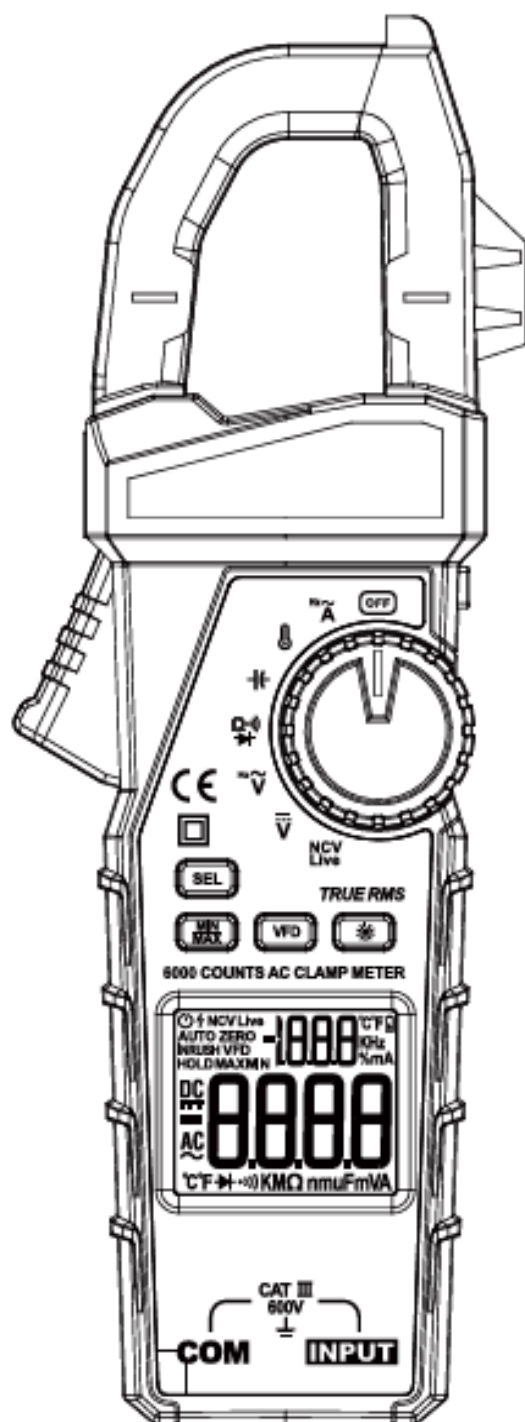


USER'S MANUAL



Digital Clamp Meter

 Please read this manual carefully before using this product, and keep it properly for future use!

Introduction

-This meter is a 4000 counts automatic range clamp meter. which has the functions of true RMS measurement. data Hold. Flashlight. Backlight. automatic shutdown. low battery indication and full-range overload protection. etc.

-The meter can be used to measure AC current. AC/DC voltage. resistance. capacitance. Diode. continuity. frequency. NCV detection. and Live wire identification. It is an ideal multifunctional product for professionals. factories. schools. meter lovers or DIY users.

1.Safety information



When using the meter. incorrect operation may cause electric shock or damage to the meter. Please read the manual carefully before use and follow the operating instructions.

- * Upon receiving the meter. check for any damage to the meter and accessories during transportation.
- * Please comply with local and national safety regulations for use. during testing in environments with exposed live conductors. personal protective equipment must be used to prevent electric shock and arc flash injuries.
- * Before use. check that the meter casing is undamaged. that the probe insulation is intact and conductive. that the meter battery cover is closed and the screws are tightened. and that the function range is correct.
- * Do not exceed the range protection value for measurements. or rotate the position during measurement.
- * When connecting the meter to the measurement circuit. fingers must be behind the probe protective device. and contact with the probe tips (metal parts) is prohibited.

- * If the measured voltage is higher than DC 60V or AC 30V (RMS). the operation should be cautious.the maximum voltage measured at the input terminal shall not exceed AC/DC 600V.
- * Before rotating the switch to change the measuring function. remove the probe from the measured circuit.
- * When measuring the current. please pull out the test probe from the COM end and the INPUT end.
- * Non-professional maintenance personnel are forbidden to open the bottom shell to adjust or repair the meter.
- *Before measuring the resistance. capacitance. diode. or continuity test. disconnect the power supply from the measured circuit and discharge all high-voltage capacitors in the circuit.
- * Do not use the meter clamp to measure AC current with load greater than 600A.

