PEAKMETER PM8236

PEAKMETER PM8236 Digital Multimeter User Manual

Model: PM8236

1. Introduction

The PEAKMETER PM8236 is a professional auto-ranging digital multimeter designed for accurate measurement of various electrical parameters. It features True RMS measurement, a USB interface, and functions for AC/DC voltage, AC/DC current, resistance, capacitance, frequency, duty cycle, and temperature. This manual provides essential information for safe and effective operation of the device.

Image: The PEAKMETER PM8236 Digital Multimeter, its carrying case, product box, and user manual, laid out on a white surface.

2. 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 is rated CAT III 1000V, EN61010-1, EN61010-2-033, and EN61326.

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

3. Product Overview

3.1 Key Features

- 6000 Counts Display
- Auto and Manual Ranging
- True RMS Measurement
- Measures AC/DC Voltage, AC/DC Current, Resistance, Capacitance, Frequency, Duty Cycle, Temperature
- Non-Contact Voltage (NCV) Detection
- Diode Test and Continuity Test
- Data Hold, MAX/MIN, Relative Measurement
- Backlight for improved visibility
- USB Interface for data logging
- Soft rubber protective case with test probe slot

3.2 Physical Description

The multimeter features a robust orange casing with a large LCD display. The back of the device includes a kickstand for hands-free operation and a slot for storing test probes, enhancing portability and preventing loss.

Image: Back of the multimeter, highlighting the protective case and test probe storage slot.

Image: Bottom of the multimeter, displaying the USB interface.

4. Setup

4.1 Unboxing and Initial Inspection

Upon receiving your PEAKMETER PM8236, carefully open the packaging and inspect all components for any signs of damage. Ensure all accessories, including test leads and temperature probe, are present.

4.2 Battery Installation

The PM8236 requires 4 x 1.5V AA batteries (included). To install:

1. Open the battery compartment cover located on the back of the multimeter. This usually involves unscrewing a single screw.
2. Insert the batteries, ensuring correct polarity (+ and -).
3. Replace the battery compartment cover and secure it with the screw.

4.3 Connecting Test Leads

Connect the red test lead to the "VΩmA" jack and the black test lead to the "COM" jack for most measurements. For high current measurements (6A/10A), connect the red lead to the "10A" jack.

Refer to the video below for a visual guide on unboxing, battery installation, and initial setup:

Your browser does not support the video tag.

Video: Unboxing and initial setup of the PEAKMETER Digital Multimeter, demonstrating battery installation and test lead connection.

5. Operating Instructions

The function dial allows selection of various measurement modes. Use the "FUNC" button to toggle between AC/DC or other sub-functions within a dial position.

5.1 Voltage Measurement (AC/DC)

1. Turn the function dial to the "V" position.
2. Press "FUNC" to select AC (~) or DC (---) voltage.
3. Connect the test leads in parallel to the circuit or component under test.
4. Read the voltage value on the display.

5.2 Current Measurement (AC/DC)

1. Turn the function dial to the "A" or "mA/µA" position.
2. Press "FUNC" to select AC (~) or DC (---) current.
3. **Important:** Connect the multimeter in series with the circuit. For currents above 600mA, use the 10A jack and corresponding dial position.
4. Read the current value on the display.

