ANENG SZ301UVC1019

ANENG Multimeter Tester User Manual

Model: SZ301UVC1019
Brand: ANENG

Introduction

This user manual provides comprehensive instructions for the safe and effective operation of your ANENG Multimeter Tester (Model SZ301) and Non-Contact Voltage Tester (Model VC1019). These tools are designed for measuring various electrical properties, including AC/DC voltage, current, resistance, capacitance, continuity, and diode testing, as well as non-contact voltage detection. Please read this manual thoroughly before use to ensure proper functionality and safety.

Safety Information

Always adhere to the following safety precautions when using the ANENG Multimeter Tester and Non-Contact Voltage Tester:

- **Risk of Electric Shock:** Do not attempt to measure voltages or currents exceeding the specified maximum ratings. Always ensure the device is properly connected before applying power.
- **Insulation:** Ensure your hands are dry and you are standing on an insulated surface when performing measurements.
- **Probe Condition:** Inspect test leads and probes for any damage before each use. Do not use if insulation is compromised.
- **Overload Protection:** The multimeter features anti-burn with double fuses and overload protection. However, avoid intentional overloading.
- **Non-Contact Voltage Tester:** The NCV function is for indication only. Always verify voltage presence with a contact method before working on circuits.
- **Battery Safety:** Use only the specified battery type (AAA 1.5V). Do not mix old and new batteries or different battery types.
- **Maintenance:** Refer to the maintenance section for cleaning and care. Do not attempt to repair the device yourself.

Product Overview and Components

The ANENG Multimeter Tester and VC1019 Pen Tester are designed for comprehensive electrical measurements and non-contact voltage detection.

Figure 1: Overview of the ANENG Multimeter Tester (SZ301) and VC1019 Pen Tester, including test leads, batteries, and user manuals.

ANENG SZ301 Multimeter Features:

- **Large LCD Display:** Clear and easy-to-read screen for measurement values.
- **Rotary Dial:** Selects various measurement functions (Voltage, Current, Resistance, Capacitance, Diode, Continuity).
- **Input Jacks:** Dedicated ports for test leads (COM, VΩmA+, 10A).
- **Function Buttons:** Such as 'SEL' for mode selection and 'HOLD' to freeze readings.
- **Kickstand:** Integrated stand for convenient viewing.

Figure 2: Detailed view of the ANENG SZ301 Multimeter's rotary dial for function selection.

ANENG VC1019 Pen Tester Features:

- **NCV Inductive Probe:** Detects AC voltage without direct contact.
- **Voice Broadcast Function:** Announces voltage presence and other alerts.
- **LED Indicator:** Visual indication of voltage presence (red tip).
- **Flashlight:** Built-in light for working in dark areas.
- **Sensitivity Adjustment:** Allows for varying detection sensitivity.
- **Live Wire Detection:** Identifies live or neutral wires automatically.
- **Infrared Laser Positioning:** For precise targeting.

Figure 3: The ANENG VC1019 Pen Tester showcasing its voice broadcasting capabilities.

Setup

Battery Installation:

Both the SZ301 Multimeter and VC1019 Pen Tester require batteries for operation. The package includes 4x 1.5V AAA batteries.

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

Figure 4: The product package includes the necessary AAA batteries for both devices.

Connecting Test Leads (for SZ301 Multimeter):

For most measurements, connect the red and black test leads to the appropriate input jacks on the multimeter.

- Insert the black test lead into the "COM" (Common) jack.
- For voltage, resistance, capacitance, and diode measurements, insert the red test lead into the "VΩmA+" jack.
- For current measurements (up to 10A), insert the red test lead into the "10A" jack. For smaller currents (mA), use the "VΩmA+" jack.

Operating Instructions

Using the ANENG SZ301 Multimeter:

Turn the rotary dial to the desired measurement function. The display will show the reading.

1. AC/DC Voltage Measurement:

- Set the rotary dial to the "V~" (AC Voltage) or "V-" (DC Voltage) range.
- Connect the test leads in parallel to the circuit or component being measured.
- Read the voltage value on the display.

Figure 5: Measuring AC voltage using the ANENG SZ301 Multimeter.