2.Marks

Signs	Description
	AC voltage
	DC voltage
	Warning! Please read the relevant "safety operation specifications" before use.
	Grounding
	Double insulation
	Warning!
	Comply with european union (EU) standards
CAT III	Overvoltage (installation) level III and pollution level 2 according to IEC-61010 standard. which refers to the level of pulse withstand voltage protection provided.

3. Symbols

3.1 Display

Symbol	Description
	Automatic shut-down
NCV	Non-contact voltage detection
Live	Live wire identification
HOLD	Data hold
	low battery indication
	Alternating current voltage
	Direct current voltage
mV	mV
V	V
-	Negative pole
	Continuity test
	Diode
nF	nF
uF	uF
mF	mF
Ω	Ω
K	Kilo
M	Mega
HZ	Frequency
A	Current
OL	Overload
°C	Celsius
°F	Fahrenheit

3.2 Button

Buttons	Description
SEL	Selection function
MAX/MIN	Maximum/minimum value locking
VFD	Variable frequency measurement
	Short press to turn on or off the backlight
HOLD ()	Short press to hold the data/long press to turn on or off the flashlight

3.3 Input terminal

Input terminal	Description
COM terminal	Insert the black probe
INPUT terminal	Insert the red probe

4. Technical parameters

Automatic range	Yes
Full range overload protection voltage	600V
Maximum input voltage at COM terminal and INPUT terminal	AC/DC 600V
show	LCD
Maximum display value	5999
Over-range display	0L or-0L
Sampling time	About 3 times/second
Automatic shutdown time	About 15 minutes
Backlight automatic off time	About 3 minutes
Flashlight automatic off time	About 5 minutes
Power Supply	2x1.5V AAA batteries
Working temperature	0℃~50℃
Storage temperature	-10℃ ~ 60℃
Size	222x75x37mm
Jaw size	30mm
Weight	About 242g (without battery)

5. Functions

- * SEL function conversion key: used to convert NCV. Live. Resistance. on/off. diode mode. °C/°F.
- * Automatic shutdown function: The meter automatically enters sleep mode after about 15 minutes of inactivity. press any key to restart the device.
- * Cancel the automatic shutdown function: turn the switch to the OFF position. press the SEL button and turn the switch. the buzzer will emit three short and one long “beep” sound. the symbol () will disappear. and the automatic shutdown function will be canceled. Turn the switch to the OFF position and restart again to restore the automatic shutdown function.
- * Low Battery indication: When () appears on the screen. it means that the battery is low. please replace the battery in time to avoid affecting the measurement data.
- * HOLD Button: short press to hold the measurement data. and the buzzer beeps every two seconds. indicating that the “LCD” display has been locked. Rotate the position or short press the HOLD button again to exit the lock. and long press to turn on or off the flashlight.
- * HZ Function: In the AC voltage and current modes. the instrument will display the frequency of the current measured voltage or current simultaneously during measurement.

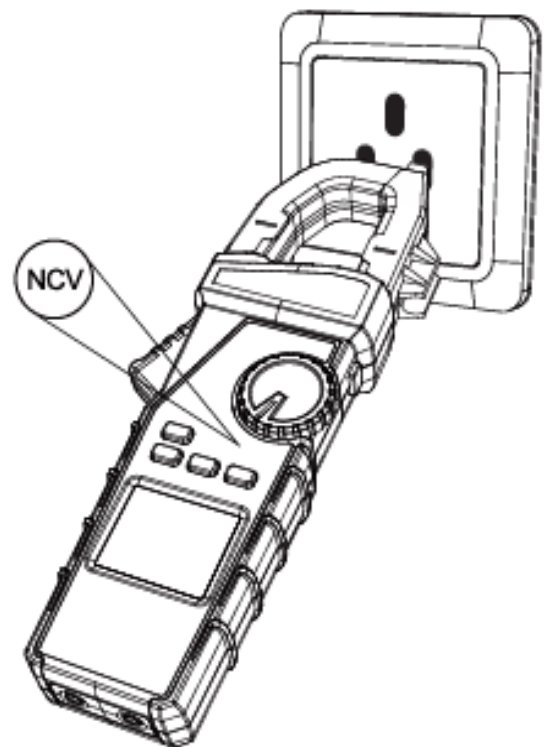
6. How to use

6.1 NCV detection

Turn the switch to the “NCV” position. the LCD will display the “NCV” symbol. and place the top of the meter clamp with the “NCV” logo near the conductor to detect voltage signals. when the detected voltage is low. the screen will display ---L. and when the detected voltage is high. the screen will display---H. at the same time. the red backlight lights up. and the buzzer gives an urgent alarm sound.

