

1650B Series Multifunction Installation Testers

FLUKE®

New



Fluke 1653B



Fluke 1652B



Fluke 1651B

Extra functionality, faster testing, and as rugged as ever

Safer, easier installation testing. The new 1650B Series builds on the rugged reputation of the earlier 1650 Series, only it's re-designed to meet your need for more productive test tools. With new features like the fast, high current loop test (including a non-trip test) and a variable RCD trip current setting, accuracy is even better and the test cycle even faster. And with the addition of a unique zero adapter accessory for accurate mains test lead compensation, the 1650B Series continues to set the standard in installation testers. The 1650B 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 BS 7671 17th Edition wiring regulations.

especially contractors, everyone who would want to have the best tool available and always understands (or know) how to use.

1652B - The ideal tester for professional trouble-shooters

This is the instrument that is indeed ideal for professional users due to its additional functionality. It is also ideal since even though it has high-end features, it is still easy to use – even after longer periods of non-use; because operating it is intuitive and not forgotten easily.

1651B - The everyday tester, for every electrical installer

This is the instrument that can be used every single day (day in, day out), and covers all the basic needs. It is the preferred tester for every front-line electrician/installer.

1653B - The complete tester for advanced users

This is the instrument that has it all, in a word: it's complete. From all the test functions you need to in-built memory for documenting results. This makes it the complete solution for professionals,



BS7671 17th Edition IEE Wiring Regulations IEC 60364.6.61, HD 384

Included Accessories

- 6 AA Cell batteries
- C1600 Hard carrying case
- Zero Adapter
- Mains test cord
- TL165X STD Standard Test Lead Set
- TL165/UK Fused Test Lead Set (UK only)
- Padded carrying strap
- Quick reference guide
- TP165X Remote control probe and lead¹
- Users manual on CD-ROM

¹ In the United Kingdom and Ireland: 1652B & 1653B only

Ordering Information

- Fluke 1651B Multifunction Installation Tester
- Fluke 1652B Multifunction Installation Tester
- Fluke 1653B Multifunction Installation Tester

Check the Fluke website for the various software modules

Features

	1653B	1652B	1651B
Zero adapter	●	●	●
Volts (V)	●	●	●
Frequency (Hz)	●	●	●
Insulation (RISO)	●	●	●
Continuity (RLO)	●	●	●
Fast high current loop test (ZI)	●	●	●
Loop test non trip mode (ZI)	●	●	●
Short Circuit Current (PSC, PEFC, IK)	●	●	●
RCD FI Trip TimeTest (FI, DDR)	●	●	●
Variable RCD current setting	●	●	●
Tests time-delayed RCD's (S-type)	●	●	●
RCD Ramp Test (FI, DDR)	●	●	●
RCD Auto Test (FI, DDR)	●	●	●
Test of pulse sensitive RCD's	●	●	●
Earth Resistance (RE)	●	●	●
Phase Sequence	●	●	●
Internal Memory	●	●	●
IR Interface for downloading data	●	●	●
Remote probe	●	●	●

* Not in the UK

Recommended Accessories

See also page 44 for more details



TLK290
Test Probe Kit



MTC1363 (UK)
Mains Test Cord



MTC77 (Europe)
Mains Test Cord



ES165X (1653)
Earth Spike Test Kit



FVF-SC2 (1653)
See page 109



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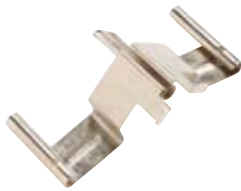
Specifications

(Check the Fluke web for detailed 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. This remote probe is powered by the tester so always operable (does not require additional batteries!).



Zero Adapter

For easy, always reliable and accurate compensation for test leads and mains cords. This adapter can be used for all different kind of mains plugs as well as test accessories like probes, alligator clips etc.



Complete kit

All 1650B 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 digits)	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
1653B	50 V	10 kΩ to 50 MΩ	0.01 MΩ	1 mA @ 50 kΩ	± (3%+ 3 digits)
1653B	100 V	20 MΩ to 100 MΩ	0.01 MΩ 0.1 MΩ	1 mA @ 100 kΩ	± (3%+ 3 digits)
1653B 1652B 1651B	250 V	20 MΩ to 200 MΩ	0.01 MΩ 0.1 MΩ	1 mA @ 250 kΩ	± (1.5%+ 3 digits)
1653B 1652B 1651B	500 V	20 MΩ 200 MΩ 500 MΩ	0.01 MΩ 0.1 MΩ 1 MΩ	1 mA @ 500 kΩ	± (1.5%+ 3 digits) + 10%
1653B 1652B 1651B	1000 V	20 MΩ 200 MΩ 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	No trip mode: ± (3% + 6 digits) Hi current mode: ± (2% + 4 digits)
200 Ω	0.1 Ω	
2000 Ω	1 Ω	

PFC, PSC Test	
Range	1000A / 10kA(50kA)
Resolution and Units	1A / 0.1kA
Accuracy	Determined by accuracy of loop resistance and mains voltage measurements

Computation
Prospective Earth Fault Current (PEFC) or Prospective Short Circuit Current (PSC) determined by dividing measured mains voltage by measured loop (L-PE) resistance or line (L-N) resistance, respectively.

RCD Testing				
RCD Type		1651B	1652B	1653B
¹ AC	² G	●	●	●
AC	³ S	●	●	●
⁴ A	G		●	●
A	S		●	●

¹AC - responds to AC ²G - General, no delay ³S - Time delay ⁴A - Responds to pulsed signal

Tripping Time Test (ΔT)			
Current Settings	Multiplier	Test Current Accuracy	Trip Time Accuracy
10, 30, 100, 300, 500, 1000 mA, VAR	x 1/2	+ 0% - 10%	± (1% Reading + 1 digit)
10, 30, 100 mA	X 5	+ 10% - 0%	± (1% Reading + 1 digit)

Tripping Current (Ramp) Test - Fluke 1653B and 1652B only				
Current Range	Step size	Dwell time		Trip Current Measurement Accuracy
		Type G	Type S	
50% to 110% of RCD's rated current	10% of I Δ N	300 ms/step	500 ms/step	± 5%

Earth Resistance Test (RE) - Fluke 1653B 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



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