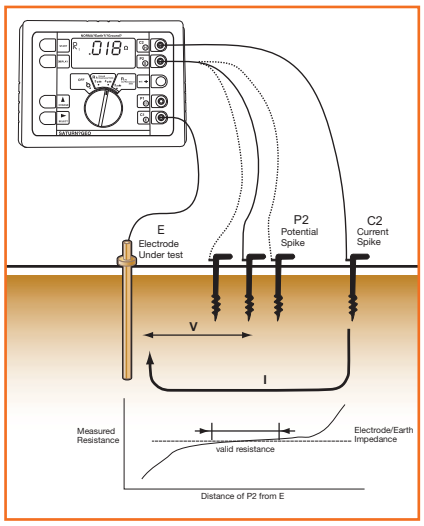


Figure 1: A plot of measured impedances versus position of the potential stake allows us to see the earth impedance

The Selective Method

The Selective Method is a variation of the Fall-of-Potential method, available on high-end ground testers like the Fluke 1625. Testers with this capability can measure the ground impedance of a specific ground electrode without disconnecting it from an array or from the electrical system. This means you don't have to wait for a shutdown to test or risk the safety hazards of disconnecting the electrode from a live system.

The utility neutral, building steel and ground electrode are all bonded and grounded. When you inject a current into this system of parallel ground connections the current will divide. In a traditional Fall-of-Potential test you have no way of knowing how much current is flowing between any particular electrode and the C2 current stake. Selective testing uses an integrated, high sensitivity clamp-on current transformer to measure the test current in the electrode under test. Figure 2 shows how the current transformer fits into the test circuit. The selective ground tester digitally filters the current measurement to minimize the effects of stray currents. Being able to accurately measure the current in the electrode under test effectively isolates the electrode and allows us to test it without disconnecting it from the system or from other electrodes.

Stakeless or Clamp Method

The "stakeless" or "clamp" method allows you to measure the impedance of a series loop of ground electrodes. The test is simple and it may be performed on an electrode that is connected to a working electric service. To make the measurement the tester uses a special transformer to generate a voltage on the ground conductor at a unique test frequency. It uses a second transformer to distinguish the test frequency and measure the resulting current through the circuit, which is determined by the loop resistance.

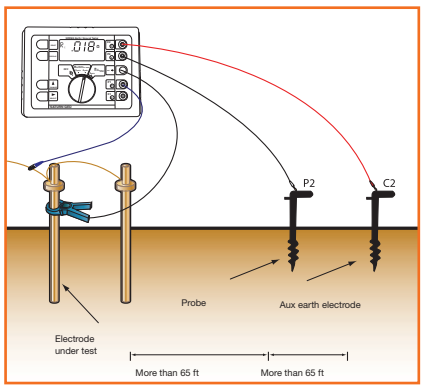


Figure 2: Connections for selective ground electrode measurement

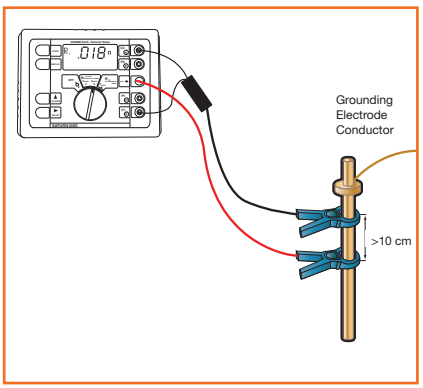


Figure 3: Connecting the Saturn GEO X for a stakeless measurement

1621 Earth Ground Tester

FLUKE®

New

Fluke 1621

Handheld earth ground testing for mobile use

The Fluke 1621 is an easy-to-use earth ground tester. The first line of defense in detecting reliable ground connections, the unit features basic ground testing methods including 3-pole Fall-of-Potential as well as 2-pole ground resistance. Its convenient size, rugged holster, and large, clear LCD display make it an ideal field earth tester, for most work environments. With a simple user interface and intuitive functionality, the Fluke 1621 is a handy tool for electrical contractors, utility test engineers, and earth ground specialists.

Features

- 3-pole Fall-of-Potential earth testing for basic measurements
- 2-pole resistance measurements for added versatility
- Easily capture values with single-button operation
- Ensure accurate measurements with automatic 'noise' voltage detection
- Hazardous voltage warning offers increased user protection
- Clearly read and record data with a large, backlit display
- Rugged holster and design for tough work environments
- Portable size allows for easy transportation
- Instantly be alerted to measurements outside of your set limit, when you use the adjustable limit setting
- Safety rating CAT II 600 V

Specifications

(Check the Fluke web for detailed specifications)

	1621
Resistance range	0.15 Ω to 2 kΩ
Basic accuracy	± 6 % of measured value + 5D
Operating error according EN61557	± 18 % of measured value + 5D
Test voltage	23 to 24 V AC
Short circuit current	> 50 mA AC

Battery type: 1 x 9 V alkaline (LR61)
Size (HxWxD): 216 mm x 113 mm x 54 mm
Weight: 0.850 kg
Two Year Warranty

Included accessories

Two measuring leads with alligator clips - 2 m, protective holster, users manual, CD-ROM

Ordering information

Fluke 1621 Earth Ground Tester

Recommended Accessories

GEO CABLE-REEL 25M
Ground Earth Cable Reel 25 M Wire

GEO CABLE-REEL 50M
Ground Earth Cable Reel 50 M Wire

GEO EARTH STAKE
Ground Earth Stake

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

1620 Series
Earth Ground Testers GEO

FLUKE®

Fluke 1623

Fluke 1625

Fluke 1625 kit

Advanced technology for all your earth ground testing applications

The new Fluke 1620 Series Earth Ground Testers not only measure ground resistance using the classic 'fall of potential test' but also enable time saving testing using the 'selective' and 'stakeless' methods. 'Selective' testing does not require the electrode under test to be disconnected during the measurement, thus increasing safety. The simple 'stakeless' method quickly checks ground connections using two current transformers (probes) clamped around the ground conductor under test. Offering 'one-button' simplicity, the 1623 is an all-in-one earth ground tester, while the 1625 has extra versatility for more demanding applications.

Earth ground resistance and soil resistivity should be measured when:

- Designing earth ground systems
- Installing new ground system and electrical equipment
- Periodically testing ground and lightning protection systems
- Installing large electrical equipment such as transformers, switchgears, machines, etc.

Features

	1623	1625
One-button measurement concept	●	
3- and 4-pole earth ground measurement	●	●
4-Pole soil resistivity testing	●	●
2-Pole resistance measurement AC	●	●
2-and 4-pole resistance measurement DC		●
Selective testing, no disconnection of ground conductor (1 clamp)	●	●
Stakeless testing, quick ground loop testing (2 clamps)	●	●
Measuring frequency 128 Hz	●	
Earth impedance measurement at 55 Hz		●
Automatic frequency control (AFC) (94 – 128 Hz)		●
Measuring voltage switchable 20/48V		●
Programmable limits, settings		●
Continuity with buzzer		●
Dust/water resistance	IP56	IP56
Safety rating	CAT II 300 V	CAT II 300 V

Specifications

(Check the Fluke web for detailed specifications)

	1623	1625
Resistance ranges	0 to 20 kΩ	0 to 300 kΩ
Operating error	± 5%	± 5%
Test voltage	48V	20/48V
Short circuit current	> 50mA	250mA

Battery type: 6 x AA alkaline cells
Size (HxWxD): 110 mm x 180 mm x 240 mm
Weight – 1623 Geo: 1.1 kg (including batteries)
1625 Geo: 1.1 kg (including batteries)
Two Year Warranty

Included accessories

Fluke 1623: Protective holster, 2 test leads, 2 alligator clips, 1 shorting jumper, users manual
Fluke 1623 Kit: same as above plus stake/reel Set 4 pole and selective/stakeless clamp set
Fluke 1625: Protective holster, 2 test leads, 2 alligator clips, carrying strap, users manual
Fluke 1625 Kit: same as above plus stake/reel set 4 pole and selective/stakeless clamp set

Ordering information

Fluke 1623	Basic GEO Earth Ground Tester
Fluke 1623 Kit	Basic GEO Earth Ground Tester Kit
Fluke 1625	Advanced GEO Earth Ground Tester
Fluke 1625 Kit	Advanced GEO Earth Ground Tester Kit

Recommended Accessories

EI-1623
Selective/stakeless clamp set for 1623

EI-1625
Selective/stakeless clamp set for 1625

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

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

EI-162BN
320mm Split core transformer for selective measurements on high voltage pylons

1630 Earth Ground Clamp Meter

FLUKE®

Fluke 1630

Fast and easy earth ground loop testing

The Fluke 1630 earth ground clamp meter simplifies ground loop testing and enables non-intrusive leakage current measurement. The ground loop testing is also known as "stakeless" earth ground testing. To carry out the measurement there is no need for placing earth stakes and disconnecting the earth system from the electrical installation. The Fluke 1630 combines the two current clamps needed to perform the stakeless ground loop test in one compact and easy to use instrument.

