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› [ANENG](#) /

› [ANENG ST203 Digital Clamp Multimeter User Manual](#)

ANENG ST203

ANENG ST203 Digital Clamp Multimeter User Manual

Model: ST203

INTRODUCTION

The ANENG ST203 is a pocket-sized 3 3/4-digit automatic digital instrument designed for stable performance, high precision, high reliability, clear reading, and overload protection. This manual provides essential information for the safe and effective use of your digital clamp multimeter.



Figure 1: Front view of the ANENG ST203 Digital Clamp Multimeter.

SAFETY INFORMATION

Please read and understand all safety warnings and operating instructions before using this instrument. Failure to do so may result in injury or damage to the meter.

- **Voltage Limits:** When measuring voltage, do not input a voltage exceeding the effective value of DC 1000V or AC 750V. Exceeding these limits can cause damage to the device or pose a safety risk.
- **Safe Voltage:** Voltages below 36V DC are generally considered safe. When measuring voltages higher than 36V DC or 25V AC, always ensure that the test leads are in reliable contact, connected correctly, and well insulated to prevent electric shock.
- **Function/Range Changes:** Always ensure that the test leads are disconnected from the test point before changing functions or measurement ranges on the multimeter.
- **Operating Environment:** Use the device within the specified working environment of 0-40°C with relative humidity not exceeding 80%.

PRODUCT COMPONENTS AND FEATURES

The ANENG ST203 comes with several components to facilitate its use and portability.

- **Digital Clamp Multimeter:** The main unit for various electrical measurements.
- **Test Leads:** A pair of red and black test leads for connecting to circuits.
- **Instruction Manual:** This document, providing detailed usage instructions.
- **Outer Packaging Box:** For product protection during transport and storage.
- **Portable Storage Bag:** A convenient bag for carrying and protecting the multimeter.
- **Lanyard:** An anti-fall lanyard for secure handling.



Figure 2: Package contents of the ANENG ST203.



Lanyard display



Anti-fall Lanyard

Convenient lanyard is not
afraid of falling



Figure 3: The ANENG ST203 featuring its anti-fall lanyard for secure handling.

SETUP

Battery Installation

The ANENG ST203 requires AAA 1.5V batteries (not included). To install the batteries:

1. Locate the battery compartment on the back of the device.
2. Open the battery compartment cover.
3. Insert the AAA 1.5V batteries, ensuring correct polarity (+/-).
4. Close the battery compartment cover securely.

Initial Power On

Press the **POWER** button to turn on the device. The LCD will display "4000" indicating its 3 3/4-digit display capability and then enter the automatic measurement mode.

OPERATING INSTRUCTIONS

The ANENG ST203 features automatic range detection for most measurements, simplifying operation. Ensure test leads are properly connected to the COM and VΩHz terminals for voltage, resistance, and frequency measurements.

1. AC Current (ACA) Measurement

To measure AC current, use the clamp jaw. Do not use test leads for current measurement with the clamp function.

1. Turn on the multimeter. It will automatically enter AC current measurement mode when a single line is placed within the clamp.
2. Open the clamp jaw and enclose a single conductor (not a power cord with multiple wires) through the center of the jaw.
3. Read the AC current value displayed on the LCD.



Figure 4: Measuring AC current using the clamp feature.

2. DC Voltage (DCV) Measurement

Connect the red test lead to the VΩHz terminal and the black test lead to the COM terminal.

1. Ensure the meter is in automatic mode or select DCV if manual range is preferred.
2. Connect the test leads across the DC voltage source to be measured.
3. Read the DC voltage value on the LCD.

3. AC Voltage (ACV) Measurement

Connect the red test lead to the VΩHz terminal and the black test lead to the COM terminal.

1. Ensure the meter is in automatic mode or select ACV if manual range is preferred.
2. Connect the test leads across the AC voltage source to be measured.
3. Read the AC voltage value on the LCD.

4. Resistance / On-Off Test (Continuity)

Connect the red test lead to the VΩHz terminal and the black test lead to the COM terminal.

1. Ensure the meter is in automatic mode or select Resistance/Continuity.
2. For resistance, connect the leads across the component. For continuity, touch the leads to the points to be tested. A beep indicates continuity.
3. Read the resistance value or observe the continuity indication.

5. Frequency (F) Measurement

Connect the red test lead to the VΩHz terminal and the black test lead to the COM terminal.

1. Ensure the meter is in automatic mode or select Frequency.
2. Connect the test leads across the signal source.
3. Read the frequency value on the LCD.

6. Non-Contact Voltage (NCV) Detection

The NCV function allows for detection of AC voltage without direct contact.

1. Press the **Hz NCV** button to activate NCV mode.
2. Move the top of the clamp meter near the conductor or outlet.
3. If AC voltage is detected, the LED will flash and an audible beep alarm will sound.



Beep alarm

• • •

Non-feed induction

**When the sensor detects
power, the LED will flash**



Figure 5: Non-contact voltage detection in progress.

7. Zero Line / Fire Line Test

This function helps identify live (fire) and neutral (zero) lines.

1. Connect the red test lead to the VΩHz terminal and the black test lead to the COM terminal.
2. Touch the red test lead to the conductor. The display will indicate if it's a live or neutral line.

8. HOLD Function

Press the **HOLD** button (usually on the side) to freeze the current reading on the display. Press it again to release the hold.

9. Flashlight Lighting

The built-in flashlight can be activated to illuminate dark work areas. Refer to the device's side button for activation.

