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› ANENG Smart Touch TRMS Auto-Ranging Digital Multimeter, 9999 Counts, Model 621A User Manual

ANENG 621A

ANENG Smart Touch TRMS Auto-Ranging Digital Multimeter 621A User Manual

Model: 621A

1. INTRODUCTION

Thank you for choosing the ANENG 621A Smart Touch Digital Multimeter. This device is a portable, professional measuring instrument designed for precise measurement of AC/DC voltage, AC/DC current, resistance, capacitance, frequency, duty cycle, diode, continuity, and temperature. It features a large color LCD display, smart auto-ranging capabilities, non-contact voltage (NCV) detection, live wire detection, and a rechargeable battery, making it suitable for both industrial and home use.



Figure 1.1: ANENG 621A Multimeter in use, showing its display and test leads.

2. SAFETY INFORMATION

Please read all safety warnings and operating instructions carefully before using this multimeter. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- Always ensure the test leads are properly connected and in good condition before use.
- Do not apply voltage or current that exceeds the maximum rated values for each function. Refer to the specifications section.
- Never use the meter if it or the test leads appear damaged.
- Do not use the meter in wet environments or with wet hands.
- Be cautious when working with voltages above 30V AC RMS, 42V peak, or 60V DC, as these pose a shock hazard.
- Always disconnect power to the circuit and discharge all high-voltage capacitors before measuring resistance, continuity, diodes, or capacitance.

- Replace the battery when the low battery indicator appears to ensure accurate readings.
- Do not attempt to repair or modify the meter. Refer servicing to qualified personnel.

3. PACKAGE CONTENTS

Verify that all items listed below are included in your package. If any items are missing or damaged, please contact your retailer.

- 1 x ANENG 621A Digital Multimeter
- 1 x Combination Cable Set (includes 4 connection sockets, 2 PVC cables, 2 copper needles, 2 U-shaped inserts, 2 meter pens, 2 alligator clips, 2 puncture needles)
- 1 x Multimeter Test Lead Set
- 1 x Temperature Probe (Thermocouple)
- 1 x USB Charging Cable
- 1 x User Manual
- 1 x Storage Bag

4. PRODUCT FEATURES

- **Smart Mode:** Automatically identifies measurement type (AC/DC voltage, resistance, continuity) and selects the best range.
- **9999 Counts Display:** High-resolution display for precise readings.
- **True-RMS:** Accurate measurements for non-sinusoidal waveforms.
- **Color Touchscreen:** Intuitive interface for mode selection and settings.
- **Rechargeable Battery:** Built-in lithium battery, charged via USB Type-C.
- **Flashlight & Backlight:** For working in dimly lit conditions.
- **NCV (Non-Contact Voltage) Detection:** Detects AC voltage without physical contact.
- **Live Wire Detection:** Identifies live electrical wires.
- **Safety Protection:** Double fuse anti-burn protection, overload protection, and impact-resistant ABS casing with soft rubber overmolding.
- **Compact & Portable:** Pocket-sized design for easy carrying.

AUTO Smart Touch Multimeter

-  Rechargeable
-  Resistance
-  AC/DC voltage
-  AC /DC current
-  Diode
-  Buzzer
-  Capacitance
-  Hz Frequency
-  Temperature

NCV induction
Live Zero Fire



Figure 4.1: Overview of measurement functions displayed on the multimeter screen.

FLASHLIGHT/BRIGHT SCREEN

The backlit reverse display can clearly see the screen values in the dim environment



Figure 4.2: The multimeter's flashlight and backlit display for visibility in various lighting conditions.

Shockproof Silicone sleeve

Figure 4.3: The shockproof silicone sleeve provides enhanced durability and protection.

- Charging is complete when the battery icon shows full.

LITHIUM BATTERIES RECHARGEABLE VERSION



Figure 5.1: Charging the multimeter via its USB Type-C port.

5.2 Connecting Test Leads

Always ensure the test leads are securely connected to the correct input jacks before taking any measurements.

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



Figure 5.2: Correct connection of test leads to the multimeter.

