**PEAKMETER PM8233A**

# PEAKMETER PM8233A Digital Multimeter User Manual

## 1. Introduction

The PEAKMETER PM8233A is a compact, handheld digital multimeter designed for measuring DC and AC voltage, DC current, resistance, diode, and continuity. It features a 2000-count display, auto-ranging capabilities, and data hold function, making it suitable for various electrical testing applications. This manual provides essential information for the safe and proper operation of your device.


*Image 1.1: Overview of PEAKMETER PM8233 series digital multimeters.*

## 2. Safety Information

To ensure safe operation, always adhere to the following safety precautions:

- This device complies with safety standards EN61010-1, EN61010-2-033, EN61326, and is rated CAT.Ⅲ 600V.
- Always inspect the multimeter and test leads for any damage before use. Do not use if damaged.
- To avoid electrical shock, remove test leads from the circuit before opening the battery cover.
- To prevent fire, ensure that replacement fuses match the specified ratings: F 250mA / 250V and F 10A / 250V.
- Do not apply voltage or current that exceeds the maximum specified limits for each range.
- Exercise extreme caution when working with voltages above 60V DC or 30V AC RMS, as these pose a shock hazard.
- Ensure the function switch is set to the correct range before making measurements.


*Image 2.1: Rear view of the multimeter displaying safety warnings and fuse specifications.*

## 3. Product Overview

### 3.1 Components

- **LCD Display:** Shows measurement readings, units, and function indicators.
- **Function Rotary Switch:** Used to select measurement functions and ranges.
- **Input Jacks:** Terminals for connecting test leads (COM, VΩmA, 10A).
- **Data Hold Button:** Freezes the current reading on the display.
- **Protective Rubber Case:** Provides durability and includes a convenient slot for test probe storage.
- **Support Frame:** Allows the multimeter to stand at an angle for easier viewing.


*Image 3.1: Internal components and features of the multimeter, including the LCD, battery compartment, and support frame.*


*Image 3.2: The multimeter's rear protective case features a slot for convenient test probe storage.*

## 4. Setup

### 4.1 Battery Installation

The PEAKMETER PM8233A requires one 9V battery for operation. To install or replace the battery:

1. Ensure the multimeter is turned off and all test leads are disconnected from any circuits and the meter itself.
2. Locate the battery compartment cover on the back of the multimeter.
3. Use a screwdriver to remove the screw securing the battery cover.
4. Carefully remove the cover.
5. Insert a new 9V battery, observing the correct polarity (+ and -).
6. Replace the battery cover and secure it with the screw.

A low battery indicator will appear on the display when the battery needs replacement.


*Image 4.1: Package contents, showing the multimeter, test leads, manual, and battery.*

## 5. Operating Instructions

Before making any measurements, ensure the test leads are properly connected to the input jacks and the function rotary switch is set to the desired measurement type.

### 5.1 DC Voltage Measurement

1. Insert the red test lead into the VΩmA jack and the black test lead into the COM jack.
2. Turn the rotary switch to the desired DC Voltage (V=) range (e.g., 20V, 200V, 600V). The PM8233A features auto-ranging, so selecting a general V= range is often sufficient.
3. Connect the test probes across the component or circuit to be measured.
4. Read the voltage value on the LCD display.

### 5.2 AC Voltage Measurement

1. Insert the red test lead into the VΩmA jack and the black test lead into the COM jack.

2. Turn the rotary switch to the desired AC Voltage (V~) range (e.g., 200V, 600V).
3. Connect the test probes across the component or circuit to be measured.
4. Read the voltage value on the LCD display.

### 5.3 DC Current Measurement

**Caution:** Always connect the multimeter in series with the circuit when measuring current. Never connect it in parallel with a voltage source.

1. For currents up to 200mA, insert the red test lead into the VΩmA jack. For currents up to 10A, insert the red test lead into the 10A jack. The black test lead always goes into the COM jack.
2. Turn the rotary switch to the appropriate DC Current (A=) range (e.g., 200mA, 10A).
3. Open the circuit where current is to be measured and connect the multimeter in series.
4. Read the current value on the LCD display.

### 5.4 Resistance Measurement

**Caution:** Ensure the circuit is de-energized and all capacitors are discharged before measuring resistance.

1. Insert the red test lead into the VΩmA jack and the black test lead into the COM jack.
2. Turn the rotary switch to the Resistance (Ω) range.
3. Connect the test probes across the component to be measured.
4. Read the resistance value on the LCD display.

### 5.5 Diode Test

1. Insert the red test lead into the VΩmA jack and the black test lead into the COM jack.
2. Turn the rotary switch to the Diode (→|→) position.
3. Connect the red probe to the anode and the black probe to the cathode of the diode. The display will show the forward voltage drop.
4. Reverse the probes. The display should show 'OL' (Open Loop) for a good diode.

### 5.6 Continuity Test

1. Insert the red test lead into the VΩmA jack and the black test lead into the COM jack.
2. Turn the rotary switch to the Continuity (♫) position.
3. Connect the test probes across the circuit or component.
4. If the resistance is below approximately 50Ω, the buzzer will sound, indicating continuity. The display will also show the resistance value.

### 5.7 Data Hold Function

Press the 'HOLD' button to freeze the current reading on the display. Press it again to release the hold and resume live measurements.

## 6. Maintenance

### 6.1 Cleaning

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

### 6.2 Battery Replacement

Refer to Section 4.1 for detailed instructions on battery replacement. Always replace the battery promptly when the low battery indicator appears to ensure accurate measurements.

### 6.3 Fuse Replacement

If the current measurement function fails, the fuse may need replacement. Refer to the safety warnings on the back of the device for correct fuse specifications (F 250mA / 250V and F 10A / 250V). Fuse replacement should only be performed by qualified personnel.

