

1650 Series Multifunction Installation Testers

FLUKE®



Fluke 1653



Fluke 1652



Fluke 1651



BS7671 16th Edition IEE Wiring Regulations IEC 60364.6.61, HD 384

Included Accessories

TP165X Remote Control Probe (1652 and 1653 only)
 TL165X STD Standard Test Lead Set
 C1600 Hard Carrying Case
 Mains Test Cord
 Padded Carrying Strap
 Quick Reference Guide
 6 AA Cell batteries

Ordering Information

Fluke 1651 Multifunction Installation Tester
 Fluke 1652 Multifunction Installation Tester
 Fluke 1653 Multifunction Installation Tester

Check the Fluke website for the various software modules

10650-eng Rev. 05

The perfect installation testing solution

The Fluke 1650 Series testers verify the safety of electrical installations in domestic, commercial and industrial applications. They can ensure that fixed wiring is safe and correctly installed to meet the requirements of IEC 60364, HD 384 and all relevant local standards. The unique ergonomic design, low weight and padded neck-strap to free your hands, make operating a Fluke 1650 multifunction tester a pleasure. With easy-to-operate controls and large display with exceptionally wide viewing angle, it's also comfortable and safe to use.

- **Easy:** simply turn the knob, press the button and see the results

- **Efficient:** measure loop impedance without tripping RCDs, eliminating the need to bypass them
- **Rugged:** withstands a one-meter drop for demanding field use
- **Safe:** slim probe with test button keeps your eyes on the panel while probing hard to reach points
- **Comfortable:** compact and lightweight (less than 1.2 kg) for all day testing
- **Compliant:** meets all relevant standards including EN 61557 and VDE 0413

Rotary knob labeling is available in six versions. Select from English, French, German, Italian, Spanish or a user-friendly Symbols version.

Features

Measurement functions	1651	1652	1653
Voltage & Frequency	●	●	●
Wiring polarity	●	●	●
Insulation Resistance	500, 1000 V	250, 500, 1000 V	50, 100, 250, 500, 1000 V
Continuity	●	●	●
Loop & Line Resistance	●	●	●
PFC/PSC (short-circuit current)	●	●	●
RCD tripping time	●	●	●
RCD tripping current level		●	●
Automatic RCD test sequence		ramp test	ramp test
Test of pulse sensitive RCD's		●	●
Earth Resistance			●
Phase Sequence Indicator			●
Other features			
Self-test	●	●	●
EN 61557*/VDE 0413 compliant	●	●	●
Illuminated Display	●	●	●
Line voltage indicator	●	●	●
Battery indicator and battery test function	●	●	●
Memory, Interface			
Memory (500 measurements)			●
Computer interface			●
Time stamp (with FlukeView® Forms)			●
Software			option

* 1651: sections 1, 2, 3, 4, 6, 10
 1652: sections 1, 2, 3, 4, 6, 10
 1653: sections 1, 2, 3, 4, 5, 6, 7, 10

Recommended Accessories



TLK290
Test Probe Kit



MTC1363 (UK)
Mains Test Cord



MTC277 (Europe)
Mains Test Cord



ES165X (1653)
Earth Spike Test Kit



FVF-SC2 (1653)

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The perfect installation testing solution

Specifications



Slim probe design

Thanks to its slim probe with integral test button, you can safely make one-handed measurements on hard to reach points, while keeping your eyes on the panel.



Professional reports

Up to 500 test results can be stored in the 1653 installation tester. The data stored for each measurement consists of the test function, user selectable test conditions and unique references. Model 1653 has an IR port and adaptor to enable the results to be uploaded to a computer for preparing professional reports.



Complete kit

All 1650 models are equipped with detachable leads that can be replaced in case of damage or loss. A durable hard case will protect your instrument in tough field conditions.

