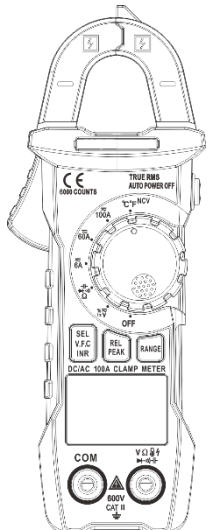
User Manual



1. Overview

This product is a battery-powered, true RMS, auto-ranging mini clamp digital multimeter. The meter features a 6000-count display, using an LCD screen with backlight for clear readings.

2. Safety Instructions

To avoid potential electric shock, fire, or personal injury, please read the safety instructions before use.

* Do not exceed the maximum measurement values specified in the "Technical Specifications" when measuring.

* Voltages below 36V are considered safe. When measuring voltages above 36V DC or 25V AC, ensure that the test leads are securely connected, properly attached, and well insulated to avoid electric shock.

* Remove the test leads from the test points when switching functions and ranges.

* Select the correct function and range. If the measured value exceeds the range, "OL" will be displayed.

Safety Symbol Explanation:

⚠	Dangerous Voltage Present	⏚	Grounding
▣	Double Insulation		Low Voltage Symbol
⚠	Operator Must Refer to the Manual	ϟ	Neutral Wire and Live Wire Identification

3. Specifications and Parameters

Technical Specifications					
Function	Range	Resolution	Accuracy	Maximum Measurement Value	Frequency
DC Voltage	600.0mV	0.1mV	± (0.5%+3)	600V	
	6.000V	0.001V			
	60.00V	0.01V			
	600.0V	0.1V			
AC Voltage	6.000V	0.001V	± (1.0%+3)	600V	40Hz-1kHz
	60.00V	0.01V			
	600.0V	0.1V			
DC Current	6.000A	0.001A	± (2.5%+30)	100A	
	60.00A	0.01A			
	100.0A	0.1A			
AC Current	6.000A	0.001A			40Hz-1kHz
	60.00A	0.01A			
	100.0A	0.1A			

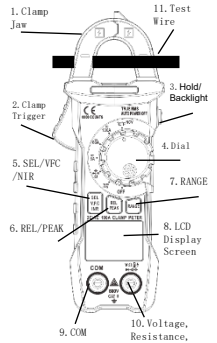
Function	Range	Resolution	Accuracy	Maximum Measurement Value	Frequency
Resistance	600.0Ω	0.1Ω	± (1.5%+3)	60.0MΩ	
	6.000kΩ	0.001kΩ	± (0.5%+3)		
	60.00kΩ	0.01kΩ			
	600.0kΩ	0.1kΩ			
	6.000MΩ	0.001MΩ			
	60.00MΩ	0.01MΩ	± (1.5%+3)		
Capacitance	9.999nF	0.001nF	± (5.0%+20)	60.00mF	
	99.99nF	0.01nF	± (2.0%+5)		
	999.9nF	0.1nF			
	9.999uF	0.001uF			
	99.99uF	0.01uF			
	999.9uF	0.1uF			
	9.999mF	0.001mF	± (5.0%+5)		
	60.00mF	0.01mF			
Frequency	9.999Hz	0.001Hz	± (0.1%+2)	1MHz	
	99.99Hz	0.01Hz			
	999.9Hz	0.1Hz			
	9.999kHz	0.001kHz			
	99.99kHz	0.01kHz			
	999.9kHz	0.1kHz			
Diode	√				
Continuity	√				
Inrush	√				
Peak Hold	√				
Backlight	√				
Temperature	(-30~1000)℃	1℃	± (2.5%+5)	1000℃	
	(-22~1832)℉	1℉		1832℉	

General Technical Specifications	
Display Screen (LCD)	6000 Countd
Range	Auto
Material	ABS
Sampling Rate	3 times/sec
True RMS	√
Data Hold	√
Low Battery Indicator	√
Auto Power Off	√

Mechanical Technical Specifications		
Dimensions	175*65*30mm	
Weight	165g	
Battery	1.5V AAA * 2	
Warranty Period	One Year	
Environment		
Operating Environment	Temperature	0~40℃
	Humidity	<75%
Storage Environment	Temperature	-20~60℃
	Humidity	<80%

4. Operating Instructions

(1) Description of the Control Panel (see the right figure)



1, Clamp Jaw: The part of the device that clamps around the wire.

