Fluke 1555 and 1550C Insulation Resistance Testers

Manage insulation tests wirelessly for faster, better results

Perform preventive maintenance tasks faster, easier and safer using Fluke Connect and Fluke's market leading insulation testers.

Preventive maintenance programs require data to compare present day information with historical readings. Differences between the two may indicate the need to perform scheduled maintenance rather than suffer an unplanned breakdown. Fluke Connect and the 1550 Series Insulation Testers can help make this data-intensive project faster, easier and safer than manual methods.

Fluke Connect offers three main benefits in data collection for preventive maintenance programs:

1. Simple, easy setup and operation through remote control of the insulation tester
2. Visual graphing of results through real-time trending
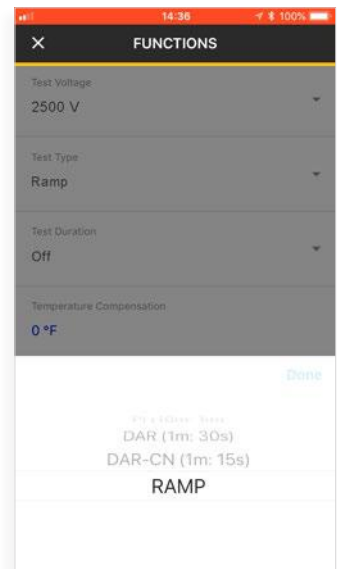3. Easy creation of test result documentation through drag and drop report creation

Remote configuration and operation

Insulation tests must always be performed with the equipment under test being de-energized. Even though the power is off, there are still many safety concerns.

REMOTE CONFIGURATION AND OPERATION
Faster testing, increased safety through remote configuration and test setup, remote start/stop and remote data download.

REAL TIME TRENDING
Gives you easy-to-see visual cues, rather than hard to read rapidly changing values.

DRAG AND DROP REPORT CREATION
Saves time and makes test results easier for everyone to understand.

Motors, generators, cables, or switch gear usually cannot be transported from their installed location to a safe, protected work area. The motor under test may be de-energized, but there is frequently other powered equipment operating nearby. The less time spent around this equipment, the better.

Fluke Connect also simplifies test configuration. Using a smartphone, the Fluke Connect app leads you through setup for any number of tests. You can quickly and accurately set parameters such as:

- Test voltage
- Ramp test selection
- Time limit (duration) for the test
- Measure polarization index (PI)
- Measure dielectric absorption ratio (DAR or DAR[CN])
- Once the tester is configured, you can start and stop the test remotely, a safe distance away from any operating, energized equipment.

Remote control of your insulation tester allows you to use your smartphone to set up a ramp test ending at 2500 V. These parameters can be entered from a safe distance away from the unit under test and any other potentially hazardous equipment.

Note: Fluke Connect functionality will be added throughout this and coming years. Certain functions described require an annual paid subscription.

This single display on your smartphone or tablet gives you more information, in less time, than was previously available with just the instrument display.

Real time trending

You can also view results in progress, safely on your smartphone or tablet, through Fluke Connect real-time trending. You get easy-to-see visual cues and graphs, rather than hard to read rapidly changing values.

Fluke Connect will give you visual cues as the test begins, plus a visual warning on your smartphone screen to indicate potentially hazardous voltages may be present on the test terminals. The Fluke Connect display indicates the measured insulation resistance after the circuit has stabilized. Your smartphone will display the measured value continuously (in real time) and display a trend line for easier interpretation of results.

The ramp test shown would be difficult to interpret if you were only looking at the display on the tester. But by using Fluke Connect, you can easily see:

1. A ramp test has been chosen during setup.

2. The test has run for 54 seconds so far.

3. The instantaneous resistance measurement is 283 GΩ.

4. The test voltage at this point in time is 2111 V dc.

5. The instantaneous current measurement is approximately 7.46 nA dc.

6. The test voltage has been ramping upwards. During that time, the measured resistance has been increasing.

If the resistance drops off, this would suggest poor insulation health or moisture content. With a sudden drop in resistance the 155x will cut the voltage and display the ramped voltage and resistance.

