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Fafeicy UT202A+

Fafeicy UT202A+ Handheld Automatic Range True RMS Clamp Meter Multimeter

USER MANUAL

1. Introduction

This manual provides detailed instructions for the safe and effective operation of the Fafeicy UT202A+ Handheld Automatic Range True RMS Clamp Meter. This device is a professional measuring instrument designed for electrical testing, offering functions such as AC/DC current, voltage, capacitance, temperature, and frequency measurements, along with NCV (Non-Contact Voltage) detection. Please read this manual thoroughly before use and retain it for future reference.

2. Safety Information

To ensure safe operation and service of the meter, follow these safety guidelines:

- Always adhere to local and national safety codes.
- Do not use the meter if it appears damaged or if the insulation is compromised.
- Ensure the test leads are in good condition and properly connected before any measurement.
- Do not apply more than the rated voltage, as marked on the meter, between the terminals or between any terminal and earth ground.
- Exercise extreme caution when working with voltages above 30V AC RMS, 42V peak, or 60V DC. These voltages pose a shock hazard.
- The meter is designed to meet safety standards CAT II 600V and CAT III 300V.
- The device features sound and light alarms for over-voltage and over-current situations, and full-function anti-burning protection for enhanced reliability.

3. Package Contents

Verify that all items listed below are present and undamaged:

- 1 x Fafeicy UT202A+ Clamp Meter
- 1 x Storage Bag
- 1 x Pair of Test Leads
- 1 x English Manual



Image 3.1: Contents of the Fafeicy UT202A+ Clamp Meter package, including the meter, test leads, and a black storage bag.

4. Product Overview

The Fafeicy UT202A+ Clamp Meter features a robust design for various electrical measurements. Key components include:

- **Clamp Jaw:** Used for non-contact AC current measurement.
- **Rotary Dial:** Selects measurement functions (AC Current, AC Voltage, DC Voltage, Resistance, Capacitance, Frequency, Temperature, NCV, Diode, On-Off Test).
- **LCD Display:** Shows measurement readings, units, and indicators.
- **Function Buttons:** SELECT, REL (Relative Value), MAX/MIN, HOLD/Ω.
- **Input Terminals:** For connecting test leads (COM, VΩHz).



Image 4.1: Front view of the Fafeicy UT202A+ Clamp Meter, highlighting the LCD display, rotary dial, function buttons, and input terminals.

5. Setup

5.1 Battery Installation

The Fafeicy UT202A+ requires two 1.5V AAA batteries (not included) for operation.

1. Locate the battery compartment cover on the back of the meter.
2. Use a screwdriver to loosen the screw on the battery cover.
3. Remove the battery cover.
4. Insert two 1.5V AAA batteries, observing the correct polarity (+ and -).
5. Replace the battery cover and secure it with the screw.



Image 5.1: Back view of the Fafeicy UT202A+ Clamp Meter, indicating the location of the battery compartment.

6. Operating Instructions

6.1 Power On/Off

Turn the rotary dial from the "OFF" position to any desired measurement function to power on the meter. To power off, turn the dial back to "OFF". The meter features an automatic power-off function after 15 minutes of inactivity to conserve battery life.

6.2 AC Current Measurement (Clamp)

1. Turn the rotary dial to the "AC Current (A)" range (e.g., 40A/400A or 60A/600A).
2. Press the clamp trigger to open the clamp jaws.
3. Enclose a single conductor (not a cable containing both live and neutral wires) within the clamp jaws.
4. Release the trigger to close the jaws securely around the conductor.
5. Read the AC current value on the LCD display.



Image 6.1: The Fafeicy UT202A+ Clamp Meter in use, measuring current by clamping around a single conductor in an electrical panel.

6.3 Voltage, Resistance, Capacitance, Diode, Continuity, Frequency, Temperature Measurements (Test Leads)

1. Insert the black test lead into the "COM" terminal and the red test lead into the "VΩHz" terminal.
2. Turn the rotary dial to the desired measurement function (e.g., AC Voltage (V), DC Voltage (V), Resistance (Ω), Capacitance (F), Diode, On-Off Test, Frequency (Hz), Temperature).
3. For functions with multiple modes (e.g., AC/DC Voltage, Resistance/Diode/Continuity), use the**SELECT** button to toggle between modes if necessary.
4. Connect the test leads to the circuit or component under test.
5. Read the measurement value on the LCD display.



