Features

	1651	1652	1653
Measurement functions			
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		● ramp test	● ramp test
Automatic RCD test sequence		●	●
Test DC-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**

Specifications

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 k Ω 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 200 MΩ	0.1 MΩ	1 mA @ 250 kΩ	± (1.5%+ 3 digits)
1653, 1652, 1651	500 V	100 kΩ to 200 MΩ 200 MΩ to 500 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 25 kA	
Resolution and Units	I_K < 1000 A	1 A
	I_K ≥ 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	
50% to 110% of RCD's rated current	10% of $I_{\Delta N}$	300 ms/step	500 ms/step	± 5%

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): 10 x 25 x 12.5 cm
Weight: 1.17 kg
3 Years Warranty