

# Insulation Testers

Whether you work on motors, generators, cables, or switch gear, Fluke digital insulation resistance testers deliver advanced performance and noise-free, reliable results. And they are designed to be safe, simple to use and gimmick-free. A perfect solution for insulation testing, troubleshooting, commissioning and preventive maintenance applications.



# Insulation Tester Selection Guide

Insulation Test Functions		1503	1507	1577	1587 FC	1550C	1555
Test Voltages		500 V, 1000 V	50 V, 100 V, 250 V, 500 V, 1000 V	500 V, 1000 V	50 V, 100 V, 250 V, 500 V, 1000 V	250 V, 500 V, 1000 V, 2500 V, 5000 V	250 V, 500 V, 1000 V, 2500 V, 5000 V, 10 000 V
Insulation Resistance Test Range		0.1 MΩ - 2 GΩ	0.01 MΩ - 10 GΩ	0.1 MΩ - 600 MΩ	0.01 MΩ - 2 GΩ	200 kΩ - 1 TΩ	200 kΩ - 2 TΩ
Polarisation Index/Dielectric Absorption Ratio							
Auto Discharge		•	•	•	•	•	•
Time Ramp Test (Breakdown)						•	•
Pass/Fail Comparison			•				
Estimated Number of Insulation resistance Tests		1000	1000	1000	1000	1000 @ 5000 V	1000 @ 10 000 V
Voltage > 30 V Warning		•	•	•	•	•	•
Memory					•	(99 locations)	(99 locations)
Remote Test Probe		•	•	•	•		
Lo Ohms		•	•				
Display		Digital LCD (200 mA)	Digital LCD (200 mA)	Digital LCD	Digital LCD	LCD / Analog Bar Graph	LCD / Analog Bar Graph
Continuity					•		
Multimeter Functionality							
AC/DC Volts		•	•	•	•		
Current				•	•		
Resistance		•	•	•	•		
Temperature (contact)					•		
Temperature Compensation					•		
Lo-Pass Filter					•		
Capacitance					•	•	•
Diode Test					•		
Frequency					•		
MIN/MAX					•		
Fluke Connect™ enabled					•	•+	•+
Other							
Hold/Lock		•	•	•	•	•	•
Backlight		•	•	•	•		
Software						•	•
Warranty (in years)		1	1	3	3	3	3
Battery		4 × AA (NEDA 15A or IEC LR6)	4 × AA (NEDA 15A or IEC LR6)	4 × AA (NEDA 15A or IEC LR6)	4 × AA (NEDA 15A or IEC LR6)	Rechargeable	Rechargeable

+ With Fluke IR FC Connector.





# Fluke 1587 FC and 1577 Insulation Multimeters



Fluke 1587 FC

Fluke 1577



## Two powerful tools in one.

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

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

The Fluke 1587 FC Insulation Multimeter adds four powerful diagnostic functions through the Fluke Connect™ Measurements app:

- PI/DAR timed ratio tests with TrendIt™ graphs identifies moisture and contaminated insulation problems faster
- Memory storage through Fluke Connect™ eliminates writing down results, reduces errors and saves data for historical tracking over time
- Temperature compensation through app for establishing accurate baselines and relevant historical comparisons

Specifications	1587 FC	1577
Insulation test voltages 50 V, 100 V, 250 V, 500 V, 1000 V	•	•
Insulation test voltages 500 V, 1000 V	•	•
Insulation resistance	0.01 MΩ to 2.0 GΩ	0.1 MΩ to 600 MΩ
Auto-discharge of capacitive voltage	•	•
Insulation test smoothing reading	•	•
Frequency	•	•
Capacitance	•	•
Diode test	•	•
Temperature	•	•
Min/Max	•	•
Low-pass filter (for work on VSDs)	•	•
AC/DC voltage	•	•
DC millivolts	•	•
AC/DC milliamps	•	•
Resistance	0.1 Ω to 50 MΩ	0.1 Ω to 50 MΩ
Continuity	•	•
Remote probe, test leads, alligator clips	•	•
Type K thermocouple	•	•
Rugged, utility hard case	•	•
Auto power off	•	•