Notes:

- ① Even if there is no indication. voltage may still exist. Don't rely on NCV detection to judge whether there is voltage on the conductor.
- ② The detection process may be influenced by factors such as socket design. insulation thickness and types.
- ③ Environmental interference (such as flash. motor. electromagnetic interference. etc.) during use may trigger NCV detection incorrectly.

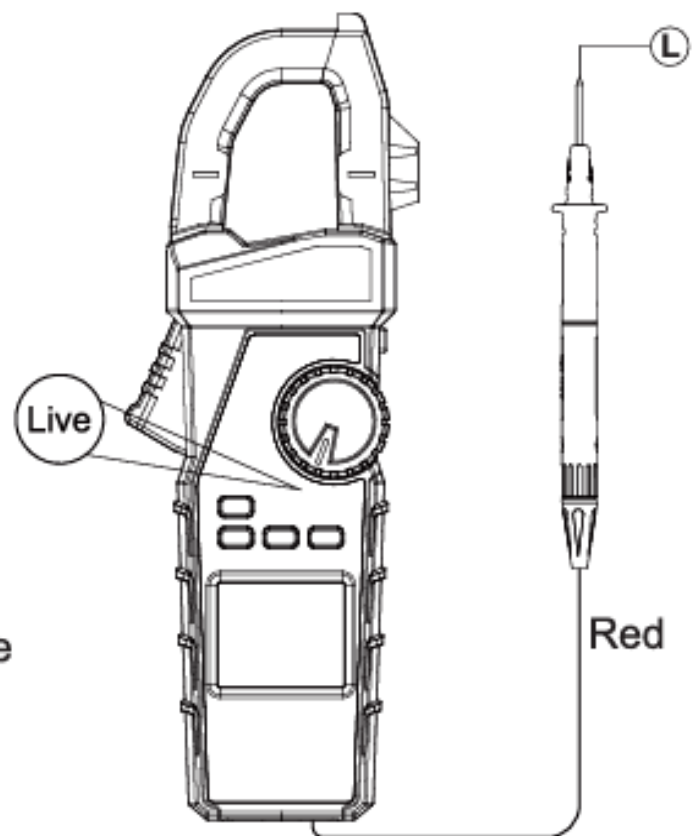


6.2 Live wire identification

Turn the switch to the “Live” position. and the LCD will display the “NCV” symbol. At this time. short press the “SEL” button to switch to “Live” Live wire identification function. A single red probe with “Live” on the screen will be inserted into the INPUT terminal. and the screen will display “Live” while the red backlight will light up. The buzzer will give an alarm sound. and the tested wire will be a live wire. otherwise it will be a neutral wire or a ground wire.

Notes:

- ①. Please test on a known live conductor before using Live to ensure the meter is in good working condition.
- ② When testing the live wire of the socket. if other electrical equipment is connected to the socket. the measurement result may be affected. Please unplug other electrical equipment from the socket before testing.

