Technical Data

Fluke 1670 Series Multifunction Installation Testers



Full-color touchscreen and tactile rotary knob for fast navigation.

A single solution for all your installation testing needs — simplified setup, faster testing, easier reporting.

The Fluke 1670 Series Multifunction Installation Testers will revolutionize the way you work. With an ergonomic design, seamless user interface, integrated data management capabilities, wireless connectivity (1673 FC and 1674 FC), and comprehensive reporting software, the 1670 Series sets the new standard for an integrated installation testing solution.
Reliable installation testing is essential for ensuring the safety, optimal functionality, and integrity of a facility's electrical systems. The 1670 Series' rugged design allows you to verify the safety of electrical installations in domestic, commercial, and industrial applications while meeting the requirements of IEC/HD 60364-6 and all relevant local installation test standards.
With the 1670 Series, you'll be able to perform your required testing faster and reduce the time you spend on documentation, all while having the ultimate confidence in the data you're collecting.



Intuitive user interface and setup

Streamlined user interface eliminates complex multi-level menus for easy setup with the full-color touch screen, your smart device, or a PC, so you get the most out of your time onsite.

Fast, accurate testing

Accelerate installation testing accuracy and efficiency with Auto Test and Automatic Measurement Validation functions.

Simplified reporting and results

Simplify report generation with automatic report population, Fluke Connect integration, and one-touch reporting with Fluke TruTest™ software.



Faster installation testing and documentation in three easy steps

1. Setup

Use the simplified bidirectional user interface to quickly and easily setup your tester using the color touchscreen, a smart device, or by PC.

2. Test

Perform all your required testing up to 30% faster using the unique AutoTest function and Automatic Measurement Validation, giving you immediate visual pass/fail indications.

3. Report

Report and document up to 50% faster. Automatically link test results, preview inspection results in the field, and generate test certificates on site at the touch of a button.

Simplified User Interface and Testing Setup

The 1670 Series takes data management to the next level streamlining test set up and preparation with an advanced bidirectional user interface. When setting up your project, the hierarchical tree topology for clients, sites, distribution boards, circuits, and test points can be easily customized using the high-resolution colour touchscreen, a smart device, or by PC. Edit, add, delete, or modify information directly on the tool as you test to ensure accurate data, or transfer updates to your tester via the Fluke Connect™ mobile app or TruTest™ desktop software. Easy-to-read test tables help you quickly see that you are capturing the right measurement data at the right test point, every time. Now you can spend less time setting up your tester and organising data, giving you more time to perform valuable testing.

Perform All Required Tests up to 30% Faster

Installation testing can be a time-consuming process. It often requires repetitive, manual test setups that can be frustrating and introduce the opportunity for errors.
The Fluke 1670 Series leverages a unique Auto Test function (1673 FC / 1674 FC) that enables you to run through an entire installation test sequence at the touch of a button. An integrated help function provides a visual connection guide to help ensure measurement success. Automatic measurement validation, with user-defined limit warnings, compares test results to the relevant standards and provides you with an immediate visual pass/fail indication to quickly identify potential issues. Eliminating manual testing and automating measurement validation means you can perform your tests up to 30% faster, giving you more time to focus on other critical tasks and increasing your productivity.

*30% faster testing compared to manual testing.



Reduce manual data entry and recordkeeping

Reduce Documentation and Reporting Time up to 50%

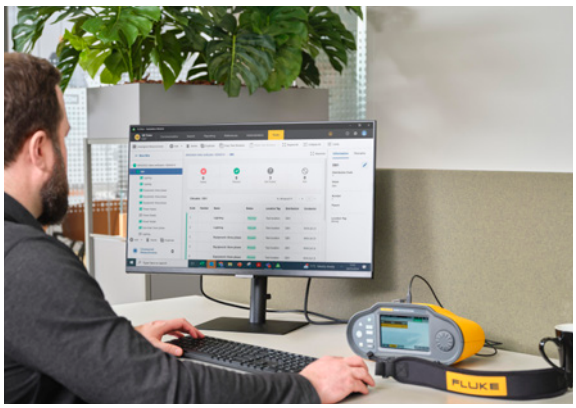
The Fluke 1670 Series Multifunction Installation Testers help you reduce documentation time by up to 50%. Link test results to the circuit or point under test, reducing manual data entry and recordkeeping. You can also preview inspection results in the field via the tester, a smart device, or PC, and Fluke Connect compatibility making it easy to store, manage, and share your data from the field. Fluke TruTest Software lets you generate inspection certificates on site with just a few simple steps, so you can finalise and invoice your inspection at the time of service. The Fluke Connect mobile app enables you to document and input all relevant photos and inspection notes, so you can complete your work on site, eliminating extra work at the office.