- Ground loop resistance testing without any disconnection or additional earth stakes
- Earth ground leakage current measurement for system troubleshooting
- True RMS AC current measurement range up to 30 A
- Rapid evaluation of continuity without disconnection and audible HI/LO alarm
- Display-HOLD function to freeze measurements
- Recording function for automatic storage of measured values, which can be recalled later on the LCD display
- Automatic self calibration ensures correct measurement every time

The Fluke 1630 is ideally suited for the following applications:

- Ground loop checks on any earthing system
- Continuity tests on earth bonding circuits and connections
- Inspection of lightning protection systems
- Leakage current measurement for troubleshooting on earth ground systems

Specifications

(Check the Fluke web for detailed specifications)

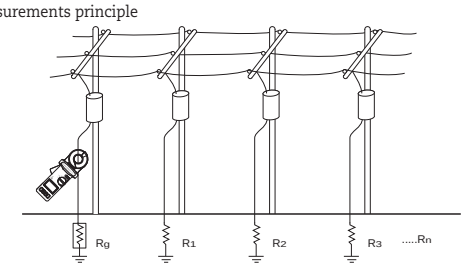
	Range	Max. resolution
Resistance	0.025 to 1500 Ω	0.002 Ω
Cntinuity buzzer	< app. 40 Ω	
Leakage current	0.2 to 1000 mA	0.001 mA
Current	0.2 to 30 A	0.01 A

Weight: 0.64 kg
Conductor Size: 35 mm approx.
Size (HxWxD): 257 mm x 100 mm x 47 mm
Battery type: 9 V IEC 6 LR 61
Two Year Warranty

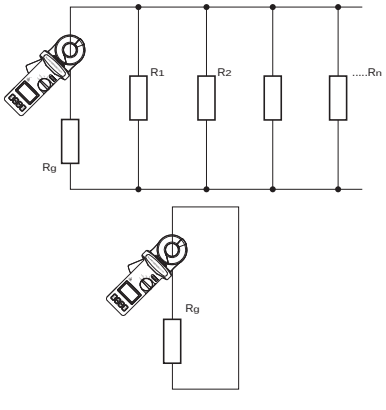
300V CAT III

Ground resistance measurements principle

Ground resistance measurements principle



Equivalent circuit diagram



Included Accessories

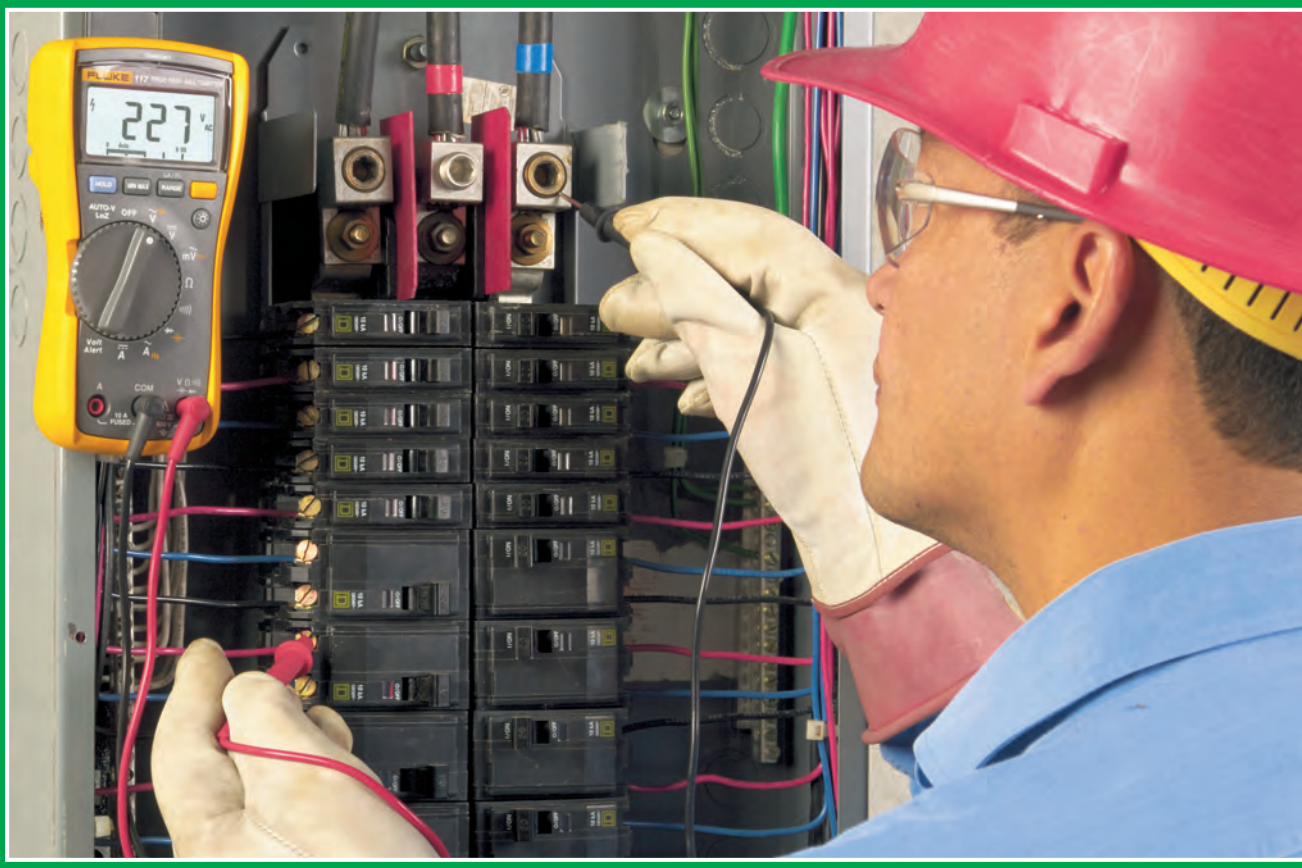
Rugged carrying case with belt, Resistance test loop, 9 V battery, Operating instructions.

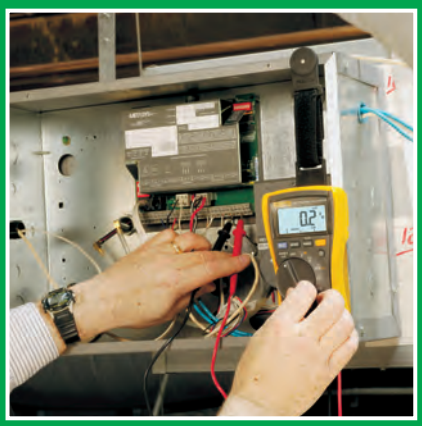
Ordering Information

Fluke 1630 Earth Ground Clamp Meter

Digital Multimeters

Safety, quality and performance: three words that sum up the benefits of of Fluke 110 series digital multimeters. Designed to help you do your job faster, more efficiently and with greater accuracy. Select from a range of 5 models to suit your application.





110 Series Digital Multimeters


Fluke 117


Fluke 115


Fluke 114


Fluke 116


Fluke 113

600V CAT III
On all inputs

LISTED UL · CSA · TÜV PRODUCT SERVICE · GS · VDE · True RMS

Compact design for ergonomic one-handed operation

The Fluke 110 Series has five true-rms DMMs, each for specific users. The compact instruments offer convenient one-handed operation and a backlit display with large, easy-to-read digits.

Fluke 117 Electrician's Multimeter with Non-Contact Voltage

The 117 is for electricians working in commercial and non-commercial premises (like hospitals and schools). It includes extras like non-contact voltage detection for faster and safer operation.

Fluke 116 Multimeter with Temperature and Microamps

The 116 is for heating, ventilation and air conditioning (HVAC) engineers. It includes temperature measurement and microamp current ranges to quickly troubleshoot HVAC problems.

Fluke 115 Field Service Testing Multimeter

An everyday multimeter for technicians, the 115 is for electrical and electronic testing in field service, industrial, and applications where more than the basic functions simplify work.

Fluke 114 Electrical Multimeter

The 114 is for electrical troubleshooting and straightforward 'go/no-go' in residential/commercial testing. It has all the basic functions plus a special feature to prevent false readings caused by ghost voltage.

Fluke 113 Multimeter

The 113 is for basic electrical tests and repairing most electrical problems. Features include Fluke's VCHEK™, added measurement functions, backlight and conformance to the latest safety standards.

Features

	113	114	115	116	117
True RMS readings	AC	AC	AC	AC	AC
Counts	6000	6000	6000	6000	6000
Backlight	●	●	●	●	●
Analog bargraph	●	●	●	●	●
AutoVolt: Automatic AC/DC voltage selection		●		●	●
VoltAlert™, Non-contact voltage detection					●
Built-in thermometer for HVAC applications				●	
LoZ: low input impedance to prevent ghost voltage		●		●	●
VCHEK™ LoZ low impedance measurement function to simultaneously test for voltage or continuity	●				
Min/Max/Average to record signal fluctuations	●	●	●	●	●
Resistance, continuity	●	●	●	●	●
Frequency, Capacitance, Diode test	-/ ●/ ●		●	●	●
Microamps to test flame sensors				●	
Display hold	●	●	●	●	●
Auto/manual ranging	●	●	●	●	●
Low battery indication	●	●	●	●	●
Compact case with removable holster	●	●	●	●	●

Specifications

(Check the Fluke web for detailed specifications)

Functions	Maximum	Max. resolution	113	114	115	116	117
Voltage DC	600V	1mV	±(0.5%+2)	±(0.5%+2)	±(0.5%+2)	±(0.5%+2)	±(0.5%+2)
Voltage AC	600V	1mV		±(1.0%+3)	±(1.0%+3)	±(1.0%+3)	±(1.0%+3)
Current DC	10.00A	1mA			±(1.0%+3)		±(1.0%+3)
Current AC	10.00A	0.01A			±(1.5%+3)		±(1.5%+3)
Resistance	40MΩ (113: 60KΩ)	0.1Ω	±(0.9%+2)	±(0.9%+1)	±(0.9%+1)	±(0.9%+1)	±(0.9%+1)
Capacitance	10000µF	1nF	±(1.9%+2)		±(1.9%+2)	±(1.9%+2)	±(1.9%+2)
Frequency	50kHz	0.01Hz			±(0.1%+2)	±(0.1%+2)	±(0.1%+2)
Temperature	-40°C/+400°C	0.1°C				±(1.0%+2)	
VCHEK™	600.0V AC/DC	0.1V	±(2.0%+3)				

Accuracies are best accuracies for each function

Battery type: 9 volt Alkaline, 400 hours typical
Size (HxWxD): 167 mm x 84mm x 46 mm
Weight: 0.55 kg (including batteries)
Three Year Warranty

Included Accessories

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

Ordering Information

Fluke 113	True RMS Multimeter
Fluke 114	True RMS Multimeter
Fluke 115	True RMS Multimeter
Fluke 116	True RMS Multimeter
Fluke 117	True RMS Multimeter

Recommended Accessories


C50
See page 52


TL223
See page 45


MC6
See page 55


TPAK
See page 54

Electrical Testers

The range of electrical testers includes two-pole testers for taking quick measurements in tight spaces, phase rotation indicators to take the guess work out of checking phase/motor rotation, a multipurpose cable locator and handy voltage alerts.

