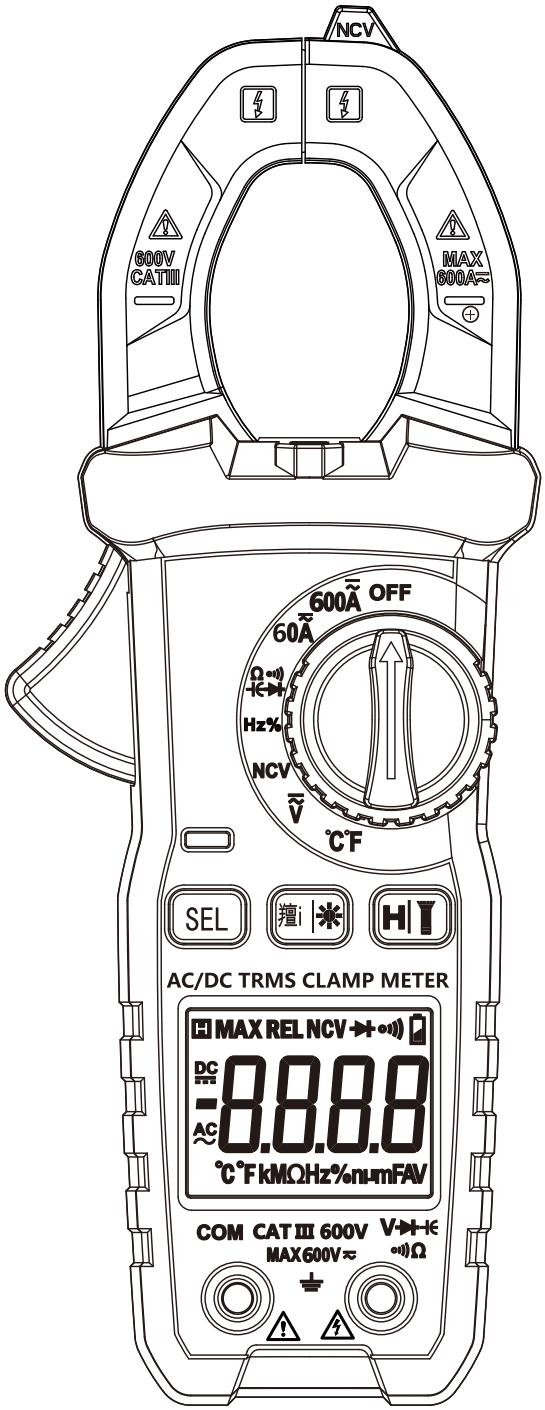
AC/DC Clamp Meter User's Guide

NF-6304



Directory

1. Overview

This digital AC-DC current clamp meter is a kind of stable performance, safe and reliable portable Measuring instrument. Function switch one-handed operation for easy measurement, with overload protection and low battery finger Indicating, with clamp head frequency measurement function.

The circuit design of the whole machine takes intelligent IC double integral A/ D converter as the core, and is equipped with full Range overload protection circuit, novel appearance. Can be used to measure AC current, Ac voltage, DC voltage, frequency, duty ratio, resistance, capacitance measurement and line Road off, diode test, is a superior performance of the multifunctional instrument.

1.1. Safety information

warning

In order to fully understand the function of the instrument and ensure safe operation, please read and follow carefully Follow the instructions in this manual.

Special attention should be paid when using this instrument. Improper use may cause electric shock or damage to the instrument The table. In use, the usual safety procedures should be followed and effective safety precautions taken.

The instrument conforms to the general technical conditions of GB/T 13978-92 digital multi-purpose table GB4793.1-1995 (IEC-61010-1, IEC-61010-2-032) Electronic measuring instrument safety Full requirements, belong to secondary pollution, in line with CAT III 600V overpressure standard.

Follow the safe operation guide and use the instrument safely.

1.2 Precautions

⇨ When using, the correct function and range must be selected. It is forbidden to measure beyond the range.

⇨ When the meter is connected to the measuring circuit, do not touch the metal part of the marker.
⇨ When measuring, if the measured voltage is higher than 60V DC or 30V AC RMS, care should be taken to keep the hand behind the pen finger protector at all times.
⇨ If the voltage between the measuring terminal and the ground exceeds 600VAC, do not measure the voltage.
⇨ In manual range state, if the measured value is not known in advance, the highest range should be selected.
⇨ The marker should be removed from the circuit under test before turning the range switch to change the measuring function.
⇨ Do not measure resistance capacitance diode and line off.
⇨ Do not measure the capacitor to have polarity until the capacitor is fully discharged.
⇨ Do not use this instrument near explosive gas, steam or dust.
⇨ Discontinue use of the meter if any abnormality or malfunction is observed.
⇨ The meter should not be used unless the meter bottom case and battery cover are fully fastened in place.
⇨ Avoid storing or using instruments in direct sunlight, high temperature, and high humidity.
⇨ Symbol indicating that the input voltage or current should not exceed the marked value. This is for protection
⇨ Internal wiring protected from damage.
⇨ When wiring "⚠ ", connect the common test wire first, and then connect the live test wire. When removing the connection
⇨ Live test wire should be removed first.
⇨ When the "▭" symbol is displayed, the accuracy of measurement is not guaranteed, that is, the battery should be replaced in time.

