

Optimum Energy Products Ltd.

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FLUKE®

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

Insulation resistance measurement

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


| | |
|------------------------------------|----------------------------------|
| Bar graph range | 0 to 1 TΩ |
| 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 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

| | |
|---|---|
| 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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