T100 Series
Voltage and Continuity Testers

Fluke T140

Fluke T120


Fluke T100

600V CAT IV

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

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

	T100	T120	T140
Display		LCD	LCD
Led Bargraph	12 LED's	12 LED's	12 LED's
Backlight			●
Resistance measurement			●
Switchable load			●
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 o batteries	●	●	●

Specifications

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

Size (HxWxD): 240 mm x 56 mm x 24 mm
Case: IP65 (water-jet and dust tight protection)
Weight: 180 g
Two year warranty

Included Accessories
Two 1.5V batteries and instruction sheet

Ordering Information
Fluke T100 Voltage/Continuity Tester
Fluke T120 Voltage/Continuity Tester
Fluke T140 Voltage/Continuity Tester

UK versions are compliant with GS38

Recommended Accessories

C33 (T100 Series)
See page 52

T5 Electrical Testers

Fluke T5-1000 Fluke T5-600

The fast and easy solution to basic electrical testing

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.

Fluke T5-H5-1AC Kit

Fluke T5-600/62/1ACII Kit

Features and Specifications

	T5-600	T5-1000
Display Count	1000	1000
Automatic Selection	●	●
Continuity and Bleeper	●	●
Sleep Mode	●	●
AC Voltage	600 V	1000 V
DC Voltage	600 V	1000 V
AC Current	100 A	100 A
Resistance	1000 Ω	1000 Ω
Safety range	600V CAT III	1000 V CAT III / 600 V CAT IV

Battery life: 400 hours
Size (HxWxD):
203 mm x 51 mm x 30.5 mm

Weight: 0.38 kg
Two year warranty

Fluke T5-H5-1AC Kit

The ideal kit for busy electrical contractors and electricians. The benefits of a voltage and current meter and non-contact voltage detector all in one kit. A holster for the T5 is also included.

Kit includes:
- Fluke T5-1000
- H5 holster
- Free Fluke 1AC-II

Fluke T5-600/62/1AC Kit

This kit is designed to help electricians and HVAC technicians solve problems quicker. Test first for overheated electrical devices using an IR thermometer; then use elecrtrical test tools to find out more about the problem.

Kit includes:
- Fluke T5-600
- Fluke 62
- Fluke 1AC II
- C115

Included Accessories

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

Ordering Information

Fluke T5-600	Electrical Tester
Fluke T5-1000	Electrical Tester
Fluke T5-H5-1AC Kit	Electrical Tester with holster and IAC
Fluke T5-600/62/1AC	Electrical Tester, IR Thermometer, Voltage Detector Kit

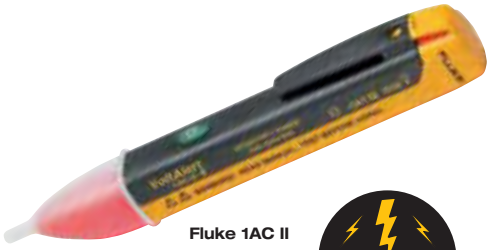
Recommended Accessories

H5
See page 53

ACC-T5-Kit
See page 46

AC285
See page 47

1AC II Volt Alert
LVD1/LVD2 Volt Lights



Fluke 1AC II

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

LVD1 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

LVD1

LVD2 Volt Light

Combines bright light and voltage detection in one pen style design
- Dual sensitivity
- Detects voltage from 90 V to 600 V AC
- Blue light means you're close
- Red light means you're at the source
- Rated to CAT IV 600 V

LVD2

Ordering Information

Fluke 1AC II	VoltAlert
Fluke 1AC II 5PK	VoltAlert (5-pack)
LVD1	Volt Light
LVD2	Volt Light

SocketMaster Testers

The fast way to check if your sockets are safe

SM 300
- Clear bi-colour LED and audible indication of wiring status
- Unique soft-touch RCD test checks 30mA
- RCD's for trip within 300mS
- Earth Volts Touchpad detects raised earth voltages >50V, indicating potentially dangerous situations

SM 200
- Clear LED indication of wiring status
- Audible notification of wiring condition
- Unique soft finger grip
- Handy size – fits in the palm of your hand

T5/H5/1AC Kit

The ideal kit for busy electrical contractors and electrician's.The benefits of a DMM, clamp meter and non-contact voltage detector all in one kit. A holster for the T5 is also included.

Kit Includes:
- Fluke T5
- Fluke H5 Holster
- Free Fluke IAC-II

Purchase kit and get the 1AC-II for free!

SM 100
- Clear LED indication of wiring status
- Modern, ergonomic design
- Compact and durable
- Simple to use, just plug into a socket for autotest

Ordering Information

SM300	SocketMaster Tester
SM200	SocketMaster Tester
SM100	SocketMaster Tester
T5/H5/1AC	Kit

9040/9062
Phase Rotation Indicators

FLUKE®

Fluke 9040

Fluke 9062

9040:

9062:

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

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 400V
Phase Display	-	120-400V 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

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 46

TLK291
See page 46

C25
See page 52

2042 Cable Locator

Fluke 2042

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 LCD-display for transmitting level, transmitting code and external voltage
- Receiver with a backlight LCD-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.

300V CAT III

Specifications

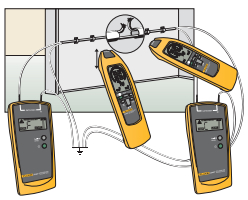
	Transmitter	Receiver
Voltage Measurement Range	12V, 50V, 120V, 230V, 400V	
Frequency Range	0..60Hz	
Output signal	125 kHz	
Voltage	Up to 400V AC/DC	
Tracing depth cable location		0…2.5m wall/underground cables
Main voltage detection		0…0.4m

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

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

Recommended Accessories

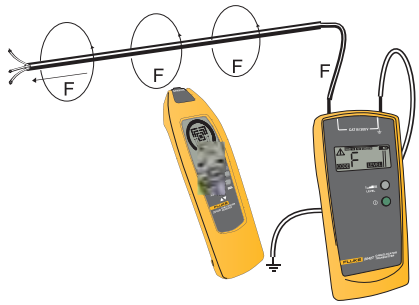
Fluke 2042T

Tracing and locating power cables

Tracing and locating power cables

The tracing of cabling or wiring systems, powered and un-powered, can be a tiresome and time consuming practice. 'Trial and error' methods for locating cables, e.g. by making penetrations in a wall, cause damage to the structure of the building and can also damage the electrical cabling itself. The use of a purpose-made cable locator can be very beneficial. It can also be used to identify which safety devices are connected to certain circuits, to identify breaks in under-floor heating cabling and to trace metallic conduit, heating pipes or underground cabling.

The ideal cable locating tool to carry out all these tasks consists of a separate transmitter and receiver. The transmitter supplies a modulated alternating voltage to the cable concerned, generating a magnetic field around the cable. The separate receiver is fitted with a coil and is placed in close proximity to the electrical conductor so the lines of flux cut through the coil.



Principle of operation

A small alternating voltage is induced in the coil, which is measured by the electronics of the receiver and shown on an LCD display. The best tools feature a digitally encoded transmitter signal. This ensures that the signal is clearly received by the transmitter.

In general, there are two different areas of application – live installations and un-powered cables.

Display on the receiver

Application with live voltage

It is a frequent occurrence that electric circuits in old systems are not labeled. To avoid interrupting an incorrect supply, the correct safety device must be assigned to the correct electric circuit.

One-pole application

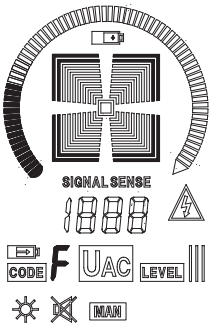
A transmitter/receiver type of cable locator can be used for this application. The signal transmitter is connected directly to the phase and neutral wire and the receiver is used to locate the exact safety device in the distribution cabinet.

Care must be taken to ensure the device used is specified for use on a live system, has the correct category rating and of course usual safety precautions are rigorously adhered to.

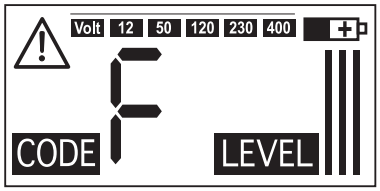
Applications without voltage

a) Locating covered cable ends
Typical applications involve locating switch and distribution boxes that have been inadvertently covered over with plaster or accidentally concealed within the building fabric of a new installation. Typically, the switch and distribution boxes are set and the cables are laid out. After the walls have been plastered, not all of them can be located.

Electrical outlets are often the only places where there is access to the cable. The earthing contact of a nearby plug socket or an extension lead is used as a grounding connection.



