TECHNICAL DATA

Fluke 1652C Multifunction Installation Tester

Key features

Safer, easier installation testing.

The 1652C Installation Tester verify the safety of electrical installations in domestic, commercial and industrial applications. It can ensure that fixed wiring is safe and correctly installed to meet the requirements of IEC 60364, HD 384 and all relevant local standards.

Faster

- Two measurements at once and a dual display. PEFC/PSC and loop impedance are measured and displayed in parallel, saves you more than 50% of test time compared to other loop testers.
- Additional new high current loop mode. Faster measurements compared to loop tests with non-trip mode for RCD's.
- Unique zero adapter for fast, always reliable and accurate test lead and mains cord compensation.
- Fast voltage measurement between L-N, L-PE and N-PE using the mains cord. No need to change measurement connections.

Safer

- Earth Volt Touchpad detects raised earth voltages 50 V, indicating potential dangerous situations.
- with the SureGrip™ test leads and clips which gives the user a comfortable, reliable grip.

Easy

- Rotary dial knob indicates clear which function is selected, all functionalities on one spot and no complex multi level menus.
- Large display with backlight, clear symbols and exceptionally wide viewing angle for easy and safe readings.
- PASS/FAIL indication for RCD test results.
- Variable RCD current mode for customized settings.
- Extended documentation mode (UK only)

Rugged & lightweight Withstands a drop of 1 meter. Compact, lightweight (less than 1.3 kg) and padded neck-strap to free your hands for all day testing.

1650B Kit 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.

Slim probe design with test button
Keeps your eyes on the panel while probing hard to reach points. 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 of 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.

Product overview: Fluke 1652C Multifunction Installation Tester

Extra functionality, faster testing, and as rugged as ever

The 1652C Installation Tester builds upon the rugged reputation of the earlier 1650 Series, only it's re-designed to meet your need for more productive test tools.

This installation tester offers the following new capabilities:

- Fast high current loop test
- Variable RCD current mode for customized settings
- PASS/FAIL indication for RCD tests
- Select voltage measurement between L-N, L-PE and N-PE
- Zero adapter for easy test lead compensation, available as new accessory and also included with standard scope of supply
- Extended documentation mode (UK only)

Measurement functions	Fluke 1652C	Fluke 1653B	Fluke 1654B
Voltage and frequency	•	•	•
Wiring polarity checker	•	•	•
Insulation resistance	250 V, 500 V, 1000 V	50 V, 100 V, 250 V, 500 V, 1000 V	50 V, 100 V, 250 V, 500 V, 1000 V
Continuity			
Loop and line resistance	•	•	•
Loop and line resistance-mΩ resolution			•
PEFC/PSC (fault/short-circuit current)	•	•	•
RCD tripping time	•	•	•

Measurement functions	Fluke 1652C	Fluke 1653B	Fluke 1654B
RCD tripping current level	•	•	•
Ramp test	•	•	•
Automatic ROD test sequence	•	•	•
Test dc-sensitive RCDs (type A)	•	•	•
Test dc-sensitive RCDs (type B)			•
Earth resistance		•	•
Phase sequence indicator	•	•	•
Other features			
Self-test	•	•	•
EN 61557*/VDE 0413 compliant	•	•	•
Illuminated display	•	•	•
Live voltage indicator	•	•	•
Battery indicator and battery test function	•	•	•
Memory, interface			
Memory		•	•
Extended memory			•
Computer interface		•	•
Time stamp (software enabled)		•	•
Software (optional)		•	•

Specifications: Fluke 1652C Multifunction Installation Tester

Specifications		
AC voltage measurement	**Range**	500 V
	Resolution	0.1 V
	Accuracy (50 - 60 Hz)	±(0.8% + 3 digits)
	Input impedance	3.3 MΩ
	Overload protection	660 Vrms
Continuity testing	**Range (autoranging)**	20 Ω, 200 Ω, 2000 Ω
	Resolution	0.01 Ω, 0.1 Ω, 1 Ω
	Test current	> 200 mA
	Open circuit voltage	> 4 V
	Accuracy	±(1.5%+3 digits)
Insulation Resistance Measurement		
Test voltage	**Fluke 1652C**	250 - 500 - 1000 V
	Fluke 1653B + 1654B	50 - 100 - 250 - 500 - 1000 V
Test voltage (50 V)	**Test current**	1 mA @ 50 kΩ
	Insulation range	10 kΩ - 50 MΩ
	Resolution	0.01 MΩ
	Accuracy	±(3% + 3 digits)