Image 6.2: The Fafeicy UT202A+ Clamp Meter with test leads connected, demonstrating its use for voltage, resistance, or other measurements requiring direct contact.

6.4 NCV (Non-Contact Voltage) Detection

1. Turn the rotary dial to the "NCV" position.
2. Move the top end of the meter (where the clamp jaw meets the body) close to the conductor or electrical outlet.
3. The meter will emit an audible beep and the NCV indicator light will flash if AC voltage is detected.

6.5 Function Buttons

- **SELECT:** Toggles between different measurement modes within a single rotary dial position (e.g., AC/DC Voltage, Resistance/Diode/Continuity).
- **REL (Relative Value):** Measures the difference between a stored reference value and the current measurement.
- **MAX/MIN:** Displays the maximum or minimum measured value during a measurement session.
- **HOLD/Ω:** Freezes the current reading on the display. In some modes, it may also switch to Resistance measurement.

7. Maintenance

7.1 Cleaning

Wipe the meter's casing with a damp cloth and mild detergent. Do not use abrasives or solvents. Ensure the meter is completely dry before use.

7.2 Battery Replacement

When the low voltage prompt (battery icon) appears on the display, replace the batteries immediately to ensure accurate readings. Refer to Section 5.1 for battery installation instructions.

7.3 Storage

If the meter is not used for an extended period, remove the batteries to prevent leakage and store the device in its protective bag in a cool, dry place.

8. Troubleshooting

- **No Display / Meter Does Not Turn On:** Check battery installation and ensure batteries are not depleted. Replace if necessary.
- **Low Voltage Prompt (Battery Icon):** Replace the batteries immediately.
- **Inaccurate Readings:** Ensure test leads are properly connected and undamaged. Verify the correct function and range are selected. For current measurements, ensure only a single conductor is within the clamp jaw.
- **Sound and Light Alarm:** This indicates an over-voltage or over-current condition. Disconnect the meter from the circuit immediately and verify the circuit parameters are within the meter's specifications.
- **Automatic Power-Off:** This is a normal power-saving feature. The meter will power off after 15 minutes of inactivity. Turn the rotary dial to OFF and then back to a function to restart.

9. Specifications

Parameter	Range	Accuracy
DC Current (A)	40A/400A, 60A/600A	±(2%+10)
AC Current (A)	4A/40A/400A, 6A/60A/600A	±(2%+10)
AC Current Frequency (Hz)	50Hz-100Hz	±(1%+5)
AC Voltage (V)	4V/40V/400V/600V, 6V/60V/600V	±(0.8%+5)
AC Voltage Frequency (Hz)	10Hz - 10kHz, 10Hz - 60kHz	±(1%+5)
DC Voltage (V)	400mV/4V/40V/400V/600V, 600mV/6V/60V/600V	±(0.5%+2)
Resistance (Ω)	400Ω/4kΩ/40kΩ/400kΩ/4MΩ/40MΩ, 600Ω/6kΩ/60kΩ/600kΩ/6MΩ/60MΩ	±(0.8%+2)

Parameter	Range	Accuracy
Capacitance (F)	4nF/40nF/400nF/4μF/40μF/400μF/4mF, 40nF/400nF/4μF/40μF/400μF/4mF/40mF, 6nF/60nF/600nF/6μF/60μF/600μF/6mF/60mF, 60nF/600nF/6μF/60μF/600μF/6mF/60mF	±(4%+5)
Temperature	-40°C-1000°C / -40°F-1832°F	
Frequency (Hz)	10Hz-10MHz	±(0.1%+4)

General Performance

- **Display Digits:** 6000
- **Automatic Range:** Supported
- **Clamp Head Size:** 28mm / 1.1in
- **True RMS:** Supported
- **NCV:** Supported
- **Live Line and Neutral Line Test:** Supported
- **On-Off Test:** Supported
- **Diode Test:** Supported
- **Maximum Value / Minimum Value:** Supported
- **Relative Value:** Supported
- **Data Retention:** Supported
- **Low Voltage Prompt:** ≤2.5V Supported
- **Automatic Power-Off:** 15 Minutes Supported
- **Operating Temperature:** 0°C-40°C
- **Safety Level:** CAT II 600V/CAT III 300V
- **Battery:** 2 x 1.5V AAA Battery (Not Included)

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