Display of FLUKE 2042 receiver

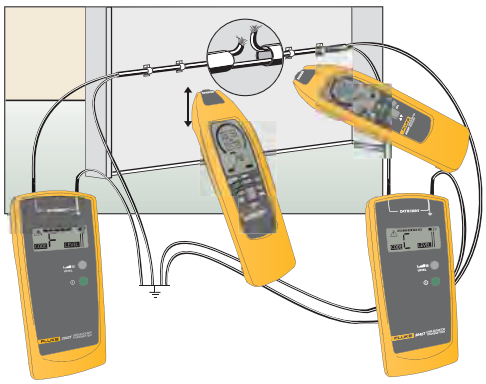


Display of FLUKE 2042 transmitter

The run of the concealed cable is traced with the receiver until the signal is no longer received and the concealed distribution box or switch box is located.

b) Locating a break in a cable
If a transmitter is attached to one end of the cable to locate an interruption, the location of the break can sometimes only be roughly isolated due to field interference.
An additional signal transmitter with another signal code can help to obtain a more precise location.

This method also works with the tracing of cables and pipes that are laid in the ground. Cable locating tools can typically be used for depths up to 2.5m.



Precise location of a cable break with two transmitters

Locating cables and pipes in the ground

Clamp Meters

The ergonomic clamp meters feature wide opening jaws for safe, fast non-contact current measurement. The Fluke leakage clamp meter is ideal for non-invasive checks of insulation resistance.

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

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

Specifications

	321		322		321	322
Functions	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) 3.0% ± 5 counts (60Hz - 400Hz)	1.8% ± 5 counts (50 -60Hz) 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 117/322 Kit	Electricians Combo Kit
Fluke 62/322/1AC	IR Thermometer, Clamp Meter and Voltage Detector Kit

Combo Kit

Fluke 62/322/1AC Kit

- Fluke 62 Infrared Thermometer
- Fluke 322 Clamp Meter
- Fluke 1AC II Volt Alert

Fluke 117/322 Kit

Recommended Accessories


H3
See page 53


TL223
See page 45


L215
See page 46

330 Series/902 Clamp Meters

Fluke 337

Fluke 336

Fluke 335

Fluke 334

Fluke 333


Fluke 902

600V CAT III

LISTED UL · CSA · TÜV PRODUCT SERVICE · GS · True RMS

Expanded capabilities for current measurement

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 down 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).

The Fluke 902 adds temperature and capacitance measurement capabilities to the line, ideal for heating, ventilation and air conditioning system inspections.

Features

Functions	333	334	335	336	337	902
True-RMS			●	●	●	●
Display backlight		●	●	●	●	●
Auto shut-off	●	●	●	●	●	●
Display Hold	●	●	●	●	●	●
Motor start-up current		●	●	●	●	
Low battery indication	●	●	●	●	●	●
Large jaw				●	●	
Min/Max					●	●
Current AC/DC				●	●	●*
Temperature						●

* DC A: 0-200 µA direct measurement

Specifications

Functions	Range	333	334	335	336	337	902
Current AC	0-400.0A	2% ± 5 counts					
	0-600.0A		2% ± 5 counts	2% ± 5 counts	2% ± 5 counts		1% ± 5 counts
	0-999.9A					2% ± 5 counts	
Crest Factor	0-600.0A			2.4 @ 500A	3 @ 500A		2.4 @ 500A
				2.0 @ 600A	2.5 @ 600A		2.0 @ 600A
	0-999.9A					3 @ 500A	
						2.5 @ 600A	
						1.42@ 1000A	
Current DC	0-200 µA						1% ± 5 counts
	0-600.0A				2% ± 5 counts		
	0-999.9A					2% ± 5 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	1% ± 5 counts
Voltage DC	0-600.0V	1% ± 5 counts	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	
	0-6000Ω		1.5% ± 5 counts	1.5% ± 5 counts	1.5% ± 5 counts	1.5% ± 5 counts	
	0-9999Ω						1.5% ± 5 counts
Continuity		≤ 30Ω	≤ 30Ω	≤ 30Ω	≤ 30Ω	≤ 30Ω	≤ 30Ω
Frequency	5-400Hz					0.5% ± 5 counts	
Temperature	-10° to 400°C						1% ± 0.8°C
Capacitance	1µF to 1000µF						1.9% ± 2 counts

Battery Life: Alkaline, 150 hours
Size (HxWxD):
238 mm x 79 mm x 41mm (333, 334, 335 and 902)
251 mm x 79 mm x 41 mm (336 and 337)

Jaw Opening: 30 mm (333, 334, 335 and 902)
42 mm (336, 337)
Weight: 0.312 kg
Three Year Warranty

Recommended Accessories


H3
See page 53


TL223
See page 45


L215
See page 46

Included Accessories

C33 Soft case, TL75 test leads, 80BK Integrated DMM temperature probe (902),
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
Fluke 902	True-RMS Clamp Meter (HVAC)

350 Series AC/DC Clamp Meters

Fluke 353

Fluke 355

True-RMS, 2000 A Clamp Meters for industrial and utility applications

Confidently take reliable readings with the true-rms, Fluke 353/355 Clamp Meters; the tools of choice for high current measurement up to 2000 A. The extra-wide jaw easily clamps around large conductors, typically found in high current applications. The rugged design and CAT IV 600 V, CAT III 1000 V ratings add an extra element of protection when taking high-powered measurements.

Accurate peak measurements can be taken using the in-rush current mode - ideal for motors and inductive loads. The 355 also measures voltage and resistance, making this the most versatile tool for utilities, electrical contractors and industrial service technicians.

Features

	353	355
True-RMS measurements	●	●
Display backlight	●	●
Motor start-up current	●	●
Min/Max/Average	●	●
Voltage AC/DC		●
Resistance measurement		●
Continuity measurement with beeper		●

Specifications

(Check the Fluke web for detailed specifications)

Functions	Range	353	355
Current AC/DC	0-40.00 A	1.5% ± 15 counts	1.5% ± 15 counts
	0-400.0 A	1.5% ± 5 counts	1.5% ± 5 counts
	0-2000 A; 1400 AC rms		
Crest Factor		2.4	2.4
Voltage AC/DC	0-4.000 V		1% ± 10 counts
	0-40.00 V		1% ± 5 counts
	0-400.0 V		
	0-600 V AC rms		
	0-1000 V DC		
Resistance	0-400.0 Ω		1.5% ± 5 counts
	0-4.000 kΩ		
	0-40.00 kΩ		
	0-400.0 kΩ		
Continuity beeper	Appr. ≤ 30 Ω		
Frequency	5.0Hz to 100.0Hz		0.2% ± 2 counts
	100.1Hz to 999Hz		0.5% ± 5 counts

600V CAT IV
1000V CAT III
LISTED UL
True RMS

Power Supply: 6 x 1.5V AA NEDA 15A or IEC LR6
Battery Life: 100 hours (with typical usage, backlight off)

Size (HxWxD): 300 mm x 98 mm x 52 mm
Jaw opening: 58 mm
Weight: 0.814 kg
Two year warranty

Included Accessories

Fluke 353: C43 Soft Meter Case, 6 AA batteries, users manual
Fluke 355: C43 Soft Meter Case, 6 AA batteries, TL224 SureGrip® Silicone Test Lead Set, TP2 Slim Reach Test Probe Set (2 mm), AC285 SureGrip® Alligator Clip Set, users manual

Ordering information

Fluke 353 AC/DC Clamp Meter
Fluke 355 AC/DC Clamp Meter

Recommended Accessories


TL223 (Fluke 355)
See page 45


L215 (Fluke 355)
See page 46

360 Leakage Clamp Meter

Fluke 360

Leakage current measurements with a tough, pocket sized clamp meter

The Fluke 360 is ideal for non-invasive checks of insulation resistance.
The unique jaw design eliminates the influence of adjacent current conductors. The ergonomic design of the Fluke 360 ensures easy measuring. The measuring clamp fits into tight spaces and the wide display angle clearly shows the measurement result. The data hold button keeps the measured value on the display after removing the clamp for the measured conductor.

The light Fluke 360 offers the widest range of current measurement for maintenance professionals and contractors.

Features

- Measurement of leakage protectives conductor and touch current with a resolution of 1µA
- Advanced shielding to ensure accurate results when measuring near other conductors
- Automatic ranging within the manually selected mA or A range
- Easily viewed measurements on digital and bargraph display and HOLD when measuring in hard to see locations
- Broad range of measurements currents up to 60 A for all installation needs
- Easy carrying, pocket sized clamp with wide 40 mm jaw size
- Display-Hold for convenience in use
- Auto power off with audible warning buzzer
- Conformance to IEC61010 and EMC standard
- Meets all the applications and performance classes in safety standard VDE0404-4 and the new VDE0702

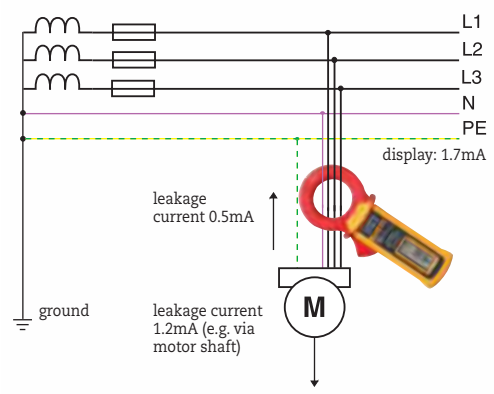
300V CAT III

Specifications

(Check the Fluke web for detailed specifications)

Functions	Range	Resolution	Accuracy
Current AC	3mA 30mA	0.001A 0.01mA	1% ± 5 counts
	30A 60A	0.01A 0.1A	1% ± 5 counts (0~50A) 5% ± 5 counts (50~60A)
Frequency	50 and 60Hz		

Battery type: 3 Volt Lithium, 90 hours typical
Size (HxWxD): 176 mm x 70mm x 25 mm
Weight: 0.2kg
One Year warranty



Included accessories

Soft carrying pouch and users manual

Ordering information

Fluke 360 Leakage Clamp Meter

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.