Insulation Test Report — ACME INC

FLUKE

Test Description: 5kV Insulation test	Reason for Testing: Maintenance	Instrument Model: Fluke 1555
Date: 28.03.2018	Asset Name: Single Phase Motor	Calibration Date: 12.12.2017
Time: 12:30	Rated Power: 25kW	Engineer Name: Jit Patel
Site/Location: FPM	Serial Number: 23454467	Order Number: RE124453

Ambient Temp	32°C	Humidity	60%
Temperature Compensation	Yes	Environmental Conditions	Rain overcast
Dew Point	60 °C	Cable Type	400mm2 XLPE

GΩ — Insulation Spot Test

1000
500
0

06/21/2017 01:00:00 AM · 06/21/2017 02:00:00 AM · 06/21/2017 03:00:00 AM · 06/21/2017 04:00:00 AM · 06/21/2017 05:00:00 AM

Description	Test Tag	Results			Test Duration	Calculated Results			Test Conditions			Test Ended
		Ohms	V DC	A DC		Capacit.	PI	DAR	Voltage	Ramp	Time Limit	
Motor AG1	01	>575 G	275	<1.00 n	0:00:33	0.00 µF		1.00	0.00 µF		1.00	User
Motor AG1	A 02	>675 G	275	<1.00 n	0:00:33	0.00 µF		1.00	0.00 µF		1.00	User
Motor AG1	03	>545 G	275	<1.00 n	0:00:33	0.00 µF		1.00	0.00 µF		1.00	User
Motor AG1	04	>650 G	275	<1.00 n	0:00:33	0.00 µF		1.00	0.00 µF		1.00	User
Motor AG1	05	>590 G	275	<1.00 n	0:00:33	0.00 µF		1.00	0.00 µF		1.00	User

Signature...

Drag and drop report creation

Insulation testing is data intensive. Fluke Connect makes the job of data collection and analysis less difficult with drag and drop report creation. This saves time and makes test results easier for everyone to understand.

Data from your insulation tests are transferred by the ir3000 FC Connector to the Fluke Connect app on your smartphone, tablet or PC, where tests can be compared to previous results and stored for future reference. No more hand-written data transfers, transcription errors or illegible notes.

Report data can include the setup data you entered as part of the remote configuration, plus details such as location, technician's name, serial number and other nameplate data for the unit under test. Ambient test conditions can be included (ambient temperature, temperature compensation. Dew point, humidity, environmental conditions, cable type).

The full data table of test results can be included with a simple drag and drop motion. In addition, a summary graphic of the test results can be included without separate calculations or chart preparation.

Additional functions

Fluke Connect functionality will be added throughout this and coming years. Look for the following in the near future

- Assign insulation test measurements to specific assets
- Allow temperature compensation input prior to or post any insulation test
- Allow humidity reading capture
- Perform test-to-test trending over time
- Display a live trending PI/DAR graph from 1550C/1555 FC to FC
- Display a live trend of a spot insulation test from 1550C/1555 FC to FC
- Display a live trend of a ramp test from 1550C/1555 FC to FC
- Display a live trend and save test measurements for Leakage Current and Capacitance with Insulation Resistance
- Compare test results with manufacturer-provided specifications for insulation resistance

Ordering information

Fluke 1550 Series Insulation Testers

1550C – ir3000 FC
5 kV Insulation Tester with ir3000 FC Connector

1555 – ir3000 FC
10 kV Insulation Tester with ir3000 FC Connector

1550C/Kit – ir3000 FC
5 kV Insulation Tester Kit with ir3000 FC Connector

1555/Kit – ir3000 FC
10 kV Insulation Tester Kit with ir3000 FC Connector

Included accessories

Test Cables with Alligator Clips (red, black, green)
Infrared adapter with interface cable
AC Power Cord
Soft Carrying Case (base models only)
Quick Reference Card
USB-IR Cable Installation Guide
IP67 Hard Case (kit only)
Certificate of Calibration (kit only)
Heavy Duty Alligator Clip Leads (kit and 1555 only)

Optional accessories

TL1550EXT
25 foot extended test lead set

TLK1550-RTLCT
Heavy Duty Alligator Clip leads

FLUKE-IR3000FC1550
Fluke Connect IR to Wireless Connector

FLUKE CONNECT ®

Simplify preventive and predictive maintenance tasks:

Fluke Connect improves maintenance productivity and safety by wirelessly collecting measurement data from over 80 test tools and condition monitoring sensors. The Fluke Connect Mobile App for Android™ (5.0 and up) and iOS (4s and later) saves equipment measurements to the cloud where they can be referenced at any time and accessed by the entire team.

Fluke Connect is available from multiple sources:

- The Fluke Connect online store: **https://connect.fluke.com/en/app#**
  This is the ideal place to download and install the desktop and web versions of the Fluke Connect app.

- The App Store for iOS: **www.fluke.com/appstore**
  Google Play for Android: **www.fluke.com/googleplay**
  This is the ideal place to download and install the mobile version of the Fluke Connect app on your smartphone or tablet.

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