AC Voltage Measurement					
Range	Resolution	Accuracy 50 Hz – 60 Hz	Input Impedance	Overload Protection	
500 V	0.1 V	0.8% + 3	3.3 MΩ	660 Vrms	
Continuity Testing					
Range (autoranging)	Resolution	Test Current	Open Circuit Voltage	Accuracy	
20 Ω	0.01 Ω	> 200 mA	> 4 V	± (1.5%+3 digits)	
200 Ω	0.1 Ω				
2000 Ω	1 Ω				
Insulation Resistance Measurement					
Model	Test Voltage	Insulation Resistance Range	Resolution	Test Current	Accuracy
1653	50 V	10 kΩ to 50 MΩ	0.01 MΩ	1 mA @ 50 kΩ	± (3%+ 3 digits)
1653	100 V	100 kΩ to 20 MΩ 20 MΩ to 100 MΩ	0.01 MΩ 0.1 MΩ	1 mA @ 100 kΩ	± (3%+ 3 digits) ± (3%+ 3 digits)
1653, 1652	250 V	100 kΩ to 20 MΩ 20 MΩ to 200 MΩ	0.01 MΩ 0.1 MΩ	1 mA @ 250 kΩ	± (1.5%+ 3 digits)
1653, 1652, 1651	500 V	100 kΩ to 20 MΩ 20 MΩ to 200 MΩ 200 MΩ to 500 MΩ	0.01 MΩ 0.1 MΩ 1 MΩ	1 mA @ 500 kΩ	± (1.5%+ 3 digits) + 10%
1653, 1652, 1651	1000 V	100 kΩ to 200 MΩ 200 MΩ to 1000 MΩ	0.1 MΩ 1 MΩ	1 mA @ 1 MΩ	± (1.5%+ 3 digits) + 10%
Loop Impedance Measurement					
Range	Resolution		Accuracy		
20 Ω	0.01 Ω		± (3% + 10 digits)		
200 Ω	0.1 Ω				
2000 Ω	1 Ω				
PFC. PSC Test					
Range	0 to 50 kA				
Resolution and Units	$I_K < 1000 A$			1 A	
	$I_K \geq 1000 A$			0.1 kA	
Accuracy	Determined by accuracy of loop resistance and mains voltage measurements				
RCD Testing					
RCD Type		1651	1652	1653	
¹ AC	² G	●	●	●	
AC	³ S	●	●	●	
⁴ A	G		●	●	
A	S		●	●	
¹ AC – responds to AC ² G – General, no delay ³ S – Time delay ⁴ A – Responds to pulsed signal					
Tripping Time Test (ΔT)					
Current Settings		Multiplier	Test Current Accuracy	Trip Time Accuracy	
10, 30, 100, 300, 500, 1000 mA		x 1/2	± 0% - 10%	± (1% Reading + 1 digit)	
10, 30, 100, 300, 500, 1000 mA		x 1	± 10% - 0%	± (1% Reading + 1 digit)	
10, 30 mA		x 5	± 10%	± (1% Reading + 1 digit)	
Tripping Current (Ramp) Test – Fluke 1653 and 1652 only					
Current Range	Step size	Dwell time		Trip Current Measurement Accuracy	
		Type G	Type S	± 5%	
50% to 110% of RCD's rated current	10% of I _{ΔN}	300 ms/step	500 ms/step		
Earth Resistance Test (R _E) – Fluke 1653 only					
Range	Resolution		Accuracy		
200 Ω	0.1 Ω		± (2%+ 5 digits)		
2000 Ω	1 Ω		± (3.5%+ 10 digits)		

Battery type: Alkaline supplied, usable with 1.2 V NiCD or NiMH rechargeable batteries
Size (HxWxD): 100 mm x 250 mm x 125 mm

Weight: 1.17 kg
Three Years Warranty

1650 Series/6000 Series Accessories

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Accessories for Fluke 1650 Series Installation Testers



ES165X Earth Spike Test Kit (Fluke 1653)

Earth Spike Test kit contents:

- Auxiliary earth probes
- Test connection leads and crocodile clips
- Purpose-made carry case



FVF-SC2 Fluke ViewForms Software (Fluke 1653)

To address the increasing demands for reporting and documentation, Fluke presents FlukeView Forms documenting software. Download the data from the Fluke 1653 and create an easy report. The Fluke ViewForms Software also supports other Fluke tools. See page 109.



TLK 290 Test Probe Kit

- Kit includes three flexible socket probes and a large alligator clip
- To be used on three phase sockets
- Probes have flexible width test points that fit securely in 4 to 8 mm sockets
- CAT III 1000 V, 8 A



MTC1363



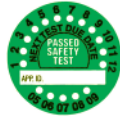
MTC77

Mains Test Cord for 1650 series

MTC1363
UK plug

MTC77
Schuko plug

Accessories for Fluke 6500 Series Portable Appliance Testers



PASS560R Appliance Pass Labels

Quantity 600



APP1000/APP2000 Bar Code Appliance Number Labels

APP1000: Labels numbered 0001-1000

APP2000: Labels numbers 1001-2000

Label number >2000 on request



BDST3/BDST4 Snap Tags

BDST3: Cable Tie

BDST4: Clip On

Quantity 20. Labels need to be purchased separately.



EXTL100 (UK plug)



EXTL100-02 (Schuko plug)

EXTL100 Extension Lead Test Adaptor

Adaptor for testing extension leads. Allows the earth test lead to be connected to the extension leads to perform insulation and earth bond tests.



SPScan15 Barcode Scanner

Easy to use, low current, intelligent barcode reader. SPScan15 can be used to scan barcodes attached to curved surfaces or where actual contact with the barcode surface is difficult.



SP1000 Mini Printer

Without using any additional software the SP1000 can be used to directly printout stored test records on to thermal paper. The printer is compact and easily transported and is ideal for test professionals who need to issue an immediate written account of work carried out. The printer is powered by a rechargeable battery and comes complete with mains charger and RS232 Printer Lead.

SP1000 Paper

Replacement thermal paper for the SP1000 Mini Printer

Fluke DMS software for 1650/6000 Series



The Fluke DMS (Data Management Software) is an efficient program for administration and reporting of installation tests in compliance with EN 60364, DIN VDE 0100/0105 and appliance tests in compliance with DIN VDE 0701/0702, ÖVE E 8701.

DMS 0100/INST Software for Installation Tester Fluke 1653

Supporting reports for Austria, Germany, Switzerland, Netherlands

DMS 0702/PAT Software for Portable Appliance Tester Fluke 6500

Supporting reports for Austria, Germany, Netherlands

DMS COMPL PROF Software for the Fluke 1653 and Fluke 6500

Supporting reports for Austria, Germany, Switzerland, Netherlands

Check the Fluke web for more information.