62 and 560 Series Infrared Thermometers

FLUKE®

Fluke 561

Fluke 566

Fluke 568

Fluke 62

Point, press and read temperature

Fluke infrared thermometers are the ideal professional diagnostic tools for quick and accurate non-contact temperature measurements. These handheld tools are ideal for measuring surface temperature of rotating, hard-to-reach, electrically live or dangerously hot targets like electrical motors and panels, products on moving conveyor belts, as well as heating and ventilation systems.

Single-point laser sighting helps you mark the measurement target, either close-up or far away. Within seconds, the large backlit display provides a read-out of the temperature measurement with reliable accuracy.

The advanced 560 Series combines non-contact with contact measurement capabilities into one portable tool to also enable ambient and differential temperature measurements using either the included probe or an industry-standard K-type thermocouple.

Fluke 62:
- Laser guided sighting for easy targeting
- Backlit display for easy reading in the dark
- Includes belt pouch

Fluke 560 Series:
- Adjustable emissivity for higher IR accuracy
- MIN, MAX, AVG, and DIF measurements shown in the large backlit display
- Includes contact probe; also compatible with all K-type thermocouples
- (Fluke 566/568 only) Hi/low alarms signal when measurements exceed pre-set limits
- (Fluke 566/568 only) Data logging with date/time stamp

Features

	Fluke 62	Fluke 561	Fluke 566	Fluke 568
User selectable °C or °F	●	●	●	●
Laser sighting for accurate targeting	●	●	●	●
Backlit LCD display	●	●	●	●
MIN, MAX, AVG and DIF measurements	MAX only	●	●	●
Adjustable emissivity	-	●	●	●
Onboard table of emissivity values	-	-	●	●
Includes thermocouple	-	Velcro pipe probe	Bead probe	Bead probe
Compatible with other K-type thermocouples	-	●	●	●
Hi/Low Alarms	-	-	●	●
Data logging with date/time stamp	-	-	20 points	99 points
Multi-language menu display	-	-	●	●
PC interface and cable	-	-	-	●
Includes Fluke Forms software	-	-	-	●

Specifications

(Check the Fluke web for detailed specifications)

	Fluke 62	Fluke 561	Fluke 566	Fluke 568
Temperature range	-30 to 500°C	-40 to 550°C	-40 to 650°C	-40 to 800°C
Optical resolution (D:S)	10:1	12:1	30:1	50:1
Recommended target distance	≤ 2 meters	≤ 2.5 meters	≤ 5 meters	≤ 7 meters
Laser sighting	single point	single point	single point	single point
Accuracy	± 2°C	± 1°C	± 1°C	± 1°C
Response time (95% of reading)	<500ms	<500ms	<500ms	<500ms
Input accuracy	-	-	± 1°C	± 1°C
Emissivity	pre-set to 0.95	low (0.3), medium (0.7), high (0.95)	built-in table of common materials, or digitally adjustable from 0.10 to 1.00	built-in table of common materials, or digitally adjustable from 0.10 to 1.00
Display hold	7 seconds	7 seconds	7 seconds	7 seconds

Power: 9V battery (Fluke 62); 2 AA batteries (Fluke 560 Series)
Battery life: 12 hours
Weight: 0.200 kg (Fluke 62); 0.340 kg (Fluke 561); 0.965 kg (Fluke 566); 1.026 kg (Fluke 568)

Size (HxLxW): 152 mm x 101 mm x 38 mm (Fluke 62); 176.9 mm x 121 mm x 51.8 mm (Fluke 561/566/568)
Two years warranty

Included Accessories

Fluke 62: 9V Battery, storage holster
Fluke 561: Thermocouple K-type Velcro pipe probe, hand carrying case, 2 AA batteries and user manual with measurement guide.
Fluke 566/568: FlukeView® Forms software (568 only), USB cable (568 only), K-type thermocouple bead probe, 2 AA batteries, hard carrying case, quick start guide, and users manual.

Ordering information

Fluke 62	Mini Infrared Thermometer
Fluke 561	HVACPro Thermometer
Fluke 566	Infrared thermometer
Fluke 568	Infrared thermometer

Recommended Accessories

(Fluke 560 Series only; for additional thermometer accessories, please see Page 61)

H6
Infrared Thermometer Holster
See page 53

80PK-8
Pipe Clamp Temperature Probe
See page 50

80PK-25
SureGrip Piercing Probe
See page 50

50 Series II Thermometers

Fluke 54 II

Fluke 51 II

Fluke 52 II

Fluke 53 II

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 T_1, T_2 (52 and 54 only), T_1-T_2 (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
K-type Thermocouples	-200°C to 1372°C
T-type Thermocouples	-250°C to 400°C
E-type Thermocouples	-150°C to 1000°C
N-type** Thermocouples	-200°C to 1300°C
R** and S-type** Thermocouples	0°C to 1767°C
Temperature accuracy	
Above –100°C (-148°F):	
J, K, T, E, and N-type**	± [0.05% + 0.3°C]
R** and S-type**	± [0.05% + 0.4°C]
Below –100°C (-148°F):	
J, K, E, and N-types	± [0.20% + 0.3°C]
T-type	± [0.50% + 0.3°C]

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

Battery life: 1000 hours typical, AA
Size (HxWxD): 173 x 86 x 38 mm
Weight: 0.4 kg
Three Year Warranty

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

Recommended Accessories

C25
See page 52

80PK-26
See page 50

80PK-25
See page 50

FVF-SC1
See page 54

TPAK
See page 54

971 Temperature Humidity Meter Carbon Monoxide Meters

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 -20 °C to 0 °C and 45 °C to 60 °C	 ± 0.5 0C ± 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 <10%, >90% R.H. @ 23 °C	 ± 2.5 % R.H. ± 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 AAA 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

Other useful tools

Fluke 561
Combined Contact and Non-contact Thermometer
See page 36.

Fluke 416D
Laser Distance Meter
See page 43.

Included Accessories

Fluke CO-220: C50 soft carrying case and battery

Ordering Information

Fluke 971	Temperature Humidity Meter
Fluke CO-220	Carbon Monoxide Meter
CO-205	Aspirator Kit

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-205 Aspirator Kit
Allows flue gas samples up to 371°C to be drawn with the CO-220 for carbon monoxide measurement.
1 year warranty.


Fluke CO-205

RLD2 Leak Detector Flashlight

New

RLD2 Leak Detector Flashlight.
Leak detection made easy. The compact RLD2 uncovers refrigerant leaks instantly. Use the UV light to find the leakage area, then, use the laser pointer to pinpoint the exact leak location.

- Six UV LEDs detect leak detection dyes
- Laser pointer clearly locates center of the UV field for accuracy
- Three LED flashlight with 100,000 hour LED life
- Operating temperature 0°C to 50°C
- Four operating modes: flashlight, UV light, laser light, UV/laser light combination
- One year warranty

922 Airflow Meter

Fluke 922

Measures pressure, air flow and velocity for maintaining balanced and comfortable ventilation

The Fluke 922 makes airflow measurements easy by combining pressure, air flow, and velocity into a single, rugged meter. Compatible with most Pitot tubes, the Fluke 922 allows technicians to conveniently enter their duct shape and dimensions for maximum measurement accuracy.

- Provides differential and static pressure, air velocity and flow readings
- Convenient colored hoses help you properly diagnose pressure readings
- Bright, backlit display for clear viewing in all environments
- Min/Max/Average/Hold functions for easy data analysis
- Auto power off saves battery life

Use the Fluke 922 to: Ensure proper air flow balance and maintain a comfortable environment; measure pressure drops across filters and coils; match ventilation to occupant loads; monitor indoor vs. outdoor pressure relationships and manage the building envelope; and perform duct traversals for accurate airflow readings.

Specifications

(Check the Fluke web for detailed specifications)

Feature	Range	Resolution	Accuracy
Operating Specifications			
Air Pressure	± 4000 Pascals ± 16 in H_2O ± 400 mm H_2O ± 40 mbar ± 0.6 PSI	1 Pascal 0.001 in H_2O 0.1 mm H_2O 0.01 mbar 0.0001 PSI	± 1% +1 Pascal ± 1% + 0.01 in H_2O ± 1% + 0.1 mm H_2O ± 1% +0.01 mbar ± 1% + 0.0001 PSI
Air Velocity	250 to 16,000 fpm 1 to 80 m/s	1 fpm 0.001 m/s	± 2.5 % of reading at 10 m/s (2000 p/min)
Air Flow (Volume)	0 to 99,999 cfm 0 to 99,999 m^3/hr 0 to 99,999 l/s	1 cfm 1 m^3/hr 1 l/s	Accuracy is a function of velocity and duct size
Temperature	0 °C to 50 °C	0.1°C	± 1 % + 2 °C

General Specifications

General specifications	
Operating Temperature	0 °C to +50 °C
Storage Temperature	-40 °C to +60 °C
Operating Relative Humidity	Non condensing (<10 °C) 90% RH (10 °C to 30 °C) 75% RH (30 °C to 40 °C) 45% RH (40 °C to 50 °C) Without Condensation
IP Rating	IP40
Operating Altitude	2000 m
Storage Altitude	12000 m
EMI, RFI, EMC	Meets requirements for EN61326-1
Vibration	MIL-PREF-28800F, Class 3
Max Pressure at Each Port	10 PSI

Data Storage: 99 readings
Size (HxWxD): 175 x 775 x 419 mm
Weight: 0.64 kg
Battery: Four AA batteries
Battery Life: 375 hours without backlight, 80 hours with backlight
Two Year Warranty


Fluke 922/Kit

Included Accessories

Fluke 922: Two Rubber Hoses, Wrist Strap, Four AA Batteries 1.5 V Alkaline, Users Manual and Soft Carrying Case
Fluke 922 Kit Includes: Fluke 922 Airflow Meter, 30.48 cm Pitot tube, ToolPak, Two Rubber Hoses, Wrist Strap, Four AA Batteries 1.5 V Alkaline, Users Manual and Hard Carrying Case

Ordering Information

Fluke 922	Air Flow Meter
Fluke 922/Kit	Airflow Meter with 30.48 cm Pitot Tube

Recommended Accessories


PT12
Pitot Tube, 30.48 cm


TPAK
Toolpak
See page 54

Thermal Imagers

Temperature changes can indicate problems in many everyday applications and a thermal imager makes it quick and easy to visually check surface temperatures. Often problems can be discovered before contact measurements even need to be made.

