

AIOMEST AI-7200B

AIOMEST Digital Clamp Meter T-RMS AI-7200B Instruction Manual

Model: AI-7200B | Brand: AIOMEST

1. INTRODUCTION

The AIOMEST AI-7200B Digital Clamp Meter is a True-RMS auto-ranging multimeter designed for safe and accurate measurements. It is suitable for a wide range of applications including industrial electrical work, electrical switches, automotive engines, laboratories, factories, and home maintenance. This manual provides essential information for the proper and safe operation of your device.

2. SAFETY INFORMATION

Always observe safety precautions when using electrical testing equipment.

- This device complies with safety standard IEC 61010-1, CAT III 600V, and features double insulation for enhanced safety.
- Do not attempt to measure current on live circuits without proper insulation or if you are not qualified.
- Ensure the test leads are properly connected and the function dial is set to the correct measurement mode before testing.
- The Non-Contact Voltage (NCV) detection function helps identify live wires without direct contact, reducing the risk of electric shock.

3. PRODUCT OVERVIEW

3.1 Included Items

- 1 x AN-7200B Clamp Meter
- 1 x Test Lead Set
- 1 x User Manual
- 2 x 1.5V Batteries

3.2 Meter Components

Familiarize yourself with the main components of the AIOMEST AI-7200B clamp meter:



Figure 1: Key components of the ANMETER AN-7200B Clamp Meter, including the current clamp, head lamp, clamp head switch, rotary switch, HOLD key, SEL key, Max/Min key, Hz% key, LCD backlight screen, COM socket, and input jack for resistor, capacitor, diode, voltage, frequency, and continuity measurements.

- **Current Clamp:** Used for non-contact AC/DC current measurement. Opens 26mm to enclose a conductor.
- **Head Lamp:** Provides illumination for working in dimly lit areas.
- **Rotary Switch:** Selects the desired measurement function.
- **LCD Backlight Screen:** Displays measurement readings and features a backlight for clear visibility in poor light conditions.
- **Function Buttons:** Include Data Hold, Max/Min, Relative Value, NCV, and °F/°C conversion.
- **COM Socket & Input Jack:** For connecting test leads for voltage, resistance, capacitance, diode, continuity, and frequency measurements.

4. SETUP

4.1 Battery Installation

The device requires two 1.5V batteries. To install or replace batteries:

1. Ensure the meter is turned OFF.
2. Locate the battery compartment on the back of the meter.
3. Open the battery cover.
4. Insert the 1.5V batteries, observing the correct polarity.
5. Close the battery cover securely.

4.2 Connecting Test Leads

For most measurements (voltage, resistance, capacitance, diode, continuity), connect the test leads:

- Insert the red test lead into the **INPUT** jack.
- Insert the black test lead into the **COM** socket.

5. OPERATING INSTRUCTIONS

5.1 General Operation

Use the rotary switch to select the desired measurement function. Press the 'SEL' button to cycle through sub-functions if available (e.g., AC/DC for voltage/current, or different units for temperature).



Figure 2: The AIOMEST AI-7200B Clamp Meter, showcasing its compact design and clear display.

5.2 Measuring AC/DC Voltage

1. Set the rotary switch to the 'V~' (AC Voltage) or 'V-' (DC Voltage) position.
2. Connect the test leads to the circuit points you wish to measure.
3. Read the voltage value on the LCD screen.

5.3 Measuring AC/DC Current (Clamp Function)

The clamp function allows for non-contact current measurement on a single conductor.



Figure 3: Using the clamp jaws of the AIOMEST AI-7200B to measure AC current on a single conductor within an electrical panel.

1. Set the rotary switch to the 'A~' (AC Current) or 'A-' (DC Current) position.
2. Open the clamp jaws by pressing the trigger.
3. Enclose only one conductor with the clamp jaws. Ensure the jaws are fully closed.
4. Read the current value on the LCD screen.

5.4 Measuring Resistance

1. Set the rotary switch to the ' Ω ' (Resistance) position.
2. Connect the test leads across the component to measure its resistance.