2, Clamp Trigger: Squeeze this to open the clamp jaws.

3, HOLD/Backlight Button: Press this button once to hold the current reading, and the screen will display the "HOLD" symbol. Press and hold this button to turn on the screen backlight; press and hold again to turn it off.

4, Dial: Rotate the dial to select the desired measurement mode; rotate it to the OFF position to turn off the device.

5, SEL/VFC/INR Button: Short press to select the range; long press in AC voltage mode to enter VFC measurement mode; long press in AC current mode to enter inrush current measurement mode.

6, REL/PEAK Button: Short press to enter REL relative value measurement mode; long press in AC voltage mode to enter peak measurement mode.

7, RANGE Button: Press this button to select different ranges.

8, LCD Display: The screen that shows measurement readings.

9, Black Test Lead Jack (COM): Used as the common terminal for all measurements.

10, Red Test Lead Jack: The input terminal for common test signals.

11, Simulated Test Wire: Place this at the center marked position of the clamp jaw during testing.

(2) Measuring AC/DC Voltage

1. Turn the dial to the AC/DC voltage position.
2. Insert the black test lead into the "COM" terminal and the red test lead into the "VΩ" terminal.
3. Press the SEL button to switch between AC and DC voltage measurement modes.
4. Use the test lead probes to contact the correct test points on the circuit.
5. Read the voltage value displayed on the screen.

* Note:

a. Do not measure voltages exceeding the rated maximum test value, as this may damage the meter and pose a safety hazard.

b. Avoid contact with high-voltage circuits when measuring high voltages.

(3) Measuring AC/DC Current

1. Turn the dial to the current measurement position.

2. Press the clamp trigger and place the wire to be measured through the marked position of the clamp jaw (as shown in the diagram with the black wire). Measuring the wire at an incorrect position may affect the accuracy.

3. Press the SEL button to switch between AC and DC current measurement modes, and read the current value displayed on the screen.

* Note:

a. When measuring DC current, keep the clamp direction fixed. Press the REL key to clear the bottom number on the screen, then start the measurement..

b. Do not measure currents exceeding the rated maximum test value, as this may damage the meter and pose a safety hazard.

c. Measure only one wire at a time, as currents flowing in opposite directions will cancel each other out.

(4) Measurement of Resistance

1. Insert the black test lead into the "COM" terminal and the red test lead into the " " terminal.

2. Rotate the dial to the resistance, diode, continuity range.

3. Use the test lead probes to contact the desired circuit test points.

4. Read the resistance value measured on the display screen.

* Note:

a. Before measuring online resistance, make sure all power sources of the circuit being measured are turned off, and all capacitors are completely discharged.

b. Do not input voltage in resistance range.

(5) Continuity/Diode Test

1. Insert the red test lead into the right " " jack and the black test lead into the COM jack.

2. Rotate the dial to the " " range; press the SEL button once to enter diode test mode, press the SEL button again to enter continuity test mode.

3. Use the test lead probes to connect to the two points of the circuit to be tested.

4. If the resistance value is less than 50Ω, the buzzer will sound, and the resistance value will be displayed on the screen.

5. To test a diode, connect the red test lead probe to the positive terminal of the diode to be tested, and the black test lead probe to the negative terminal. Then, read the forward bias voltage displayed on the screen. If the polarity of the test leads is reversed or the diode is damaged, the screen will display "OL".

* Note:

a. Do not input voltage in the continuity range.

(6) Measurement of Capacitance

1. Before measuring capacitance, discharge the capacitor to avoid damaging the instrument.

2. Insert the red test lead into the right " " jack and the black test lead into the COM jack.

3. After inserting the test leads, rotate the dial to the capacitance range to enter capacitance measurement mode.

4. Connect the red test lead probe to the positive terminal of the capacitor to be tested and the black test lead probe to the negative terminal.

5. After the reading stabilizes, read the capacitance value displayed on the screen.

(7) Measurement of Frequency

1. Insert the red test lead into the right " " jack and the black test lead into the COM jack.

2. Rotate the dial to the voltage range and press the SEL button twice to enter frequency measurement mode.

3. Use the test lead probes to connect to the two points of the circuit to be tested.

4. Read the frequency value displayed on the screen.

(8) Relative Value Measurement

When relative value measurement is needed, press the REL button, and the measurement process will automatically subtract the base number from the screen.