1. 3 Safety symbols

⚠	This symbol indicates the user must refer to the manual for further information.
⚡	Dangerous voltage
⧈	Double insulation
CAT III	Safety standards for overvoltage (installation) Level III and contamination Level 2 according to IEC-61010-1.
CE	In line with European Community (EU) standards
⏚	Earth ground

1.4 Maintenance

⇨ Please do not attempt to open the bottom case to adjust or repair the meter, calibration or repair can only be done by a professionalMember to carry on.

⇨ Remove the marker from the line under test before opening the bottom case of the meter or the battery cover.

⇨ To avoid an electric shock that may be caused by an incorrect reading, when the meter displays the "🔋" symbol,Replace the battery immediately.

⇨ Use a damp cloth and mild detergent to clean the instrument. Do not use abrasives or solvents.

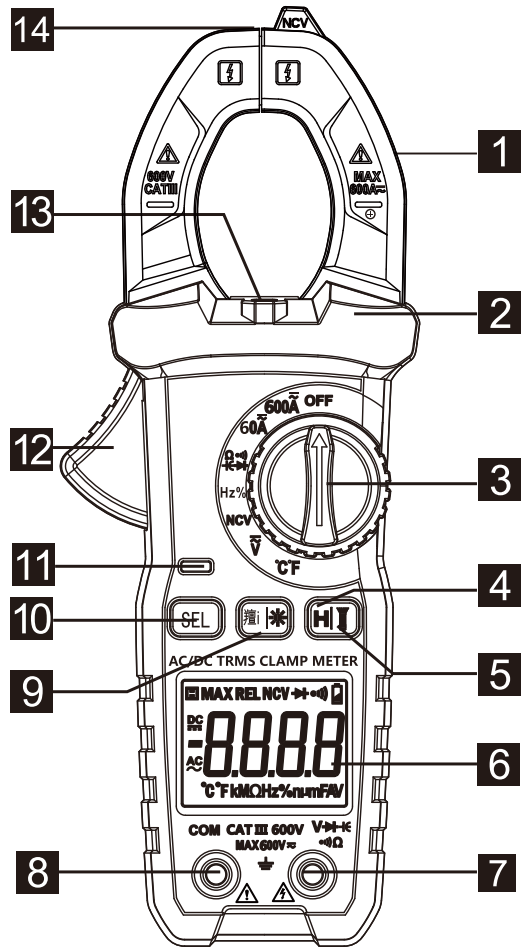
⇨ When the instrument is not in use, the power should be turned OFF and the range switch should be turned off.

⇨ If the meter is not used for a long time, take out the battery to prevent battery leakage from damaging the meter.

2. Component name description

2.1 Panel Overview

1 Clamp
2 Clamp head lamp
3 Function knob
4 hold button
5 Lighting button
6 LCD
7 input port
8 COM common end jack
9 Zero and backlight buttons
10 function button
11 caution light
12 trigger
13 floodlight
14 NCV



2.2 Description of switches, buttons and input jacks

NCV button: Used to enable non-contact voltage measurement.

SEL button: Used to switch between measurement functions.

HOLD button: For reading hold.

LED/BL button: Flashlight or backlight control.

OFF position: Power off.

INPUT jack: voltage resistance frequency duty ratio, capacitance, diode line on and off File input terminal.

COM jack: voltage resistance frequency duty ratio, capacitance, diode line off File common terminal.

Range switch: Used to select functions and ranges.

Clamp head: Used for measuring electrical current.

3. Technical indicators

The meter shall be specified for one year cycle, at 18°C- 28°C, with relative humidity less than The condition of 75% reaccuracy.