*50% faster reporting and documentation based on customer interviews.



Insulation PreTest™ Functionality

The Fluke 1674 FC includes a patented Insulation PreTest, so you can better protect the installation and avoid costly mistakes. If the tester detects that appliances are connected to the system during the test, it will stop the insulation test and provide a visual and audible warning. This helps eliminate accidental damage to peripheral equipment and saves you both time and money.



TruTest Software simplifies electrical system data management and reporting

Optimized Software and Reporting

Fluke TruTest Software simplifies electrical system data management and reporting, eliminating the hassle of traditional data management with a single, integrated Fluke solution. Proper data management and testing information is critical for producing easy-to-understand reports for clients or your management team. TruTest streamlines the process by allowing you to create and transfer testing metadata between the software and your installation tester using a USB-C interface cable, or via the Fluke Connect mobile app, which helps you ensure accurate results. The user-friendly interface, intuitive workflow, and report builder means that you can quickly format your measurement data into printable test certificates and reports, complete with your company logo and electronic signature. The live onscreen dashboard allows you to see the status of all your clients instantly and navigate to further levels of detail if desired.
Fluke TruTest Software allows you to create certificates that are compliant with a growing list of regional reports, including BS7671, DIN VDE 0100-600, ÖVE/ÖNORM E 8101, NIN/NIV, NEN3140, and other European installation test standards. All these reports are available at the touch of a button, and a pre-configured international template ensures that no matter your location, TruTest Software has you covered.

TruTest

Fluke Connect Compatibility

Enhance the functionality of the 1673 FC and 1674FC Installation Testers with the Fluke Connect mobile app, eliminating tedious data entry and optimizing data management with cloud storage. The Fluke Connect mobile app wirelessly synchronizes measurement data from your installation tester for later export to TruTest desktop software, allowing for prompt and effective reporting even on location. Use the Fluke Connect app to create projects and upload them to your 1673 FC and 1674 FC for streamlined data management. Construct distribution boards and circuits to send to your tester, using this data to guide your testing regime. With the Fluke Connect app, you can also take photos with your smart device and assign them, along with notes, to specific test points or assets, creating detailed visual inspection reports.
With the powerful Fluke Connect ecosystem of test tools, you'll be able to take your troubleshooting and reporting to the next level. Connect additional test tools, like the Fluke 369 FC Leakage Current Clamp or the Fluke 1630-2 FC Earth Ground Clamp, to synchronize data between auxiliary devices and test points, providing your clients with a clearer picture of overall facility health.

FLUKE CONNECT

Additional Capabilities

- **Field updatable** — you can apply any changes to regulations or enhancements to the tester in the field.
- **Compact and lightweight** (less than 1.6 kg), with a padded neck strap to free your hands.
- **Full-color touch screen** and tactile rotary knob for fast navigation, with no complex multi-level menus.
- **Rechargeable 2,500 mAh Li-ion battery** to cover a full day of testing.
- **Standard USB-C charging Port** with fast charging support for convenient on-the-go charging.
- **Newly designed professional hard case** for transporting and protecting your installation tester and accessories.
- **Additional high current loop mode** for faster measurements than loop tests with non-trip mode for RCD protected circuits.
- **Insulation Monitoring Devices** (IMD) tests.
- **Surge Protection Device** (SPD) functional test.
- **Voltage drop measurement** function.
- **Z Max memory** for loop tests to support easy evaluation of the highest loop test value.
- **Unique zero adapter** for fast, reliable, and accurate test lead and mains cord compensation.
- **Simultaneous readings** of voltage measurements between L-N, L-PE, and N-PE using the mains cord. No need to change measurement connections.
- **RCD trip current** and trip time measurement in parallel (RCD type AC, A, B, F and GFCI).
- **PEFC or PSC and loop impedance** measurement in parallel, displays them together on the dual display.
- **Ring testing** lets you select the required input sockets without exchanging test leads.
- **Continuity test** with low test current (10 mA) to measure motor windings.
- **Earth Volt Touchpad** detects raised earth voltages > 50 V, indicating potentially dangerous situations.