(9) Non-Contact Voltage Detection

1. Rotate the dial to the NCV range.

2. Slowly bring the clamp close to the point to be tested. If the built-in sensor detects an AC electromagnetic field, the built-in buzzer of the product will emit a "beep" sound. The stronger the electromagnetic field, the faster the "beep" sound, and the display screen will show a bar status.

3. If only the red test lead is inserted into the " " terminal, and then the test lead probe is touched to the live wire of the mains, if the buzzer alarms strongly, it is the live wire; otherwise, it is the neutral wire.

(10) Temperature Measurement

1. Insert the black plug of the thermocouple into the "COM" terminal and the red plug into the " " terminal.
2. Rotate the dial to the temperature testing range to enter temperature measurement mode. The screen will default to display room temperature.
3. Place the temperature probe of the thermocouple in the temperature field to be measured.
4. Read the temperature value displayed on the screen.

* Note:
Do not input voltage in temperature range.

(11) Inrush Current Measurement

1. Rotate the dial to the current range, and long press the "INR" button under AC range to enter startup current measurement mode. The screen will display the INRUSH icon.
2. Pass the wire to be tested through the alignment point of the clamp. If the wire to be tested is not measured according to the alignment point, it will affect the measurement accuracy.
3. Start the engine or the equipment to be tested, and the instrument will capture the maximum current at startup.
4. Read the degree displayed on the screen.

(12) Peak Hold

1. Rotate the dial to the voltage measurement range, insert the test leads, and long press the "REL/PEAK" button under AC voltage range to enter peak measurement mode. The screen will display the PEAK icon.
2. Use the test lead probes to contact the correct test points on the circuit.
3. Read the voltage value displayed on the screen.

(13) Auto Power Off

1. The instrument will automatically power off after 15 minutes of inactivity.
2. One minute before shutdown, the built-in buzzer will emit five prompts.
3. After auto power off, to restart, press any key on the panel.
4. To cancel the auto power off function, press and hold the "SEL/VFC/INR" button and then rotate the dial to turn on. The buzzer will emit four prompts, and the symbol " " in the upper left corner of the screen disappears, indicating that the auto power off has been canceled.

5. Maintenance

Except for replacing batteries and test leads, do not attempt to repair this product or change its circuit unless you have the appropriate qualifications and corresponding calibration, performance testing, and maintenance instructions.

(1) This product should not be stored or used in high temperature, high humidity, flammable, explosive, or strong magnetic field environments.

(2) Use a damp cloth and mild detergent to clean the exterior, and do not use corrosive or solvent-based cleaners.

(3) Before cleaning the product, first remove the input signal.

(4) If not in use for a long time, remove the battery to prevent battery leakage from corroding the instrument.

(5) Pay attention to the battery usage. When the screen displays the symbol " ", replace the battery as follows:

1. Unscrew the screw fixing the battery on the back cover and open the battery door.
2. Remove the battery and replace it with two new batteries of the same type.
3. Install the battery door and tighten the screw. Press any key on the panel to restart;

Note:

1. Do not connect circuits with voltages higher than the rated "Maximum Measurement Value".

2. Do not measure voltage values in current range, resistance range, diode range, continuity range, or temperature range.

3. Do not use this instrument when the battery is not installed properly or the back cover is not tightened.

4. Before replacing the battery, remove the test leads from the test points and turn off the instrument.

6. Troubleshooting

If your instrument is not functioning properly, the following methods can help you quickly resolve common issues. If the problem persists, please contact the service center or your dealer for assistance.

Fault phenomenon	Inspection parts and methods
The display does not show.	The power is not connected; replace the battery.
symbol appears	Replace the battery

Limited Warranty and Scope of Responsibilities

This product is covered by a one-year limited warranty from the date of purchase. However, this warranty does not cover disposable batteries (once depleted) or damages resulting from accidents, negligence, misuse, modifications, contamination, or abnormal operating environments.

Changes to this manual will not be notified separately. The content of this manual is considered accurate. If users find any errors or omissions, please contact the manufacturer. Our company does not assume responsibility for accidents and hazards caused by user error. The functions described in this manual should not be used as a justification for using the product for special purposes.