3.1 Comprehensive Index

Automatic selection of measuring function and range.
Full range overload protection.
The maximum allowable voltage between the measuring terminal and the ground is 600V DC or 600V AC
Working height: Maximum 2000m
Display: LCD
The maximum displayed value is 6000 digits.
Polarity indicator: Automatic indicator, '-' indicates negative polarity.
Hyperview display: 'OL' or '-OL'.
Sampling time: about 3 times/second
Unit display: with function, unit display of electricity.
Automatic shutdown time: 15 minutes
Power Supply: 1.5V/AAA No.7 battery 2
Battery undervoltage indication: LCD displays "  " symbol.
Temperature coefficient: less than 0.1X accuracy /°C
Body size :185mm*71mm*35mm
Mouth elongation :26mm
Operating temperature: 0° C-40 °c
Storage temperature: -10° C-50 °C

3.2 Technical Specifications

The meter shall specify -- year as the calibration period at ambient temperature 18 'C - 28' C, relative

The humidity is less than 75%

3.2.1 AC Current

Range	Resolution	Accuracy
6A	0.01A	±(3.0%+6digit)
60A	0.1A	
600A	0.1A	

- Maximum input current: 600A AC
- Frequency range: 40 to 400Hz - Response: average value

3.2.2 DC Current

Range	Resolution	Accuracy
6A	0.01A	±(2.5%+8digit)
60A	0.1A	
600A	0.1A	

- Maximum input current: 600A DC

3.2.3 DC Voltage

Range	Resolution	Accuracy
600mV	0.1mV	±(1.0%+2digit)
6V	0.001V	±(0.8%+3digit)
60V	0.01V	
600V	0.1V	

- Response average input impedance: 10 MΩ
- Maximum input voltage: 600V DC

3.2.4 AC Voltage

Range	Resolution	Accuracy
6V	0.001V	±(0.8%+3digit)
60V	0.01V	
600V	0.1V	

- Input impedance: 10MΩ
- Maximum input voltage: 600V AC (effective value)
- Frequency range: 40 to 400Hz - Response: True RMS

3.2.5 Frequency

3.2.5.1 Frequency Measurement with Pliers (Through A)

Range	Resolution	Accuracy
99.99Hz	0.01Hz	±(1.5%+5digit)
999.9Hz	0.1kHz	
>1kHz	0.001kHz	Only reference

- Measuring range: 10Hz-1kHz
- Maximum input current :600A (effective value)
- Input signal range: 4A AC(RMS)

(As measured frequency increases, input currentShould also increase)

3.2.5.2 Through the V Gear:

Range	Resolution	Accuracy
99.99Hz	0.01Hz	±(1.5%+5digit)
999.9Hz	0.1kHz	
>1kHz	0.001kHz	Only reference

- Measurement range: 10 Hz-1 KHZ - Input impedance: 10 MΩ

- Input voltage range: 0.2V AC (RMS) (as measured frequency increases, input The voltage should increase accordingly)
- Maximum input voltage :600V AC (valid value)

3.2.5.3 Passing the Hz/% Switch

Range	Resolution	Accuracy
9.999Hz	0.001Hz	±(0.5%+2digit)
99.99Hz	0.01Hz	
999.9Hz	0.1Hz	
9.999kHz	0.001kHz	
99.99kHz	0.01kHz	
999.9kHz	0.1kHz	
9.999MHz	0.001MHz	

3.2.6 Duty Cycle

Range	Resolution	Accuracy
0.1 – 99.9%	0.1%	± 3.0%

3.2.6.1 Duty Ratio In Hz/ % range

- Frequency response: 10-10MHz - Input impedance: 10MΩ
- Input voltage range: 0.2V AC (effective value) (as the measured frequency increases, lose The incoming voltage should increase accordingly)
- Maximum input voltage 600V AC (effective value)

3.2.7 Resistance

Range	Resolution	Accuracy
600Ω	0.1Ω	±(0.8%+3digit)
6KΩ	0.001kΩ	
60KΩ	0.01kΩ	
600KΩ	0.1kΩ	
6MΩ	0.001MΩ	±(1.2%+3digit)
60MΩ	0.1MΩ	

- Open circuit voltage: approx. 0.4V
- Overload protection: 250V DC or AC (valid value)

3.2.8 Diode Test

Range	Resolution	Function
	0.001V	Display approximate for ward voltage of diode

- Forward DC current is about 1mA.
- Reverse DC voltage is about 3.3V
- Overload protection: 250V DC or AC (valid value)

3.2.9 Line Connection Test

Range	Resolution	Function
	0. 1Ω	Built-in buzzer will be sounded if resistance is less than 50Ω.