Comparison Chart

	1672	1673 FC	1674 FC
Full-color touch screen	•	•	•
Insulation PreTest safety function			•
Insulation at L-N, L-PE, N-PE inputs	•	•	•
Auto Test sequence		•	•
Auto pass/fail results	•	•	•
Loop and line impedance — mΩ resolution			•
Continuity at L-N, L-PE, N-PE inputs	•	•	•
Test smooth DC sensitive RCDs (Type B/B+)		•	•
Earth resistance	•	•	•
Voltage AC, DC, and frequency	•	•	•
Wiring polarity checker, detects broken PE and N wires	•	•	•
Insulation resistance	•	•	•
Continuity and resistance	•	•	•
Measure motor windings with continuity test (@ 10 mA)	•	•	•
Loop and line impedance	•	•	•
Prospective Earth Fault Current (PEFC/IK)	•	•	•
Prospective Short-Circuit Current (PSC/IK)	•	•	•
RCD trip time	•	•	•
RCD trip current (ramp test)	•	•	•
Measures trip time and current for RCD type AC, A, and F in one test	•	•	•
RCD variable test current	•	•	•
Automatic RCD test sequence	•	•	•
Phase sequence test	•	•	•
Voltage drop measurement	•	•	•
Insulation Monitoring Device (IMD) test			•
Surge Protection Device (SPD) test			•
Other features			
Fluke Connect compatibility		•	•
Fluke Cloud storage		•	•
On/Off switchable Auto Start for continuity, RCD, and loop test	•	•	•
Illuminated display	•	•	•
Memory, interface			
Z Max memory		•	•
Memory	•	•	•
USB-C, and BLE interface	USB-C	USB-C/BLE	USB-C/BLE

General Specifications

Specification	Characteristic
Size	26.25 cm x 14.19 cm x 11.93 cm (10.3 in x 5.6 in x 4.7 in)
Weight (incl. batteries)	1.6 kg (3.5 lb)
Battery size, quantity	BP290, Li-ion, 10.8 V, 2500 mAh, 27 Wh
Ingress Protection	IEC 60529: IP40
Safety	Complies with IEC/EN 61010-1, IEC 61010-2-030, IEC 61010-2-034
Safety rating	CAT III 600 V, CAT IV 300 V
Performance	IEC 61557-1 to IEC/EN 61557-8 and IEC 61557-10

Voltage measurement AC, DC, and frequency

Range	Resolution	Input Impedance	Overload Protection
600 V	0.1 V	320 kΩ	660 V
45-66 Hz	0.1 Hz	320 kΩ	-

Continuity testing (R_{LO})

Range (Auto ranging)	Resolution	Open Circuit Voltage
20 Ω/200 Ω/2000 Ω	0.01 Ω/0.1 Ω/1 Ω	> 4 V

Insulation resistance measurement (R_{ISO})

Test voltages	
1672	100-250-500-1000 V
1673 FC/1674 FC	50-100-250-500-1000 V

Test Voltage	Insulation Resistance Range	Resolution	Test Current
50 V	10 kΩ to 50 MΩ	0.01 MΩ	1 mA @ 50 kΩ
100 V	10 kΩ to 20 MΩ	0.01 MΩ	1 mA @ 100 kΩ
	20 MΩ to 100 MΩ	0.1 MΩ	
250 V	10 kΩ to 20 MΩ	0.01 MΩ	1 mA @ 250 kΩ
	20 MΩ to 200 MΩ	0.1 MΩ	
500 V	10 kΩ to 20 MΩ	0.01 MΩ	1 mA @ 500 kΩ
	20 MΩ to 200 MΩ	0.1 MΩ	
	200 MΩ to 500 MΩ	1 MΩ	
1000 V	100 kΩ to 200 MΩ	0.1 MΩ	1 mA @ 1 MΩ
	200 MΩ to 1000 MΩ	1 MΩ	

Insulation pretest (1674 FC)

Insulation safety pretest	Connections from the Tester to L, N, and PE are required.

