

180

Electrical Safety Analyzer



Technical Data

The handheld 180 Electrical Safety Analyzer is a lightweight, portable device for testing electrical systems, medical devices, and physiological instrumentation. The device includes the AAMI test load and has 5 jacks for patient applied parts testing.

Small enough to fit in a briefcase, the analyzer works well as a bench-top instrument in the laboratory or a portable testing device in the mobile engineer's toolbox. With its uncomplicated design, the 180 is simple to use. A single master function switch, directly labeled with the test to be performed, leads the user through a complete measurement procedure.

The analyzer uses simple, yet sophisticated, electronics for true RMS measurement of current and voltage. The 180 also performs dual-lead leakage and resistance tests.

Key Features

- Handheld
- Self-switching 120/240 V operation
- 15 A and 20 A capabilities
- 5 patient applied parts jacks
- Dual-lead testing

Technical Specifications

Operating Mains Voltage Range: 90 VAC to 240 VAC
Current Capacity for DUT: Line 90 V to 140 V: 20 A for 5 min, 15 A for 30 min; line over 140 V: 10 A

Line-Voltage Measurement

Range: 90 V to 240 V
Accuracy: $\pm 3\%$ of reading ± 1 LSD

Load-Current Measurement

Range: 1 A to 19.99 A
Accuracy: $\pm 5\%$ of reading ± 1 LSD

Leakage-Current Measurement

Range: 0 μ A to 1999 μ A
Accuracy: DC and 25 Hz to 1 kHz: $\pm 1\%$ of reading ± 1 μ A; 1 kHz to 100 kHz: $\pm 2.5\%$ of reading ± 1 μ A; 100 kHz to 1 MHz: $\pm 5\%$ of reading ± 1 μ A
Measurement type: True RMS
Input impedance per AAMI ES1-1993

Isolation Test

Isolation Source Voltage: 110 % of mains, $\pm 5\%$ of reading
Current limit: 1 mA @ 120VAC

Resistance Measurement

Range: 0.01 Ω to 19.99 Ω
Accuracy: $\pm 1\%$ of reading ± 1 LSD
Resolution: 0.01 Ω
Current source: 10 mA DC

Environmental Requirements

Operating Temperature: 59 °F to 104 °F (15 °C to 40 °C)
Storage Temperature: - 4 °F to 149 °F (- 20 °C to 65 °C)
Relative Humidity: 90 % max
Mains Voltage Range: 90 V to 240 V

General Information

Display: LCD 3.5 digit
Dimensions: 5.25 in L x 7.25 in W x 2.1 in H (13.3 cm x 18.4 cm x 5.4 cm)
Weight: Max weight 2.25 lb (1 kg)

About Fluke Biomedical

Fluke Biomedical is the world's leading manufacturer of quality biomedical test and simulation products. In addition, Fluke Biomedical provides the latest medical imaging and oncology quality-assurance solutions for regulatory compliance.

Today, biomedical personnel must meet the increasing regulatory pressures, higher quality standards, and rapid technological growth, while performing their work faster and more efficiently than ever. Fluke Biomedical provides a diverse range of software and hardware tools to meet today's challenges.

Fluke Biomedical Regulatory Commitment

As a medical device manufacturer, we recognize and follow certain quality standards and certifications when developing our products. We are ISO 9001 certified and our products are:

- FDA Compliant
- CE Certified, where required
- NIST Traceable and Calibrated
- UL, CSA, ETL Certified, where required

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Ordering Information

Model

2249852: ESA180-US 90-265V

Standard Accessories

2185754: User/service manual
2392409: Test lead 8-ft black

Optional Accessories

2248864: Soft-sided vinyl carrying case
2392409: Chassis cable, coil cord, 8-ft extended
2392411: Chassis cable, coil cord, 16-ft extended
2392448: External leakage cable, coil cord, 8-ft extended
2231563: External leakage cable, coil cord, 16-ft extended
2185787: North American 220 V adapter kit

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