

FLUKE®

Insulation resistance testing

A complete solution—
for every application.



DANGER
THIS ENERGY SOURCE
HAS BEEN LOCKED OUT!
DO NOT ATTEMPT TO
REPAIR OR MAINTAIN
THIS UNIT. YOU MAY SUFFER
OR DIE.

Insulation resistance. The latest test tools from the testing experts.

"You asked. We responded.

*Now you have more insulation
testing choices than ever."*

Time and again, electrical workers tell us about the importance of testing insulation resistance. Insulation resistance tools are critical to a preventative maintenance program, and a staple for troubleshooting any number of utility, industrial and commercial applications.

Now Fluke has **a tool for every budget and need**, from compact handhelds to a portable 10 kV model. We even offer a full-featured insulation tester with multimeter functions built right in—it's two products in one!

Every tester in the line is built to Fluke standards—in other words, beyond your expectations. These tools are all **rugged, reliable, accurate and easy to use**, for lower ownership costs over the long haul...less calibration costs, less repair and replacement costs and longer product lifetime.

Each Fluke tester also provides you access to "how-to" application notes, selected case studies and expert technical support—FREE.

For more about testing insulation, along with complete details on the growing family of Fluke insulation resistance testers, just visit **www.fluke.com/insulation**.





A digital insulation tester and full-featured multimeter—two tools in one!

Fluke 1587/1577 Insulation Multimeters

The Fluke 1587 and 1577 combine the features of an insulation tester with a full featured multimeter in one, compact product.

Both offer the “two tools in one” feature set, combining a digital insulation tester with a full-featured, true-rms digital multimeter in a single, compact, handheld unit. The result: maximum versatility for both troubleshooting and preventative maintenance.

Whether you work on motors, generators, cables or switch gear, Fluke insulation multimeters deliver impressive capability in a single unit. No longer do you need to go back to the truck, shop, or tool crib to get the extra tool you need to get the job done. They are rugged, reliable and easy to use, just what you would expect from Fluke. It all adds up to a breakthrough solution that saves you time and money.

Recommended for:

Fluke 1587: Industrial plant maintenance, industrial and utilities electricians, field service contractors and commercial HVAC/R technicians

Fluke 1577: Electrical contractors and commercial electricians



Key features

- Insulation test
 - 1587:** 0.01 MΩ to 2 GΩ
 - 1577:** 0.1 MΩ to 600 MΩ
- Insulation test voltages
 - 1587:** 50 V, 100 V, 250 V, 500 V, 1000 V
 - 1577:** 500 V, 1000 V
- Auto-discharge of capacitive voltage
- Measure ac/dc voltage, dc millivolts, ac/dc milliamps, resistance, and continuity beeper
- Fluke 1587 includes capacitance, diode test, temperature, min/max, and frequency
- Low-pass filter for variable-speed motor drive measurements (*1587 only*)
- Live circuit detection prevents insulation test if voltage > 30 V is detected for added user protection
- Large display with backlight
- Auto Power Off to save battery life



Insulation resistance testing in the palm of your hand

Fluke 1507/1503 Insulation Resistance Testers

With their multiple test voltages, the compact Fluke 1507 and 1503 Insulation Testers are ideal for many troubleshooting, commissioning, and preventative maintenance applications. Additional features, like the remote probe on these tools, reduces the time needed to perform repetitive testing.

The Fluke 1507 is the best compact, lightweight, hand-held insulation tester for advanced industrial and electrical insulation testing. Its full feature set offers the ability to easily and quickly perform advanced insulation resistance testing. Its handy size makes it easy to pack and use. And its reasonable price makes it an excellent value.

For basic electrical insulation testing, choose the compact Fluke 1503—a rugged, compact tool that handles the most common tests at a most affordable price.



Key features

- Insulation test range
1507: 0.01 MΩ to 10 GΩ
1503: 0.1 MΩ to 2000 MΩ
- Insulation test voltages
1507: 50 V, 100 V, 250 V, 500 V, 1000 V
1503: 500 V, 1000 V
- Save both time and money with automatic calculation of Polarization Index and Dielectric Absorption Ratio (*1507 only*)
- Make repetitive tests simple and easy with the Compare (Pass/Fail) function (*1507 only*)
- Repetitive or hard-to-reach testing is easy with the remote test probe
- 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
- AC/DC voltage: 0.1 V to 600 V
- Lo ohms/earth-bond continuity (200 mA)
- Resistance: 0.01 Ω to 20.00 KΩ
- Remote probe, test leads, probes and alligator clips included with each tester
- One-year warranty

Recommended for:
Fluke 1507: Electrical contractors, industrial and commercial electricians
Fluke 1503: Residential and commercial electricians

New



Digital insulation testing up to 10 kV

Fluke 1555/1550C Insulation Resistance Testers

The new 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, three-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.



Key features

- Test voltages up to 10 kV provides solutions for all applications
- CAT III 1000 V, CAT IV 600 V safety rating
- Voltage breakdown detection alerts the user that 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
- Three-year warranty

Recommended for:
Fluke 1555 and 1550C: Industrial electricians, utility troubleshooters, engineers and technicians



Fluke has created combo kits to help maximize your productivity and help you solve problems faster and reduce downtime, all with significant savings over buying each product individually.

The products in each kit have been specifically selected for both troubleshooting and preventative maintenance applications.

