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Proster T58B

Proster T58B Professional True RMS Digital Multimeter

USER MANUAL

1. Introduction

Thank you for choosing the Proster T58B Professional True RMS Digital Multimeter. This device is designed for accurate and reliable measurement of various electrical parameters, making it an essential tool for electricians, technicians, and DIY enthusiasts. It features a 9999-count display, True RMS capability, Non-Contact Voltage (NCV) detection, and a backlit LCD for clear readings in diverse environments.

2. Safety Information

To ensure safe operation and service of the meter, please read this manual thoroughly before use. Failure to observe safety warnings can result in serious injury or death.

- This meter is designed to meet CAT III 600V safety standards and is CE and RoHS certified.
- Always disconnect the test leads from the circuit before changing functions.
- Do not apply more than the rated voltage, as marked on the meter, between the terminals or between any terminal and earth ground.
- Use caution when working with voltages above 30V AC RMS, 42V peak, or 60V DC. Such voltages pose a shock hazard.
- Before measuring current, ensure the meter's fuses are intact and the test leads are connected correctly.
- Do not operate the meter if it appears damaged or if the case is open.
- Replace the battery immediately when the low battery indicator appears to ensure accurate readings.

3. Product Overview

The Proster T58B Multimeter is a compact and versatile device featuring a large backlit LCD, a rotary dial for function selection, and multiple input jacks for test leads.



Image: Front view of the Proster T58B Digital Multimeter, highlighting its display and various measurement function icons such as AC/DC Voltage, Current, Frequency, Resistance, Temperature, Peak, Duty Cycle, Capacitance, Diodes, Continuity, Data Hold, and NCV.

3.1 Key Components

- **LCD Display:** Large, backlit display for clear readings, showing 9999 counts.
- **Rotary Function Switch:** Used to select the desired measurement function.
- **Function Buttons:** For specific modes like RANGE, PEAK, FUNC, HOLD, and backlight control.
- **Input Jacks:** Terminals for connecting test leads (VΩHz, mA, 10A, COM).
- **NCV Sensor:** Located at the top of the meter for non-contact voltage detection.



Image: Close-up view of the Proster T58B Multimeter's large, backlit LCD display, clearly showing a 9999-count reading for AC voltage, demonstrating its readability in various lighting conditions.

3.2 Design Features

The multimeter features a compact design with a built-in kickstand for hands-free operation and a magnetic back for attaching to metallic surfaces. It also includes integrated double safety fuses for enhanced protection against overload and short circuits.



Image: Exploded view of the Proster T58B Multimeter showing its internal circuit board with integrated double safety fuses, alongside an external view demonstrating the kickstand and magnetic back for convenient use.

4. Setup

4.1 Battery Installation

The multimeter requires three 1.5V AAA batteries (included). To install or replace batteries:

1. Ensure the meter is turned OFF and disconnect all test leads.
2. Locate the battery compartment cover on the back of the meter.
3. Use a screwdriver to loosen the screw(s) and remove the cover.
4. Insert the AAA batteries, observing correct polarity (+ and -).
5. Replace the battery compartment cover and secure it with the screw(s).

4.2 Connecting Test Leads

Always connect the black test lead to the COM (common) jack. Connect the red test lead to the appropriate input jack based on the measurement type:

- For Voltage, Resistance, Capacitance, Frequency, Diode, Continuity, and Temperature: Connect the red lead to the **VΩHz** jack.
- For Current (mA/uA): Connect the red lead to the **mA/uA** jack.
- For High Current (10A): Connect the red lead to the **10A** jack.

5. Operating Instructions

Turn the rotary switch to the desired function. The meter supports both auto-ranging and manual ranging. Press the 'RANGE' button to switch between auto and manual ranging if needed.

5.1 Voltage Measurement (AC/DC)

1. Turn the rotary switch to **V~** (AC Voltage) or **V=** (DC Voltage).
2. Connect the red test lead to the **VΩHz** jack and the black lead to the **COM** jack.
3. Connect the test probes in parallel to the circuit or component under test.
4. Read the voltage value on the LCD.

5.2 Current Measurement (AC/DC)

1. Turn the rotary switch to **A~** (AC Current), **A=** (DC Current), **mA**, or **uA**.
2. Connect the red test lead to the appropriate current jack (**mA/uA** or **10A**) and the black lead to the **COM** jack.
3. Open the circuit and connect the test probes in series with the circuit.
4. Read the current value on the LCD.

5.3 Resistance Measurement

1. Turn the rotary switch to **Ω**.
2. Connect the red test lead to the **VΩHz** jack and the black lead to the **COM** jack.
3. Connect the test probes across the component to measure resistance. Ensure the circuit is de-energized.
4. Read the resistance value on the LCD.

5.4 Capacitance Measurement

1. Turn the rotary switch to **F** (Capacitance).
2. Connect the red test lead to the **VΩHz** jack and the black lead to the **COM** jack.
3. Connect the test probes across the capacitor. Ensure the capacitor is discharged before testing.
4. Read the capacitance value on the LCD.

