

Pro'sKit MT-1233C-C

Pro'sKit MT-1233C-C Digital Multimeter User Manual

Model: MT-1233C-C | Brand: Pro'sKit

1. INTRODUCTION

The Pro'sKit MT-1233C-C is a versatile 3 1/2 digit digital multimeter designed for accurate measurement of AC/DC voltage, DC current, resistance, temperature, and continuity. It features a large LCD display, data hold function, and backlight for easy readability in various lighting conditions. This manual provides essential information for the safe and effective use of your multimeter.

2. SAFETY INFORMATION

Always observe safety precautions when using any electrical testing equipment. Failure to do so may result in injury or damage to the meter or equipment under test.

- **WARNING:** To avoid electrical shock, always remove test leads before replacing the battery or opening the case.
- **CAUTION:** Do not operate with the case open. To prevent damage or injury, install quick-acting fuses with the AMP/VOLT ratings shown. Read the user manual before use for safety.
- Ensure the meter is in the correct function and range for the measurement being performed.
- Do not exceed the maximum input limits for any range.
- Use caution when working with voltages above 30V AC RMS, 42V peak, or 60V DC. These voltages pose a shock hazard.
- Inspect test leads for damaged insulation or exposed metal before use. Replace if damaged.
- Never connect the meter across a voltage source when the function switch is set to current, resistance, or diode mode.



Image: Rear view of the multimeter, highlighting the battery compartment and printed safety warnings regarding electrical shock and case operation.

3. PACKAGE CONTENTS

Verify that all items are present and undamaged upon opening the package:

- Pro'sKit MT-1233C-C Digital Multimeter
- Test Leads (Red and Black)
- Temperature Probe
- AAA Batteries (x2)
- User Manual



Image: The Pro'sKit MT-1233C-C Digital Multimeter displayed alongside its standard accessories: red and black test leads, a white temperature probe, and two AAA batteries.

4. PRODUCT OVERVIEW

Familiarize yourself with the components of your digital multimeter:

- **LCD Display:** Shows measurement readings, units, and function indicators.
- **Function Switch:** Rotary switch to select measurement functions (Voltage, Current, Resistance, Temperature, etc.) and ranges.
- **Input Jacks:**
 - **COM (Common) Jack:** For the black (negative) test lead.
 - **VΩmA°C/°F Jack:** For the red (positive) test lead for voltage, resistance, small current, and temperature measurements.
 - **10A MAX Jack:** For the red (positive) test lead when measuring currents up to 10A.
- **Data Hold Button:** Freezes the current reading on the display.
- **Backlight Button:** Illuminates the LCD display for better visibility.
- **Kickstand:** Allows the meter to stand upright for hands-free viewing.



Image: A clear front view of the Pro'sKit MT-1233C-C Digital Multimeter, detailing its LCD screen, central function selection dial, and the various input jacks at the bottom.



Image: A side profile of the multimeter, illustrating the integrated kickstand extended from the back, allowing the device to stand independently.

5. SETUP

5.1 Battery Installation

1. Ensure the multimeter is turned OFF and no test leads are connected.
2. Locate the battery compartment cover on the back of the meter.
3. Use a screwdriver to remove the screw securing the cover.
4. Carefully remove the cover.
5. Insert two AAA batteries, observing the correct polarity (+ and -) as indicated inside the compartment.
6. Replace the battery compartment cover and secure it with the screw.

5.2 Connecting Test Leads

For most measurements (voltage, resistance, temperature, continuity, diode, and small current), connect the black test lead to the **COM** jack and the red test lead to the **VΩmA°C/°F** jack.

For high current measurements (up to 10A), connect the red test lead to the **10A MAX** jack.



Image: The multimeter shown with its red and black test leads properly inserted into their respective input jacks, ready for measurement.

5.3 Powering On/Off

To turn the meter ON, rotate the function switch from the "OFF" position to any desired measurement function. To turn the meter OFF, rotate the function switch back to the "OFF" position.

6. OPERATING INSTRUCTIONS

Before taking any measurement, ensure the meter is set to the correct function and range. If the range is unknown, start with the highest range and work downwards until a stable reading is obtained.

6.1 DC Voltage Measurement (V $-$)

1. Connect the black test lead to the **COM** jack and the red test lead to the **V Ω mA $^{\circ}$ C/ $^{\circ}$ F** jack.
2. Set the function switch to the desired DC Voltage (V $-$) range.
3. Connect the test leads in parallel to the circuit or component to be measured.
4. Read the voltage value on the LCD display.

