

Proster PSTTL334

Proster Autoranging Multimeter 6000 Count (Model PSTTL334) Instruction Manual

Comprehensive guide for safe and effective use.

1. INTRODUCTION

This manual provides detailed instructions for the safe operation and maintenance of the Proster Autoranging Multimeter 6000 Count, Model PSTTL334. This digital multimeter is designed for measuring AC/DC voltage, AC/DC current, resistance, capacitance, frequency, duty cycle, temperature, diode, and continuity. It also features Non-Contact Voltage (NCV) detection. Please read this manual thoroughly before use to ensure proper functionality and safety.

2. SAFETY INFORMATION

Adherence to safety precautions is crucial when operating any electrical testing equipment. This device complies with IEC61010 safety standards for electronic measuring instruments. Failure to follow these instructions may result in electric shock, fire, or damage to the meter.

- **General Safety:**

- Always ensure the meter is in good working condition before use. Inspect test leads for damage.
- Do not use the meter if it appears damaged or if the insulation on the test leads is compromised.
- Do not apply voltage exceeding the rated maximums (600V CAT IV, 1000V CAT III).
- Exercise extreme caution when working with voltages above 60V DC or 30V AC RMS, as these pose a shock hazard.
- Always disconnect power to the circuit under test before making resistance, capacitance, or diode measurements.
- Ensure the correct function is selected and the test leads are connected to the appropriate input jacks for the measurement being performed.
- Replace batteries when the low battery indicator appears to ensure accurate readings.
- Do not modify the meter. Repairs should only be performed by qualified service personnel.

- **Symbols on the Meter:**

- **▲ High Voltage:** Indicates potential for high voltage.

- **Δ Dual Insulation:** Indicates double insulation for safety.
- *** Low Battery Indication:** Indicates batteries need replacement.

3. PRODUCT FEATURES

- **6000 Count True RMS Digital Multimeter:** Provides accurate readings for non-sinusoidal waveforms.
- **Auto/Manual Ranging:** Automatically selects the appropriate measurement range or allows manual selection.
- **Large Backlit LCD Display:** Ensures clear visibility of readings in various lighting conditions.
- **Non-Contact Voltage (NCV) Detection:** For identifying live wires without direct contact, enhancing safety.
- **Measurement Functions:** AC/DC Voltage, AC/DC Current, Resistance, Capacitance, Frequency, Temperature, Diode Test, Continuity Test, Duty Cycle.
- **Safety Ratings:** CE certified, 600V CAT IV, 1000V CAT III, with double fuse protection.
- **Data Hold Function:** Freezes the displayed reading for convenient recording.
- **Overload Protection:** Integrated protection on all ranges to prevent damage to the meter.
- **Protective Rubber Sleeve:** Soft, non-slip orange rubber casing provides protection against impacts.
- **Integrated Kickstand:** Allows the meter to be propped at a 45° angle for hands-free viewing.
- **Test Probe Slots:** Convenient storage for test probes on the back of the meter.
- **User-Friendly Design:** Automatic polarity display, unit symbol display, flashlight, and auto power-off feature.

4. PACKAGE CONTENTS

Verify that all items listed below are present in your package:

- 1 x Proster Digital Multimeter (Model PSTTL334)
- 1 x Pair of Test Leads (Red and Black)
- 1 x Pair of Alligator Clips (Red and Black, for banana plug connection)
- 1 x K-Type Temperature Probe
- 2 x 1.5V AAA Batteries (pre-installed or included separately)
- 1 x User's Manual



Image: The Proster Multimeter, test leads, alligator clips, temperature probe, batteries, and user manual as included in the package.

5. SETUP

5.1 Battery Installation

The multimeter requires two 1.5V AAA batteries for operation. If the batteries are not pre-installed or need replacement, follow these steps:

1. Ensure the multimeter is turned OFF.
2. Locate the battery compartment on the back of the meter.
3. Use a screwdriver to open the battery compartment cover.
4. Insert the two AAA batteries, observing the correct polarity (+ and -) as indicated inside the compartment.
5. Replace the battery compartment cover and secure it with the screw.



Image: A hand using a screwdriver to open the battery compartment of the Proster Multimeter for battery installation.

5.2 Connecting Test Leads

Always connect the test leads correctly for the desired measurement:

- The black test lead (negative) should always be connected to the **COM** (Common) input jack.
- For most voltage, resistance, capacitance, frequency, diode, and continuity measurements, connect the red test lead (positive) to the **VΩmA** input jack.
- For current measurements up to 600mA, connect the red test lead to the **VΩmA** input jack.
- For high current measurements (up to 10A), connect the red test lead to the **10A** input jack.



Image: The Proster Multimeter displayed with its standard test leads, alligator clips, and temperature probe, illustrating the various accessories included.