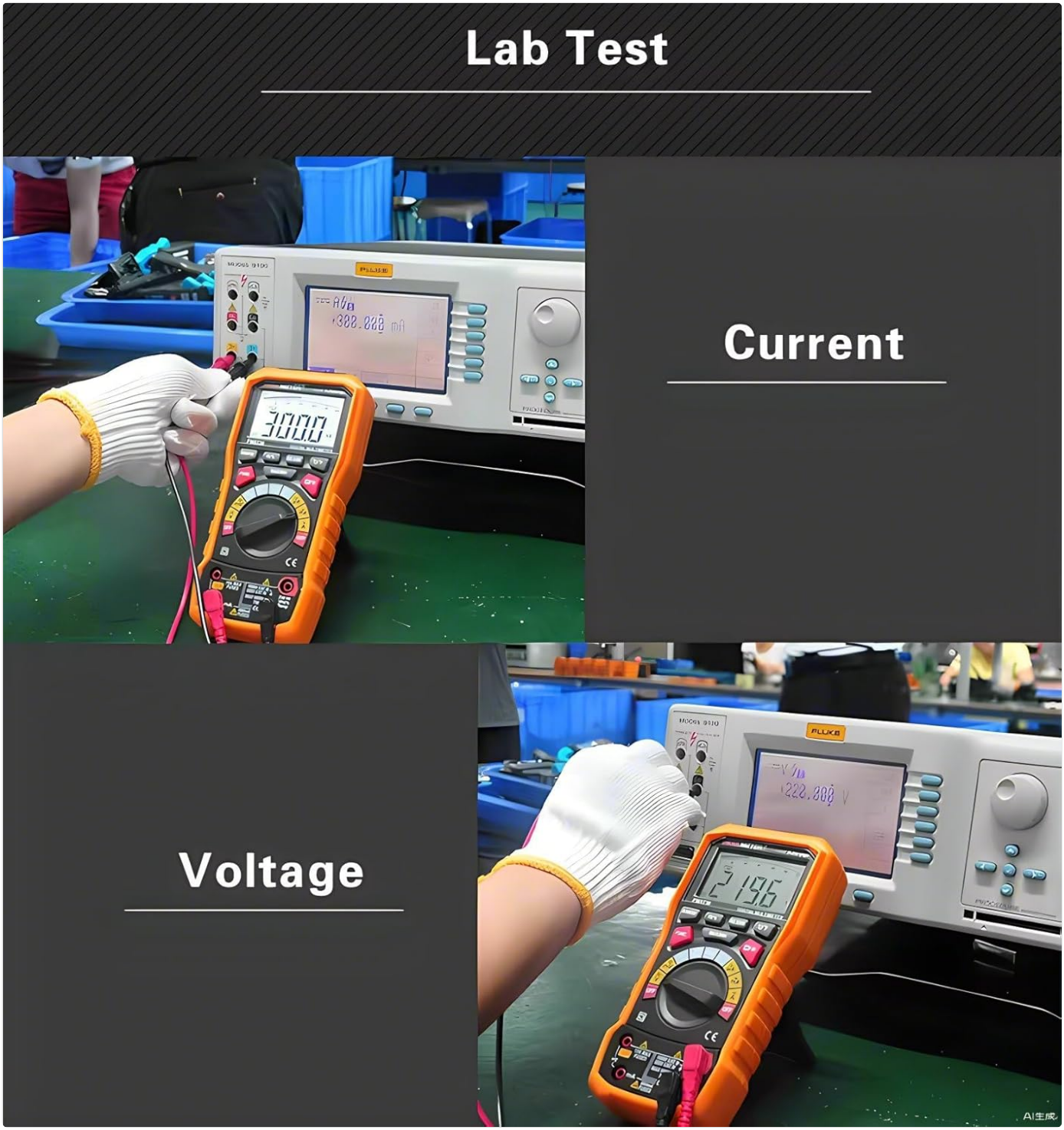

Image: Demonstrating current and voltage measurements in a laboratory setting.

5.3 Resistance Measurement

1. Turn the function dial to the "Ω" position.
2. Ensure the circuit is de-energized before measuring resistance.
3. Connect the test leads across the component.
4. Read the resistance value on the display.

5.4 Continuity Test

1. Turn the function dial to the "Ω" position and press "FUNC" until the continuity symbol (speaker icon) appears.
2. Connect the test leads across the circuit or component.
3. A continuous beep indicates a low resistance path (continuity).

5.5 Diode Test

1. Turn the function dial to the "Ω" position and press "FUNC" until the diode symbol appears.
2. Connect the red lead to the anode and the black lead to the cathode of the diode.
3. A forward voltage drop will be displayed. Reverse the leads; an "OL" (Overload) reading indicates a good diode.

5.6 Capacitance Measurement

1. Turn the function dial to the "Capacitance" position.
2. Ensure the capacitor is fully discharged before testing.
3. Connect the test leads across the capacitor.
4. Read the capacitance value on the display.

5.7 Frequency and Duty Cycle Measurement

1. Turn the function dial to the "Hz/%" position.
2. Press "FUNC" to switch between frequency (Hz) and duty cycle (%).
3. Connect the test leads to the signal source.
4. Read the frequency or duty cycle on the display.

