

# Fluke 1555 and 1550C Insulation Resistance Testers

## Technical Data

Digital insulation testing up to 10 kV, ideal for wide range of high voltage applications

### Evaluate the trends, eliminate the doubt

The Fluke 1555 and 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 2 TΩ
- Timer settings up to 99 minutes for timed tests
- 3-year warranty



## 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 ± .25 % per °C, except on the 20 % bands add ± 1 % per °C.

### Insulation resistance measurement

| Test voltage (dc)   | Range  | Accuracy (± reading)                      |
|---------------------|--|---|
| 250 V               | < 250 kΩ<br>250 kΩ to 5 GΩ<br>5 GΩ to 50 GΩ<br>> 50 GΩ     | unspecified<br>5 %<br>20 %<br>unspecified |
| 500 V               | < 500 kΩ<br>500 kΩ to 10 GΩ<br>10 GΩ to 100 GΩ<br>> 100 GΩ | unspecified<br>5 %<br>20 %<br>unspecified |
| 1000 V              | < 1 MΩ<br>1 MΩ to 20 GΩ<br>20 GΩ to 200 GΩ<br>> 200 GΩ     | unspecified<br>5 %<br>20 %<br>unspecified |
| 2500 V              | < 2.5 MΩ<br>2.5 MΩ to 50 GΩ<br>50 GΩ to 500 GΩ<br>> 500 GΩ | unspecified<br>5 %<br>20 %<br>unspecified |
| 5000 V              | < 5 MΩ<br>5 MΩ to 100 GΩ<br>100 GΩ to 1 TΩ<br>> 1 TΩ       | unspecified<br>5 %<br>20 %<br>unspecified |
| 10000 V (1555 Only) | < 10 MΩ<br>10 MΩ to 200 GΩ<br>200 GΩ to 2 TΩ<br>> 2 TΩ     | unspecified<br>5 %<br>20 %<br>unspecified |

|                                    |                                      |
|------------------------------------|--------------------------------------|
| Bar graph range                    | 0 to 1 TΩ (1550C) - 0 to 2 TΩ (1555) |
| 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 μF                     |
| Discharge rate for capacitive load | 1.5 s/μF                             |


|                             | Range               | Accuracy               |
|-----------------------------|---------------------|------------------------|
| Leakage current measurement | 1 nA to 2 mA        | ± (5 % + 2 nA)         |
| Capacitance measurement     | 0.01 μF to 15.00 μF | ± (15 % rdg + 0.03 μF) |

| Timer | Range           | Resolution                                |
|-------|-----------------|---|
|       | 0 to 99 minutes | Setting: 1 minute<br>Indication: 1 second |

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

## General specifications

(RF connection time (binding time) can take up to 1 minute.)

|   |   |
|---|---|
| Display   | 75 mm x 105 mm  |
| Power   | 12 V lead-acid rechargeable battery, Yuasa NP2.8-12   |
| Charger Input (AC)  | 85 V to 250 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   | IEC 61010-1: Overvoltage category II, pollution degree 2.<br>IEC 61010-2-030: Measurement 600V CAT IV / 1000V CAT III<br>IEC 61557-1, IEC 61557-2 |

## Software specifications

Fluke ViewForms basic software requires a PC running Windows XP, Windows Vista, Windows 7 and Windows 8.

## Ordering information

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  
**TLK1550-RTLCT** Heavy Duty Alligator Clip leads

### 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)  
 Heavy Duty Alligator Clip Leads (kit and 1555 only)

**Fluke. Keeping your world up and running.®**

**Fluke Corporation**  
 PO Box 9090, Everett, WA 98206 U.S.A.

**Fluke Europe B.V.**  
 PO Box 1186, 5602 BD Eindhoven, The Netherlands

**For more information call:**  
 In the U.S.A. (800) 443-5853 or Fax (425) 446-5116  
 In Europe/M-East/Africa +31 (0) 40 2675 200 or Fax +31 (0) 40 2675 222  
 In Canada (800)-36-FLUKE or Fax (905) 890-6866  
 From other countries +1 (425) 446-5500 or Fax +1 (425) 446-5116  
 Web access: <http://www.fluke.com>

©2005-2014 Fluke Corporation.  
 Specifications subject to change without notice.  
 Printed in U.S.A. 10/2014 6002295B\_EN

**Modification of this document is not permitted without written permission from Fluke Corporation.**