LOKLNEYK T88C

LOKLNEYK Pointer Multimeter T88C User Manual

Model: T88C

1. Introduction

The LOKLNEYK Pointer Multimeter T88C is an analog electrical testing instrument designed for measuring AC/DC voltage, DC current, and resistance. It is an essential tool for electricians, hobbyists, and technicians for various applications including home circuit inspection, automotive electronic diagnosis, industrial equipment maintenance, and educational experiments. This manual provides detailed instructions for the safe and effective use of your T88C multimeter.

2. Safety Information

WARNING: Failure to follow these safety instructions can result in electric shock, fire, or personal injury.

- Always inspect the multimeter and test leads for damage before use. Do not use if damaged.
- Ensure the function dial is set to the correct range before making any measurements.
- Do not exceed the maximum input values for any range. Refer to the specifications section.
- Use caution when working with voltages above 30V AC RMS, 42V peak, or 60V DC. These voltages pose a shock hazard.
- Always disconnect power to the circuit and discharge high-voltage capacitors before measuring resistance or continuity.
- Do not attempt to measure current on a live circuit without proper precautions and understanding of the circuit.
- Replace batteries and fuses only with the specified type and rating.
- Keep fingers behind the finger guards on the test probes during measurements.
- Do not operate the multimeter in explosive gas, vapor, or dusty environments.

3. Product Overview

The LOKLNEYK T88C Pointer Multimeter features a clear analog display and a robust design for reliable measurements.

Figure 3.1: LOKLNEYK T88C Pointer Multimeter with included test leads.

3.1 Components and Controls

Familiarize yourself with the various parts of your multimeter:

Figure 3.2: Labeled components of the T88C Multimeter.

- **Pointer Display:** Analog scale for reading measurement values.
- **Resistance Zero Adjustment:** Knob used to zero the pointer before resistance measurements.
- **Function Gear Dial:** Rotary switch to select measurement functions (ACV, DCV, DCA, Ω, BATT, BUZZ, hFE) and ranges.
- **2500V Voltage Jack:** Input terminal for high voltage AC/DC measurements (up to 2500V).
- **10A Current Jack:** Input terminal for high current DC measurements (up to 10A).
- **Transistor Jack:** Socket for testing transistors (hFE).
- **Red Test Pen Socket (VΩmA):** Positive input terminal for voltage, resistance, and low current measurements.
- **Black Test Pen Socket (COM):** Common (negative) input terminal for all measurements.
- **Protective Soft Rubber Sleeve:** Provides durability and protection against impacts.
- **Suspension Support/Back Magnet:** Allows for hands-free operation and mounting.

4. Setup

4.1 Battery Installation

The T88C multimeter requires two 1.5V AAA batteries for operation.

1. Ensure the multimeter is turned off and test leads are disconnected.
2. Locate the battery compartment on the back of the unit.
3. Use a screwdriver to open the battery compartment cover.
4. Insert two 1.5V AAA batteries, observing the correct polarity (+ and -).
5. Replace the battery compartment cover and secure it with the screw.

4.2 Fuse Installation/Replacement

The T88C is equipped with anti-burning and self-recovery insurance functions, including resettable fuses. Spare fuses are often installed on the table or within the compartment.

Figure 4.1: Back view showing battery and fuse compartments.

1. Ensure the multimeter is turned off and test leads are disconnected.
2. Open the back cover as described for battery installation.
3. Locate the fuse holders. The device typically includes anti-burning resettable fuses below 250V.

4. If replacing a blown fuse, carefully remove the old fuse and insert a new one of the correct type and rating.
5. Close the back cover securely.

5. Operating Instructions

Before any measurement, ensure the test leads are properly connected and the function dial is set to the desired range.

5.1 General Measurement Procedure

1. Insert the black test lead into the **COM** (Common) jack.
2. Insert the red test lead into the appropriate input jack for your measurement (e.g., **VΩmA** for voltage, resistance, or low current; **10A** for high current; **2500V** for high voltage).
3. Select the desired measurement function and range using the **Function Gear Dial**. If unsure of the range, start with the highest range and work downwards.
4. Connect the test probes to the circuit or component to be measured.
5. Read the value indicated by the pointer on the analog display.

5.2 Measuring DC Voltage (DCV)

- Connect the red lead to **VΩmA** and the black lead to **COM**.
- Set the function dial to the desired DCV range (e.g., 0.25V, 1V, 2.5V, 10V, 50V, 250V, 500V, 1000V, 2500V).
- Connect the probes in parallel across the component or circuit to be measured, observing polarity.