Ti9
Electrical Thermal Imager

FLUKE®

Fluke Ti9

The rugged and affordable tools for electricians and technicians

Get the full picture instantly with the Fluke Ti9 thermal imager. Built for tough work environments, this fully radiometric imager is ideal for detecting problems in a wide range of equipment including switchgear, motor control centers and lighting systems.

- Delivers the clear images to find problems fast with its 160x120 sensor
- Even the smallest details become visible with the large, widescreen full color LCD display
- Optimized for field use in harsh work environments
  - Engineered and tested to withstand a 2 meter drop
  - Withstands dust and water – tested to an IP54 rating
  - Innovative protective lens cover protects the lens when not in use
- Intuitive, three-button menu is easy to use ... simply navigate with the push of a thumb
- Store more than 3.000 screen images (.bmp format) or 1.200 fully radiometric images (.IS2 format) on included 2 GB SD memory card
- The Fluke Ti9 can be upgraded to a full Fluke Ti10 with IR-Fusion at a later time.

Complete package

Specifications

(Check the Fluke web for detailed specifications)

	Fluke Ti9
Thermal imaging performance	
Detector type	160 x 120 Focal Plane Array, uncooled microbolometer
Field of view (FOV)	23 ° horizontal x 17 ° vertical
Spatial resolution (IFOV)	2.5 mrad
Min focus distance	15 cm
Thermal sensitivity (NETD)	≤0.2 °C at 30 °C (200 mK)
Minimum span (Auto/Manual)	10 °C / 5 °C
Focus	Manual
Temperature measurement	
Temperature range	-20 °C to 250 °C
Accuracy	± 5 °C or 5%
Measurement modes	Center point
Image presentation	
Digital display	9.1 cm (3.6") landscape color VGA (640x480) LCD
LCD backlight	Selectable bright or auto
Palettes	Ironbow, blue-red, high contrast, grey
Image and data storage	
Storage medium	2GB SD Card (3000 .bmp IR images/1200 .IS2 images)
File formats supported	JPG, JPEG, JPE, JFIF, BMP, GIF, DIB, PNG, TIF, and TIFF
Controls and adjustments	
Set-up controls	Date/time,°C/°F, language
Language selection	Eng, ger, fre, spa, por, ita, swe, fin, rus, cze, pol, tur
Image controls	Smooth auto scaling and manual scaling
Power	
Battery type	Internal rechargeable battery NiMh (included)
Battery operating time	3 to 4 hours continuous operation

Included Accessories

SmartView® software
2 GB SD card
SD card reader
Rugged hard carrying case
Soft carrying case
Hand strap
Rechargeable battery
AC charger/power supply
User manual
Training DVD

Ordering Information

Fluke Ti9 Electrical Thermal Imager

Battery life: 3 to 4 hours continuous operation
Water and dust resistant: IP54
Size (HxWxD): 267 x 127 x 152 mm
Weight: 1.2 kg
Two Years Warranty

Recommended Accessories

Ti-Visor
Sun Visor
(for complete Ti Series)

Ti-Car Charger
Car charger

Ti-TRIPOD
Tripod Mounting Base Accessories
(for complete Ti Series)

Laser Distance Meters

The Fluke Laser Distance Meters bring you the most advanced measuring technology. Unlike ultrasonic distance meters with laser pointers, these meters use a precision narrow laser beam that can avoid the common errors caused by extraneous objects near measurement targets.

421D, 416D, 411D Laser Distance Meters

New

Fluke 421D

Fluke 411D

Fluke 416D

411D/62 Kit
Combo kit includes:
- Fluke 62 Mini IR Thermometer
- Fluke 411D Laser Distance Meter
- Soft pouch for each model

Included Accessories

Two AAA batteries, Users manual on CD, Quick start guide, Nylon carrying case, Wrist wrap (421D)

Ordering Information

Fluke 411D Laser Distance Meter
Fluke 416D Laser Distance Meter
Fluke 421D Laser Distance Meter

Professional-grade laser distance measuring tools that are fast, easy to use, and fit in your pocket.

The Fluke laser distance meters bring you the most advanced measuring technology. These meters are fast, accurate, durable, and easy to use — just point and shoot. Their straightforward design and easy, one-button operation mean you spend less time measuring. Unlike ultrasonic distance meters with laser pointers, the Fluke 421D, 416D and 411D use a precision narrow laser beam that can avoid the common errors caused by extraneous objects near measurement targets.

These compact and handy Fluke distance meters are designed for indoor, and limited outdoor applications. Addition, subtraction, area, and volume calculations could not be simpler. The extra bright laser is clearly visible so you can see your targeting point even if an object is hard-to-reach or distant. The Fluke 421D, 416D and 411D have a large LCD screen and buttons positioned for one-handed measurements.

Features

	411D	416D	421D
Reduction of estimation errors, saving both time and money	●	●	●
Instant measurement with one-button operation	●	●	●
Easy targeting with bright laser	●	●	●
Quick calculation of area (square footage) and volume	●	●	●
Easy addition and subtraction of measurements	●	●	●
Improved battery life from automatic shut-off feature	●	●	●
Pythagoras calculation for determining distance indirectly from two other measurements	●	●	●
Pouch	●	●	●
Ability to view more with large, 3-line display with backlight		●	●
Ability to measure up to	30 m	60 m	100 m
Storage capacity of measurements for quick recall of distance	-	10	20
MIN/MAX function		●	●
Enhanced Pythagoras calculation for determining distance indirectly from three other measurements		●	●
Audible feedback of on and off modes		●	●
Strong environment protection with IP54 (water spray & dust proof) sealing		●	●
Audible feedback for taking room angle and incremental measurements			●
± 45° Tilt sensor for taking indirect measurements in hard to reach areas			●
Tripod mode allows you to mount to a tripod for measuring long distances			●
Built in light sensor for activating the backlight saving battery life			●
Corner angle feature, allows you to determine the angle of a corner			●

Specifications

(Check the Fluke web for detailed specifications)

	Fluke 411D	Fluke 416D	Fluke 421D
Range (for extended distances, use a target plate)	30 m	60 m	100 m
Accuracy	± 3 mm	± 1.5 mm	± 1.5 mm
Measurement units	00.000 m	00.000 m	00.000 m
Measurement storage		10 locations	20 locations
Backlight		●	●
Automatic power off	After 180 seconds	After 180 seconds	After 360 seconds

Operating temperature: 0°C to 40°C
Storage temperature: -25°C to 70°C
Operating altitude: up to 3500 m
Battery Life: **411D:** up to 3000 readings
416D, 421D: up to 5000 readings

Size (HxWxD):
411D: 123 mm x 50 mm x 26 mm
416D: 135 mm x 46 mm x 31 mm
421D: 127 mm x 52 mm x 25 mm
Weight: **411D:** 0.150 kg
416D: 0.110 kg
421D: 0.125 kg
Warranty: 2 years

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 µV 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 Ø)
- Lantern tip can be removed for easy access to terminal blocks (2 mm Ø)
- 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

SureGrip™

CAT III 1000V
CAT IV 600V

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.

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 1000V, 10A rating. UL listed

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

TL220 SureGrip™ Industrial Test Lead Kit
- 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
- 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
- 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
- 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

Industrial Test Leads, Probes & Clips

FLUKE®

Kits

TLK-225 SureGrip™ Master Accessory Kit

- 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

TLK289 EUR Industrial Master Test Lead Kit

- C116, Soft Case
- AC220 Alligator Clip Set
- AC280 Hook Clip Set
- AC285 Large Jaw Alligator Clip Set
- TP74 Lantern Tip Test Probe Set
- TL224 Test Lead Set
- TPAK Hanging Kit
- 80BK-A Temperature Thermocouple

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

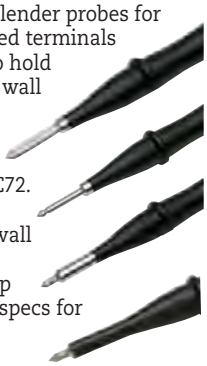
TP74 Lantern Tip Test Probe Set

- 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

TP1, TP2, TP4, TP38 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

Modular Test Probes
(for use with Modular Test Leads)

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

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

FTP SureGrip™ Fused Test Probes

- Built-in fuses for added protection
- 2 mm threaded probe tips include removable 4 mm lantern-style spring contacts
- Removable GS38 insulted IC caps for probing closely spaced leads
- CAT III 1000 V, CAT IV 600 V, 10A

New

FTPL SureGrip™ Fused Test Probes with Leads

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

All accessories have a one year warranty

Industrial Test Leads, Probes & Clips

FLUKE®

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
- 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

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

Test Leads and Probes in one

The new standard for safer electrical measurements

TL175 and TP175 TwistGuard™ test leads are the latest in the SureGrip™ technology from Fluke that provides two safety features in one set of test leads. These new patented test leads provide two category rated tips (CAT III/IV) with a simple twist of the shroud. The lead wires on the TL175 are equipped with wear indication, that show when the leads have excessive wear and that it is time to replace them. The TL175 and TP175 meet the new NFPA 70E (IEC 61010-031) safety standard which is the standard for electrical safety in the workplace.