- Overload protection: 250V DC or AC (valid value)

3.2.10 Temperature

Range	Resolution	Accuracy	
℃	1℃	-50℃~ 1300℃	±（1.0%+3）reading
℉	1℉	-58℉~ 2372℉	±（1.0%+3）reading

- Accuracy does not include error of thermocouple probe.
- Overload protection 250V DC or AC (valid value)

3.2.11 Capacitor

Range	Resolution	Accuracy
6nF	0.1nF	±(4.5%+5digit)
600nF	0.1nF	
6uF	0.001μF	
60uF	0.01μF	
600uF	0.1μF	
6mF	1μF	
60mF	0.01mF	

Overload protection: 250V DC or AC(valid value)

4. Operation Guide

4.1 Reading Hold

When measuring, if you need to hold the reading, you can press the "H" key to display the value of the monitor

Will be locked, press the "H" key again, can release the reading holding state.

4.2 Frequency and Duty cycle switching

4.2.1 Instrument in voltage and current range LCD displays the measured AC voltage and frequency of AC current signal.

4.2.2 The meter displays the duty ratio of the measured voltage and current signal at "Hz/ %".

4.3 Function Switching

4.3.1 In "  ", press" SEL" key, will be in resistance, diode, on-off detection, capacitance Four gear cycle switch.

4.4 Back light source and tongs lighting

4.4.1 In the process of measurement, if the ambient light is too dark to make the reading difficult, you can press" ☼ "Button to turn on the backlight and turn it off automatically after 30 seconds.

4.4.2 Press the " ☼ " key during this period to turn off the backlight.

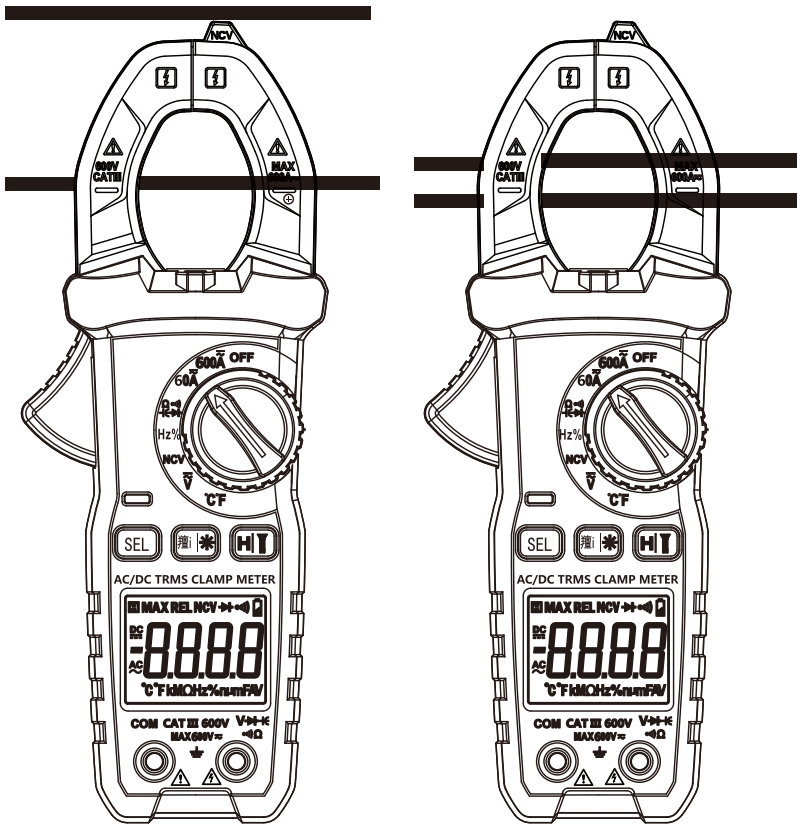
4.5 Automatic Shutdown

4.5.1 If there is no operation within 15 minutes after startup, the instrument will automatically shut down to save power. 1 minute before the shutdown, the buzzer has three prompts, and the shutdown begins after one long sound The state of sleep.

4.6 AC current measurement

warning

Danger of electric shock.
Remove the marker from the meter before measuring with the current clamp.



proper operation **faulty operation**

4.6.1 Range switch in 60A or 600A range position. This is the AC current measurement state.

4.6.2 Hold the trigger, open the head of the pliers, and clamp a wire of the measured line into the pliers. In LCD Reading on the monitor.

warning

• Clamping two or more wires of the line under test at the same time cannot obtain correct measurement results.
• For accurate reading, the conductor under test should be centered on the current clamp as far as possible.
• " ⚠ " indicates that the maximum input current is 600A (relative) and the DC current is 600A

4.7 DC current measurement

warning

Danger of electric shock.
Remove the marker from the meter before measuring with the current clamp.

