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PEAKMETER PM8233A

PEAKMETER PM8233A Digital Multimeter User Manual

Model: PM8233A

1. Introduction

The PEAKMETER PM8233A is a compact, handheld digital multimeter designed for accurate and reliable electrical measurements. It features stable performance, high precision, and low power consumption, making it an ideal tool for various electrical testing applications. This meter is capable of measuring DC voltage, AC voltage, DC current, and resistance, along with diode and continuity tests. Its auto-ranging capability and 2000-count display provide clear and precise readings.

2. Safety Information

To ensure safe operation and prevent damage to the meter, please read and follow all safety instructions carefully. This meter is designed to meet safety standards EN61010-1, EN61010-2-033, EN61326, and CAT. 600V over-voltage category with double insulation. It is suitable for measurements in building installations, such as on distribution boards, circuit breakers, and industrial equipment in fixed facilities.

General Safety Precautions:

- Always ensure the test leads are properly connected and the function switch is set to the correct range before making any measurements.
- Do not exceed the maximum input values specified for each range.
- Exercise extreme caution when working with live circuits.
- Before opening the battery cover, ensure the test leads are disconnected from any circuit to avoid electrical shock.
- Replace fuses only with specified types and ratings to maintain safety protection.
- Do not operate the meter if it appears damaged or if the protective casing is removed.



Image: Rear view of the multimeter, highlighting important safety warnings and specifications printed on the device's back panel. These warnings include instructions for avoiding electrical shock and proper fuse replacement.

3. Product Features

- **Smart Pocket Handheld Design:** Compact and portable for easy carrying and use.
- **2000 Counts Display:** Provides precise readings with a 3 1/2 digit LCD.
- **Auto-Ranging:** Automatically selects the appropriate measurement range.
- **Measurement Functions:** DC Voltage, AC Voltage, DC Current, Resistance, Diode Test, Continuity Test.
- **Data Hold Function:** Freezes the displayed reading for convenient recording.
- **Max Value Hold Function:** Captures and displays the maximum measured value.

- **Overload Protection:** Utilizes PTC protection circuit for resistance and frequency measurements.
- **Protective Case:** Features a soft rubber protective case with a slot for test probes, enhancing portability and preventing loss.



Image: The rear of the multimeter, illustrating the soft rubber protective case and the integrated slot designed for securely holding the test probes. This feature allows for convenient carrying and prevents the loss of probes.

4. Package Contents

Upon opening the package, please verify that all items listed below are present and in good condition:

- PEAKMETER PM8233A Digital Multimeter
- Test Leads (one red, one black)

- 9V Battery (6F22 type)
- User Manual



Image: A complete view of the PEAKMETER PM8233A Digital Multimeter package contents, including the multimeter unit, test leads, a 9V battery, and the user manual, all neatly arranged with the product box.

5. Setup

5.1. Battery Installation

1. Ensure the multimeter is turned off and test leads are disconnected.

2. Locate the battery compartment cover on the back of the meter.
3. Use a screwdriver to loosen the screw securing the battery cover.
4. Remove the cover and insert a 9V (6F22) battery, observing the correct polarity.
5. Replace the battery cover and tighten the screw.

5.2. Test Lead Connection

1. Insert the black test lead into the 'COM' (common) jack.
2. For most measurements (voltage, resistance, continuity, diode), insert the red test lead into the 'VΩmA' jack.
3. For high current measurements (up to 10A), insert the red test lead into the '10A' jack.



Image: A detailed front view of the PEAKMETER PM8233A Digital Multimeter, illustrating the LCD screen, rotary switch, test lead input jacks (COM, VΩmA, 10A), and the battery compartment located on the back with its kickstand.

6. Operating Instructions

Before making any measurement, ensure the meter is set to the correct function and range, and the test leads are connected to the appropriate jacks.

6.1. Measuring DC Voltage (V–)

1. Set the rotary switch to the 'V–' position.
2. Connect the black test lead to the 'COM' jack and the red test lead to the 'VΩmA' jack.
3. Connect the test leads in parallel to the circuit or component under test.
4. Read the voltage value on the LCD.