TL175 TwistGuard™ Test Leads
- Probes meet new IEC 61010 requirements for safety
- Patented extendable tip sheath meets new CAT III 1000 V, CAT IV 600 V requirements while providing the flexibility you need for CAT II measurements
- Double insulated silicone leads with Wear indication for increased safety
- Probes always show correct Category rating for tip being used
- Advanced strain relief exceeds 5,000 bend life
- One-year warranty

SureGrip™

CAT III 1000V
CAT IV 600V

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

Current Clamps

i5s

i50s

i200

i200s

i400

i400s

Specifications AC models

	i5s	i50s	i200	i200s	i400	i400s
Nominal current range(s	5 A	3/30 AC RMS or DC	200 A	20 A 200 A	400 A	40 A 400 A
Continuous AC current range	0.01 A - 6 A	30 A cont. 50 A<10 sec	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
Highest current	70 A	30 A cont. 50 A<10 sec	240 A	240 A	1000 A	1000 A
Lowest measurable current	10 mA	10 mA	0.5 A	0.5 A	1 A	0.5 A
Basic accuracy (48-65 Hz) [1]	1%	± 5% typical DC to 100 kHz	1% + 0.5 A	1.5% + 0.5 A	2% + 0.15	2% + 0.15
Useable frequency	40 Hz - 5kHz	DC to 50 MHz	40 Hz - 10 kHz	40 Hz - 10 kHz	45 Hz - 3 kHz	45 Hz - 3 kHz
Max. working voltage	600 V AC	300 V AC RMS or DC	600 V AC	600 V AC	1000 V	1000 V
Maximum conductor diameter	15 mm	5 mm	20 mm	20 mm	32 mm	32 mm
Output level(s)	400 mV/A	1/100 mV/A	1 mA/A	100 mV/A 10 mV/A	1 mA /A	10 mV/A 1 mV/A
Batttery, battery life		External Power				
Output cable (m)	2.5	2	1.5	2.0	1.5	2.5
Shrouded banana plugs			●		●	
BNC connector	•	●		●		●
BNC to banana adapter included				●		
Safety	CAT III, 600 V	CAT I 300 V	CAT III. 600 V	CAT III, 600 V	CAT III 1000 V / CAT IV 600 V	CAT III 1000 V / CAT IV 600 V

[1] Basic Accuracy: % reading + floorspec

i800

i1000s

i2000 flex

i3000s flex

i3000s

i6000s flex

	i800	i10000s	i2000 flex	i3000s flex-24 i3000s flex-36	i3000s	i60000 flex-24 i6000s flex-36
Nominal current range(s)	800 A RMS	10 A 100 A 1000 A	20 A 200 A 2000 A	30 A 300 A 3000 A	30 A 300 A 3000 A	60 A 600 A 6000 A AC
Continuous AC current range	0.1 A - 800 A RMS	0.1 A - 10 A 0.1 A - 100 A 1 A - 1000 A	1 A - 20 A 2 A - 200 A AC RMS 30 A - 2000 A	1 A - 30 A 2 A - 300 A AC RMS 30 A - 3000 A	1 A - 30 A 1 A - 300 A 1 A - 2400 A	1 A - 6000 A AC RMS
Highest current	1500 A	2000 A	2500 A AC RMS	3500 A AC RMS	4000 A	6000 A
Lowest measurable current	0.1 A	0.1 A	1 A	1 A	1 A	1 A
Basic accuracy (48-65 Hz) [1]	0.10%	1% + 1 A	1%	1%	2% + 2 A	± 1% of range
Useable frequency	30 Hz - 10 kHz	5 Hz - 100 kHz	10 Hz - 20 kHz (-3dB)	10 Hz - 50 kHz (-3dB)	10 Hz - 100 kHz	10 Hz to 50 kHz
Max. working voltage	600 V AC RMS or DC	600 V AC	600 V AC RMS	600 V AC RMS	600 V AC	600 V AC RMS or DC
Maximum conductor diameter	54 mm	54 mm	178 mm	Flex-24 178 mm Flex-36 275 mm	64 mm	Flex-24 170 mm Flex-36 275 mm
Output level(s)	1 mA/A	100 mV/A 10 mV/A 1 mV/A	100 mV/A 10 mV/A 1 mV/A	100 mV/A 10 mV/A 1 mV/A	10 mV/A 1 mV/A 0.1 mV/A	50 mV/A 5 mV/A 0.5 mV/A
Batttery, battery life			200 hours	400 hours		400 hours
Output cable (m)	1.6	1.6	0.5	0.5	2.1	0.5
Shrouded banana plugs	●		●	n/a		
BNC connector		●	n/a	●	●	●
BNC to banana adapter included			n/a	●	●	●
Safety	CAT III, 600 V	CAT III, 600 V	CAT III, 600 V	CAT III, 600 V	CAT III, 600 V	CAT III, 600 V

[1] Basic Accuracy: % reading + floorspec

Current Clamps


80i-110s


i30


i30s


i310s


i410


i1010

Specifications AC/DC Models

	80i-110s	i30	i30s	i310s	i410	i1010
Measurement type	Hall sensor	Hall sensor	Hall sensor	AC/DC	Hall sensor	Hall sensor
Nominal current range(s),	10 A, AC/DC 100 A, AC/DC	20 A AC RMS or DC	20 A AC RMS or DC	30/300 A AC RMS or 45/450 A DC	400 A, AC/DC	600 A, AC 1000 A, DC
Continuous current range	0.1 A - 10 A AC/DC 1 A - 100 A AC/DC	30 A AC Peak	30 A AC Peak	100 mA - 300 A AC RMS or 450 A DC	1 A - 400 A AC/DC	1 A - 600 A, AC 1 A - 1000 A, DC
Highest current	140 A - 2 kHz	30 A AC Peak	30 A AC Peak	300 A AC RMS or 450 A DC	400 A	1000 A
Lowest measurable current	0.1 A	50 mA	50 mA	100 mA	0.5 A	0.5 A
Basic accuracy [1]	3% + 50 mA (@ 10 A)	± 1% of reading ±2 mA	± 1% of reading ±2 mA	±1% of reading	3.5% + 0.5 A	2% +0.5 A
Useable frequency	DC - 100 kHz	DC to 20 kHz (-0.5dB)	DC to 100 kHz (-0.5dB)	DC to 20 kHz	DC - 3 kHz	DC - 10 kHz
Zero error adjustment	●	manual adjust via thumbwheel	manual adjust via thumbwheel	Manual	●	●
Max. working voltage	600 V	300 V AC RMS	300 V AC RMS	300 V AC RMS or DC	600 V	600 V
Maximum conductor diameter	11.8 mm	19 mm	19 mm	19 mm	30 mm 2 x 25 mm	30 mm 2 x 25 mm
Output level(s)	100 mV/A 10 mV/A	100 mV/A	100 mV/A	10/1 mV/A	1 mV/A	1 mV/A
Battery, battery life	9 V, 55 h	30 hours typical	30 hours typical	30 hours	9 V, 60 h	9 V, 60 h
Output cable length (m)	1.6	1.5	2	2	1.6	1.6
Shrouded banana Plugs		●	n/a		●	●
BNC connector	●	n/a	●	●		
BNC to banana adapter included		n/a	●	●		
Safety	CAT II, 600 V CAT III, 300 V	CAT III, 300 V	CAT III, 300 V	CAT III 300 V	CAT III, 600 V	CAT III, 600 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
- Zipped soft case with moveable divider
- Soft case is large enough to hold a meter

Current Clamp Compatibility Chart

	113/114/115/116/117	175/177/179	1577/1587
AC Models			
i200	4	●	●
i200s	●	●	●
i400		●	●
i400s	2	2	2
i800	4	●	●
i1000s	2	2	2
i2000 flex (new version)	●	●	●
i3000s	●	●	●
i3000s flex	●	●	●
i6000s flex	●	●	●
AC/DC Models			
i30	●	●	●
i30s	●	●	
80i-110s	2	2	●
i310s	●	●	●
i410 / i410 kit	●	●	●
i1010 / i1010 kit	●	●	●
Other			
90i-610s	2	2	2

1 For DC only
2 Requires PM 9081
4 115, 117 only

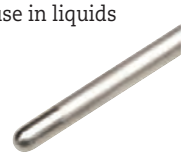
All accessories have a one year warranty

Temperature Accessories

FLUKE®

Contact Probes

80PK-22 SureGrip™ Immersion Probe
- Type-K thermocouple for use in liquids and gels
- Measurement range: -40 to 1090°C
- Probe length: 21.3 cm



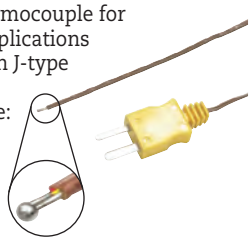
80PK-24 SureGrip™ Air Probe
- Type-K thermocouple for use in air and non-caustic gas measurements
- Bead protected by perforated baffle
- Measurement range: -40 to 816°C
- Probe length: 21.6 cm

