Etekcity MSR-A2000

Etekcity Digital Multimeter MSR-A2000 User Manual

Model: MSR-A2000
Brand: Etekcity

Introduction

This user manual provides detailed instructions for the safe and effective operation of your Etekcity Digital Multimeter MSR-A2000. Please read this manual thoroughly before use and retain it for future reference. The MSR-A2000 is a versatile True RMS digital multimeter designed for accurate measurements across various electrical parameters.

Figure 1: Etekcity Digital Multimeter MSR-A2000 and included accessories.

Safety Information

Always adhere to safety precautions when using electrical testing equipment. Failure to do so may result in injury or damage to the device. This multimeter has a safety rating of 1000V CAT III and 600V CAT IV.

- Do not exceed the maximum input value specified for any function.
- Use caution when working with voltages above 30V AC RMS, 42V peak, or 60V DC. These voltages pose a shock hazard.
- Ensure the test leads are properly connected and the function switch is set to the correct range before making measurements.
- Inspect test leads for damage before each use. Do not use if insulation is damaged or bare metal is exposed.
- Replace the battery when the low battery indicator appears to ensure accurate readings.
- Do not operate the multimeter if it appears damaged or is not functioning properly.

Figure 2: Internal components highlighting dual fuses for enhanced safety.

Product Components

The Etekcity Digital Multimeter MSR-A2000 package includes the following items:

- 1 × Digital Multimeter (MSR-A2000)
- 1 × User Manual
- 1 × 9V 6F22 Battery (Pre-Installed)
- 2 × Test Leads (Red and Black)
- 1 × K-Type Thermocouple

Setup

1. Battery Installation (Pre-Installed)

The 9V 6F22 battery is pre-installed in your MSR-A2000 multimeter. If replacement is needed, refer to the Maintenance section.

2. Connecting Test Leads

Insert the red test lead into the "VΩHz" or "mA" or "10A" input jack, depending on the measurement type. Insert the black test lead into the "COM" (common) input jack. Ensure a secure connection.