6.2. Measuring AC Voltage (V~)

1. Set the rotary switch to the 'V~' position.
2. Connect the black test lead to the 'COM' jack and the red test lead to the 'VΩmA' jack.
3. Connect the test leads in parallel to the AC source.
4. Read the voltage value on the LCD.

6.3. Measuring DC Current (A–)

1. Set the rotary switch to the appropriate 'A–' range (e.g., 200mA or 10A).
2. Connect the black test lead to the 'COM' jack.
3. For currents up to 200mA, connect the red test lead to the 'VΩmA' jack. For currents up to 10A, connect the red test lead to the '10A' jack.
4. Break the circuit and connect the meter in series with the load.
5. Read the current value on the LCD.

6.4. Measuring Resistance (Ω)

1. Set the rotary switch to the 'Ω' position.
2. Connect the black test lead to the 'COM' jack and the red test lead to the 'VΩmA' jack.
3. Ensure the circuit is de-energized before measuring resistance.
4. Connect the test leads across the component to be measured.
5. Read the resistance value on the LCD.

6.5. Diode Test (→|–)

1. Set the rotary switch to the '→|–' position.
2. Connect the black test lead to the 'COM' jack and the red test lead to the 'VΩmA' jack.
3. Connect the red test lead to the anode and the black test lead to the cathode of the diode. The forward voltage drop will be displayed.
4. Reverse the connections. An 'OL' (Overload) reading indicates a good diode.

6.6. Continuity Test (♫)

1. Set the rotary switch to the '♫' position.
2. Connect the black test lead to the 'COM' jack and the red test lead to the 'VΩmA' jack.
3. Connect the test leads across the circuit or component.

4. If the resistance is below approximately 50Ω, the buzzer will sound, indicating continuity.

6.7. Data Hold (HOLD)

Press the 'HOLD' button to freeze the current reading on the display. Press it again to release the hold function.

6.8. Max Value Hold (MAX)

Press the 'MAX' button to capture and display the maximum value measured during a test. Press it again to exit this mode.

7. Maintenance

7.1. Cleaning

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

7.2. Battery Replacement

When the battery low indicator appears on the display, replace the 9V battery as described in the 'Battery Installation' section (5.1).

7.3. Fuse Replacement

If the current measurement function fails, the fuse may need replacement. Refer to the safety warnings on the back of the meter for fuse specifications (e.g., F 250mA/250V for mA range, F 10A/250V for 10A range). Always replace with a fuse of the identical type and rating.

8. Troubleshooting

- **No Display:** Check battery installation and ensure the battery has sufficient charge. Replace if necessary.
- **Incorrect Readings:** Verify that the function switch is set to the correct measurement type and range. Ensure test leads are properly connected and making good contact with the circuit.
- **'OL' (Overload) Display:** The measured value exceeds the selected range. Switch to a higher range or verify the circuit is within the meter's capabilities.
- **Current Measurement Failure:** Check the fuse. If blown, replace it with a fuse of the correct rating.

9. Specifications

Measurement Function	Range	Accuracy
DC Voltage	200mV / 2V / 20V / 200V	±(0.5%+2)

Measurement Function	Range	Accuracy
	600V	±(0.8%+2)
AC Voltage	200V / 600V	±(1.2%+10)
DC Current	200µA / 2mA / 20mA	±(1.0%+2)
	200mA	±(1.5%+2)
	10A	±(3.0%+2)
Resistance	200Ω / 2kΩ / 20kΩ / 200kΩ	±(0.8%+2)
	2MΩ	±(1.0%+2)

General Specifications:

- **Display:** 3 1/2 digit LCD, 2000 counts
- **Power Supply:** DC 9V battery (6F22)
- **Approximate Weight:** 110 g
- **Dimensions (L x W x H):** 148 x 74 x 42 mm
- **Safety Rating:** EN61010-1, EN61010-2-033, EN61326, CAT. 600V, Double Insulation
- **Specification Met:** CE, RoHS, UL
- **Operating Temperature:** Up to 60°C
- **Color:** Orange

10. Warranty and Support

PEAKMETER products are designed for reliability and performance. This product comes with a 1-year availability of spare parts in the EU, ensuring long-term usability and support.
For technical assistance, troubleshooting, or warranty claims, please contact your authorized PEAKMETER dealer or visit the official PEAKMETER website for support resources.

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