3. Read the resistance value on the LCD screen.

5.5 Measuring Capacitance

1. Set the rotary switch to the 'F' (Capacitance) position.
2. Connect the test leads across the capacitor.
3. Read the capacitance value on the LCD screen.

5.6 Measuring Temperature



Figure 4: The AIOMEST AI-7200B Clamp Meter with a temperature probe inserted, measuring the temperature of a liquid in a glass.

1. Set the rotary switch to the 'TEMP' position.
2. Connect the temperature probe to the input jacks.
3. Place the probe tip on or in the object whose temperature you wish to measure.
4. Read the temperature on the LCD screen. Use the 'SEL' button to switch between Celsius (°C) and Fahrenheit (°F).

5.7 Diode Test

1. Set the rotary switch to the 'Diode' position.

2. Connect the test leads across the diode.
3. The display will show the forward voltage drop for a good diode.

5.8 Continuity Test

1. Set the rotary switch to the 'Continuity' position.
2. Connect the test leads across the circuit or component.
3. A continuous beep indicates a complete circuit (low resistance).

5.9 Non-Contact Voltage (NCV) Detection

This feature allows detection of AC voltage without physical contact.



Figure 5: The AIOMEST AI-7200B Clamp Meter indicating non-contact voltage detection with a flashing light and audible beep near an electrical outlet.

1. Set the rotary switch to the 'NCV' position.
2. Bring the top part of the clamp meter near the conductor or outlet.
3. If AC voltage is detected, the flashlight will light up and the buzzer will sound.

5.10 Other Functions

- **Data Hold:** Press the 'HOLD' button to freeze the current reading on the display.

- **Max/Min:** Press the 'Max/Min' button to record maximum and minimum values during a measurement session.
- **Relative Value:** Press the 'REL' button to set the current reading as a reference for subsequent measurements.
- **Backlight:** Press the backlight button to turn the LCD backlight on/off.
- **Flashlight:** The head lamp can be activated for illumination.
- **Auto Power Off:** The meter will automatically shut down after 15 minutes of inactivity to conserve battery life.

6. MAINTENANCE

6.1 Cleaning

Wipe the meter with a dry, soft cloth. Do not use abrasives or solvents.

6.2 Battery Replacement

When the low battery indicator appears on the display, replace the batteries as described in Section 4.1.

7. TROUBLESHOOTING

- **Display shows "OL":** This indicates that the measured value exceeds the meter's range for the selected function. Select a higher range if available, or note that the measurement is out of range.
- **No display or erratic readings:** Check battery level and replace if necessary. Ensure test leads are securely connected.
- **NCV not detecting:** Ensure the NCV function is selected and the meter is brought close enough to the AC voltage source.

8. SPECIFICATIONS

Parameter	Value
Display	6000 counts
AC Voltage	6V/60V $\pm(1.0\%+3)$ /600V $\pm(1.5\%+3)$
DC Voltage	600mV/6V/60V $\pm(0.5\%+2)$ /600V $\pm(0.8\%+2)$
AC Current	60A $\pm(2\%+10)$ /400A/10A $\pm(3.0\%+10)$
DC Current	60A $\pm(2\%+10)$ /400A/10A $\pm(3.0\%+10)$
Resistance	600 Ω $\pm(1.0\%+3)$ /6k Ω /60k Ω /600k Ω /6M Ω $\pm(1.0\%+2)$ /60M Ω $\pm(1.5\%+3)$
Frequency	9.999Hz~9.999MHz $\pm(0.1\%+5)$
Temperature Range	-20°C~1000°C (-4°F~1832°F)
Jaw Caliber	1 inch (26mm)
Dimensions	8.15in x 2.95in x 1.46in (270mm x 75mm x 37mm)
Weight	9.88oz (280g)

Parameter	Value
Power Source	Battery Powered (2 x 1.5V)
Safety Standard	IEC 61010-1, CAT III 600V

9. WARRANTY AND SUPPORT

The AIOMEST AI-7200B Digital Clamp Meter comes with a 12-month warranty from the date of purchase. AIOMEST also offers life-long technical support for this product. For any inquiries or assistance, please refer to the contact information provided with your purchase or visit the official AIOMEST website.