

ANENG ST181

ANENG ST181 Digital Clamp Multimeter User Manual

Model: ST181



1. INTRODUCTION

The ANENG ST181 Digital Clamp Multimeter is a versatile tool designed for electrical troubleshooting and measurements. It offers a wide range of functions including AC current, AC/DC voltage, resistance, capacitance, continuity, diode, and frequency measurements. Its non-contact voltage (NCV) detection feature enhances safety and ease of use. The compact and durable design makes it suitable for both professional and DIY applications.

2. SAFETY INFORMATION

Always observe basic safety precautions when using this instrument to avoid personal injury or damage to the meter or equipment under test. Read the following safety information carefully before use.

- Do not exceed the maximum input values for any function.
- Use extreme caution when working with voltages above 30V AC RMS, 42V peak, or 60V DC. Such voltages pose a shock hazard.
- Before making current measurements, ensure the meter's test leads are disconnected from the input terminals.
- Always disconnect power to the circuit and discharge all high-voltage capacitors before testing resistance, continuity, diodes, or capacitance.
- Replace the battery immediately when the low battery indicator appears to ensure accurate readings.
- Do not operate the meter if it appears damaged or if the case is open.
- Ensure the function switch is in the correct position for the desired measurement.

3. PACKAGE CONTENTS

Verify that all items are present and in good condition. If any item is missing or damaged, contact your retailer.

- 1x ANENG ST181 Digital Clamp Multimeter
- 2x AAA Batteries
- 1x Combination Test Lead Set (includes various plugs, cables, pins, and clips)
- 1x Multimeter Test Lead Set
- 1x User Manual
- 1x Storage Bag



Image 3.1: Contents of the ANENG ST181 package, including the clamp multimeter, test leads, batteries, and storage bag.

4. PRODUCT OVERVIEW

The ANENG ST181 features a robust design with a clear display and intuitive controls.

4.1 Key Features

- **4000 Counts Display:** Provides precise readings for various electrical parameters.
- **AC Current Measurement:** Measures alternating current up to 400A without breaking the circuit, thanks to its clamp design.
- **AC/DC Voltage Measurement:** Capable of measuring both alternating and direct current voltages.
- **Resistance, Capacitance, Diode, Frequency, and Continuity:** Comprehensive measurement capabilities for various electronic components and circuit checks.
- **Non-Contact Voltage (NCV) Detection:** Safely detects the presence of AC voltage without physical contact.
- **HD Backlit Display:** Ensures clear readability in various lighting conditions.
- **36mm Jaw Design:** Accommodates wires up to 36mm (1.42 inches) in diameter.
- **Portable and Durable:** Designed for long-term use and protection against accidental drops.



Image 4.1: The ANENG ST181 highlighting its AC current measurement and backlit display capabilities.



Image 4.2: A detailed view of the multimeter's high-definition backlit display, showing clear digital readings.

36MM JAW DESIGN

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



Image 4.3: Illustration of the 36mm (1.42 inch) jaw opening, allowing non-contact measurement on various wire sizes.

5. SETUP

5.1 Battery Installation

1. Locate the battery compartment cover on the back of the multimeter.
2. Use a screwdriver to open the battery compartment.
3. Insert two AAA batteries, ensuring correct polarity (+ and -).
4. Replace the battery compartment cover and secure it with the screw.

Note: Always replace both batteries at the same time. Do not mix old and new batteries or different types of batteries.

6. OPERATING MODES

The ANENG ST181 offers multiple measurement functions. Rotate the function dial to select the desired mode.

6.1 AC Current Measurement

This mode allows for non-contact measurement of alternating current.

1. Set the function dial to the "A~" position.
2. Open the clamp jaws by pressing the trigger.
3. Encircle a single conductor with the clamp jaws. Ensure the jaws are fully closed.
4. Read the AC current value on the display.



Image 6.1: The clamp meter measuring high AC current by encircling a conductor. The device is capable of measuring up to 400A.

6.2 AC/DC Voltage Measurement

To measure voltage, connect the test leads to the appropriate input terminals.

1. Insert the red test lead into the "INPUT" terminal and the black test lead into the "COM" terminal.
2. Set the function dial to the "V~" for AC voltage or "V-" for DC voltage.
3. Connect the test probes in parallel to the circuit or component you wish to measure.
4. Read the voltage value on the display.

6.3 Resistance Measurement

Measure the resistance of a component or circuit.

1. Ensure the circuit is de-energized before measurement.
2. Insert the red test lead into the "INPUT" terminal and the black test lead into the "COM" terminal.
3. Set the function dial to the " Ω " position.
4. Connect the test probes across the component or circuit to be measured.
5. Read the resistance value on the display.

6.4 Capacitance Measurement

Measure the capacitance of a capacitor.

