AEMC 3711

AEMC Model 3711 Clamp-On Ground Resistance Tester User Manual

Model: 3711

Introduction

The AEMC Model 3711 is a portable clamp-on ground resistance tester designed for measuring electrical ground rod and grid resistance in multi-grounded systems. This instrument offers a non-intrusive method for testing without the need for auxiliary rods or disconnecting the ground system. It also measures leakage, neutral, and phase currents, providing a comprehensive solution for electrical system analysis.

Safety Information

WARNING: Always read and understand all safety instructions before operating this instrument. Failure to do so may result in serious injury or death.

- This instrument is rated CAT III, indicating its suitability for measurements in building installations.
- Adhere to all local and national safety codes and regulations.
- Do not use the instrument if it appears damaged or is operating abnormally.
- Ensure the battery compartment is securely closed before use.
- Avoid contact with live circuits during measurement.
- The instrument is double-insulated for enhanced safety.

What's in the Box

Verify that all items are present upon unpacking:

- AEMC Ground Resistance Tester Model 3711
- Calibration Check Loop, 25Ω
- Hard Carrying Case
- 9V Alkaline Battery
- User Manual (this document)

Product Overview

Image: The AEMC Model 3711 Clamp-On Ground Resistance Tester. This image displays the device with its red clamp jaws open, a black body, and a green digital display showing "9.8 Ω". Control buttons are visible below the display.

The AEMC Model 3711 features an ergonomic design for one-handed operation. Its robust polycarbonate construction ensures durability for outdoor use. Key components include:

- **Clamp Jaws:** 1.25" opening to accommodate ground rods and cables up to 1000kcmil.
- **LCD Display:** Digital readout for resistance and current measurements.
- **Control Buttons:** For power, data hold, and mode selection.
- **Battery Compartment:** Located at the rear for a 9V battery.

Setup and Battery Installation

1. Open the battery compartment cover on the rear of the instrument.
2. Insert the supplied 9V Alkaline battery, observing correct polarity.
3. Close the battery compartment cover securely.
4. Press the "ON" button to power on the device. The display should illuminate.

Operating Instructions

Ground Resistance Measurement

1. Power on the AEMC 3711.
2. Open the clamp jaws by pressing the release lever.
3. Place the clamp around the ground conductor or rod to be tested, ensuring the jaws are fully closed.
4. The instrument will automatically measure and display the ground resistance in Ohms (Ω).

5. For stable readings, allow approximately one second for the measurement to settle.
6. To hold the current reading on the display, press the "HOLD" button. Press again to release.

Current Measurement

1. Power on the AEMC 3711.
2. Open the clamp jaws.
3. Place the clamp around the conductor carrying the current to be measured (leakage, neutral, or phase current). Ensure the jaws are fully closed.
4. The instrument will automatically measure and display the current in Amperes (A) or milliAmperes (mA).
5. The current measurement function provides direct readings for leakage current flowing to ground or circulating in ground loops (down to 1mA) and neutral/phase currents (up to 30A RMS).

Maintenance and Calibration

Cleaning

Clean the instrument with a soft, damp cloth. Do not use abrasive cleaners or solvents.

Battery Replacement

When the low battery indicator appears on the display, replace the 9V battery as described in the "Setup and Battery Installation" section.

Calibration Check

Use the supplied 25Ω calibration check loop to verify the instrument's accuracy periodically. Clamp the tester around the loop; the reading should be approximately 25Ω. If the reading deviates significantly, contact AEMC customer support for service.

Storage

Store the instrument in its hard carrying case in a dry, cool environment when not in use. Remove the battery if storing for extended periods.

Troubleshooting

- **No Display/Instrument Not Powering On:** Check battery installation and ensure the battery has sufficient charge. Replace if necessary.
- **Unstable Readings:** Ensure the clamp jaws are fully closed around the conductor. Verify there is no excessive electrical noise in the environment.
- **"OL" or Overload Indication:** The measured value exceeds the instrument's range. Ensure the correct measurement function is selected or the circuit parameters are within the device's limits.
- **Inaccurate Readings:** Perform a calibration check using the 25Ω loop. If the issue persists, contact technical support.

Specifications

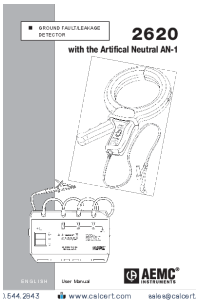
Parameter	Value
Ground Resistance Range	Autoranging 0.01 to 1200Ω

Parameter	Value
Current Measurement Range	Autoranging 1mA to 30.00A RMS
Resistance Measuring Frequency	2403Hz
Current Measuring Frequency	47 to 800Hz
Accuracy (Resistance)	±2% reading ±0.02Ω (up to 25% of reading for 600-1200Ω)
Operating Temperature	-10 to 55°C (14 to 131°F)
Power Source	9V battery (included)
Weight	1kg (2.2lbs)
Dimensions (H x W x D)	235 x 100 x 55mm (9.25 x 3.94 x 2.17 inches)
Jaw Opening	1.25 inches
Safety Ratings	EN 61010, CAT III, UL approved, CE marked

Warranty and Support

For warranty information, technical support, or service inquiries, please refer to the official AEMC Instruments website or contact their customer service department. Keep your purchase receipt for warranty claims.

Related Documents - 3711

	AEMC 2620 Ground Fault/Leakage Detector with AN-1 Artificial Neutral User Manual User manual for the AEMC Model 2620 Ground Fault/Leakage Detector and the AN-1 Artificial Neutral accessory, detailing specifications, operation, troubleshooting, and maintenance.
	AEMC Digital FlexProbe 400D/4000D Series User Manual - AC Current Measurement User manual for AEMC Digital FlexProbe models 400D-6, 400D-10, 4000D-14, and 4000D-24. Features include TRMS AC current measurement, CAT IV rating, flexible sensor operation, and detailed specifications for electrical, environmental, and mechanical parameters.

	[AEMC Digital FlexProbe User Manual: Models 400D-6, 400D-10, 4000D-14, 4000D-24] Comprehensive user manual for AEMC Digital FlexProbe series AC current meters (Models 400D-6, 400D-10, 4000D-14, 4000D-24), detailing product features, operation, specifications, safety precautions, and maintenance procedures.
	[How to Replace the Battery in AEMC PEL 102 and PEL 103 Power and Energy Loggers] Step-by-step instructions for safely replacing the 8.4V NiHM battery pack in AEMC PEL 102 and PEL 103 power and energy logger instruments. Includes required tools, cautions, and visual descriptions.
	[AEMC OXIII SERIES Portable Oscilloscopes User Manual] This user manual provides comprehensive information on the AEMC OXIII SERIES portable oscilloscopes, including models OX 7102, OX 7104, OX 7202, and OX 7204. Learn about their features, operation, and maintenance for accurate electrical measurements.
	[AEMC SL361 AC/DC Current Probe User Manual] User manual for the AEMC SL361 AC/DC Current Probe, detailing its features, operation, specifications, maintenance, and warranty information.