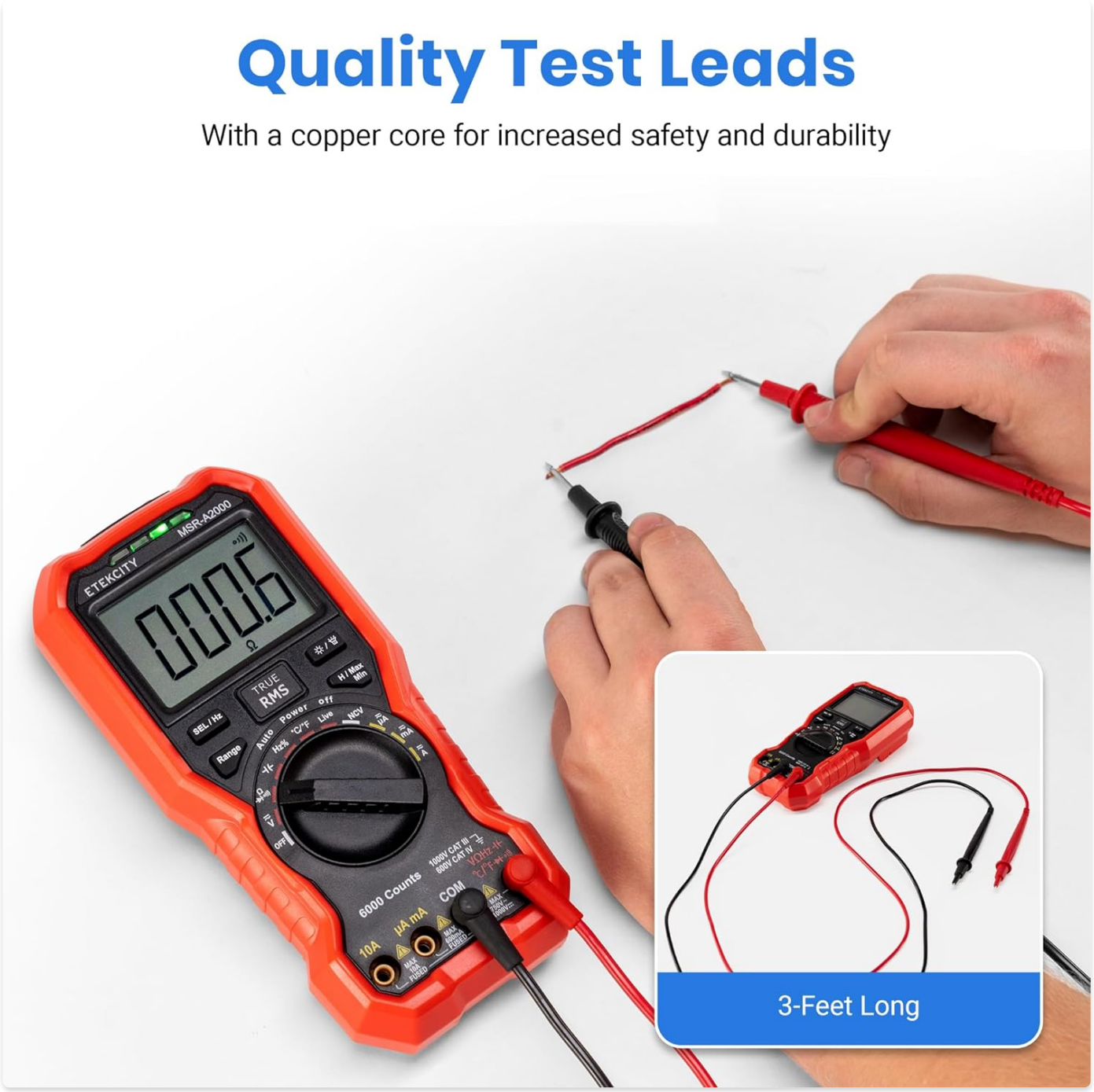

Figure 3: Proper connection of test leads to the multimeter.

Operating Instructions

The MSR-A2000 offers a wide range of measurement functions. Rotate the central dial to select the desired function.

Measurement Functions:

- **AC/DC Voltage (V~ / V-):** For measuring alternating or direct current voltage.
- **AC/DC Current (A~ / A-):** For measuring alternating or direct current. Use the 10A, mA, or µA input jacks

accordingly.

- **Resistance (Ω):** For measuring electrical resistance.
- **Capacitance (F):** For measuring capacitance.
- **Frequency (Hz) / Duty Cycle (%):** For measuring frequency and duty cycle of signals.
- **Diode Test (->|):** For testing diodes.
- **Continuity Test (•))):** For checking circuit continuity.
- **Temperature (°C/°F):** Use the K-type thermocouple for temperature measurements.
- **Non-Contact Voltage (NCV):** Detects AC voltage without direct contact.
- **Live Wire Detection (Live):** Identifies live wires.

Figure 4: Overview of the multimeter's multiple functions.

Key Features:

- **True RMS:** Provides accurate readings for non-sinusoidal AC waveforms.
- **6000-Count Display:** Offers high resolution for precise measurements.

- **Backlit LCD Display:** Large display with backlight for easy reading in low-light conditions.
- **Hold Function:** Freezes the current reading on the display.
- **Min/Max Function:** Records the minimum and maximum values during a measurement session.
- **Auto/Manual Ranging:** Automatically selects the appropriate range or allows manual selection for specific measurements.
- **Wrong-Terminal Indicator:** Alerts the user with an alarm and "LEAD" display if test leads are incorrectly plugged in for current measurements.

Figure 5: The bright LCD display ensures readability in various lighting conditions.