## Recommended Accessories



**TPAK**  
Magnetic Meter Hanger



**i410**  
AC/DC Current Clamp



**C101**  
Hardv Case



**TL27**  
Heavy Duty Test Leads



**PVLEAD1**  
MC4 to 4 mm Test Lead Set



**PVLEAD3**  
MC4 Solar Clamp  
Test Lead Set

## Recommended Kits

Bundle & Save



**Fluke 1587/i400 Current Clamp FC Kit**



**Fluke 1587 FC Advanced Electrical Troubleshooting Kit**



**Fluke 1587 FC/MDT Advanced Motor and Drive Troubleshooting Kit**

## Included Accessories

Remote Probe, Test Leads, Alligator Clips, K-type Thermocouple (1587 FC only), Hard Case, User Documentation.

## Ordering Information

**FLUKE-1577** Insulation Multimeter

**FLUKE-1587FC** Insulation Multimeter with Fluke Connect™

**FLUKE-1587/MDT FC Kit** FC 2-in-1 Adv Motor & Drive Kit w/ 9040, i400

**FLUKE-1587/i400 FC KIT** FC 2-in-1 Insulation Multimeter with i400

**1587KIT/62MAX+FC** FC 2-in-1 Adv Elec Kit w/62MAX+ i400

Contact your local distributor for price and availability.

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# Fluke 1555 and 1550C Insulation Resistance Testers



Fluke 1555

Fluke 1550C



## Powerful troubleshooting and predictive maintenance tools.

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

- Capacitance and leakage current measurement
- Ramp function for breakdown testing
- Warning function alerts the user that line voltage is present and gives a voltage reading up to 600 V AC or DC for increased user safety
- Measurements can be stored in up to 99 memory locations, and each location is assigned a unique, defined label for easy recall
- Automatic calculation of Dielectric Absorption (DAR) and Polarization Index (PI) with no additional setup
- Three-year warranty

The tester's accuracy is specified for one year after calibration at operating temperatures of 0° C to 35° C (32° F to 95° F). For operating temperatures outside the range (-20° C to 0° C and 35° C to 50° C) (-4° F to 32° F and 95° F to 122° F), add  $\pm 0.25\%$  per ° C, except on the 20% bands add  $\pm 1\%$  per ° C.

Insulation resistance measurement		
Test voltage (DC)	Range	Accuracy ( $\pm$ reading)
250 V	< 250 k $\Omega$	unspecified
	250 k $\Omega$ to 5 G $\Omega$	5%
	5 G $\Omega$ to 50 G $\Omega$	20%
	> 50 G $\Omega$	unspecified
500 V	< 500 k $\Omega$	unspecified
	500 k $\Omega$ to 10 G $\Omega$	5%
	10 G $\Omega$ to 100 G $\Omega$	20%
	> 100 G $\Omega$	unspecified
1000 V	< 1 M $\Omega$	unspecified
	1 M $\Omega$ to 20 G $\Omega$	5%
	20 G $\Omega$ to 200 G $\Omega$	20%
	> 200 G $\Omega$	unspecified
2500 V	< 2.5 M $\Omega$	unspecified
	2.5 M $\Omega$ to 50 G $\Omega$	5%
	50 G $\Omega$ to 500 G $\Omega$	20%
	> 500 G $\Omega$	unspecified
5000 V	< 5 M $\Omega$	unspecified
	5 M $\Omega$ to 100 G $\Omega$	5%
	100 G $\Omega$ to 1 T $\Omega$	20%
	> 1 T $\Omega$	unspecified
10000 V (1555 only)	< 10 M $\Omega$	unspecified
	10 M $\Omega$ to 200 G $\Omega$	5%
	200 G $\Omega$ to 2 T $\Omega$	20%
	> 2 T $\Omega$	unspecified

Functions	Range	Accuracy ( $\pm$ reading)
Leakage current	1 nA to 2 mA	$\pm(5\% + 2 \text{ nA})$
Capacitance measurement	0.01 $\mu\text{F}$ to 15.00 $\mu\text{F}$	$\pm(15\% \text{ rdg} + 0.03 \mu\text{F})$
Live circuit warning	30 V to 600 V AC/DC, 50/60 Hz	$\pm(15\% + 2 \text{ V})$