6. OPERATING INSTRUCTIONS

6.1 Power On/Off

Press and hold the power button (usually located on the side or bottom of the touchscreen) to turn the multimeter on or off. The device will automatically power off after a period of inactivity to conserve battery.

6.2 Smart Mode (AUTO)

Upon powering on, the multimeter defaults to Smart Mode (AUTO). In this mode, the meter automatically detects and measures AC/DC voltage, resistance, and continuity without manual range selection. This is ideal for general troubleshooting.

6.3 Selecting Measurement Functions

To select specific measurement functions not covered by Smart Mode, or to manually select a range, use the touchscreen buttons. The main display area will show the current measurement mode.

PANTALLA TÁCTIL SENSIBLE



Figure 6.1: The sensitive touchscreen allows for easy selection of functions.

6.4 Measurement Procedures

Below are common measurement procedures. Always ensure the circuit is safe and within the meter's specifications.



Figure 6.2: Visual guide to various measurement functions.

6.4.1 Voltage Measurement (AC/DC)

- Select ACV or DCV mode (or use AUTO).
- Connect the test leads in parallel to the circuit or component being measured.
- Read the voltage value on the display.

6.4.2 Current Measurement (AC/DC)

- **WARNING:** Never connect the meter in parallel for current measurement. It must be connected in series.
- Select ACA or DCA mode.
- Break the circuit and connect the test leads in series with the load.
- Read the current value on the display.



Figure 6.3: Measuring current in a circuit.

6.4.3 Resistance Measurement

- Ensure the circuit is de-energized and capacitors are discharged.
- Select Resistance (Ω) mode (or use AUTO).
- Connect the test leads across the component.
- Read the resistance value.

6.4.4 Capacitance Measurement

- Ensure the capacitor is fully discharged before testing.
- Select Capacitance mode.
- Connect the test leads across the capacitor terminals.
- Read the capacitance value.

6.4.5 Diode Test

- Ensure the diode is disconnected from the circuit.
- Select Diode mode.
- Connect the red lead to the anode and the black lead to the cathode. A forward voltage drop will be displayed.
- Reverse the leads. An open circuit (OL) should be displayed for a good diode.

6.4.6 Continuity Test

- Ensure the circuit is de-energized.
- Select Continuity mode (or use AUTO).
- Connect the test leads across the circuit path.
- If continuity exists (low resistance), the buzzer will sound.

6.4.7 Temperature Measurement

- Connect the temperature probe to the input jacks (observe polarity if applicable).
- Select Temperature mode.
- Place the tip of the probe on the object whose temperature is to be measured.
- Read the temperature on the display.

6.4.8 NCV (Non-Contact Voltage) Detection

- Select NCV mode.
- Bring the top of the multimeter close to the conductor suspected of having AC voltage.
- The meter will beep and the LED indicator will flash with increasing frequency as it gets closer to a live AC voltage source.

Prueba de voltaje sin contacto

Diseño seguro con Beep Audial Alarm



Figure 6.4: Performing an NCV test to detect AC voltage without contact.

6.4.9 Live Wire Detection

- Select Live mode.
- Insert the red test lead into the live wire socket or touch the live wire.
- The display will indicate 'LIVE' and an alarm will sound if a live wire is detected.

6.5 Data Hold

Press the 'HOLD' button (usually indicated by 'H' on the touchscreen) to freeze the current reading on the display. Press it again to release.

6.6 Flashlight and Backlight

Press the flashlight/backlight button (often represented by a light bulb icon) to turn on the display backlight or the integrated flashlight. Press again to cycle through modes or turn off.

7. MAINTENANCE

7.1 Cleaning

- Wipe the meter casing with a damp cloth and mild detergent. Do not use abrasives or solvents.
- Ensure the meter is off and test leads are disconnected before cleaning.

7.2 Battery Care

- Recharge the battery when the low battery indicator appears to maintain accuracy.
- If storing the meter for an extended period, charge it periodically to prevent deep discharge.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
No display/Meter does not turn on	Battery is depleted.	Charge the battery fully.
Inaccurate readings	Low battery; incorrect mode selection; poor test lead contact.	Charge battery; select correct mode; ensure good contact.

Problem	Possible Cause	Solution
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