Surge Protection Device (SPD) Insulation RAMP Test (Varistor Test) IEC 61643-11

Test Voltage	Voltage Ranges	Resolution	Test Current	Accuracy
500 V	Step Ramp 0 V to 500 V	1 V	1 mA	± (1.5 % + 3 digits)
1000 V	Step Ramp 0 V to 1000 V	1 V	1 mA	± (1.5 % + 3 digits)

Insulation Monitoring Devices (IMD) IEC 61557-8

Range	Resolution	Note
1 kΩ to 10 kΩ	1 kΩ	
10 kΩ to 100 kΩ	10 kΩ	> 1 MΩ only available with voltages >100 V
100 kΩ to 3 MΩ	100 kΩ	

Loop and line impedance (Z_I No Trip and Hi Current)

Range Setting	Resolution	Accuracy[1]
10 Ω[2]	0.001 Ω	Hi Current mΩ mode: ± (2 % + 35 digits)
20 Ω	0.01 Ω	No Trip mode: ± (3 % + 6 digits) Hi Current mode: ± (2 % + 4 digits)
200 Ω	0.1 Ω	No Trip mode: ± (3 %) Hi Current mode: ± (2 %)
2000 Ω	1 Ω	± 6 %[3]

[1] Valid for resistance of neutral circuit < 20 Ω and up to a system phase angle of 30°. Test leads must be zeroed before testing.
[2] Fluke Connect™ 1674 FC model only.
[3] Valid for mains voltage > 200 V.

Prospective Earth Fault Current (PEFC) Prospective Short Circuit Current (PSC)

Range	Range	Resolution
0 kA to 50 kA	I_K < 1000 A	1 A
	I_K ≥ 1000 A	0.1 kA

Computation: Prospective Earth Fault Current (PEFC/I_K) or prospective short circuit current (psc/I_K) determined by dividing measured mains voltage by measured loop (L-PE) resistance or line (L-N) resistance, respectively.

Voltage drop (by line impedance test)

Range	Resolution	Accuracy
0.0-99.9%	0.1%	Consider accuracy of line impedance measurement(s)

Note: Voltage drop reading is calculated from line impedance measurement & entered current rating

RCD tests, RCD types tested

RCD Type[1]		1672	1673 FC	1674 FC
AC[2]	G[3]	•	•	•
AC	S[4]	•	•	•
A[5], F[6]	G	•	•	•
A, F	S	•	•	•
B, B+[7]	G		•	•
B, B+	S		•	•
RDC-DD, RCD A/EV, RCD B/Mi[8]	G		•	•
GFCI	G	•	•	•

[1] RCD test inhibited for V > 265 AC
[2] RCD tests permitted only if the selected current, multiplied by earthing resistance, is < 50 V.
[3] AC – Responds to AC
[4] G – General, no delay
[5] S – Time delay
[6] A – Responds to AC and pulsed signal
[7] F – responds to AC, pulsed and high frequency
[8] B, B+ – Responds to AC, pulsed, high frequency, and smooth DC
[9] RDC-DD – Responds to residual currents of 6 mA DC

RCD tripping time test (ΔT)

Test Function		RCD Current Selection						
	6 mA	10 mA	30 mA	100 mA[1]	300 mA[1]	500 mA[1]	1000 mA[2]	Var[3]
x ½, 1	•	•	•	•	•	•	•	•
x 5	•	•	•	•				
Ramp	•	•	•	•	•	•	•	•
Auto	•	•	•	•				

Mains voltage 50 V – 265 V ac, 45/66 Hz

[1] Type B RCDs require mains voltage range of 195 V to 265 V.

[2] Type AC RCDs only.

[3] Type A RCDs are limited to 700 mA, not available for Type B RCDs.

RCD Tripping Current ($I_{\Delta N}$) Measurement/Ramp Test

Current Range	Step Size	Dwell Time		Measurement Accuracy
		Type G	Type S	
30 % to 110 % of RCD-rated current[1]	10 % of $I_{\Delta N}$[2]	300 ms/step	500 ms/step	± 5 %

[1] Specified trip current ranges (IEC 61008-1):
30 % to 150 % for Type A IΔ N > 10 mA
30 % to 210 % for Type A IΔ N = 10 mA
20 % to 210 % for Type B
50 % to 100 % for Type AC
35 % to 140 % for Type A (> 10 mA)
35 % to 200 % for Type A (≤ 10 mA)
50 % to 200 % for Type B