SPECIFICATIONS

Detailed technical specifications for the ANENG ST203 Digital Clamp Multimeter.

Parameter	Range	Accuracy
DC Voltage (DCV)	4V / 40V / 400V / 600V	$\pm(0.5\%+3)$
AC Voltage (ACV)	4V / 40V / 400V / 600V	$\pm(1\%+3)$
AC Current (ACA)	15mA / 4A / 40A / 400A / 600A	$\pm(2.5\%+8)$
Resistance	4k Ω / 40k Ω / 400k Ω / 4M Ω / 40M Ω	$\pm(0.5\%+3)$
Frequency	4Hz / 40Hz / 400Hz / 4kHz / 40kHz / 400kHz	Not specified in detail, typically $\pm(0.1\%+2)$

- **Display:** Liquid Crystal Display (LCD)
- **Maximum Display:** 4000 (3 3/4) bit automatic polarity display
- **Measurement Method:** Double integral A/D conversion
- **Sampling Rate:** Approximately 3 times per second
- **Over Range Display:** "OL"
- **Low Voltage Display:** Battery symbol appears
- **Power:** AAA 1.5V battery (Batteries excluded)
- **Dimensions (LWH):** 170mm x 65mm x 30mm (6.7in x 2.56in x 1.18in)
- **Weight:** Approximately 160g (excluding batteries)
- **True RMS Measurement:** Yes
- **Backlight:** Manual/Auto off
- **Flashlight:** Yes

ANENG[®]

59.2mm / 2.33in

31mm / 1.22in



170mm / 6.7in



Figure 6: Physical dimensions of the ANENG ST203.



Brand : ANENG

Model : ST203

Color : Orange

Battery : 3A*2

All the accessories :

Packing box / portable bag / multimeter
meter pen / instruction manual

Size : 59.2mm * 31mm * 170mm /
2.33in * 1.22in * 6.70in



Figure 7: Key product details and specifications.

MAINTENANCE

Proper maintenance ensures the longevity and accuracy of your ANENG ST203 multimeter.

- **Cleaning:** Use a soft, dry cloth to clean the meter's casing. Do not use abrasive cleaners or solvents.
- **Storage:** When not in use for extended periods, remove the batteries to prevent leakage. Store the meter in its portable storage bag in a cool, dry place, away from direct sunlight and extreme temperatures.
- **Test Leads:** Inspect test leads regularly for any signs of damage, such as cracked insulation or exposed wires. Replace damaged leads immediately.
- **Calibration:** For professional use, periodic calibration by a qualified technician is recommended to maintain accuracy.

TROUBLESHOOTING

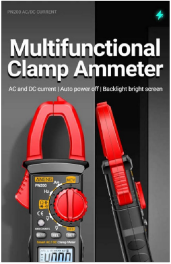

If you encounter issues with your ANENG ST203, refer to the following common problems and solutions:





Problem	Possible Cause	Solution
Meter does not power on.	Dead or incorrectly installed batteries.	Check battery polarity; replace with fresh AAA 1.5V batteries.
"OL" displayed on screen.	Measurement exceeds selected range or meter's maximum capacity.	Switch to a higher range (if not in auto-range) or ensure the measured value is within the meter's limits.
Inaccurate readings.	Poor test lead connection; damaged test leads; environmental interference.	Ensure leads are firmly connected. Inspect and replace damaged leads. Move away from strong electromagnetic fields.
No continuity beep.	Circuit is open; meter not in continuity mode.	Verify the circuit is closed. Ensure the meter is set to continuity test mode.

Warranty and Support

While specific warranty details are not provided in this manual, most electronic devices come with a standard manufacturer's warranty against defects in materials and workmanship. Please retain your purchase receipt as proof of purchase. For technical support, troubleshooting assistance beyond this manual, or warranty claims, please contact the retailer or the manufacturer directly. Refer to the product packaging or the retailer's website for contact information. You may also find additional support resources by searching for "ANENG ST203 support" online.

Related Documents - ST203

	<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>
	<p>ANENG CM80/CM81 Digital Clamp Meter User Manual</p> <p>Comprehensive user manual for the ANENG CM80/CM81 digital clamp meter, detailing its features, safety precautions, electrical and general specifications, step-by-step instructions for various measurement functions (AC/DC Voltage, AC Current, Resistance, Capacitance, Frequency, Diode, Temperature, NCV), maintenance procedures, troubleshooting guide, and warranty information.</p>

	<p>ANENG PN200 Mini Digital Clamp-On Multimeter: Operation Manual & Specifications</p> <p>Comprehensive operating instructions and technical specifications for the ANENG PN200 Mini Digital Clamp-On Multimeter, covering safety, usage, and measurement details.</p>
	<p>ANENG PN130 Digital Multimeter User Manual: Features, Specifications, and Operation Guide</p> <p>Detailed user manual for the ANENG PN130 digital multimeter. Learn about its overview, general characteristics, comprehensive specifications for AC/DC voltage, current, resistance, capacitance, frequency, and operation instructions for accurate electrical measurements.</p>
	<p>ANENG ST203 Automatic AC Clamp Meter User Manual</p> <p>User manual for the ANENG ST203 automatic AC clamp meter, covering specifications, operation, safety, and troubleshooting.</p>
	<p>ANENG ST182 Digital Clamp Meter Instruction Manual</p> <p>Comprehensive user manual for the ANENG ST182 digital clamp meter, covering safety precautions, specifications, panel description, button functions, and detailed operating instructions for various electrical measurements.</p>