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
- Probe length: 10.2 cm

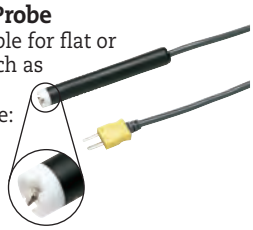
80PK-26 SureGrip™ General Purpose Probe
- Type-K thermocouple with tapered tip for use in air, non-caustic gas and surface applications
- Measurement range: -40 to 816°C
- Probe length: 21.2 cm

80PK-27 SureGrip™ Industrial Surface Probe
- Type-K thermocouple for surfaces in rugged environment
- Durable ribbon sensor
- Measurement range: -127 to 600°C
- Probe length: 20.3 cm

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
- Probe length: 1 m lead wire

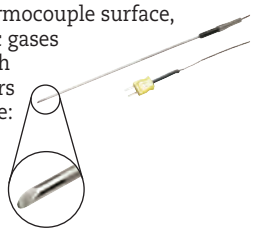


80PK-3A Surface Probe
- Type-K thermocouple for flat or curved surfaces such as plates and rollers
- Measurement range: 0 to 260°C
- Probe length: 9.5 cm



80PK-8 / 80PK-10 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-8) and 32 mm to 64 mm (80PK-10)

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
- Probe length: 15.3 cm



80PK-11 Velcro Temperature Probe
- Type-K thermocouple for hands free measurement of HVAC temperature measuring applications
- Total length of cable: 1m (0.5m in cable, 0.5m in Velcro cuff insulation material; Hytrel)
- Measurement range: -30°C to 105°C

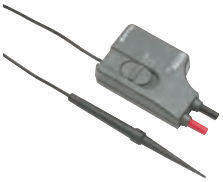
DMM Probes

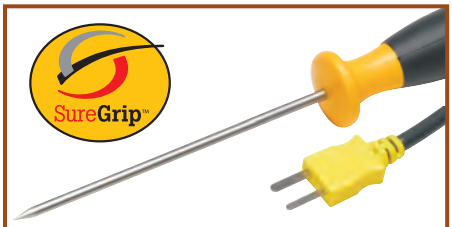
80AK-A Thermocouple Adapter
- Adapts Type-K thermocouple mini-connector to dual banana plug inputs
- Measurement range and accuracy: probe dependent
- Suitable for low voltage applications (below 30 V AC, 60 V DC)

80BK-A 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-150UA 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.

Temperature Accessories

Other Temperature Accessories

80PR-60 RTD Temperature Probe

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

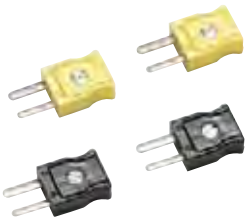
New

80PK-18 Pipe Clamp Temperature Probe Kit

- 80PK-8 Pipe Clamp Temperature Probe
- 80PK-10 Pipe Clamp Temperature Probe
- Soft Case

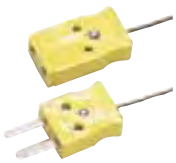
80CK-M & 80CJ-M type K & J Male Mini-Connectors

- Isothermal screw terminal for K or J wire
- Suitable for up to 20 guage thermocouple wire
- Color coded to industry standards (K-yellow, J-black)
- Two per package



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

- Extending and repairing J, K ot 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 PT-EXT for T-type thermometers



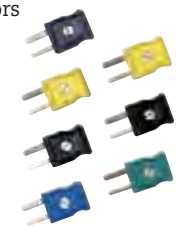
Thermocouple Plug Kits

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

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

	113/114/115/116/117	51/52/53/54 II	561	566/568
Contact Probes				
80PK-1 … 80PK-27	1	●	●	●
80PJ-1, 80PJ-9		●		
80PT-25	1	●		
DMM probes				
80AK-A	●3)			
80BK-A	●3)			
80TK				
80T-150UA				
Miscellaneous				
80CK-M	1	●	●	●
80CJ-M		●		
80PK-EXT4)	1	●	●	●
80PJ-EXT		●		
80PT-EXT		●		
700TC1, 700TC2		●		

1) Requires 80TK
2) Requires 80AK
3) Fluke 116 only
4) Also requires 80CK-M

All accessories have a one year warranty

Cases and Holsters

Soft Cases

Zipped 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


C35


C570


C43


C50


C75


C90


C115


C116


C125/C781


C280


C345

C195
- Zipped 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

		113/114/115 116/117	T5	T100 Series	321/322	333/334/335 336/337/902	353/355	1503/1507	9040/9062	922	971	51/52/53/ 54 II	566/568
Soft Cases	**Size (HxWxD) mm**												
C12A	172 x 128 x 38	●											
C23	225 x 95 x 58	●			●					●	●		
C25	218 x 128 x 64	●						●	●	●	●	●	
C33	280 x 115 x 55			●		●							
C35	220 x 140 x 65	●						●		●		●	
C43	318 x 230 x 90						●						
C50	192 x 90 x 38	●										●	
C75	179 x 103 x 26	For multiple test leads and accessories											
C90	205 x 90 x 72									●			
C115	240 x 205 x 75	●						●				●	
C116	240 x 230 x 65	●						●				●	
C125	192 x 141 x 58							●		●			
C195	231 x 513 x 231												
C280	230 x 185 x 65	●						●				●	
C345	240 x 360 x 200	For multiple test leads and accessories											
C550	333 x 513 x 231	For multiple test leads and accessories											
C570	240 x 160 x 61												
C781	269 x 141 x 90							●					
C789	308 x 256 x 77												
Hard cases													
C20	256 x 154 x 106												
C100	397 x 346 x 122												
C101	305 x 360 x 105		●	●	●	●		●	●		●	●	
C120	346 x 397 x 128												
C190	410 x 474 x 135												
C435	565 x 476 x 305												
C800	230 x 385 x 115												
C1600	260 x 390 x 200	For multiple test leads and accessories											
CXT80	28 x 32 x 13												
CXT170	28 x 32 x 13						●		●				
CXT280	28 x 32 x 13												
Leather Cases													
C510	287 x 179 x 106							●				●	
C520A	256 x 154 x 106		●										
Holsters													
C10	154 x 77 x 45												
H80M	190 x 95 x 43												
Other													
H3	231 x 90 x 64				●	●							
H5	192 x 90 x 38		●										
H6	302 x 178 x 57												●
Hanging Kit (see page 54)													
ToolPak		●						●		●		●	

Cases and Holsters

Hard Cases

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 polyprophylene exterior shell
- Interior cavity measures

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

CXT170, Rugged Pelican Hard Case
- Unbreakable, watertight, airtight, dustproof, chemical resistant and corrosion proof case

Holsters

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, 66 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

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 multimeters:

FlukeView Forms Compatibility Chart

FVF Option	Instrument	Cable**	Application Level
FVF-UG	Software only upgrade, Any instrument that supports Flukeview Forms Software	No Cable included	FVF Full (includes Designer)
FVF-SC1	Fluke 53-II, 54-II, 87-IV*, 89-IV*	Serial / IRDA	
FVF-SC2	Fluke 280 Series, 789, 1550B, 1653B, 568,180 Series*	USB / IR	
FVF-SC4	Fluke 8808A, 8845A, 8846A, 45*, 975	USB / Serial	
FVF-BASIC	Fluke 280 Series, 789, 1550B, 1653B, 180 Series*	USB / IR	FVF BASIC
FVF-SC5	8808A, 8845A, 8846A, 45*	USB / Serial	

* Obsolete
** USB cables are not supported for Microsoft Windows NT 4.0

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 1653B or the 1550B is included.
- CD-Rom with drivers for use with older versions of FVF-SC1 included.

Test Documentation
Fluke can supply all the test documents you need. Each pad of documents comprises certificates/test sheets, clearly laid out to help with certification work in compliance with BS7671. Note: When ordering each TD01 and TD03, each should have a TD05 (single phase) or TD06 (three phase) to complete the installation test documentation.

TD01F	Electrical Installation Certificate
TD02F	Electrical Installation Minor Works Certificate
TD03F	Periodic Inspection Report
TD04F	Survey Schedule and Test Report
TD05F	Inspection and Test Schedule (1x12 way Boards)
TD06F	Inspection and Test Schedule (3x12 way Boards)
TD07F	Part P Domestic Installation Certificate
TD16F	Observation and Recommendation Certificate (Installations)
TD20F	Portable Appliance Testing Certificate Book

Hanging Kit

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 52 for compatibility chart

Fiber Optics

FOM Fiber Optic Meter
The Fluke Fiber Optic Meter (FOM) helps you test and maintain fiber optic cables 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.

All accessories have a one year warranty

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)

Stray Voltage Adapter

SV225 Stray Voltage Adapter

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

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

Fuse Replacement Information

A	V	IR	Size in mm	Part nr qty 1
63mA (slow)	250V		6.35x32	163030
125mA (slow)	250V		6.35x32	166488
250mA (slow)	250V		6.35x32	166306
315 mA	1000V	10KA	6.35x32	2279339
440mA	1000V	10kA	10.3x34.9	943121
500mA	250V	1500A	5x20	838151
630mA	250V	1500A	5x20	740670
1A	600V	10kA	10.3x34.9	830828
1A	500V	50kA	6.35x 32	2530449
1.25A	600V		6.35x32	2040349
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	892583
20A	600V	Replaced by 15A, 600V, 100kA fuse; part nr. 892583		

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.

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, 180 and 280 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 discretion, 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.

FLUKE®

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