Test voltage (100 V)	**Test current**	1 mA @ 100 kΩ
	Range/Resolution	20 MΩ/0.01 MΩ / 100 MΩ/0.1 MΩ
	Accuracy	±(3% + 3 digits)
Test voltage (250 V)	**Test current**	1 mA @ 250 kΩ
	Range/Resolution	20 MΩ/0.01 MΩ /200 MΩ/0.1 MΩ
	Accuracy	±(1.5% + 3 digits)
Test voltage (500 V)	**Test current**	1 mA @ 500 kΩ
	Range/Resolution	20 MΩ/0.01 MΩ
	Range/Resolution	200 MΩ/0.1 MΩ
	Accuracy	±(1.5% + 3 digits)
	Range/Resolution	500 MΩ/1 MΩ
	Accuracy	10%
Test voltage (1000 V)	**Test current**	1 mA @ 1 MΩ
	Range/Resolution	20 MΩ/0.01 MΩ
	Range/Resolution	200 MΩ/0.1 MΩ
	Accuracy	±(1.5% + 3 digits)
	Range/Resolution	500 MΩ/1 MΩ
	Accuracy	10%
Auto discharge	Discharge time constant, 0.5 second for C = 1 µF or less	
Live circuit detection	Inhibits test if terminal voltage > 30 V prior to initiation of test	
Maximum capacitive load	Operable with the 5 µF load	
Loop Impedance Measurement (High Current Mode and Non-Trip Mode)		
	Range	100 - 500 VAC (50/60 Hz)
	Input connection	Soft Key selection
	Loop impedance	Phase to earth
	Line impedance	Phase to neutral
	Limit on consecutive tests	Automatic thermal shutdown after 50 consecutive tests at 10 second intervals (typical)
	Range/Resolution (High Current)	20 Ω/0.001Ω (1mΩ) (Fluke 1654B)
	Range/Resolution	20 Ω/0.01 Ω
	Range/Resolution	200 Ω/0.1 Ω
	Range/Resolution	2000 Ω/1 Ω
	Accuracy (no Trip mode)	±(3% + 6 digits)
	Accuracy (Hi Current mode)	±(2% + 4 digits)
	Accuracy (Hi Current mode 1mΩ)	±(2% + 15 digits) (Fluke 1654B)

PFC, PSC Test	**Computation**	PFC or PSC determined by dividing measured mains voltage by measured loop (L-PE) resistance or line (L-N) resistance
	Range	0 - 25 kA
	Resolution (I_k < 1000 A)	1 A
	Resolution (I_k >= 1000 A)	0.1 kA
	Accuracy	Determined by accuracy of loop resistance and mains voltage measurements.
RCD Testing [1]	**Fluke 1654B**	A, AC, B, B+, F, G/R, S
	Fluke 1652C	A, AC, F, G/R, S
	Fluke 1653B	A, AC, F, G/R, S
Tripping Time Test (ΔT)		
Trip time accuracy	±(1% Reading + 1 digit)	
Multiplier: x ½	**Current Seings**	10, 30, 100, 300, 500, 1000 mA
	Current Accuracy	+0% - 10%
	RCD Type [1]	G
	Measurement Range	310 ms (Europe), 2000 ms (UK)
	RCD Type [1]	S
	Measurement Range	510 ms (Europe), 2000 ms (UK)
Multiplier: x 1	**Current Seings**	10, 30, 100, 300, 500, 1000 mA
	Current Accuracy	+10% - 0%
	RCD Type [1]	G
	Measurement Range	310 ms
	RCD Type [1]	S
	Measurement Range	510 ms
Multiplier: x 5	**Current Seings**	10, 30 mA
	Current Accuracy	±10%
	RCD Type [1]	G
	Measurement Range	50 ms
	RCD Type [1]	S
	Measurement Range	160 ms
Tripping Current (ramp)		
Current range	50% - 110% of RCD's rated current	
Step Size	10% of $I_{\Delta N}$	
Dwell time (Type G) [1]	300 ms / step	
Dwell time (Type S) [1]	500 ms / step	
Trip current measurement zccuracy	±5%	
Earth Resistance Test (R_E) - Fluke 1653B + 1654B		
Range/Resolution	200 Ω/0.1 Ω	

Accuracy	±(2% + 5 digits)	
Range/Resolution	2000 Ω/1 Ω	
Accuracy	±(3.5% + 10 digits)	
Frequency	128 Hz	
Compliance voltage	+25 V	
Phase Sequence Indication		
Icon	Icon Phase Sequence indicator is active	
Display of Phase Sequence	Displays '1-2-3' in digital display field for correct sequence	
	Displays '3-2-1' for incorrect phase	
	Dashes in place of a number indicate a valid determination could not be made	
[1] RCD Types		
G	General, no delay	
S	Time delay	
A	Responds to pulsed signal	
AC	Responds to AC	
B	1654B	
Environmental Specifications		
Operating temperature	-10 °C to 40 °C	
Humidity (without condensation)	10 to 30 °C	95%
	30 to 40 °C	75%
Safety Specifications		
Safety Rating	EN 61010-I CAT III 500V, CAT IV 300V	
Mechanical and General Specifications		
Size (L x W x H)	10 x 25 x 12.5 cm	
Weight	1.3 kg	
Baeries	Type AA: 6	
Warranty	3 years	
Baery type	Alkaline supplied, usable with 1.2V NiCD or NiMH rechargeable baeries	

Ordering information

Fluke 1652C

Fluke 1652C Multifunction Installation Tester

- 6 AA Cell batteries
- C1600 Hard carrying case
- Zero Adapter
- Mains test cord
- TL165X/STD Standard Test Lead Set
- Padded carrying strap
- Quick reference guide
- TP165X Remote control probe and lead[1]
- Users manual on CD-ROM

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05/2025

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