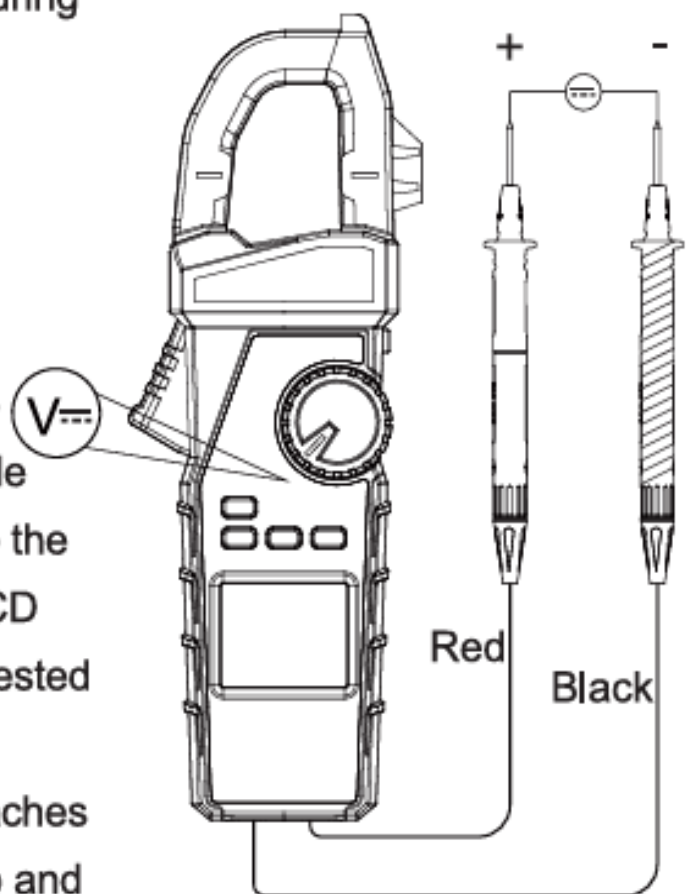


6.3 DC voltage

- (1) Turn the switch to the “ $\overline{V}$ ” position. and the LCD shows “**DC**”.
- (2) Connect the red and black probes to the circuit to be measured.

Notes:

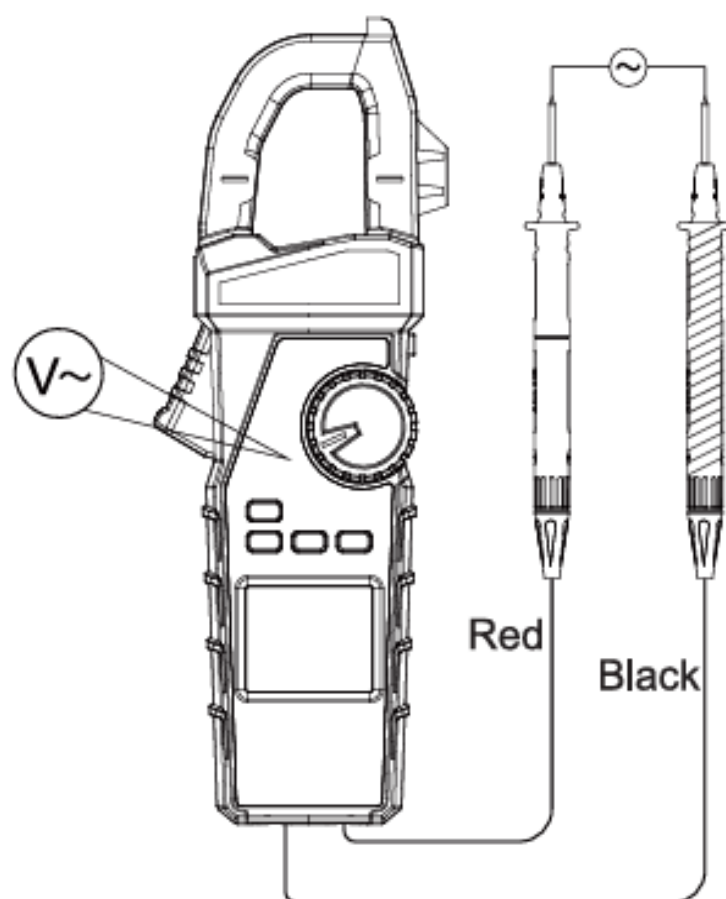
- ① If “-” is displayed on the screen during measurement. it means that the red probe is connected to the negative electrode and the black probe is connected to the positive electrode. Please refer to the DC voltage characteristics. When the red probe is connected to the positive electrode and the black probe is connected to the negative electrode. the “-” on the LCD disappears. and the DC voltage is tested correctly.
- ②. When the measured voltage reaches DC 600V. the red backlight lights up and the buzzer gives an alarm prompt sound. indicating that the measured voltage has reached the maximum range.



6.4 AC voltage

(1) Turn the switch to the “ $\text{Hz} \sim \text{V}$ ” position. the symbol “ AC ” will be displayed on the screen. and the meter is in AC voltage measurement mode.

(2) Connect the red and black probes to the circuit to be measured.



Notes:

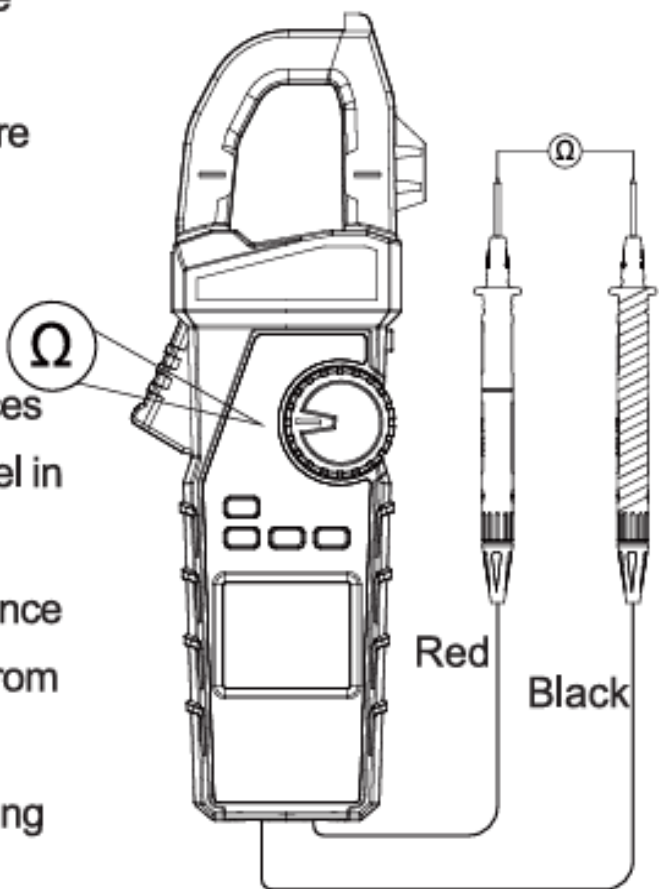
①. When the measured voltage reaches AC 600V. the red backlight lights up and the buzzer gives an alarm prompt sound. indicating that the measured voltage has reached the maximum range.

6.5 Resistance

- (1) Turn the switch to the “ Ω ” position. and the screen shows “M Ω ”. the meter is in the resistance measurement mode.
- (2) Connect the red and black probes to the resistance to be measured.

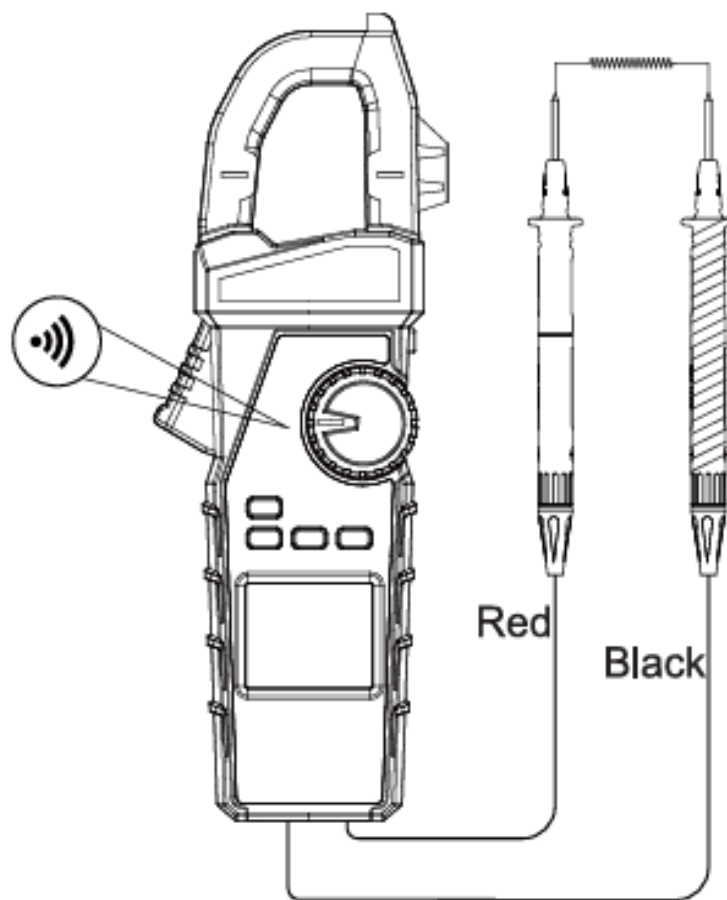
Notes:

- ①. Do not measure resistance with the circuit powered. all high-voltage capacitors should be discharged before measurement.
- ②. The measured resistance on the circuit will be different from the actual resistance value. because other devices will be connected in series or in parallel in the on-line measurement. resulting in measurement error. Measuring resistance in a circuit may yield different values from the actual resistance due to other components in series or parallel. leading to measurement errors.
- ③ When the meter is open or the measured resistance is too large. the screen displays “OL”. indicating that the measured value is out of range.



6.6 Continuity test

- (1) Turn the switch to the “ Ω ” position.
- (2) Press SEL button to select “ $\cdot$ ” position.
- (3) Connect the red and black probes to the circuit to be measured.