6. OPERATING INSTRUCTIONS

Turn the rotary switch to the desired function. The meter features auto-ranging for most functions, simplifying operation.

6.1 Measuring AC/DC Voltage (V~ / V-)

1. Connect the black test lead to the **COM** jack and the red test lead to the **VΩmA** jack.
2. Turn the rotary switch to the **V~** (AC Voltage) or **V-** (DC Voltage) position.
3. Touch the test probes to the circuit points where voltage is to be measured.
4. Read the voltage value on the LCD display.



Image: The Proster Multimeter displaying an AC voltage reading while test probes are inserted into a power strip.



Image: The Proster Multimeter displaying a DC voltage reading while test probes are connected to a battery.

6.2 Measuring Resistance (Ω)

1. Ensure the circuit is de-energized before measuring resistance.
2. Connect the black test lead to the **COM** jack and the red test lead to the **V Ω mA** jack.
3. Turn the rotary switch to the **Ω** (Resistance) position.
4. Touch the test probes across the component or circuit segment to be measured.
5. Read the resistance value on the LCD display.



Image: The Proster Multimeter displaying a resistance reading while alligator clips are connected to a circuit board.

6.3 Continuity Test

1. Ensure the circuit is de-energized.
2. Connect the black test lead to the **COM** jack and the red test lead to the **VΩmA** jack.
3. Turn the rotary switch to the Ω (Continuity) position.
4. Touch the test probes to the two points of the circuit or component.
5. If continuity exists (low resistance), the meter will emit an audible beep. The display will show a low resistance value.



Image: The Proster Multimeter displaying a continuity reading with test probes touching, indicating an audible beep for continuity.

6.4 Non-Contact Voltage (NCV) Detection

1. Turn the rotary switch to the **NCV** position.
2. Move the top end of the multimeter near a conductor or outlet.
3. If AC voltage is detected, the meter will beep and the NCV indicator light will illuminate. The frequency of beeps and light flashes increases with stronger voltage.

6.5 Temperature Measurement (°C/°F)

1. Connect the K-type temperature probe to the **VΩmA** (positive) and **COM** (negative) input jacks, observing polarity.
2. Turn the rotary switch to the **°C/°F** position.
3. Place the tip of the temperature probe on or in the object whose temperature is to be measured.
4. Read the temperature value on the LCD display. Use the "SELECT" button to switch between Celsius and Fahrenheit if available.



Image: The Proster Multimeter displaying temperature readings, showing both ambient temperature and the temperature of liquid being measured with the K-type probe.

6.6 Other Functions (Current, Capacitance, Frequency, Diode)

For other measurement functions, connect the test leads as appropriate (refer to section 5.2) and select the corresponding position on the rotary switch. Use the **SELECT** button to cycle through sub-functions if a single rotary switch position covers multiple measurement types (e.g., AC/DC current, diode/continuity).

- **Current (A~ / A-):** Ensure the meter is connected in series with the circuit. Use the 10A jack for high currents.
- **Capacitance (F):** Ensure capacitors are discharged before testing.
- **Frequency (Hz):** Connect across the signal source.
- **Diode Test:** Connect across the diode to measure forward voltage drop.

7. MAINTENANCE

7.1 Cleaning

Wipe the meter casing with a damp cloth and mild detergent. Do not use abrasives or solvents. Keep the input jacks free from dust and debris.

7.2 Battery Replacement

Replace the batteries when the low battery indicator appears on the display. Refer to section 5.1 for detailed instructions.

7.3 Fuse Replacement

If the meter fails to measure current, the fuse may be blown. Fuse replacement should only be performed by qualified personnel. The meter uses double fuses for protection. Refer to the internal diagram for fuse specifications if replacement is necessary.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
Meter does not power on.	Dead or incorrectly installed batteries.	Check battery polarity and replace batteries if necessary (refer to section 5.1).
No reading or "OL" (Overload) displayed.	Incorrect range selected (if manual ranging), open circuit, or value exceeds meter's maximum range.	Ensure correct function is selected. Check for open circuits. If in manual range, switch to a higher range or auto-range.
Inaccurate readings.	Low battery, damaged test leads, or external interference.	Replace batteries. Inspect test leads for damage. Move away from strong electromagnetic fields.
Current measurement fails.	Blown fuse.	Replace the fuse (refer to section 7.3). Ensure test leads are connected to the correct current input jack.

9. SPECIFICATIONS

Parameter	Value
Display	6000 Counts, Backlit LCD
DC Voltage Range	Up to 1000V
AC Voltage Range	Up to 750V
DC Current Range	Up to 10A
AC Current Range	Up to 10A
Resistance Range	Up to 60MΩ
Capacitance Range	Up to 100mF
Frequency Range	Up to 10MHz
Temperature Range	-20°C to 1000°C (-4°F to 1832°F)