5.8 Temperature Measurement

1. Turn the function dial to the "Temp" position.
2. Connect the K-type thermocouple to the appropriate jacks (usually VΩmA and COM, check manual for specific connections).
3. Place the thermocouple tip on the object or area to be measured.
4. Read the temperature in Celsius (°C) or Fahrenheit (°F) on the display. Use the "FUNC" button to switch units.

5.9 Non-Contact Voltage (NCV) Detection

1. Turn the function dial to the "NCV" position.
2. Move the top of the multimeter close to the conductor.
3. The meter will indicate the presence of AC voltage with an audible beep and visual indicator.

5.10 Special Functions

- **Data Hold:** Press the "HOLD" button to freeze the current reading on the display. Press again to release.
- **MAX/MIN:** Press the "MAX/MIN" button to record the maximum or minimum reading. Press again to cycle through MAX, MIN, and current readings.
- **Relative Measurement:** Press the "REL" button to store the current reading as a reference value. Subsequent measurements will be displayed as a difference from this reference.
- **Backlight:** Press the backlight button (often labeled with a lightbulb icon) to turn the display backlight on or off.
- **True RMS:** The PM8236 features True RMS measurement, providing accurate readings for non-sinusoidal AC waveforms.

6. Maintenance

6.1 Cleaning

Wipe the meter with a damp cloth and mild detergent. Do not use abrasives or solvents.

6.2 Battery Replacement

When the low battery indicator appears on the display, replace the batteries promptly to ensure continued accuracy.

Follow the steps outlined in Section 4.2 for battery installation.

6.3 Fuse Replacement

If the current measurement function fails, the fuse may need replacement. Refer to the specifications for the correct fuse type and rating. Fuse replacement typically involves opening the back casing of the multimeter (after removing batteries) and carefully replacing the blown fuse with a new one of the exact same specifications. If unsure, consult a qualified technician.

7. Troubleshooting

- **No Display/Low Battery Indicator:** Replace batteries.
- **"OL" Reading:** Indicates an overload or open circuit. Check connections and ensure the measurement range is appropriate.
- **Inaccurate Readings:** Check battery level, test lead connections, and ensure the correct function and range are selected. Calibrate if necessary (professional service recommended).
- **No Continuity Beep:** Ensure the continuity function is selected and test leads are making good contact.

8. Specifications

The following table details the specifications for the PEAKMETER PM8236 Digital Multimeter:

Image: Detailed specifications table for the PM8236 model.

PEAKMETER PM8236 Specifications

Specification	Range	Accuracy
DC Voltage	60mV/600mV/6V/60V/600V/1000V	±(0.7%+2)
AC Voltage	60mV/600mV/6V/60V/600V/750V	±(0.8%+3)
DC Current	600µA/6000µA/60mA/600mA, 6A/10A	±(1.2%+3), ±(2.0%+10)
AC Current	600µA/6000µA/60mA/600mA, 6A/10A	±(1.5%+3), ±(3.0%+10)
Resistance	600Ω/6kΩ/60kΩ/600kΩ/6MΩ/60MΩ	±(1.2%+5), ±(2.0%+5)
Capacitance	10nF/100nF/1000nF/10µF/100µF/1000µF/10mF	±(3.0%+3), ±(5.0%+5)
Frequency	10Hz/100Hz/1000Hz/10kHz/100kHz/1000kHz/10MHz	±(1.0%+5)
Duty Cycle	0.1%~99.9%	±(3.0%+2)
Temperature (°C/°F)	-20°C~1000°C / -4°F~1832°F	±(2.0%+2)
Display	6000 Counts	
Interface	USB Interface	
Power Supply	4 x 1.5V AA batteries	
Weight	Approx. 360g	
Size	204 x 93 x 57mm	
Safety Rating	EN61010-1, EN61010-2-033, EN61326, CAT. III 1000V	

Product Dimensions: 5.91 x 3.94 x 7.09 inches; 2.2 Pounds (approx. 1 Kilogram).

Image: Visual representation of the multimeter's dimensions.

9. Warranty and Support

For warranty information and technical support, please refer to the contact details provided with your purchase or visit the official PEAKMETER website. Keep your purchase receipt as proof of purchase.