Combine the IR3000 FC Connector and Fluke Connect™, to perform advanced insulation testing for preventive and PdM tasks through:



- PI (polarity index) and DAR (dielectric absorption ratio) tests with TrendIt™ graphs to identify problems faster
- Wireless transfer of test results from the tool to Fluke Connect™ eliminates error-prone paperwork and saves your technician's time
- Temperature compensation through Fluke Connect™ App helps establish accurate baselines and relevant historical comparisons

## Recommended Accessories

### Fluke 1550C



**TLK1550-RTLC**  
Integral Test Lead and  
10 kV Clamp



**FVF-BASIC**  
FlukeView™ Forms  
Software



**CXT1555**  
Pelican Carrying Case



**IR189USB**  
USB-IR Cable



**IR3000FC 1550**  
Fluke Connect™  
ir3000 Connector

## Recommended Kits

### Bundle & Save

**Fluke 1550C 5 kV Insulation Tester Kit**

**Fluke 1550C FC 5 kV Insulation Tester Kit with IR 3000FC**

**Fluke 1555 10 kV Insulation Tester Kit**

**Fluke 1555 10 kV Insulation Tester Kit with IR 3000FC**

## Included Accessories

Test Cables with Alligator Clips (red, black, green), Infrared Adapter with Interface Cable, FlukeView™ Forms Basic CD, AC Power Cord, Soft Carrying Case, User Manual, Quick Reference Card, Software License Agreement, Registration Card, FlukeView™ Forms Installation Guide, USB-IR Cable Installation Guide, IP67 Hard Case (Kit only), Certificate of Calibration (Kit only), Ruggedized Alligator Clips (Kit and 1555 only), IR3000FC 1550 Connector (FC models only).

## Ordering Information

**FLUKE-1550C** 5 kV Insulation Tester

**FLUKE-1550C** 5 kV Insulation Tester  
FC with IR 3000FC

**FLUKE-1555** 10 kV Insulation Tester

**FLUKE-1555** 10 kV Insulation  
FC Tester with IR 3000FC

**FLUKE-1550C** 5 kV Insulation Tester  
KIT

**FLUKE-1550C** 5 kV Insulation Tester  
FC KIT with IR 3000FC

**FLUKE-1555** 10 kV Insulation  
KIT Tester Kit

**FLUKE-1555** 10 kV Insulation Tester  
FC KIT with IR 3000FC



# Fluke 1507 and 1503 Insulation Resistance Testers



Fluke 1507

Fluke 1503

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

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



Features	1503	1507
User-selectable test voltages for many applications	•	•
Additional test voltages 50 V, 100 V, 250 V		•
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		•

Insulation	1503	1507
Insulation test range	0.1 MΩ to 2000 MΩ	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	1 mA nominal	1 mA 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

General	
Battery life	Meter: 1000 hours Insulation Test: > 1000 tests
Size (H x W x L)	5.0 x 10.0 x 20.3 cm (1.97 x 3.94 x 8.00 in)
Weight	550 g (1.2 lb)

## Recommended Accessories



**TPAK**  
Magnetic Meter Hanger



**TL225**  
Stray Voltage Adapter Test Lead Kit



**TL27**  
Heavy Duty Test Lead Set



**TLK289**  
Industrial Master Test Lead Set



**C116**  
Soft Carrying Case



**C101**  
Hard Case



**PVLEAD1**  
MC4 to 4 mm Test Lead Set



**PVLEAD3**  
MC4 Solar Clamp Test Lead Set

## Fluke 1507/1503 Applications



Insulation test at a distribution panel



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

## Included Accessories

TL224 Test Leads, TP74 Test Probes, Clips PN 1958654 (red) and PN 1958646 (black), Holster, Remote Probe and User Manual.

## Ordering Information

**FLUKE-1507** Insulation Tester

**FLUKE-1503** Insulation Tester

Contact your local distributor for price and availability.  
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