4.6.1 Range switch in 60A or 600A range position. This is the AC current measurement state.
4.6.2 Press "SEL" to enter the DC current measurement, and press "REL" to return the base number before measurement.
4.6.3 Hold the trigger, open the head of the pliers, and clamp a wire of the measured line into the pliers. In LCD Reading on the monitor.

warning

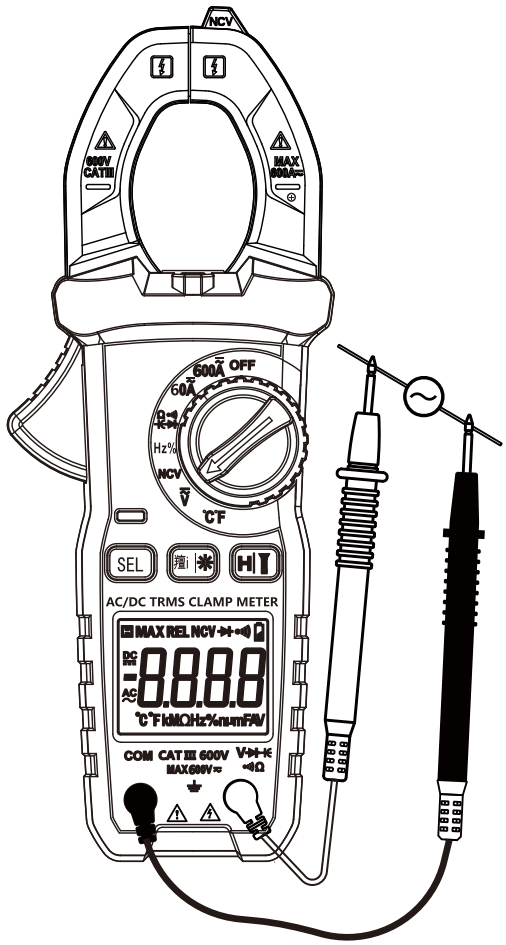
- **Clamping two or more wires of the line under test at the same time will not give correct measurement results.**
- **For accurate reading, the conductor under test should be centered on the current clamp as far as possible.**
- **"⚠ " indicates that the maximum input current is 600A (relative) and the DC current is 600A.**

4.8 AC Voltage Measurement

warning

Danger of electric shock.
Take extra care to avoid electric shock when measuring high voltages.
Do not input a voltage higher than AC600V RMS.

4.8.1 Inserting the black watch pen into the COM jack Insert the red marker into the INPUT jack.
4.8.2 The range switch is placed in V gear of AC voltage.
4.8.3 Connect the marker to both ends of the voltage source or load Take measurements and read them on the LCD.



4.9 DC Voltage Measurement

warning

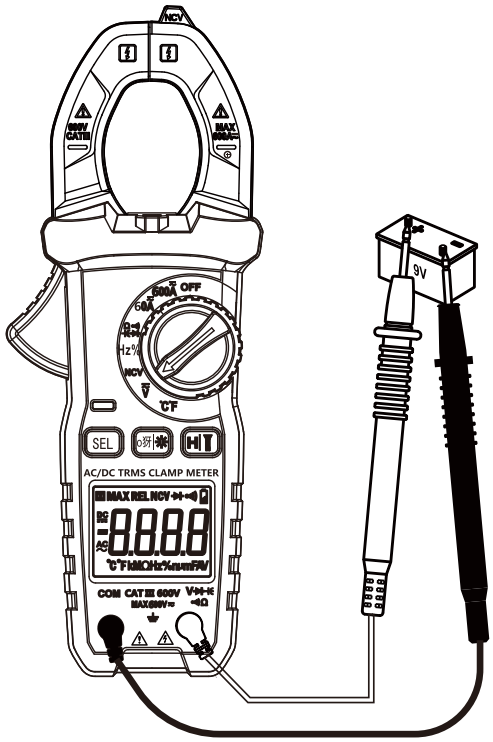
Danger of electric shock.
Take extra care to avoid electric shock when measuring high voltages.
Do not input voltage higher than DC600V.

4. 9 .1 Insert the black pen into the COM jack and the red pen into the INPUT jack.

4. 9 .2 The range switch is placed in the DC voltage V, abusive position.

4. 9 .3 Connect the marker to both ends of the voltage source or load for measurement.

4. 9 .4 Reading on the LCD. The polarity display will indicate the polarity of the end to which the red marker is attached.



warning

• In the mV range, with the input open, the meter may have a pulsating reading, which isNormally, this is due to the high sensitivity of the instrument, when the pen is connected to the measured electricity In the road, you will get the true measurement.

• "" Indicates that the maximum input voltage is 600V DC.

• If the meter takes a reading greater than 600V DC, the meter will display "OL" and emit
The alarm went "Wow!"

4.10 Frequency Measurement

4.10.1 Frequency Measurement with pliers (through A) :

warning

Danger of electric shock.
Remove the marker from the meter before measuring with the current clamp.