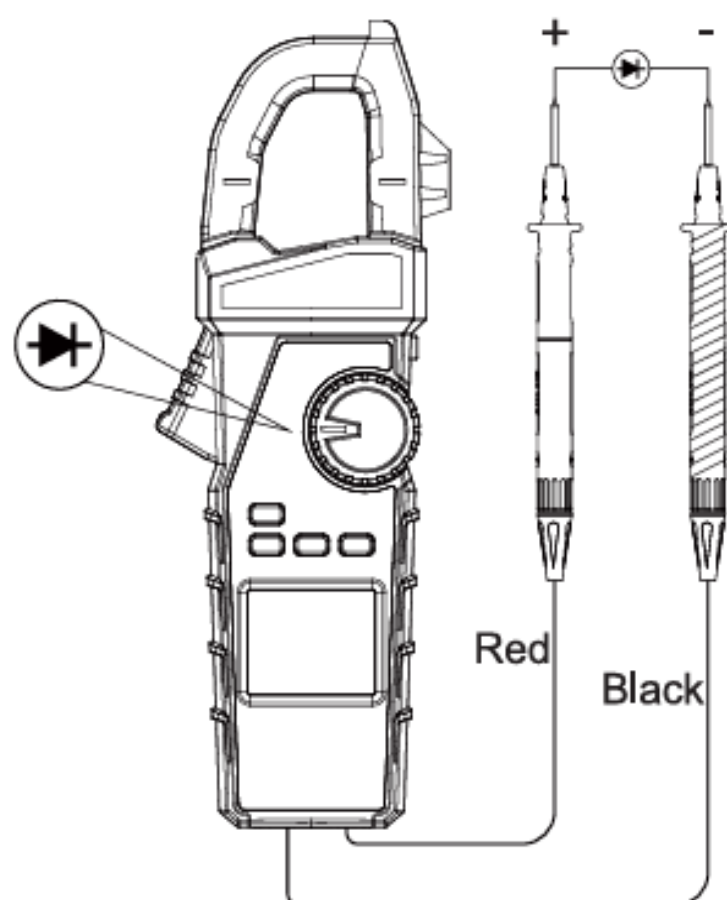


Notes:

- ①. If the measured line resistance is less than about 50Ω . and the buzzer will give a continuous alarm sound.

6.7 Diode

- (1) Turn the switch to the “ Ω ” position.
- (2) Press SEL button to select “ $\rightarrow|+$ ” position.
- (3) Connect the red and black probes to the diode under test.

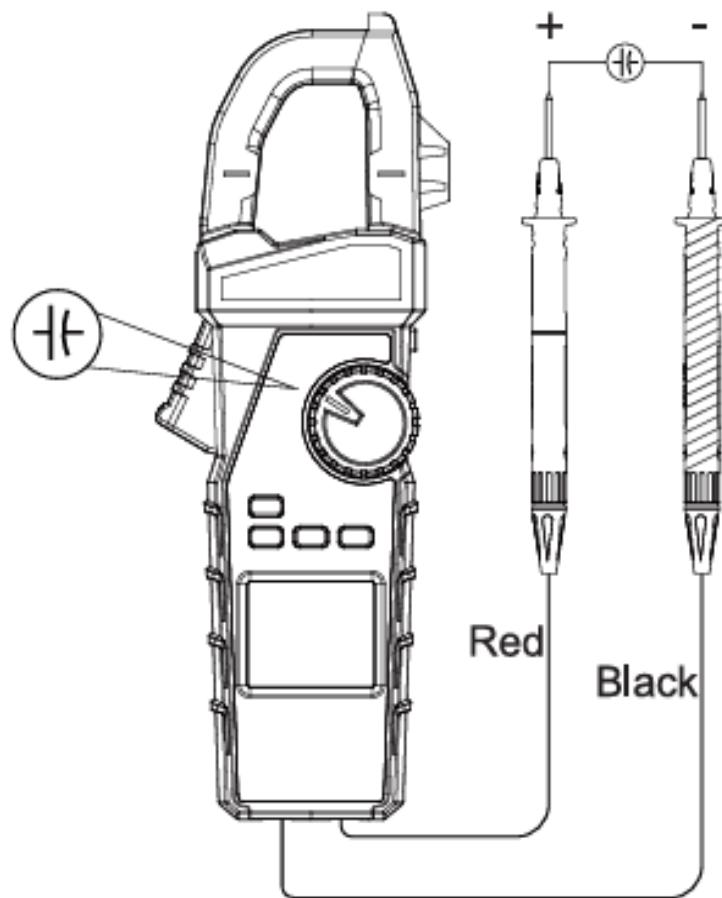


Notes:

- ① When measuring a conventional diode. the meter shows the forward voltage drop of the diode to be measured. but it is not conductive in the reverse direction.
- ②. The load voltage of the diode position is about 4V/ the current is about 1.2mA.