Establishing preventative maintenance programs are becoming critical to maintaining the uptime of electrical equipment and can significantly reduce both planned and unplanned downtime. Unplanned downtime costs are difficult to calculate, but often significant. For some industries, it can represent 1 % to 3 % of revenue (potentially 30 % to 40 % of profits) annually.

Fluke combo kits



**Fluke 1587
ET Advanced
Electrical Troubleshooting Kit**

Includes:

- Fluke 1587 – Perform insulation tests, plus a wide range of DMM tasks with confidence and ease
- i400 – Use with your 1587 to accurately measure AC current without breaking the circuit
- Fluke 62 – Check for hot spots and measure temperature with the 62 mini non-contact thermometer



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

Includes:

- Fluke 1587 – Perform insulation tests, plus a wide range of DMM tasks with confidence and ease
- i400 – Use with your 1587 to accurately measure ac current without breaking the circuit
- Fluke 9040 – Check the rotation of three-phase motors easily and safely



**Fluke 1555
Insulation
Resistance
Tester Kit**

Includes:

- Fluke 1555 Insulation Resistance Tester
- IP67 Hard Case
- Ruggedized Alligator Clips
- NIST Traceable Certificate of Calibration



**Fluke 1550C
Kit Insulation
Resistance
Tester Kit**

Includes:

- Fluke 1550C Insulation Resistance Tester
- IP67 Hard Case
- Ruggedized Alligator Clips
- NIST Traceable Certificate of Calibration

Choose the best fit

| | Two in one tools | | Stand-alone tools | | | |
|--|-----------------------------------|----------------------------|--|-----------------------------------|----------------------------|----------------------------|
| Insulation test features | 1587 | 1577 | 1503 | 1507 | 1550C | 1555 |
| Test voltages | 50 V, 100 V, 250 V, 500 V, 1000 V | 500 V, 1000 V | 500 V, 1000 V | 50 V, 100 V, 250 V, 500 V, 1000 V | 250 V to 5000 V | 250 V to 10,000 V |
| Insulation resistance range | 0.01 MΩ to 2 GΩ | 0.01 MΩ to 600 GΩ | 0.01 MΩ to 2000 GΩ | 0.01 MΩ to 10 GΩ | 200 k to 1 TΩ | 200 k to 2 TΩ |
| PI/DAR | | | | • | • | • |
| Auto discharge | • | • | • | • | • | • |
| Timed ramp test (Breakdown) | | | | | • | • |
| Pass/fail comparison | | | | • | • | • |
| Est. # of IRT tests | 1000 | 1000 | 2000 | 2000 | Various | Various |
| Voltage > 30 V warning | • | • | • | • | • | • |
| Memory | | | | | • | • |
| Remote test probe | • | • | • | • | | |
| Lo ohms/earth-bond continuity¹ | | | 200 mA source (10 mΩ resolution) | 200 mA source (10 mΩ resolution) | | |
| Display | Digital LCD | Digital LCD | Digital LCD | Digital LCD | Digital LCD/analog display | Digital LCD/analog display |
| Hold/lock | • | • | • | • | • | • |
| Multimeter features | | | | | | |
| AC/DC volts | • | • | <p>Note: Not all product features and specifications are listed in this table. For more complete information, see individual product data sheets.</p> <p>Footnotes: ¹ Function useful for checking connections and motor windings. Also useful for users who are required to perform earth-bond continuity measurements during installation testing. ² Filter for variable-speed motor drive measurements.</p> | | | |
| Current | • | • | | | | |
| Resistance | • | • | | | | |
| Continuity beeper | • | • | | | | |
| Temperature (contact) | • | | | | | |
| Lo-pass filter² | • | | | | | |
| Capacitance | • | | | | | |
| Diode test | • | | | | | |
| Frequency | • | | | | | |
| MIN/MAX | • | | | | | |
| Other Features | | | | | | |
| Backlight | • | • | • | • | | |
| Software | | | | | FlukeView® Forms Basic | Fluke View® Forms Basic |
| Warranty | Three-years | Three-years | One-year | One-year | Three-years | Three-years |
| 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 |



Insulation resistance support

Insulation resistance testing

Insulation resistance testers can be used to determine the integrity of windings or cables in motors, transformers, switch-gear, and electrical installations. The test method is determined by the type of equipment being tested and the reason for testing. Spot-reading/short time resistance tests can be used for low-capacitance equipment, while trending tests such as step voltage or dielectric-absorption tests can be used for time-dependent currents that will last for hours.

The most important reason for testing insulation is to insure public and personal safety. By performing a high dc voltage test between de-energized current-carrying (hot), grounded, and grounding conductors, you can eliminate the possibility of having a life-threatening short circuit or short to ground.

In addition, insulation testing is important to protect and prolong the life of electrical systems and motors. Periodic maintenance tests can provide valuable information about the state of deterioration and will help in predicting possible failure of the system. Correcting problems will result not only in a trouble-free system, but will also extend the operating life for a variety of equipment.

Fluke not only has a full line of insulation resistance products to cover every application, we also provide application notes, case studies, and expert technical support to help you stay up and running. From "how-to" guides to industry and product specific case studies, Fluke is dedicated to providing you with technical support.

Visit www.fluke.com/insulation for a complete list of insulation testing support materials.

Every need—and every budget:

Learn about the entire range of Fluke insulation resistance testers. See your Fluke sales representative or visit www.fluke.com/insulation

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

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