6.2 AC Voltage Measurement (V \sim)

1. Connect the black test lead to the **COM** jack and the red test lead to the **VΩmA°C/°F** jack.
2. Set the function switch to the desired AC Voltage (V~) range.
3. Connect the test leads in parallel to the circuit or component to be measured.
4. Read the voltage value on the LCD display.

6.3 DC Current Measurement (A–)

1. **IMPORTANT:** Ensure the circuit is de-energized before connecting the meter in series.
2. For currents up to 200mA, connect the black test lead to the **COM** jack and the red test lead to the **VΩmA°C/°F** jack. For currents up to 10A, connect the red test lead to the **10A MAX** jack.
3. Set the function switch to the desired DC Current (A–) range.
4. Connect the meter in series with the circuit or component to be measured.
5. Re-energize the circuit and read the current value on the LCD display.

6.4 Resistance Measurement (Ω)

1. Ensure the circuit or component is de-energized and any capacitors are discharged.
2. Connect the black test lead to the **COM** jack and the red test lead to the **VΩmA°C/°F** jack.
3. Set the function switch to the desired Resistance (Ω) range.
4. Connect the test leads across the component to be measured.
5. Read the resistance value on the LCD display.

6.5 Temperature Measurement (°C/°F)

1. Connect the temperature probe to the **VΩmA°C/°F** and **COM** jacks, observing polarity.
2. Set the function switch to the °C or °F position.
3. Place the tip of the temperature probe on or near the object whose temperature is to be measured.
4. Read the temperature value on the LCD display.

6.6 Continuity Test (♫)

1. Ensure the circuit or component is de-energized.
2. Connect the black test lead to the **COM** jack and the red test lead to the **VΩmA°C/°F** jack.
3. Set the function switch to the Continuity (♫) position.
4. Touch the test leads across the circuit or component. A continuous beep indicates a low resistance (continuity).

6.7 Diode Test (→|←)

1. Ensure the diode is disconnected from the circuit.
2. Connect the black test lead to the **COM** jack and the red test lead to the **VΩmA°C/°F** jack.
3. Set the function switch to the Diode Test (→|←) position.
4. Connect the red test lead to the anode and the black test lead to the cathode of the diode. The display will show the forward voltage drop.
5. Reverse the test leads. The display should show "OL" (Open Loop) for a good diode.

6.8 Data Hold Function

Press the "HOLD" button to freeze the current reading on the LCD display. Press it again to release the

hold and resume live readings.

6.9 Backlight Function

Press the "LIGHT" button to turn on the LCD backlight. Press it again to turn off the backlight. The backlight will automatically turn off after a short period to conserve battery life.

7. MAINTENANCE

7.1 Cleaning

Wipe the meter's case with a damp cloth and mild detergent. Do not use abrasives or solvents. Keep the input terminals free of dirt or debris.

7.2 Battery Replacement

When the battery symbol appears on the LCD, the batteries are low and should be replaced. Refer to Section 5.1 for battery installation instructions.

7.3 Fuse Replacement

If the current measurement function stops working, the fuse may need replacement. This operation should only be performed by qualified personnel. Ensure the meter is OFF and test leads are disconnected before opening the case. Replace with a quick-acting fuse of the specified AMP/VOLT rating (refer to the caution label on the back of the meter).

7.4 Storage

If the meter is not to be used for an extended period, remove the batteries to prevent leakage and damage to the meter. Store the meter in a cool, dry place away from direct sunlight and extreme temperatures.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
No display or dim display	Dead or low batteries; Incorrect battery polarity	Replace batteries; Check battery orientation
Incorrect readings	Wrong function/range selected; Poor test lead connection; Damaged test leads	Select correct function/range; Ensure secure connections; Replace test leads
Current measurement not working	Blown fuse	Replace fuse (refer to Section 7.3)
"OL" (Overload) displayed	Input value exceeds selected range; Open circuit (for continuity/resistance)	Select a higher range; Check circuit for breaks

9. SPECIFICATIONS

Characteristic	Value
Model Number	MT-1233C-C

Characteristic	Value
Display	3 1/2 Digit LCD
Power Source	Battery Powered (2 x AAA)
Product Dimensions (L x W x H)	8.66 x 5.98 x 0.98 inches
Item Weight	0.57 Pounds (9.12 ounces)
Style	Digital
Manufacturer	Pro'sKit
Date First Available	March 10, 2016

10. WARRANTY AND SUPPORT

For information regarding warranty coverage, technical support, or service, please contact Pro'sKit customer service or visit their official website. Keep your purchase receipt as proof of purchase for any warranty claims.