



[Manuals.plus](#) /

› [Proster](#) /

› Proster Digital Multimeter 6000 Counts User Manual

Proster T21D

Proster Digital Multimeter User Manual

Model: T21D | Brand: Proster

INTRODUCTION

This manual provides comprehensive instructions for the safe and effective operation of your Proster Digital Multimeter (Model T21D). This True RMS (TRMS) auto-ranging multimeter is designed for precise measurements across various electrical parameters, making it suitable for both professional and hobbyist applications. Please read this manual thoroughly before use to ensure proper functionality and safety.



Image: The Proster Digital Multimeter (Model T21D) shown with its included test probes, temperature probe, and spare fuses.

SAFETY INFORMATION

Always adhere to safety precautions when using electrical testing equipment. Failure to do so may result in injury or damage to the device. This multimeter features built-in double safety tubes and overload protection circuits for enhanced safety.

- Ensure the multimeter is set to the correct function and range before connecting to a circuit.
- Do not exceed the maximum input values specified in the specifications section.
- Inspect test leads for damage before each use. Replace if insulation is compromised.
- Avoid touching exposed wires or circuit components while testing.
- Use caution when working with voltages above 30V AC RMS, 42V peak, or 60V DC, as these pose a shock hazard.
- Disconnect power to the circuit before measuring resistance, capacitance, or continuity.
- Replace batteries promptly when the low battery indicator appears to ensure accurate readings.

SMART PROTECTION

Built-in double safety tube



Image: Internal view of the multimeter highlighting its smart protection features, including built-in double safety tubes and an overload protection circuit.

WHAT'S IN THE BOX

- 1 x Proster 6000 Counts Digital Multimeter (Model T21D)
- 1 x Pair of Test Probes (Red and Black)
- 1 x Temperature Probe
- 3 x AAA Batteries (pre-installed or included separately)
- User Manual (this document)

PRODUCT FEATURES

The Proster T21D Digital Multimeter offers a wide array of functions and user-friendly features:

- **Multi-functional TRMS Measurement:** Capable of measuring AC/DC voltage, AC/DC current, resistance, capacitance, frequency, duty ratio, and temperature.
- **Non-Contact Voltage (NCV) Detection:** Safely detect AC voltage without direct contact.
- **Diode and Continuity Test:** Essential for checking circuit integrity and component functionality.
- **Transistor Test:** For evaluating transistor performance.
- **6000 Counts Display:** Provides clear and accurate readings with a sampling speed of 3 times per second.
- **Auto/Manual Ranging:** Automatically selects the appropriate range or allows manual selection for specific needs.
- **Data Hold Function:** Freezes the displayed reading for convenient recording.
- **Backlight and Flashlight:** Improves visibility in dimly lit environments.
- **Sturdy Silicone Cover:** Provides protection against drops and impacts.
- **Integrated Kickstand:** Allows for hands-free operation and easy viewing.
- **Auto Power Off:** Conserves battery life when not in use.



Image: Overview of the multimeter's capabilities, including AC/DC Voltage, AC/DC Current, Frequency, Resistance, Temperature, Duty Cycle, Capacitance, Diodes, Continuity, Data Hold, and Non-Contact Voltage (NCV).

SETUP

Battery Installation

The multimeter typically comes with batteries pre-installed. If not, or if replacement is needed:

1. Ensure the multimeter is turned **OFF**.
2. Locate the battery compartment on the back of the device.
3. Unscrew the battery cover and remove it.
4. Insert 3 AAA batteries, observing the correct polarity (+/-) as indicated inside the compartment.
5. Replace the battery cover and secure it with the screw.

Connecting Test Probes

For most measurements, connect the test probes as follows:

- Insert the **red** test lead into the **VΩmA** input jack.
- Insert the **black** test lead into the **COM** (common) input jack.
- For current measurements (up to 10A), insert the **red** test lead into the **10A** input jack.

OPERATING INSTRUCTIONS

Turn the rotary switch to the desired measurement function. The multimeter will typically auto-range, but you can press the **FUNC/Hz** button to cycle through specific modes if available within a range (e.g., AC/DC voltage, frequency/duty cycle).

1. Measuring AC/DC Voltage

To measure voltage, set the rotary switch to the **V~** (AC Voltage) or **V-** (DC Voltage) position. Connect the test probes in parallel with the circuit or component you wish to measure.