1. Ensure the capacitor is fully discharged before measurement.
2. Insert the red test lead into the "INPUT" terminal and the black test lead into the "COM" terminal.
3. Set the function dial to the "Capacitance" symbol (often shared with diode/resistance).
4. Connect the test probes across the capacitor terminals.
5. Read the capacitance value on the display.

6.5 Diode Test

Test the forward voltage drop of a diode.

1. Ensure the circuit is de-energized before measurement.
2. Insert the red test lead into the "INPUT" terminal and the black test lead into the "COM" terminal.
3. Set the function dial to the "Diode" symbol.
4. Connect the red probe to the anode and the black probe to the cathode of the diode.
5. Read the forward voltage drop. Reverse the probes; an open circuit reading indicates a good diode.

6.6 Continuity Test

Check for continuity in a circuit or wire.

1. Ensure the circuit is de-energized before measurement.
2. Insert the red test lead into the "INPUT" terminal and the black test lead into the "COM" terminal.
3. Set the function dial to the "Continuity" symbol (often shared with diode/resistance).
4. Connect the test probes across the circuit or wire.
5. A continuous beep indicates a complete circuit (continuity).

6.7 Frequency Measurement (Hz)

Measure the frequency of an AC signal.

1. Insert the red test lead into the "INPUT" terminal and the black test lead into the "COM" terminal.
2. Set the function dial to the "Hz" position.
3. Connect the test probes to the AC signal source.
4. Read the frequency value on the display.

6.8 Non-Contact Voltage (NCV) Detection

Detect AC voltage without direct contact, enhancing safety.

1. Press the "NCV" button to activate the non-contact voltage detection function.
2. Move the top of the clamp meter near a live AC voltage source.
3. The meter will emit an audible beep and/or visual indication (LED) when AC voltage is detected.



Image 6.2: The clamp meter detecting AC voltage in a wall outlet using its Non-Contact Voltage (NCV) feature, indicated by an audible alert.



Image 6.3: Visual guide demonstrating different measurement applications of the clamp meter, including AC voltage, DC voltage, diode, resistance, capacitance, continuity, AC current, NCV, and live wire detection.

7. MAINTENANCE

7.1 Cleaning

Wipe the case with a damp cloth and mild detergent. Do not use abrasives or solvents. Ensure the meter is completely dry before use.

7.2 Battery Replacement

When the low battery indicator appears on the display, replace the batteries as described in the "Battery Installation" section (5.1). Failure to do so may result in inaccurate readings.

7.3 Storage

If the meter is not to be used for an extended period, remove the batteries to prevent leakage and damage to the device. Store the meter in a cool, dry place, away from direct sunlight and extreme temperatures.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
No display or faint display	Low batteries or incorrect battery installation.	Replace batteries or check polarity.
Inaccurate readings	Low batteries, incorrect function selection, or improper connection.	Replace batteries, select correct function, ensure proper connection.
No continuity beep	Circuit is open or function not selected.	Check circuit for breaks, ensure continuity mode is selected.
NCV not detecting voltage	Voltage too low, NCV not activated, or faulty unit.	Ensure NCV mode is active, test on a known live source.

9. SPECIFICATIONS

- Manufacturer:** ANENG
- Model:** ST181
- Display:** 4000 Counts
- Power Source:** 2 x AAA Batteries
- Product Dimensions (L x W x H):** 10 x 10 x 2 cm (approximately 3.94 x 3.94 x 0.79 inches)
- Weight:** 0.6 grams (Note: This weight appears unusually low for a clamp meter and may be a data entry error.)
- Jaw Opening:** Max 36mm (1.42 inches)
- Measurement Type:** Multimeter, Clamp Meter
- AC Current:** Up to 400A
- AC/DC Voltage:** Yes
- Resistance:** Yes
- Capacitance:** Yes
- Diode Test:** Yes
- Frequency:** Yes
- Continuity:** Yes
- NCV Detection:** Yes



Image 9.1: Diagram illustrating the physical dimensions of the ANENG ST181 clamp multimeter.

TABLE PEN PARAMETERS

Full length: 94cm

Material: PCV/Brass



Image 9.2: Detailed parameters for the included test leads, showing full length, material (PCV/Brass), and safety features like sheath design and good conductivity.

10. WARRANTY AND SUPPORT

ANENG provides professional service and technical support for this product. For any inquiries, technical assistance, or warranty claims, please contact your retailer or ANENG customer service. Refer to the product packaging or ANENG's official website for specific contact details.