[2] 5 % for Type B

Earth resistance test (RE) 1673 FC and 1674 FC only

Range	Resolution	Frequency	Output Voltage
200 Ω/2000 Ω	0.1 Ω/1 Ω	128 Hz	25 V

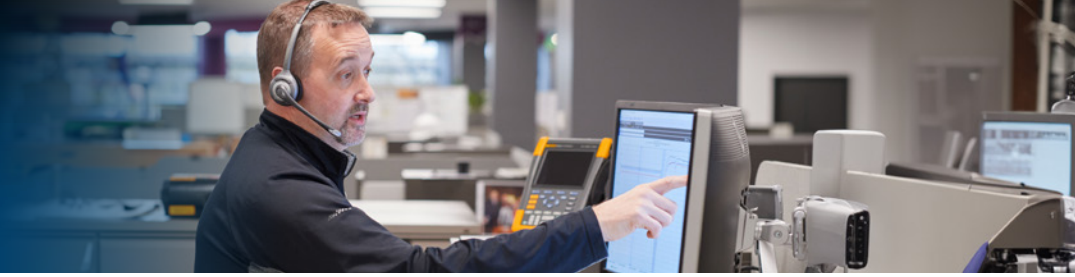
Phase sequence indication

Icon ↻	Range	Display
Phase Sequence indicator is active	185 V to 600 V	“1-2-3”: or “3-2-1” for incorrect phase



PremiumCare

Uptime Protection by FLUKE



Reduce unplanned expenses and get the most out of your tools with Fluke Premium Care

When you invest in the best equipment in the industry, you want your money to go as far as possible. Fluke Premium Care provides coverage above and beyond your tool's original product warranty, so you don't need to worry about unexpected downtime caused by damaged test equipment, accessories, or tools in need of calibration or repair.

Fluke Premium Care Standard is available with one-year or three-year plan options so you can choose the plan that is right for you.



	Standard Warranty	Premium Care Standard
Repair manufacturing defects	✓	✓
Accidental damage and repair		✓
Replacement of damaged accessories		✓
Annual calibration or performance check		✓
Expedited calibration and repair		✓
Priority tech support		✓
Software updates		✓
Expedited shipping		✓

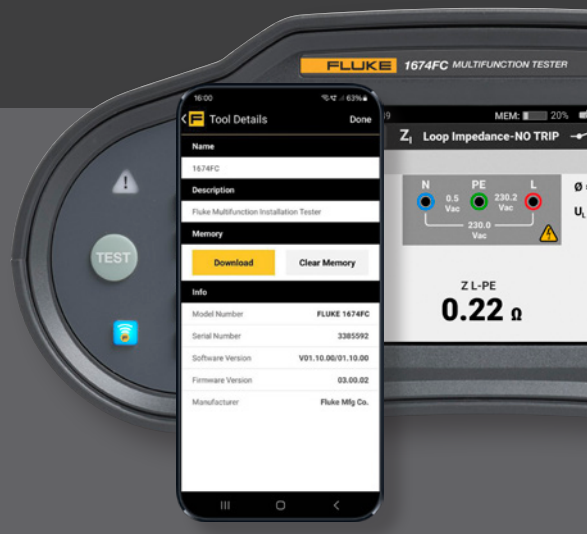
Learn more about Fluke Premium Care at https://www.fluke.com/en-us/support/customer-services/premium

FLUKE CONNECT

Preventive Maintenance Simplified

Save time and improve the reliability of your maintenance data by wirelessly syncing measurements using the Fluke Connect system.

- **Eliminate data-entry errors** by saving measurements directly from the tool and associating them with the work order, report or asset record.
- **Maximize uptime** and make confident maintenance decisions with data you can trust and trace.
- **Move away from clipboards**, notebooks and multiple spreadsheets with a wireless one-step measurement transfer.
- **Access baseline**, historical and current measurements by asset.
- **Share your measurement data** using ShareLive™ video calls and emails. Visit the Fluke website to learn more about the Fluke Connect system.



Find out more at **fluke.com**

Download on the App Store

ANDROID APP ON Google play



Available Models

FLUKE-1672 Multifunctional Installation Tester

FLUKE-1673 FC Multifunction Installation Tester with Auto Test, Fluke Connect™ compatibility

FLUKE-1674 FC Multifunction Installation Tester with Auto Test, Insulation PreTest, Fluke Connect compatibility

Fluke 1673 FC Multifunction Installation Tester
with 1 or 3 Years of Fluke Premium Care Standard

Fluke 1674 FC Multifunction Installation Tester
with 1 or 3 Years of Fluke Premium Care Standard

Included accessories
Heavy duty mains cord with single input connector, hard case, USB-C power adapter for charging, remote control probe, hanging strap, zero adapter, test leads and probes, alligator clips, Li-Ion battery.

Additional options
The Fluke 1672 can be purchased as a standalone model or as a kit with Fluke TruTest Software.

The Fluke 1673 FC and 1674 FC can be purchased as standalone models or as a kit with the Fluke 1630-2, Fluke TruTest Software, Fluke Premium Care, or a combination thereof.

Visit fluke.com to get complete details about these products or ask your local Fluke sales representative.

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