5.3 Measuring AC Voltage (ACV)

- Connect the red lead to **VΩmA** and the black lead to **COM**. For voltages up to 2500V, use the dedicated **2500V** jack.
- Set the function dial to the desired ACV range (e.g., 10V, 50V, 250V, 500V, 1000V, 2500V).
- Connect the probes in parallel across the component or circuit to be measured. Polarity is not critical for AC measurements.

5.4 Measuring DC Current (DCA)

- For currents up to 500mA, connect the red lead to **VΩmA**. For currents up to 10A, connect the red lead to the **10A** jack. Always connect the black lead to **COM**.
- Set the function dial to the desired DCA range (e.g., 50uA, 0.5mA, 5mA, 50mA, 500mA, 10A).
- **WARNING:** To measure current, the multimeter must be connected in series with the circuit. Turn off power to the circuit before connecting the multimeter.

5.5 Measuring Resistance (Ω)

- Connect the red lead to **VΩmA** and the black lead to **COM**.
- Set the function dial to the desired resistance range (e.g., Rx1, Rx10, Rx100, Rx1k, Rx10k, Rx100k).
- **Before measuring:** Short the test leads together and adjust the **Resistance Zero Adjustment** knob until the pointer reads zero on the resistance scale.
- Disconnect power from the circuit and discharge any capacitors before measuring resistance.

- Connect the probes across the component to be measured.

5.6 Diode Test (BUZZ)

- Connect the red lead to **VΩmA** and the black lead to **COM**.
- Set the function dial to the **BUZZ** (Continuity/Diode) range.
- Connect the probes across the diode. A good diode will show a low resistance reading in one direction and a very high (or infinite) resistance in the other.

5.7 Transistor Test (hFE)

- Set the function dial to the **hFE** range.
- Insert the transistor leads into the appropriate holes in the **Transistor Jack**, ensuring correct NPN/PNP and EBC (Emitter, Base, Collector) orientation.
- Read the hFE (DC current gain) value on the display.

5.8 Battery Test (BATT)

- Connect the red lead to **VΩmA** and the black lead to **COM**.
- Set the function dial to the **BATT** range.
- Connect the probes across the battery terminals, observing polarity.
- The pointer will indicate the battery's condition.

6. Maintenance

6.1 Cleaning

To clean the multimeter, 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

When the battery indicator shows low power or the multimeter does not function correctly, replace the batteries as described in Section 4.1. Always use two fresh 1.5V AAA batteries.

6.3 Fuse Replacement

If the current measurement function stops working, the fuse may have blown. Replace the fuse as described in Section 4.2. Use only fuses with the specified ratings to maintain safety and performance.

7. Troubleshooting

- **No Reading / Pointer Not Moving:**
  - Check if batteries are installed correctly and have sufficient charge.
  - Ensure test leads are securely connected to the correct jacks.
  - Verify the function dial is set to the appropriate measurement type and range.
  - Check if the fuse is blown (especially for current measurements).
- **Incorrect Reading:**
  - Ensure the correct measurement range is selected.

- For resistance measurements, perform a zero adjustment before measuring.
- Verify proper connection to the circuit or component.

- **Pointer Stuck or Erratic:**
  - Ensure the multimeter is on a stable surface.
  - Check for physical damage to the meter.

8. Specifications

- **Model:** T88C
- **Display Type:** Pointer Display (Analog)
- **DC Voltage (DCV):** 0.25V, 1V, 2.5V, 10V, 50V, 250V, 500V, 1000V, 2500V (±5%)
- **AC Voltage (ACV):** 10V, 50V, 250V, 500V, 1000V, 2500V (±5%)
- **DC Current (DCA):** 50uA, 0.5mA, 5mA, 50mA, 500mA, 10A (±5%)
- **Measuring Resistance Range:** Rx1, Rx10, Rx100, Rx1k, Rx10k, Rx100k
- **Power Supply:** 2 x 1.5V AAA Batteries (Not included)
- **Operating Temperature:** 0 - 40 °C
- **Dimensions:** 179 x 118 x 50 mm
- **Weight:** Approximately 400g
- **Certifications:** CE, RoHS
- **Special Features:** Anti-burning and self-recovery insurance function, Gold-plated circuit board, External magnetism.

9. Warranty and Support

This product is covered by a standard manufacturer's warranty against defects in materials and workmanship. For warranty claims, technical support, or service inquiries, please contact your retailer or the manufacturer directly. Please retain your proof of purchase for warranty validation.