5.5 Frequency and Duty Cycle Measurement

1. Turn the rotary switch to **Hz/%**.
2. Connect the red test lead to the **VΩHz** jack and the black lead to the **COM** jack.
3. Connect the test probes to the signal source.
4. Press the 'FUNC' button to toggle between Frequency (Hz) and Duty Cycle (%).
5. Read the value on the LCD.

5.6 Diode Test and Continuity Test

1. Turn the rotary switch to the **Diode/Continuity** symbol.
2. Connect the red test lead to the **VΩHz** jack and the black lead to the **COM** jack.
3. **For Diode Test:** Connect the red probe to the anode and the black probe to the cathode of the diode. Read the forward voltage drop. Reverse the probes to check for open circuit.
4. **For Continuity Test:** Connect the probes across the circuit or component. A continuous beep indicates continuity (low resistance).

5.7 Non-Contact Voltage (NCV) Detection

The NCV function allows for quick detection of AC voltage without direct contact, enhancing safety.

1. Turn the rotary switch to **NCV**.
2. Move the top of the meter (NCV sensor area) close to the conductor or outlet.
3. The meter will emit an audible beep and the NCV indicator light will flash, with the display showing signal strength, if AC voltage is detected.



Image: The Proster T58B Multimeter demonstrating Non-Contact Voltage (NCV) detection. The meter is held near an electrical outlet,

indicating the presence of AC voltage without physical contact.

5.8 Temperature Measurement

The meter can measure temperature using the included K-type thermocouple.

1. Turn the rotary switch to **°C/°F**.
2. Connect the temperature probe to the **VΩHz** and **COM** jacks, observing polarity.
3. Place the tip of the temperature probe on or in the object to be measured.
4. Read the temperature value on the LCD. Press 'FUNC' to switch between Celsius and Fahrenheit.



Image: The Proster T58B Multimeter displaying temperature readings, with an example of a temperature probe immersed in a liquid for measurement. The display shows both the meter's current temperature and a liquid temperature reading.

5.9 Peak Measurement

This function captures the peak value of AC voltage or current signals.

1. Select an AC Voltage or AC Current range.
2. Press the 'PEAK' button briefly to activate peak measurement. The display will show the peak value.
3. Press 'PEAK' again to exit.



Image: The Proster T58B Multimeter connected to a power strip with test leads, demonstrating the peak measurement function for AC voltage. The display shows a peak voltage reading.

5.10 Data Hold

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

6. Maintenance

6.1 Cleaning

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

6.2 Battery Replacement

Refer to Section 4.1 for battery replacement instructions. Replace batteries when the low battery indicator appears on the display.

6.3 Fuse Replacement

If the current measurement function fails, the fuse may need replacement. The meter uses two fuses (included as spares).

1. Ensure the meter is turned OFF and disconnect all test leads.
2. Remove the battery compartment cover (refer to Section 4.1).
3. Carefully remove the back casing of the multimeter.
4. Locate the blown fuse(s) on the circuit board.
5. Replace with fuses of the same type and rating (e.g., F10A/600V for 10A range, F600mA/600V for mA/uA range).
6. Reassemble the meter, ensuring all screws are securely fastened.

7. Troubleshooting

- **No Display:** Check battery installation and ensure batteries are not depleted.
- **Incorrect Readings:** Verify test lead connections, ensure the correct function is selected, and check battery level.
- **Current Measurement Not Working:** Check and replace the appropriate fuse(s) as described in Section 6.3.
- **'OL' on Display:** Indicates overload or out-of-range measurement. Select a higher range or ensure the input is within the meter's specifications.

8. Specifications

Parameter	Value
Brand	Proster
Model	T58B
Display	9999 Counts, True RMS, Backlit LCD
Power Source	3 x 1.5V AAA Batteries
Safety Rating	CAT III 600V, CE, RoHS
Product Weight	352 Grams
Product Dimensions (L x W x H)	22.5 x 13 x 7 centimeters
Minimum Operating Voltage	1 Volt
Maximum Rated Temperature	1000 Degrees Celsius (for temperature measurement)
Measurement Type	Multimeter

9. Included Accessories

The Proster T58B Multimeter comes with a complete set of accessories to get you started:

- 1 x Pair of Test Probes
- 1 x Temperature Probe (K-type thermocouple)

- 1 x Fabric Carrying Bag
- 1 x Screwdriver
- 1 x Pair of Alligator Clips
- 2 x Spare Fuses
- 3 x 1.5V AAA Batteries



Image: The Proster T58B Multimeter displayed alongside all its included accessories, such as test leads, temperature probe, alligator clips, screwdriver, spare fuses, batteries, and a carrying bag.

10. Warranty and Support

For warranty information or technical support, please refer to the documentation provided with your purchase or contact Proster customer service through their official website or your retailer. Keep your purchase receipt for warranty claims.

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