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FUZRR FR1000

FUZRR FR1000 High Low Voltage Clamp Current Tester User Manual

Model: FR1000

1. Introduction

The FUZRR FR1000 is a high and low voltage clamp current tester designed for accurate measurement of current in various electrical systems. This clamp-type ammeter offers a measurement range of 0.0mA to 1200A (50/60Hz auto) with a resolution of 0.1mA. It features data storage capabilities and comes with a five-section insulating rod, totaling 5 meters in length, enabling safe measurements on lines up to 60KV. This manual provides essential information for the safe and effective operation, maintenance, and troubleshooting of your FR1000 device.

2. Safety Information

Always adhere to the following safety precautions to prevent personal injury and damage to the instrument:

- Read and understand all instructions before using the device.
- Do not use the meter if it appears damaged or if the insulating rod is compromised.
- Ensure the insulating rod is properly assembled and securely attached before performing high voltage measurements.
- Always wear appropriate personal protective equipment (PPE) when working with electrical systems.
- Do not exceed the maximum rated voltage of 60KV for line testing.
- Avoid touching the clamp jaws or any conductive parts during measurement, especially on live circuits.
- Keep the device dry and clean. Do not operate in wet or explosive environments.
- Replace batteries promptly when the low battery indicator appears to ensure accurate readings.

3. Product Overview

The FR1000 clamp current tester consists of the main meter unit and a multi-section insulating rod. The meter unit features a large LCD display, control buttons, and a clamp jaw for non-contact current measurement.



Figure 3.1: Front view of the FR1000 Clamp Current Tester, showing the display, control buttons (PEAK, POWER, HOLD), and the clamp jaw.

Key Components:

- **Clamp Jaw:** Opens to enclose a conductor for current measurement.
- **LCD Display:** Shows measurement readings, units, and status indicators.
- **POWER Button:** Turns the device on and off.
- **HOLD Button:** Freezes the current reading on the display.
- **PEAK Button:** Captures and displays the peak current value.
- **Insulating Rod Connection:** Located at the bottom for attaching the multi-section insulating rod.



Figure 3.2: The FR1000 Clamp Current Tester and its included carrying bag, demonstrating portability and protection.

4. Setup

Before first use, ensure the batteries are installed and the insulating rod is correctly assembled if high voltage measurements are required.

4.1 Battery Installation

The FR1000 requires 1 Lithium Metal battery, which is included. To install or replace the battery:

1. Locate the battery compartment cover on the back of the meter unit.
2. Use a suitable tool to open the compartment.
3. Insert the Lithium Metal battery, observing the correct polarity (+/-).
4. Securely close the battery compartment cover.

4.2 Insulating Rod Assembly

The insulating rod consists of five sections, providing a total length of 5 meters. Assemble the rod by screwing each section together firmly. Attach the assembled rod to the bottom connection point of the FR1000 meter unit, ensuring a secure fit. This rod is crucial for safe high voltage measurements.

5. Operating Instructions

Follow these steps for accurate and safe current measurements using your FR1000.

5.1 Powering On/Off

Press the **POWER** button to turn the device on. The LCD display will illuminate. To turn off the device, press and hold the **POWER** button until the display shuts off. The device may also have an auto-off feature to conserve battery life.

5.2 Current Measurement

1. Ensure the device is powered on.
2. Open the clamp jaw by pressing the trigger.
3. Carefully position the clamp jaw around a single conductor. Ensure the jaw is completely closed for accurate readings.
4. Read the current value displayed on the LCD screen. The device automatically detects 50/60Hz AC current.