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Related Documents - ST181

 ANENG ST180 4000 Counts Digital AC Current Clamp Multimeter Detailed specifications and features of the ANENG ST180, a 4000 counts digital AC current clamp multimeter. Includes measurements for AC/DC voltage, AC current, resistance, capacitance, frequency, and temperature.	 ANENG PN200 Mini Digital Clamp-On Multimeter: Operation Manual & Specifications Comprehensive operating instructions and technical specifications for the ANENG PN200 Mini Digital Clamp-On Multimeter, covering safety, usage, and measurement details.
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	<p>ANENG ST180 Digital Clamp-On Multimeter Operating Manual</p> <p>This comprehensive operating manual details the ANENG ST180 Digital Clamp-On Multimeter. It covers essential safety information, step-by-step operating instructions for various measurements (AC/DC Voltage, Current, Resistance, Frequency, Capacitance, Temperature, NCV), general characteristics, and detailed specifications. Essential for safe and effective use of the device.</p>
	<p>ANENG ST170 Mini Digital Clamp-On Multimeter Operating Instructions</p> <p>Comprehensive operating instructions for the ANENG ST170 Mini Digital Clamp-On Multimeter, detailing safety information, introduction, general characteristics, panel description, specifications, and operation procedures for various measurements including AC/DC voltage, resistance, AC current, capacitance, and non-contact AC voltage detection.</p>
	<p>ANENG ST180 Mini Digital Clamp-On Multimeter Operating Manual</p> <p>Operating manual for the ANENG ST180 Mini Digital Clamp-On Multimeter, covering safety information, introduction, specifications, panel description, control buttons, operation instructions for various measurements (AC/DC voltage, resistance, current, frequency, capacitance, temperature, NCV), and battery replacement.</p>
	<p>ANENG PN200 Multifunctional Clamp Ammeter: Features, Specifications, and Usage</p> <p>Explore the ANENG PN200, a versatile AC/DC clamp ammeter for electrical testing. Learn about its functions including current, voltage, resistance, capacitance, frequency, NCV detection, and its key specifications and accessories.</p>

Documents - ANENG – ST181



[Цифровой мини-мультиметр Aneng ST181 с токовыми клещами: Руководство по эксплуатации](#)

Подробное руководство пользователя для цифрового мини-мультиметра Aneng ST181 с токовыми клещами. Включает информацию о безопасности, инструкции по эксплуатации, технические характеристики для измерения переменного/постоянного тока, сопротивления, частоты, емкости и бесконтактного определения напряжения (NCV), а также правила замены батареек.



[Aneng ST181 Digital Mini Multimeter with Clamp Meter - User Manual](#)

User manual for the Aneng ST181 digital mini multimeter with clamp meter, covering safety information, specifications, and operation for various measurements including voltage, current, resistance, frequency, and capacitance.

lang:en score:28 filesize: 576.86 K page_count: 11 document date: 2024-11-03



[\[pdf\]](#) User Manual Accessories

User manual ANENG ST181 Digital clamp meterDigital Clamp Multimeters tester DC AC Current Car multimeter Ohm Ammeter NCV Voltage Capacitance Frequency

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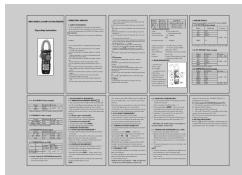
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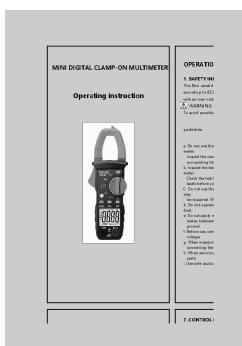
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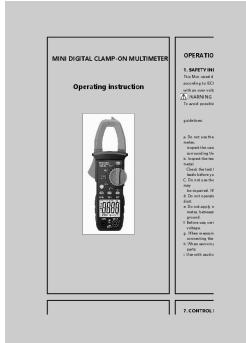
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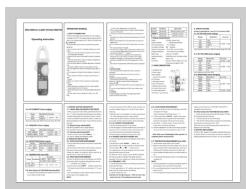
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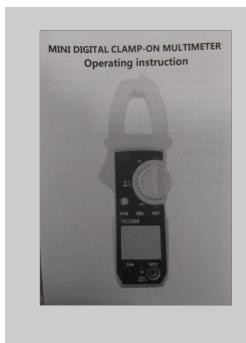
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ANENG ST181 Mini Digital Clamp-On Multimeter Operation Manual

Operation manual for the ANENG ST181 Mini Digital Clamp-On Multimeter, covering safety, panel description, specification instructions for various electrical measurements including voltage, current, resistance, capacitance, frequency, and temper: lang:en score:13 filesize: 517.22 K page count: 2 document date: 2025-06-02

instructions for various electrical measurements including voltage, current, resistance, and power.



[VC3268 Mini Digital Clamp-On Multimeter Operating Instruction Manual](#)

Comprehensive operating instruction manual for the VC3268 Mini Digital Clamp-On Multimeter, covering safety information, characteristics, detailed specifications for AC/DC voltage, current, resistance, frequency, capacitance, temperature, and no detection, along with step-by-step operation guides and battery replacement instructions.

lang:en score:11 filesize: 2.48 M page_count: 10 document date: 2022-04-11