



Datasheet



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www.sunbeltrentals.co.uk

1650 Series Multifunction Installation Testers

FLUKE®



Fluke 1653



Fluke 1652



Fluke 1651

Fluke 1651 is not available in the U.K. and Ireland.



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

Included Accessories

TP165X Remote Control Probe
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

The future of installation testing is here

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 | | ● | ● |
| | | 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 |

* 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 (Fluke 1653)



ES165X
Earth Spike Test Kit



FVF-SC2

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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 using (optional) FlukeView® Forms software.



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. A probe with built-in test button comes with every instrument.

| 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 ≥ 1000 A | | | 0.1 kA | |
| Accuracy | Determined by accuracy of loop resistance and mains voltage measurements | | | | |
| RCD Testing | | | | | |
| RCD Type | | 1651 | 1652 | 1653 | |
| 1AC | 2G | ● | ● | ● | |
| AC | 2S | ● | ● | ● | |
| 1A | G | | ● | ● | |
| A | S | | ● | ● | |
| 1AC – responds to AC 2G – General, no delay 2S – Time delay 1A – 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 | |
| 50% to 110% of RCD's rated current | 10% of I _{AN} | Type G | Type S | ± 5% | |
| | | 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

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LOCATIONS

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