4.10.1.1 Range switch in the 6A/60A/ 600A range position.

4.10.1.2 Hold the trigger and open the head of the pliers, and clamp one conductor of the measured line into the pliers.

4.10.1.3 Press the "Hz/ %" key to switch to the frequency measurement state.

4.10.1.4 Reading on the LCD monitor.

warning

• Clamping two or more wires of the line under test at the same time will not give correct measurement results.

• Frequency measurement range is 10Hz-1kh z, if the measured frequency is less than 10Hz, LCD Display "00.0"; It is possible to measure frequencies higher than 1kHz, but measurement is not guaranteed Accuracy.

• ": indicates that the maximum input current is 600A AC (valid).

4.10.2 Through V Gear:

warning

Danger of electric shock.

Take extra care to avoid electric shock when measuring high voltages.

Do not input voltage higher than AC600 V RMS.

4.10.2.1 Insert the black pen into the COM jack and the red pen into the INPUT jack.
4.10.2.2 Range switch in V gear of AC voltage.
4.10.2.3 Press "Hz/ %" to switch to the frequency measurement state.
4.10.2.4 Connect the marker to the signal source or both ends of the load for scene measurement and read on the LCD.

warning

• Frequency measurement range is 10HZ-10khz. If the measured frequency is lower than 10Hz, it will be displayed 00.0; It is possible to measure frequencies higher than 10kHz, but accuracy is not guaranteed.
• " ⚠ " Indicates that the maximum input voltage is 600V AC (valid value).

4.10.3 Through Hz/% :

warning

Danger of electric shock.
Take extra care to avoid electric shock when measuring high voltages.
Do not enter a voltage higher than the AC 250V RMS.

4.10.3.1 Insert the black pen into the COM jack and the red pen into the COM jack IN PUT.
4.10.3.2 Range switch in Hz/ DUTY position.
4.10.3.3 Connect the marker to both ends of the signal source or load for measurement.
4.10.3.4 Reading on the LCD.

warning

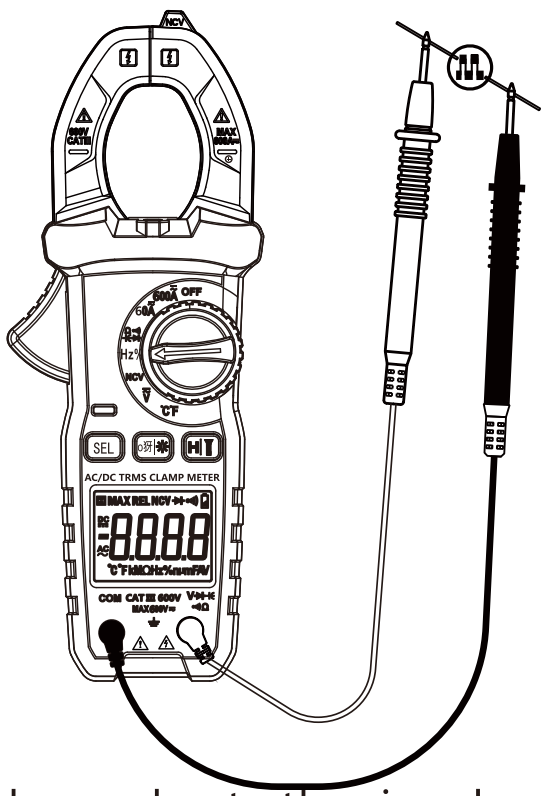
The measurement range of frequency is 10HZ-10mhz. If the measured frequency is lower than 10Hz,"00.0" is displayed. Measuring frequencies greater than 10MHz is possible, but not guaranteed Accuracy of measurement.

4.11 Duty Cycle Measurement

warning

Danger of electric shock.
Take extra care to avoid electric shock when measuring high voltages.
Do not input voltage higher than AC250V RMS.

4.11.1 Insert the black pen into the COM jack and the red pen into the INPUT jack.
4.11.2 Range switch in Hz/% position.



4.11.3.4 Connect the marker to the signal source or both ends of the load for measurement and read on the LCD.

warning

The measurement range of duty cycle is 10-99%. If the duty cycle measured is less than 10%, then"UL" is displayed. If the duty ratio is higher than 99%, "OL" is displayed.
The frequency range of the input signal is 10-10 KHZ, and the signal above 10 KHZ is measured Duty cycle is possible, but measurement accuracy is not guaranteed.

