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ANENG ST181

ANENG ST181 Clamp Meter & VD807 Non-Contact Voltage Tester

User Instruction Manual

PRODUCT OVERVIEW

The ANENG ST181 Clamp Meter and VD807 Non-Contact Voltage Tester are essential tools designed for electrical professionals and homeowners. The ST181 clamp meter provides accurate measurements for AC current, AC/DC voltage, resistance, capacitance, continuity, diode, and frequency. The VD807 voltage tester offers enhanced safety with non-contact voltage detection, live/zero wire identification, and line breakpoint detection, featuring sound and light alarms for clear indications.



Figure 1: Complete package of the ANENG ST181 Clamp Meter, VD807 Non-Contact Voltage Tester, and included accessories.

KEY FEATURES

- Comprehensive Measurement Capabilities:** The ST181 measures AC current (not DC), AC/DC voltage, resistance, capacitance, continuity, diode, and frequency (Hz).
- Enhanced Safety with NCV:** The VD807 and ST181 feature Non-Contact Voltage (NCV) detection with sound and light alarms, indicating voltage presence without direct contact.
- Live/Zero Wire Identification:** The VD807 automatically identifies live or neutral wires, indicated by a two-color display (red for live, green for neutral).
- Line Breakpoint Detection:** The VD807 can assist in locating breakpoints in electrical lines.
- Wide Jaw Opening:** The ST181 clamp meter features a 36mm (1.42 inches) jaw opening, allowing measurement on various wire sizes without interrupting the circuit.
- HD Backlit Display:** Both devices feature a clear, backlit display for easy reading in various lighting conditions.
- Portable and Durable Design:** Designed for easy carrying and robust use in demanding environments.

SETUP

Battery Installation

Both the ST181 Clamp Meter and VD807 Voltage Tester require AAA batteries for operation. Refer to the battery compartment on the back of each device. Ensure correct polarity when inserting the batteries.

1. Locate the battery cover on the rear of the device.
2. Open the battery cover by sliding or unscrewing it.
3. Insert the required AAA batteries, observing the polarity markings (+ and -).
4. Close the battery cover securely.

Initial Checks

- Before first use, inspect the devices and test leads for any signs of damage. Do not use if damaged.
- Turn on the device to ensure the display illuminates and functions correctly.

OPERATING INSTRUCTIONS

ST181 Clamp Meter

The ST181 Clamp Meter is a versatile tool for various electrical measurements. Always ensure the correct function is selected before making any measurements.

- **AC Current Measurement:**

Rotate the dial to the "A~" position. Open the clamp jaws and encircle a single conductor (not a bundle of wires). The current reading will appear on the display.



Figure 2: ST181 Clamp Meter displaying AC current measurement and indicating various functions like AC/DC voltage, diode, resistance, capacitance, NCV, backlight, and frequency.

- **AC/DC Voltage Measurement:**

Connect the test leads to the "VΩHz" and "COM" input jacks. Rotate the dial to the "V~" (AC Voltage) or "V-" (DC Voltage) position. Touch the test probes to the circuit points to be measured.

- **Resistance Measurement:**

Connect the test leads to the "VΩHz" and "COM" input jacks. Rotate the dial to the "Ω" position. Touch the test probes across the component to measure resistance.

- **Capacitance Measurement:**

Connect the test leads to the "VΩHz" and "COM" input jacks. Rotate the dial to the "nF" position. Touch the test probes to the capacitor terminals. Ensure the capacitor is discharged before testing.

- **Diode Test:**

Connect the test leads to the "VΩHz" and "COM" input jacks. Rotate the dial to the diode symbol position. Connect the red probe to the anode and the black probe to the cathode of the diode. The forward voltage drop will be displayed.

- **Continuity Test:**

Connect the test leads to the "VΩHz" and "COM" input jacks. Rotate the dial to the continuity symbol position. Touch the test probes to the two points of the circuit. A continuous beep indicates continuity.

- **Frequency Measurement (Hz):**

Connect the test leads to the "VΩHz" and "COM" input jacks. Rotate the dial to the "Hz" position. Touch the test probes to the circuit where frequency needs to be measured.

- **Backlight Operation:**

Press the "H/BL" button to activate or deactivate the HD backlight for improved visibility in low-light conditions.



Figure 3: Close-up view of the ST181 Clamp Meter's HD backlit display, showing clear readings.