**AC Voltage Range:
600mV/6V/60V/600V**
Accuracy: $\pm(1.0\%+4)$

Image: The multimeter displaying an AC voltage reading while connected to a power strip.

Video Demonstration: This video demonstrates various functions of the Proster Digital Multimeter, including voltage measurement.

Your browser does not support the video tag.

Video: A demonstration of the Proster Digital Multimeter's features, including NCV detection, DC voltage measurement, AC voltage measurement, continuity testing, and temperature measurement.

2. Measuring Resistance

To measure resistance, set the rotary switch to the Ω (Ohms) position. Ensure the circuit is de-energized before connecting the probes across the component.



Image: The multimeter displaying a resistance reading while connected to a circuit board.

3. Continuity Test

For continuity, set the rotary switch to the ⏏ (Continuity) position. If the circuit is continuous (low resistance), the multimeter will emit an audible beep. Ensure the circuit is de-energized.



Image: The multimeter displaying a low resistance reading and indicating continuity with a buzzing sound, as test leads are connected to a wire.

4. Non-Contact Voltage (NCV) Detection

To use the NCV function, set the rotary switch to the **NCV** position. Place the top tip of the multimeter near the object being tested (e.g., an electrical outlet or wire). The display will show "EF" and the device will beep and flash if AC voltage is detected.

5. Temperature Measurement

Connect the temperature probe to the multimeter's input jacks (red to **VΩmA**, black to **COM**). Set the rotary switch to the **°C/°F** position. Place the tip of the temperature probe on or in the object whose temperature you wish to measure.

Data Hold and Backlight

- Press the **HOLD** button to freeze the current reading on the display. Press again to release.
- Press the ★ (Backlight/Flashlight) button to turn on the display backlight. Press and hold to activate the flashlight.

EASY TO READ FROM ANY ANGLE

Large Backlight LCD Screen for Easy Read in Dark



Image: The multimeter's large, backlit LCD screen, designed for easy readability in various lighting conditions.

MAINTENANCE

- **Cleaning:** Wipe the multimeter with a damp cloth and mild detergent. Do not use abrasives or solvents.
- **Battery Replacement:** Replace batteries when the low battery indicator appears. Refer to the "Battery Installation" section for instructions.
- **Fuse Replacement:** If the current measurement function fails, the fuse may need replacement. This should only be performed by qualified personnel. Ensure the replacement fuse matches the original specifications (e.g., 10A Fused, 600mA Fused).
- **Storage:** If storing for extended periods, remove the batteries to prevent leakage. Store in a cool, dry place away from direct sunlight.

TROUBLESHOOTING

Problem	Possible Cause	Solution
No display or dim display	Low battery or no battery.	Replace batteries.
"OL" (Overload) displayed	Input value exceeds selected range or maximum limit. Open circuit in continuity/resistance.	Select a higher range, check connections, or verify circuit integrity.
Incorrect readings	Incorrect function/range selected, poor probe contact, or damaged probes.	Verify settings, ensure good contact, or replace probes.
No continuity beep	Open circuit or high resistance.	Check the circuit for breaks or high resistance points.

SPECIFICATIONS

Parameter	Value
Model Number	T21D
Display Counts	6000 Counts
Product Dimensions (L x W x H)	5.79 x 2.8 x 1.77 inches
Item Weight	7.75 ounces
Power Source	3 x AAA Batteries (included)
Manufacturer	Proster
Country of Origin	China
DC Voltage Range	600mV/6V/60V/600V (Accuracy: $\pm(0.5\%+5)$)
AC Voltage Range	600mV/6V/60V/600V (Accuracy: $\pm(1.0\%+4)$)
DC Current Range	60mA/600mA/10A (Accuracy: $\pm(1.2\%+5)$)
AC Current Range	60mA/600mA/10A (Accuracy: $\pm(1.5\%+5)$)
Resistance Range	600 Ω /6K Ω /60K Ω /600K Ω /6M Ω /60M Ω (Accuracy: $\pm(0.8\%+5)$)
Capacitance Range	60nF/600nF/6uF/60uF/600uF/6mF/100mF (Accuracy: $\pm(4.0\%+5)$)
Frequency Range	9.999Hz/99.99Hz/999.9Hz/9.999KHz/99.99KHz/999.9KHz/9.999MHz (Accuracy: $\pm(1.5\%+5)$)
Temperature Range	-20~1000°C / -4~1832°F (Accuracy: $\pm(1.0\%+3)$)