2. Current Measurement (AC/DC):

- **Important:** Connect the multimeter in series with the circuit.
- Set the rotary dial to the "A~" (AC Current) or "A-" (DC Current) range.
- Ensure the red test lead is in the appropriate current jack (10A or VΩmA+ for mA).
- Read the current value on the display.

3. Resistance Measurement:

- Set the rotary dial to the "Ω" (Ohms) range.
- Ensure the circuit is de-energized before measuring resistance.

- Connect the test leads across the component.
- Read the resistance value.

4. Continuity Test:

- Set the rotary dial to the continuity symbol (often shared with diode or resistance).
- Connect the test leads across the circuit or component.
- A continuous beep indicates a low-resistance path (continuity).

5. Diode Test:

- Set the rotary dial to the diode symbol.
- Connect the red lead to the anode and the black lead to the cathode of the diode.
- A forward voltage drop will be displayed. Reverse the leads; an open circuit (OL) indicates a good diode.

6. Capacitance Measurement:

- Set the rotary dial to the "F" (Farad) range.
- Ensure the capacitor is fully discharged before testing.
- Connect the test leads across the capacitor.
- Read the capacitance value.

Using the ANENG VC1019 Pen Tester (Non-Contact Voltage Detector):

The VC1019 is designed for quick and safe detection of AC voltage without direct contact.

1. NCV Detection:

- Turn on the VC1019.
- Bring the NCV inductive probe tip near a terminal strip, outlet, or insulated wire.
- If AC voltage is detected, the tip will glow red, and the device will beep. The voice broadcast function will announce "Danger! High Voltage" or "low voltage" depending on the detected field strength.

Figure 6: Using the VC1019 Pen Tester to detect voltage in an electrical setup.

Figure 7: The VC1019 Pen Tester's ability to differentiate between live (firewire) and neutral (zero line) connections.

2. Live Wire Detection:

- The device automatically identifies live or neutral wires. A stronger indication (faster beeping, brighter light, "Danger! High Voltage" voice) typically signifies a live wire.

3. Flashlight Function:

- Press the designated button (refer to device markings) to activate the built-in flashlight for illumination in dark environments.

4. Infrared Laser Positioning:

- Some models feature an infrared laser for precise targeting. Activate it via the corresponding button.

Figure 8: The VC1019 Pen Tester's infrared laser for precise targeting.

Maintenance

- **Cleaning:** Wipe the devices with a dry, clean cloth. Do not use abrasive cleaners or solvents.
- **Storage:** Store the multimeter and pen tester in a cool, dry place away from direct sunlight and extreme temperatures.
- **Battery Replacement:** Replace batteries when the low battery indicator appears on the display to ensure accurate readings. Remove batteries if the device will not be used for an extended period.
- **Test Lead Inspection:** Regularly inspect test leads for cuts, cracks, or other damage to the insulation. Replace damaged leads immediately.

Troubleshooting

Problem	Possible Cause	Solution
Device does not turn on.	Dead or incorrectly installed batteries.	Check battery polarity; replace batteries.
Inaccurate readings.	Low battery; incorrect function selected; damaged test leads.	Replace batteries; verify function setting; inspect and replace test leads.
"OL" (Overload) displayed.	Measurement range exceeded; open circuit.	Select a higher range; check circuit for breaks.
VC1019 NCV not detecting voltage.	Low battery; too far from voltage source; sensitivity setting too low.	Replace batteries; move closer to source; adjust sensitivity if applicable.

Specifications

Feature	Detail
Brand	ANENG
Model Number	SZ301UVC1019
Power Source	Battery Powered (AAA 1.5V)
Measurement Types	Ohmmeter, Voltmeter, Ammeter, Capacitance, Diode, Continuity
Voltage Range (AC/DC)	Up to 1000V (SZ301), 12-1000V AC (VC1019)
Current Range (AC/DC)	Up to 10A (SZ301)
Safety Features	Anti-burn with double fuses, Overload protection, Insulated probes

Warranty and Support

ANENG provides lifetime service and technical support for this electrical tester package. For any questions, technical assistance, or warranty claims, please contact ANENG customer service through the retailer or the official ANENG website.
For more information, you can visit the ANENG Store on Amazon.