- **Jaw Opening and Usage:**

The clamp meter features a 36mm (1.42 inches) jaw opening. Press the lever to open the jaws and place them around a single conductor for non-contact current measurement.

36MM JAW DESIGN

The maximum diameter can be opened to 36mm 1.42in, non-contact type, suitable for various wires



Figure 4: Illustration of the ST181 Clamp Meter's 36mm jaw design, suitable for various wire sizes.

VD807 Non-Contact Voltage Tester

The VD807 is designed for quick and safe detection of AC voltage without direct contact.

- **NCV (Non-Contact Voltage) Function:**

Turn on the VD807. Place the tip of the tester near an AC voltage source (e.g., a power outlet, insulated wire). The device will beep and illuminate LEDs to indicate the presence and strength of the AC signal.



Figure 5: VD807 Voltage Tester demonstrating non-contact voltage (NCV) induction near an electrical outlet.

- **AC Voltage Detection:**

Similar to NCV, the VD807 can detect AC voltage by placing its tip near the source. The display will show the voltage level and the indicator lights will respond.

Detect AC voltage



Figure 6: VD807 Voltage Tester detecting AC voltage by placing its tip near a live point.

- **Live/Zero Wire Identification:**

When detecting voltage, the VD807's display will change color to indicate the type of wire. A red screen typically indicates a live wire, while a green screen indicates a neutral (zero) wire.

Two-color Display screen

- **Green screen**
Judged as zero line
- **Red screen**
Judged as a line of fire



Figure 7: VD807 Voltage Tester's two-color display, showing red for live wire and green for neutral wire.

- **Line Breakpoint Detection:**

To find a breakpoint in a wire, move the VD807 along the insulated wire. The indicator will change or stop indicating voltage at the point of the break.

Line breakpoint



Figure 8: VD807 Voltage Tester being used to detect a line breakpoint in an insulated cable.

MAINTENANCE

- Cleaning:** Wipe the devices with a dry, clean cloth. Do not use abrasive cleaners or solvents.
- Battery Replacement:** Replace batteries promptly when the low battery indicator appears to ensure accurate readings. Refer to the "Battery Installation" section for instructions.
- Storage:** Store the devices in a cool, dry place, away from direct sunlight and extreme temperatures. If storing for extended periods, remove the batteries to prevent leakage.
- Inspection:** Regularly inspect the test leads and device casings for any signs of wear or damage. Replace damaged components immediately.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Device does not turn on.	Dead or incorrectly installed batteries.	Replace batteries, ensuring correct polarity.

Problem	Possible Cause	Solution
Inaccurate readings.	Low battery; incorrect function selected; poor test lead connection; external interference.	Replace batteries; select correct function; ensure secure connections; move away from strong electromagnetic fields.
NCV function not detecting voltage.	Voltage too low; device not close enough to source; thick insulation.	Ensure voltage is within detection range (AC 12-300V); bring tester closer to the source; consider direct contact measurement if safe.
No continuity beep.	Open circuit; faulty test leads.	Check the circuit for breaks; test leads for damage.

SPECIFICATIONS

Feature	Detail
Model	ST181 (Clamp Meter), VD807 (Voltage Tester)
Brand	ANENG
Measurement Type	Multimeter (ST181), Non-Contact Voltage Tester (VD807)
AC Current Range (ST181)	Up to 400A
AC/DC Voltage Range (ST181)	Refer to product specifications
Resistance Range (ST181)	Refer to product specifications
Capacitance Range (ST181)	Refer to product specifications
Frequency Range (ST181)	Refer to product specifications
NCV Detection Range (VD807)	AC 12-300V
Jaw Opening (ST181)	36mm (1.42 inches)
Display	HD Backlit LCD
Power Source	AAA Batteries

WARRANTY AND SUPPORT

ANENG provides service and technical support for its products. For warranty information, technical assistance, or customer service inquiries, please refer to the contact information provided in your product packaging or visit the official ANENG website. Please retain your purchase receipt for warranty claims.

Package Contents:

- 1 x ANENG ST181 Clamp Meter
- 1 x ANENG VD807 Pen Voltage Tester
- 4 x AAA Batteries
- 1 x Combination Test Lead Set (includes connection sockets, PVC cables, copper needles, U-shaped inserts, meter pens, alligator clips, puncture needles)

- 1 x Multimeter Test Lead
- 1 x Instruction Manual
- 1 x Storage Bag