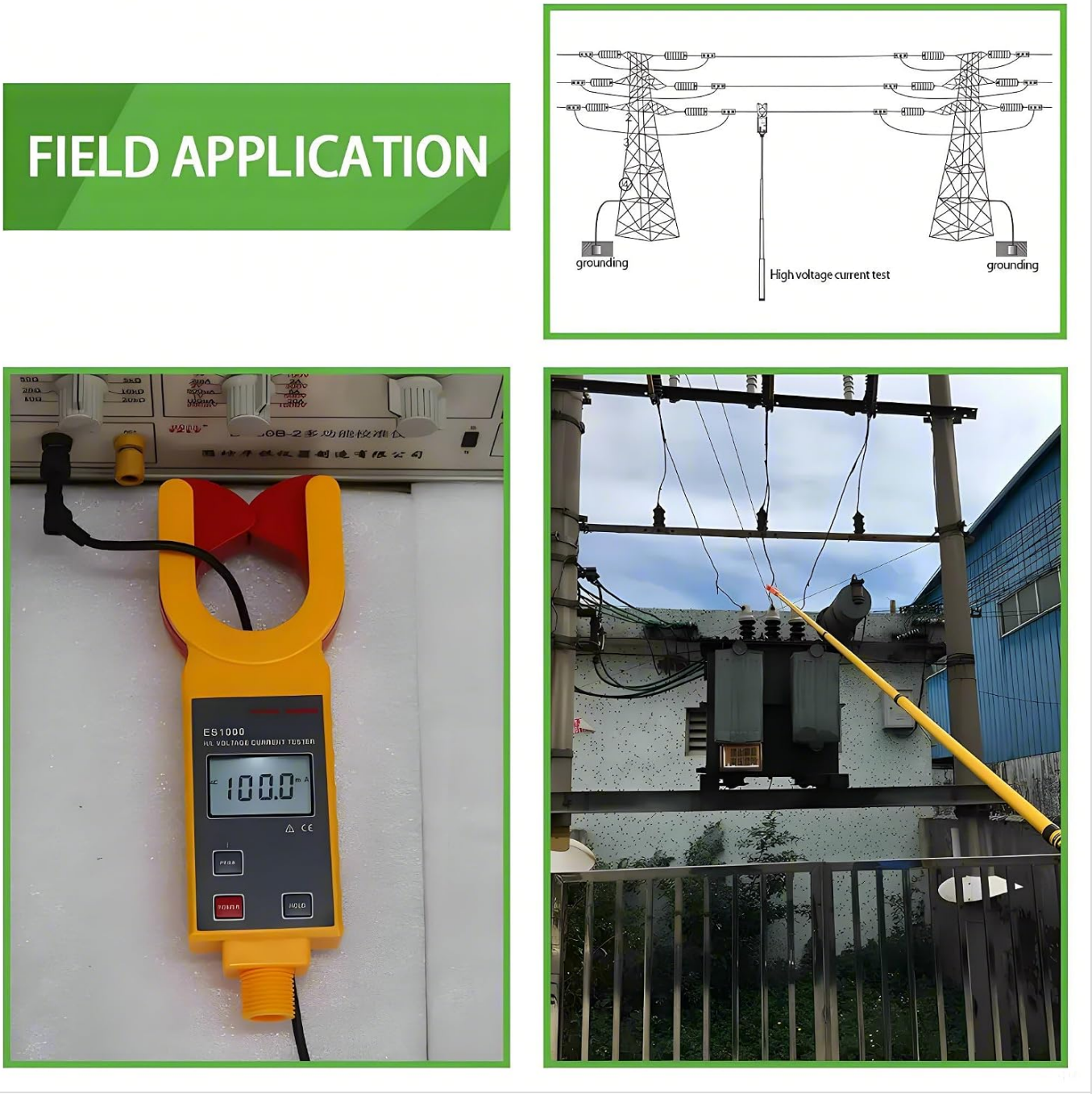


Figure 5.1: The FR1000 in use, showing a current reading of 100.0 on its display during a field application.

5.3 High Voltage Line Testing (up to 60KV)

For measurements on high voltage lines, the insulating rod must be used. The FR1000 is designed to be used with its five-section, 5-meter insulating rod for safe operation on lines up to 60KV.

1. Assemble the insulating rod and securely attach it to the meter unit.
2. While maintaining a safe distance and wearing appropriate PPE, use the insulating rod to position the clamp jaw around the high voltage conductor.
3. Ensure the clamp jaw is fully closed around the conductor.
4. Read the current value from the display.
5. Carefully remove the clamp from the conductor using the insulating rod.



Figure 5.2: Demonstrating the use of the 5-meter insulated rod with the FR1000 for safe current measurement on high voltage power lines.

5.4 HOLD Function

Press the **HOLD** button to freeze the current reading on the display. This is useful when taking measurements in hard-to-reach areas where the display cannot be easily viewed. Press **HOLD** again to release the reading and return to live measurement mode.

5.5 PEAK Function

Press the **PEAK** button to capture and display the maximum (peak) current value detected during a measurement session. This is useful for identifying transient current spikes. Press **PEAK** again to exit peak hold mode.

5.6 Data Storage

The FR1000 features data storage capabilities. Refer to the device's on-screen indicators or specific button combinations (if available, not detailed in provided data) for saving and recalling measurement data. This function allows for later

analysis of recorded current values.

6. Maintenance

Proper care and maintenance will ensure the longevity and accuracy of your FR1000.

- **Cleaning:** Wipe the device with a dry, soft cloth. Do not use abrasive cleaners or solvents. Ensure the clamp jaw mechanism is free of dust and debris.
- **Storage:** When not in use for extended periods, remove the battery to prevent leakage. Store the device and its insulating rod in the provided carrying bag in a cool, dry place, away from direct sunlight and extreme temperatures.
- **Calibration:** For continued accuracy, periodic calibration by qualified personnel is recommended.

7. Troubleshooting

If you encounter issues with your FR1000, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Device does not power on.	Low or dead battery; incorrect battery installation.	Replace the battery; ensure correct polarity.
Inaccurate or fluctuating readings.	Clamp jaw not fully closed; external magnetic fields; conductor not centered.	Ensure jaw is closed; move away from strong magnetic sources; center the conductor within the jaw.
Display shows "OL" or overload.	Current exceeds the measurement range.	Remove the clamp from the conductor immediately. Do not attempt to measure currents above 1200A.
No reading on display.	No current flowing; device in HOLD mode.	Verify current flow; press HOLD button to exit hold mode.

If the problem persists after attempting these solutions, contact FUZRR customer support for further assistance.

8. Specifications

Parameter	Detail
Model	FR1000
Rated Current Range	0.0mA - 1200A (50/60Hz auto)
Resolution	0.1mA
Jaw Size	50mm
Insulation Rods	Five sections, total 5 meters
Line Tester Capability	Usable below 60KV lines
Measurement Accuracy	0.5%
Item Weight	10 kg

Parameter	Detail
Batteries	1 Lithium Metal battery (included)
Certifications	CE, RoHS
Manufacturer	FUZRR
Item Model Number	EC-FR1000

9. Warranty and Support

For warranty information and technical support, please contact FUZRR customer service directly. Keep your purchase receipt as proof of purchase. Details regarding specific warranty periods and terms are typically provided with the product packaging or on the manufacturer's official website.
For assistance, please visit the official FUZRR website or refer to the contact information provided with your product.

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