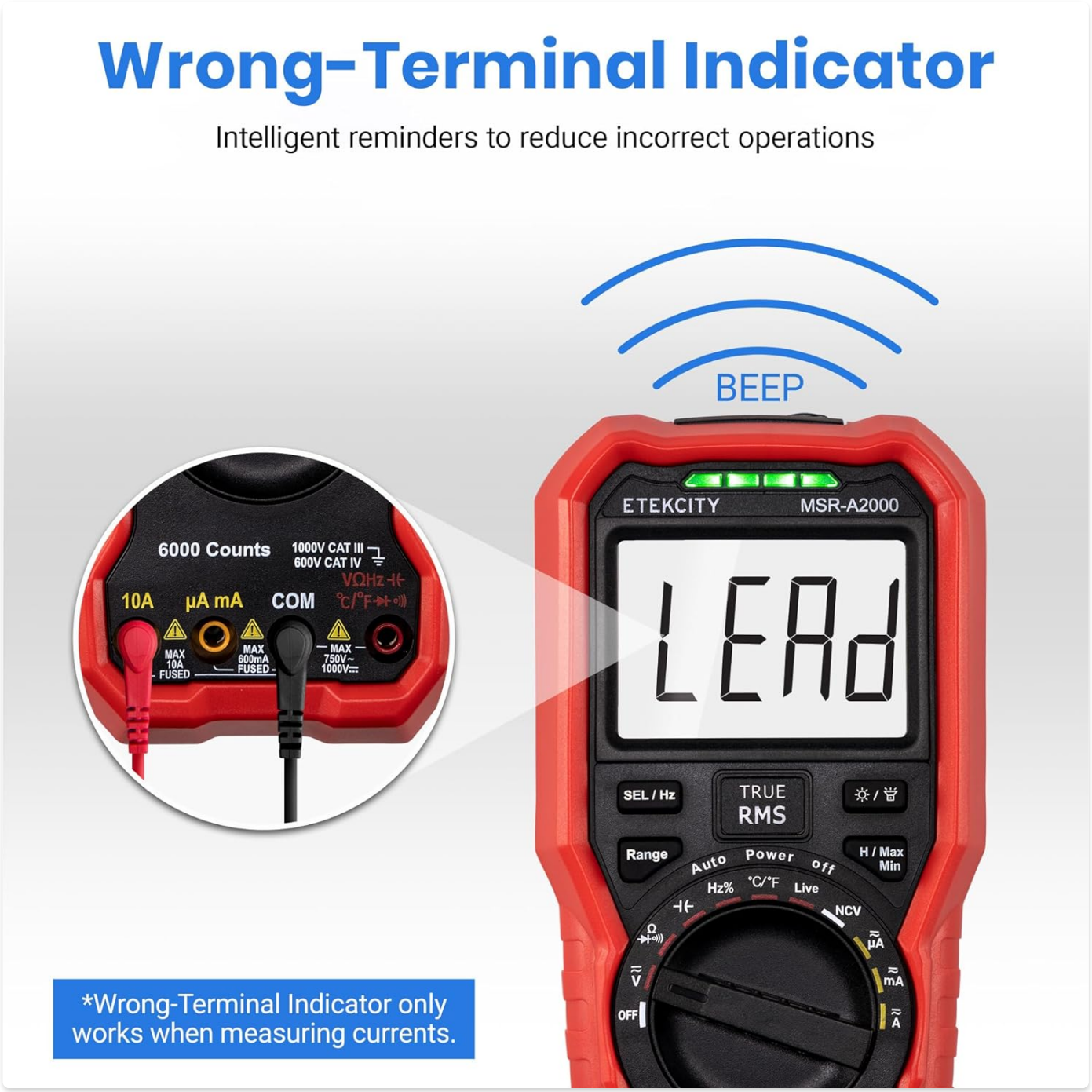

Figure 6: The Wrong-Terminal Indicator provides a safety alert.

Maintenance

Cleaning:

Wipe the multimeter casing with a damp cloth and mild detergent. Do not use abrasives or solvents. Ensure the device is off and disconnected from any circuits before cleaning.

Battery Replacement:

When the low battery indicator appears on the display, replace the 9V 6F22 battery. To replace, remove the protective PVC silicone cover, locate the battery compartment on the back of the unit, and open it. Replace the old battery with a new 9V 6F22 battery, observing polarity. Securely close the compartment and reattach the protective cover.

Figure 7: The removable protective cover and battery compartment for easy maintenance.

Fuse Replacement:

The MSR-A2000 is equipped with dual fuses for internal protection. Fuse replacement should only be performed by qualified personnel. Refer to the specifications for fuse ratings if replacement becomes necessary.

Troubleshooting

Problem	Possible Cause	Solution
No display or dim display	Low battery or no battery installed.	Replace the 9V battery.
"LEAD" indicator and alarm during current measurement	Test leads are plugged into the wrong input jacks for current measurement.	Ensure the red test lead is in the correct "mA" or "10A" jack and the black lead is in "COM".

Problem	Possible Cause	Solution
Inaccurate readings	Low battery, incorrect function selection, or damaged test leads.	Replace battery, verify function setting, inspect and replace test leads if damaged.
No continuity beep	Circuit is open or resistance is too high.	Verify the circuit is closed and within the continuity threshold.

Specifications

Parameter	Value
Display Counts	5999 (6000 Counts)
True RMS	Yes
Sampling Frequency	3 times per second
Voltage Accuracy	±0.5%+2 (typical)
Battery Type	9V 6F22
LCD Size	58.5 mm x 41 mm (2.2 x 1.5 inches)
Dimensions (L x W x H)	190 mm x 90 mm x 56 mm (7.28 x 3.43 x 1.57 inches)
Weight	0.32 kg (10.86 ounces)
Safety Rating	1000V CAT III, 600V CAT IV
Protective Cover	PVC Silicone

Figure 8: The True RMS feature ensures higher range and precision.

Warranty and Support

Etekcity products come with a standard manufacturer's warranty. For detailed warranty information, please refer to the warranty card included with your product or visit the official Etekcity website. For technical support, troubleshooting assistance, or to inquire about replacement parts, please contact Etekcity Customer Support.

While this product may be eligible for extended protection plans offered by third parties, direct warranty and support are provided by Etekcity.

No official product videos from the seller were found to be relevant for embedding in this manual.