

# Fluke 1555 and 1550C Insulation Resistance Testers

## Technical Data



### Digital insulation testing up to 10 kV

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

Fluke insulation testers can now conduct the entire range of test voltages specified in IEEE 43-2000 with a best in class, 3 year warranty and CAT IV 600 V safety rating. With measurement storage and PC interface, the 1555 and 1550C are perfect tools for preventative or predictive maintenance programs designed to identify potential equipment failures before they occur.

### Features include:

- Test voltages to up to 10 kV provides solutions for all applications
- CAT III 1000 V, CAT IV 600 V safety rating
- Warning function alerts the user that line voltage is present and gives the voltage reading up to 600 V ac or dc for increased user safety
- Selectable test voltages in 50 V steps from 250 V to 1000 V, and 100 V steps above 1000 V
- Measurements can be stored in up to 99 memory locations, with each location assigned a unique, user defined, label for easy recall
- Long battery life gives the user over 750 tests between charges
- Automatic calculation of Dielectric Absorption (DAR) and Polarization Index (PI) with no additional setup
- Guard system eliminates the effect of surface leakage current on high-resistance measurements
- Large digital/analog LCD for easy viewing
- Capacitance and leakage current measurement
- Ramp function for breakdown testing
- Resistance measurements up to  $2T\Omega$
- Timer settings up to 99 minutes for timed tests
- 3-year warranty



# Specifications

## Electrical specifications

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

## Insulation resistance measurement

Test voltage (dc)	Range	Accuracy ( $\pm$ reading)
250 V	< 200 k $\Omega$ 200 k $\Omega$ to 5 G $\Omega$ 5 G $\Omega$ to 50 G $\Omega$ > 50 G $\Omega$	unspecified 5 % 20 % unspecified
500 V	< 200 k $\Omega$ 200 k $\Omega$ to 10 G $\Omega$ 10 G $\Omega$ to 100 G $\Omega$ > 100 G $\Omega$	unspecified 5 % 20 % unspecified
1000 V	< 200 k $\Omega$ 200 k $\Omega$ to 20 G $\Omega$ 20 G $\Omega$ to 200 G $\Omega$ > 200 G $\Omega$	unspecified 5 % 20 % unspecified
2500 V	< 200 k $\Omega$ 200 k $\Omega$ to 50 G $\Omega$ 50 G $\Omega$ to 500 G $\Omega$ > 500 G $\Omega$	unspecified 5 % 20 % unspecified
5000 V	< 200 k $\Omega$ 200 k $\Omega$ to 100 G $\Omega$ 100 G $\Omega$ to 1 T $\Omega$ > 1 T $\Omega$	unspecified 5 % 20 % unspecified
10000 V (1555 Only)	< 200 k $\Omega$ 200 k $\Omega$ to 200 G $\Omega$ 200 G $\Omega$ to 2 T $\Omega$ > 2 T $\Omega$	unspecified 5 % 20 % unspecified




Bar graph range	0 to 1 T $\Omega$
Insulation test voltage accuracy	-0 %, +10 % at 1 mA load current
Induced ac mains current rejection	2 mA maximum
Charging rate for capacitive load	5 seconds per $\mu$ F
Discharge rate for capacitive load	1.5 s/ $\mu$ F

	Range	Accuracy
Leakage current measurement	1 nA to 2 mA	$\pm$ (5 % + 2 nA)
Capacitance measurement	0.01 $\mu$ F to 15.00 $\mu$ F	$\pm$ (15 % rdg + 0.03 $\mu$ F)

Timer	Range	Resolution
	0 to 99 minutes	Setting: 1 minute Indication: 1 second

Live circuit warning	Warning range	Voltage accuracy
	30 V to 660 V ac/dc, 50/60 Hz	$\pm$ (15 % + 2 V)

## General specifications

Display	75 mm x 105 mm
Power	12 V lead-acid rechargeable battery, Yuasa NP2.8-12
Charger Input (AC)	85 V ac 50/60 Hz 20 VA
This Class II (double insulated) instrument is supplied with a Class 1 (grounded) power cord. The protective earth terminal (ground pin) is not connected internally. The extra pin is for added plug retention only.	
Dimensions	269 mm x 277 mm x 160 mm (10.6 in x 10.9 in x 6.3 in)
Weight	3.7 kg (8.2 lb)
Temperature (operating)	-20 °C to 50 °C (-4 °F to 122 °F)
Temperature (storage)	-20 °C to 65 °C (-4 °F to 149 °F)
Humidity	80 % to 31 °C decreasing linearly to 50 % at 50 °C
Altitude	2000 m
Enclosure sealing	IP40
Input overload protection	1000 V ac
Electromagnetic compatibility	EN 61326
Certifications	  
Safety compliance	EN 61010, EN 61557 Parts 1 and 2, IEC 61010-1, CAT III 1000 V, CAT IV 600 V
Pollution degree	2

## Software specifications

Fluke ViewForms basic software requires a PC running Windows 2000, Windows XP and Windows Vista.

## Included accessories

Test Cables with Alligator Clips (red, black, green)  
Infrared adapter with interface cable  
FlukeView Forms Basic CD-ROM  
AC Power Cord  
Soft Carrying Case (base models only)  
English Manual  
Users Manual on CD-ROM  
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)

## Ordering information

**1550C** 5 kV Insulation Tester  
**1555** 10 kV Insulation Tester  
**1550C/Kit** 5 kV Insulation Tester Kit  
**1555/Kit** 10 kV Insulation Tester Kit

## Optional accessories

**TL1550EXT** 25 foot extended test lead set

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