4.12 Resistance Measurement

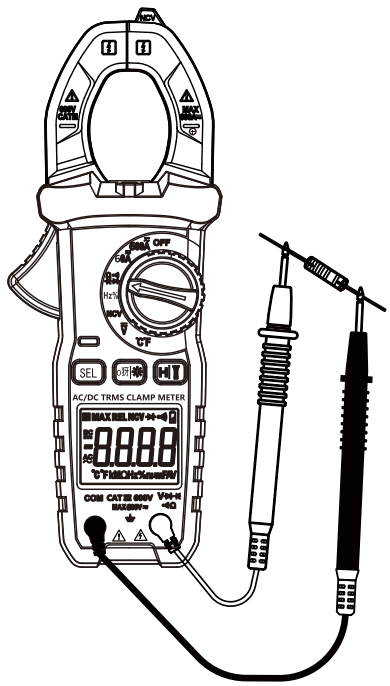
warning

Danger of electric shock.
When measuring the impedance on the line, the circuit power supply should be determined to be off, the capacitor on the line Discharge completely.

4.12.1 Inserting the black watch Pen into the COM Jack
Insert the red marker into the INPUT jack.
4.12.2 Range switch in " " position,
At this time, the meter is in resistance measurement state.
4.12.3 Connect the marker to both ends of the resistance or line under test Take measurements and read on the LCD display.

Note:

1) When the input is open, the LCD will display "OL" super Range state.
2) If the resistance of the measured resistance is higher than 10MΩ,The meter may take a few seconds to stabilize the reading,This is normal for high resistance readings.



4.13 Temperature Measurement

Switch the rotary switch to ° C / ° F and insert the thermocouple probe into the input socket The positive

terminal is connected to the red input terminal. The main display displays the temperature measured in degrees Celsius, The secondary displays the Fahrenheit value of the measured temperature.

4.14 Diode test

4.14.1 Insert the black pen into the COM jack and the red pen into the I NPUT jack.

4. 14.2 Range switch in the " " cutting position. Press SEL button to switch to " " test state.

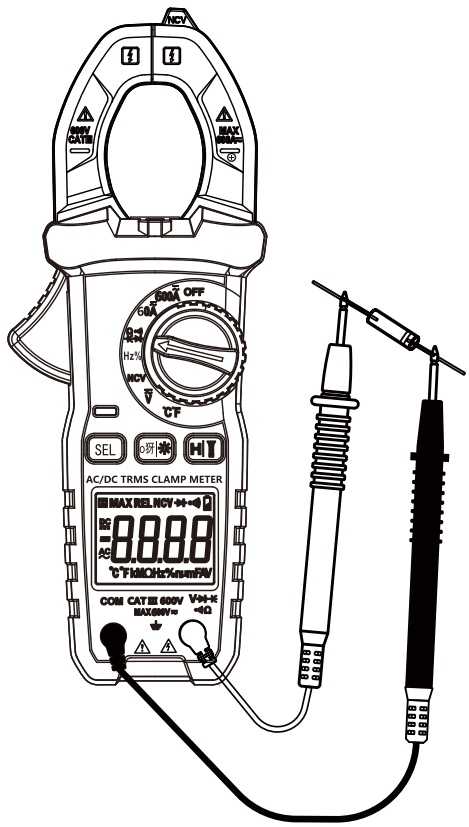
4.14.3 Connect the red watch pen to the diode anode and the black watch pen to the diode cathode for testing.

4.14.4 Reading on the LCD.

warning

The meter shows an approximation of the diode forward voltage drop.

If the pen is reversely connected or the pen is open, the LCD displays "OL".

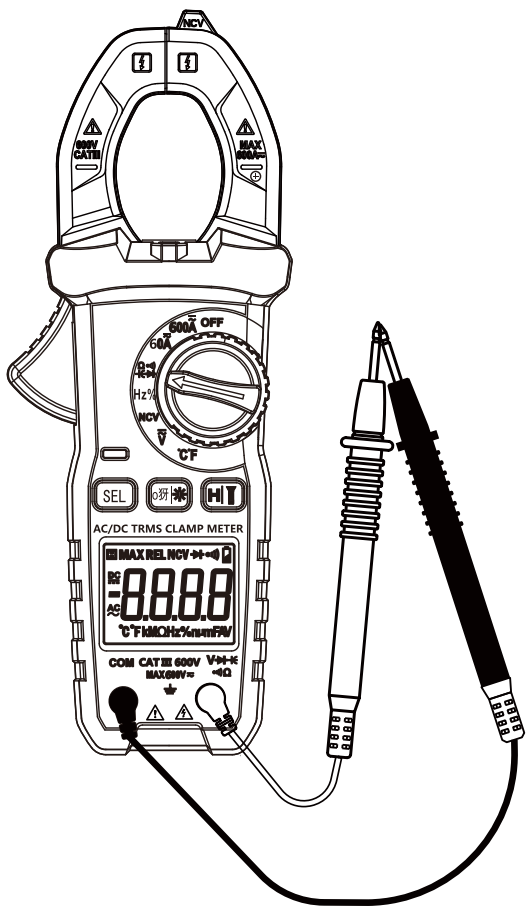


4.15 Line connection test

warning

Danger of electric shock.
When testing the circuit on and off, the power should be determined The circuit power supply is disconnected and the capacitor on the circuit is finished Total discharge