## 7. Troubleshooting

- **No Display:** Check battery installation and ensure the battery has sufficient charge. Replace if necessary.
- **Incorrect Readings:** Verify that the function rotary switch is set to the correct measurement type and range. Ensure test leads are properly connected and making good contact.
- **'OL' on Display:** This typically indicates an overload (measurement exceeds the selected range) or an open circuit (e.g., when measuring resistance of an open wire).
- **No Continuity Beep:** Check if the circuit resistance is above the continuity threshold (approx. 50Ω).

## 8. Specifications

The following table outlines the technical specifications for the PEAKMETER PM8233A Digital Multimeter:

| Measurement Type | Range | Accuracy |
|---|---|---|
| DC Voltage | 200mV/2V/20V/200V | ±(0.5%+2) |
| | 600V | ±(0.8%+2) |
| AC Voltage | 200V/600V | ±(1.2%+10) |
| DC Current | 200µA/2mA/20mA/200mA | ±(1.0%+2) |
| | 10A | ±(3.0%+2) |
| Resistance | 200Ω/2KΩ/20KΩ/200KΩ/2MΩ | ±(0.8%+2) |

### 8.1 General Specifications

- **Display:** 3 1/2 digit LCD, 2000 counts
- **Power Supply:** 9V Battery
- **Weight:** Approx. 110g
- **Dimensions:** 140 x 67 x 30mm
- **Safety Rating:** EN61010-1, EN61010-2-033, EN61326, CAT.Ⅲ 600V
- **Features:** Data Hold, Diode Test, Continuity Test

| | Range | PM8233A | PM8233B | PM8233C |
|---|---|---|---|---|
| DC Voltage | 200mV/2V/20V/200V<br>600V | ±(0.5%+2)<br>±(0.8%+2) | ±(0.5%+2)<br>±(0.8%+2) | ±(0.5%+2)<br>±(0.8%+2) |
| AC Voltage | 200V/600V | ±(1.2%+10) | ±(1.2%+10) | ±(1.2%+10) |
| DC Current | 200μA/2mA/20mA<br>200mA<br>10A | ±(1.0%+2)<br>±(1.5%+2)<br>±(3.0%+2) | ±(1.0%+2)<br>±(1.5%+2)<br>±(3.0%+2) | ±(1.0%+2)<br>±(1.5%+2)<br>±(3.0%+2) |
| Resistance | 200Ω/2kΩ/20kΩ/200kΩ/2MΩ | ±(0.8%+2) | ±(0.8%+2) | ±(0.8%+2) |
| Temperature | -20C~1000C | | | ±(2.0%+3) |
| **Features** | | | | |
| Display | | 2000 counts | 2000 counts | 2000 counts |
| Data hold | | Yes | Yes | Yes |
| Backlight | | | Yes | Yes |
| Diode test | | Yes | Yes | Yes |
| Continuity | | Yes | Yes | Yes |
| **General** | | | | |
| Power | | 9V Battery | | |
| Weight | | Approx. 110g | | |
| Size | | 140 x 67 x 30mm | | |

| | PM8233A | PM8233B | PM8233C |
|---|---|---|---|
| DC Voltage | Yes | Yes | Yes |
| AC Voltage | Yes | Yes | Yes |
| AC Current | Yes | Yes | Yes |
| Resistance | Yes | Yes | Yes |
| Temperature | - | - | Yes |
| **Features** | | | |
| Data Hold | Yes | Yes | Yes |
| Diode test | Yes | Yes | Yes |
| Continuity | Yes | Yes | Yes |
| Backlight | - | Yes | Yes |

*Image 8.1: Detailed specifications table for various PM8233 models, including PM8233A.*

## 9. Warranty and Support

PEAKMETER products are manufactured to high-quality standards. For warranty information or technical support, please refer to the contact details provided with your purchase documentation or visit the official PEAKMETER website. Please retain your proof of purchase for any warranty claims.

### Related Documents - PM8233A

| | |
|---|---|
|  | PeakMeter MS5205 Digital Insulation Tester - Technical Specifications<br>Detailed technical specifications for the PeakMeter MS5205 Digital Insulation Tester, including insulation resistance testing capabilities, voltage outputs, measuring ranges, and safety compliance. |
|  | Sonel Calibration Services for Measurement Instruments<br>Comprehensive list of accredited calibration services offered by Sonel for a wide range of measurement instruments, including multimeters, clamp meters, thermal imagers, pyrometers, and electrical safety testers, covering numerous manufacturers and models. |

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|---|---|
|  | [Прайс-лист на мегаомметры и измерители сопротивления изоляции от Вива-Телеком]<br>Актуальный прайс-лист на профессиональное оборудование для измерения сопротивления изоляции и заземления от компании Вива-Телеком. Включает модели от ведущих производителей: Fluke, CEM, Extech, Sonel и других. |
|  | [Superprice March Promotion: Electronic Equipment Catalog]<br>Explore special offers and discounts on a wide range of electronic equipment, including power supplies, oscilloscopes, microscopes, soldering stations, and more, from Superprice during their March promotion. |
|  | [Прайс-лист на токоизмерительные клещи и электроизмерительное оборудование от Вива-Телеком]<br>Актуальный прайс-лист от ЗАО "Вива-Телеком" на широкий ассортимент токоизмерительных клещей и другого электроизмерительного оборудования от ведущих производителей, включая CEM, Fluke, Extech и другие. |
|  | [Апрельская акция Суперайс: Скидки на лабораторное оборудование, микроскопы, электронику и робототехнику]<br>Каталог товаров Суперайс с акциями и скидками в апреле 2024 года. Широкий ассортимент лабораторных блоков питания, осциллографов, микроскопов, паяльного оборудования, робототехники и многого другого. |