Terminator TMM 7201

Terminator TMM 7201 Pocket Digital Multimeter User Manual

Model: TMM 7201

1. Introduction

The Terminator TMM 7201 is a compact, pocket-sized digital multimeter designed for a variety of electrical measurements. It is capable of measuring AC/DC voltage up to 500V, as well as current and resistance. This device features a protective case and integrated safety functions, ensuring reliable and safe operation for both professional and hobbyist use. Please read this manual thoroughly before operating the device.

2. Safety Information

To ensure safe operation and to avoid damage to the meter, please observe the following safety precautions:

- Always inspect the multimeter and test leads for any damage before use. Do not use if damaged.
- Do not exceed the maximum input values specified for each range. Refer to the specifications section for details.
- Exercise extreme caution when working with live circuits. High voltages can be dangerous.
- Ensure test leads are firmly connected to the correct input jacks for the desired measurement.
- Replace the battery immediately when the low battery indicator appears on the display to ensure accurate readings.
- Never attempt to measure voltage or current on circuits exceeding the meter's rated capacity.
- Do not operate the meter in explosive atmospheres or in the presence of flammable gases or dust.
- Always turn off the circuit power and discharge high-voltage capacitors before measuring resistance, continuity, or diodes.

3. Product Overview

The Terminator TMM 7201 features a clear digital display, a rotary function selector, and multiple input jacks for versatile measurements.

Figure 1: Front view of the Terminator TMM 7201 Digital Multimeter with included test leads. The image shows the LCD display, function selector dial, input jacks, and buttons for light and power. The red and black test leads are also visible.

Key Components:

- **LCD Display:** Shows measurement readings, units, and indicators.
- **Function Selector:** Rotary switch to select measurement type (Voltage, Current, Resistance, Diode, Continuity, hFE).
- **Input Jacks:**
  - **COM:** Common (negative) input for all measurements.
  - **VΩmA:** Positive input for voltage, resistance, and small current measurements.
  - **10A:** Positive input for high current measurements (up to 10 Amperes).
- **Test Leads:** Red (positive) and Black (negative) leads for connecting to circuits.
- **Light Button:** Activates backlight for the LCD display.
- **Power Button:** Turns the multimeter on or off.

4. Setup

4.1 Battery Installation

The Terminator TMM 7201 is battery-powered. Batteries are not included and must be installed before first use.

1. Locate the battery compartment cover on the back of the multimeter.
2. Use a screwdriver to remove the screw securing the cover.
3. Carefully remove the cover.
4. Insert a 9V battery, observing the correct polarity (+ and -).
5. Replace the battery compartment cover and secure it with the screw.

4.2 Connecting Test Leads

Proper connection of test leads is crucial for accurate and safe measurements.

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

5. Operating Instructions

Always ensure the multimeter is set to the correct function and range before making any measurement.

5.1 Measuring DC Voltage (V=)

1. Connect the red test lead to the **VΩmA** jack and the black test lead to the **COM** jack.
2. Turn the function selector to the desired DC Voltage (V=) range (e.g., 20V, 200V, 500V). If the voltage is unknown, start with the highest range and decrease as needed.
3. Connect the test leads in parallel across the component or circuit to be measured.
4. Read the voltage value on the LCD display.

5.2 Measuring AC Voltage (V~)

1. Connect the red test lead to the **VΩmA** jack and the black test lead to the **COM** jack.
2. Turn the function selector to the desired AC Voltage (V~) range (e.g., 200V, 500V).
3. Connect the test leads in parallel across the AC source or component.
4. Read the voltage value on the LCD display.

5.3 Measuring DC Current (A=)

1. **Important:** To measure current, the multimeter must be connected in series with the circuit. This means breaking the circuit and inserting the meter.
2. 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. Connect the black test lead to the **COM** jack.
3. Turn the function selector to the appropriate DC Current (A=) range (e.g., 2mA, 20mA, 200mA, 10A). Start with the highest range if the current is unknown.
4. Open the circuit where you want to measure current and connect the test leads in series.
5. Read the current value on the LCD display.

5.4 Measuring Resistance (Ω)

1. **Caution:** Ensure the circuit is de-energized and all capacitors are discharged before measuring resistance.
2. Connect the red test lead to the **VΩmA** jack and the black test lead to the **COM** jack.
3. Turn the function selector to the desired Resistance (Ω) range (e.g., 200Ω, 2kΩ, 20kΩ, 200kΩ, 2MΩ).
4. Connect the test leads across the component whose resistance you want to measure.
5. Read the resistance value on the LCD display.

5.5 Continuity Test

1. Connect the red test lead to the **VΩmA** jack and the black test lead to the **COM** jack.
2. Turn the function selector to the continuity mode (often indicated by a speaker icon).
3. Touch the test leads across the circuit or component. A continuous beep indicates a low resistance path (continuity).

5.6 Diode Test

1. Connect the red test lead to the **VΩmA** jack and the black test lead to the **COM** jack.
2. Turn the function selector to the diode test mode (often indicated by a diode symbol).
3. Connect the red lead to the anode and the black lead to the cathode of the diode. The display will show the forward voltage drop.
4. Reverse the leads. The display should show 'OL' (Open Loop) for a good diode.

5.7 Transistor Test (hFE)

1. Turn the function selector to the hFE position.
2. Identify if the transistor is NPN or PNP.
3. Insert the transistor leads (Emitter, Base, Collector) into the corresponding holes in the hFE socket on the multimeter.
4. The display will show the hFE (DC current gain) value of the transistor.

6. Maintenance

6.1 Cleaning

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

6.2 Battery Replacement

When the low battery indicator appears on the display, replace the 9V battery as described in Section 4.1. Always use a fresh battery of the correct type.

6.3 Fuse Replacement

If the current measurement function stops working, the fuse may need replacement. Refer to the specifications for the correct fuse type. Fuse replacement should only be performed by qualified personnel.

7. Troubleshooting

- **No Display:** Check if the power button is pressed. Verify battery installation and charge. Replace battery if necessary.
- **Incorrect Readings:** Ensure the function selector is on the correct measurement type and range. Check test lead connections. Verify battery charge.
- **'OL' or '1' on Display:** This indicates an overload or an open circuit. The measured value is beyond the

selected range, or there is no connection. Select a higher range or check the circuit connection.

- **Current Measurement Not Working:** Check the fuse. If blown, replace with a fuse of the specified rating.

8. Specifications

Feature	Specification
Manufacturer	Terminator
Model Number	TMM 7201
Item Weight	150 grams
Product Dimensions	10 x 10 x 10 cm
Color	Black
Style	Digital
Power Source	Battery Powered (9V battery, not included)
Number of Units	1
Compliance	CE
Measurement Type	Multimeter
Maximum Operating Voltage	500 Volts

9. Warranty and Support

For warranty information or technical support, please refer to the documentation provided with your purchase or contact the retailer/manufacturer directly. Keep your proof of purchase for any warranty claims.