6.8 Capacitance

- (1) Turn the switch to the (⏏) position.
- (2) Connect the red and black probes to the capacitor to be measured.

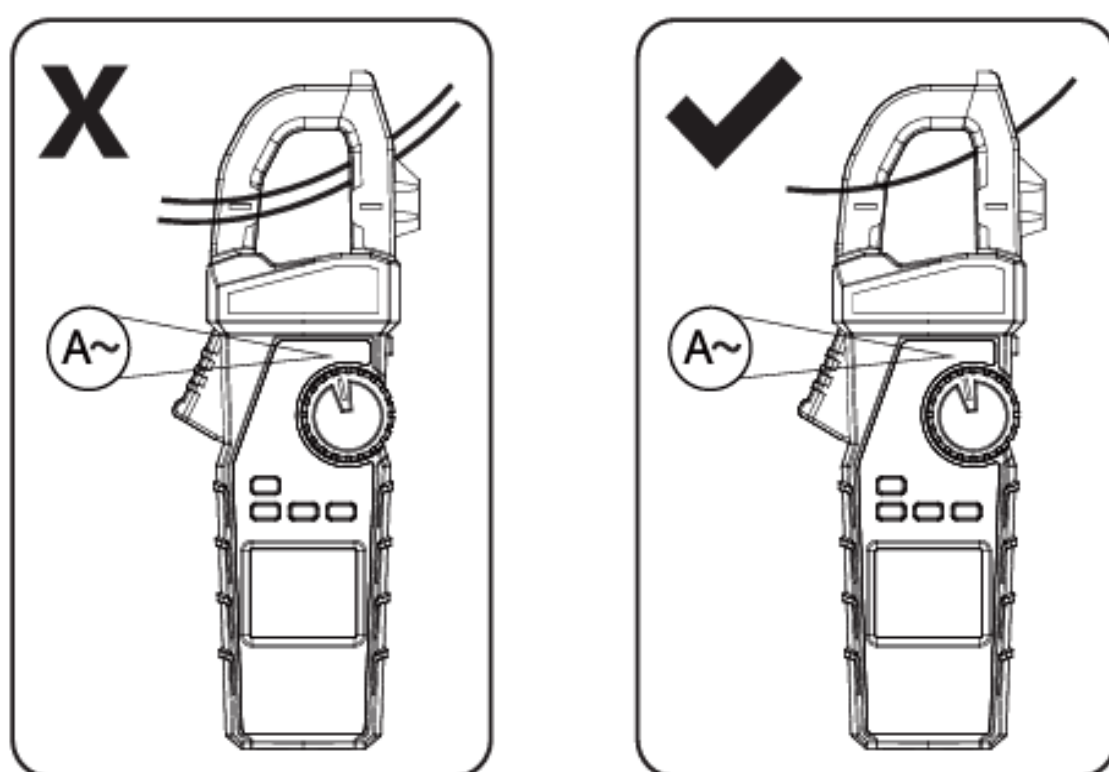


Notes:

- ①. Do not measure capacitance with the circuit powered. all high-voltage capacitors should be discharged before measurement.
- ②. Measuring capacitance in a circuit may yield different values from the actual capacitance due to other components in series or parallel. leading to measurement errors.

6.9 AC current

- (1) Turn the switch to the A position. and the screen displays “**AC**” the current.
- (2) Hold the trigger of the meter and open the jaw. and place the single conductor of the line to be measured in the center of the clamp head. When the jaw is completely closed. the meter displays the current value of the measured load.



Notes:

- ① To measure the current. only a single conductor (live or neutral wire) is needed. and two or more conductors cannot be placed correctly. and the load must be in working condition. otherwise the current value of the load cannot be measured.
- ② The wire to be measured should be in the center of the clamp head. and the maximum measured AC current is 600A/50Hz~60Hz.

6.10 Temperature

(1) Rotate the switch to the () position. and the instrument will automatically measure the current ambient temperature. press the SEL key to convert between celsius and fahrenheit.

(2)When measuring the temperature of an object or liquid. insert the k-type thermocouple probe red into the "INPUT" input terminal and black into the "COM" terminal. and the thermocouple probe contacts the measured object for measurement.