4.15.1 Insert the black watch pen into the COM jack, red The pen is inserted into the INPUT jack.
4.15.2 Range switch in Ω position.
4.15.3 Press "SEL" button to switch to line connection test state.
4.15.4 Connect the marker to both ends of the line for measurement. If the resistance of the line under test is less than 50 ohms A buzzer inside the meter will sound.
"OL" is displayed if the marker is open or the resistance of the line under test is greater than 600Ω.



4.16 Capacitance Measurement

warning

Danger of electric shock.
To avoid shock, discharge the capacitor completely before measuring it.

4.16.1 Insert the black pen into the COM jack and the red pen into the INPUT jack.

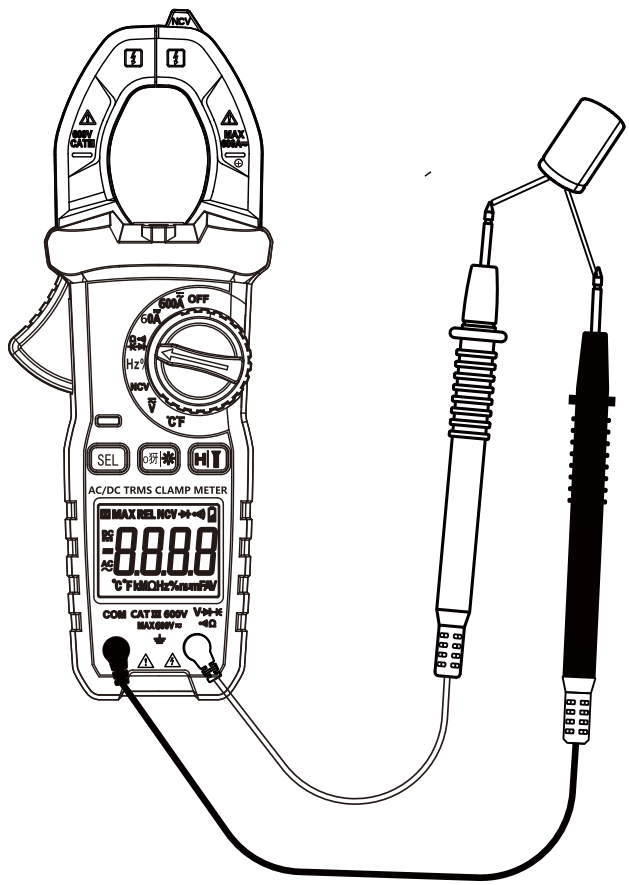
4.16.2 Range switch, abusive in the "⊣◁)) Ω" file. Press "SEL" button to switch to capacitance test state.

4.16.3 After the capacitor is completely discharged, connect the marker to both ends of the measured capacitor for measurement.

4.16.4 Reading on the LCD.

Pay attention:

A certain amount of time is required to stabilize the reading when measuring large capacitance (60μF and 60mF).



5 maintenance

5.1 Replacing a Battery

warning

Before opening the battery cover of the meter, remove the marker from the measuring circuit to avoid Danger of electric shock.

5.1.1 If the "▭" symbol appears, it indicates that the battery should be replaced.
5.1.2 Unscrew and remove the fastening screw from the battery cover of the instrument.
5.1.3 Replace the old battery.
5.1.4 Install the battery cover as originally installed.

Pay attention:
The polarity of the battery cannot be reversed.

6: Attachments

❶ marker	Note grade: 1000V 10A	one pay
❷ Instruction manual		A book
❸ Thermocouple		One payment

NOYAFA® 精明鼠®

深圳市诺方舟电子有限公司

编号	201	202	301	302	303	304	305	比例：	1:1	品号：	
类目	塑胶件	五金类	镜片	PVC贴纸	不干胶贴	说明书	包装盒	单位：	mm		
选择						√		设计	CZG	品名：	NF-6304说明书骑马订英文-V1 20240710
306	307	308	309	310	311	312	313	核准			
彩卡	吸塑	工具包	PE袋	纸箱	宣传单	合格证	打印标签	标准：	√	文件类型：	打样文件
								定制：			

制作日期	2024.07.10	样式	骑马订	印刷材质	128g双铜纸
印刷要求	单色	页码	28P	变更记录	
尺寸大小	106×75mm	版本	V1		