7. Technical indicators

7.1 DC voltage

Measuring range	Resolution ratio	Accuracy
600mV	0.1mV	± (0.8% reading + 3digits)
6V	0.001V	
60V	0.01V	
600V	1V	± (1.0% reading + 3digits)

Input impedance: 10MΩ

Maximum input voltage: DC 600V

7.2 AC voltage

Measuring range	Resolution ratio	Accuracy
6V	0.001V	± (1.0% reading + 5digits)
60V	0.01V	
600V	0.1V	± (1.2% reading + 5digits)

Input impedance: 10MΩ

Maximum input voltage: AC 600V

Frequency response: 40Hz~1KHz.

7.3 Resistance

Measuring range	Resolution ratio	Accuracy
600Ω	0.1Ω	± (1.2% reading + 3digits)
6kΩ	0.001kΩ	
60kΩ	0.01kΩ	
600kΩ	0.1kΩ	
6MΩ	0.001MΩ	± (2.0% reading + 5digits)
60MΩ	0.01MΩ	

Overload protection: 600V

Open circuit voltage: about 1V

7.4 Diode

Function	Measuring range	Test condition
Diode test 	0-4V	Open circuit voltage: about 4V/ current: about 1.2mA. The meter shows the approximate value of diode forward voltage drop.

Overload protection: 600V

7.5 Continuity test

Function	Measuring range	Description	Test condition
	600Ω	If the resistance is less than 50Ω. the buzzer will give an alarm.	Open circuit voltage: about 2V

Overload protection: 600V

7.6 Capacitance

Measuring range	Resolution ratio	Accuracy
6nF	0.001nF	±(4.0% reading + 5digits)
60nF	0.01nF	
600nF	0.1nF	
6uF	0.001uF	
60uF	0.01uF	
600uF	0.1uF	
6mF	0.001mF	±(5.0% reading + 10digits)
60mF	0.01mF	

Overload protection: 600V

7.7 AC current

Measuring range	Resolution ratio	Accuracy
6A	0.001A	±(2.0% reading + 5digits)
60A	0.01A	
600A	0.1A	±(3.0% reading + 8digits)

Maximum input current: AC 600A

Frequency response: 50Hz~ 60Hz

7.8 Temperature

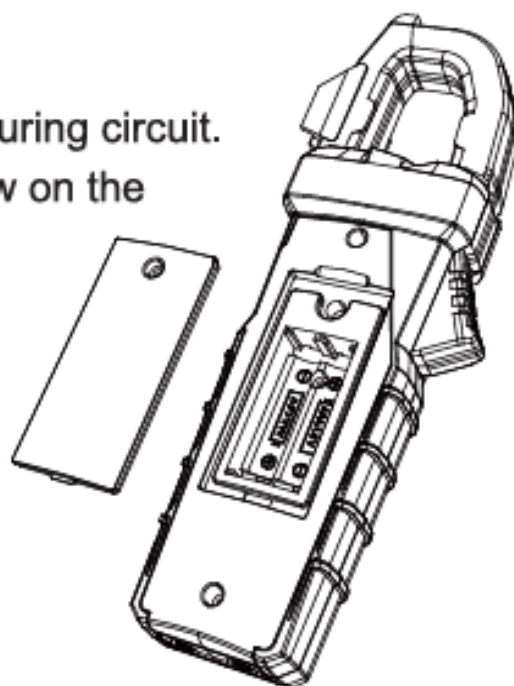
Measuring range	Resolution ratio	Accuracy
-50~1000°C	1°C	±(2.0% reading + 2digits)
-58~1832°F	2°F	±(2.0% reading + 4digits)

Overload protection: 600V

8. Battery replacement

Before opening the battery cover to replace the battery, please turn the meter off and check that the test probes have been disconnected from the measuring circuit.

- ①. Turn off the meter
- ②. Remove the test probe from the measuring circuit.
- ③ Use a screwdriver to remove the screw on the back of the meter's battery cover.
- ④. Remove the battery cover.
- ⑤. Remove the old battery.
- ⑥. Replace with the new 1.5Vx2 AAA batteries
- ⑦. Install the battery cover and tighten the fixing screws.



9. Accessories

1. Clamp meter	x1
2. User Manual	x1
3. Test probe	x1
4. 1.5Vx2 AAA battery	x2
5. Storage bag	x1
6. Thermocouple	x1

USER'S MANUAL

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