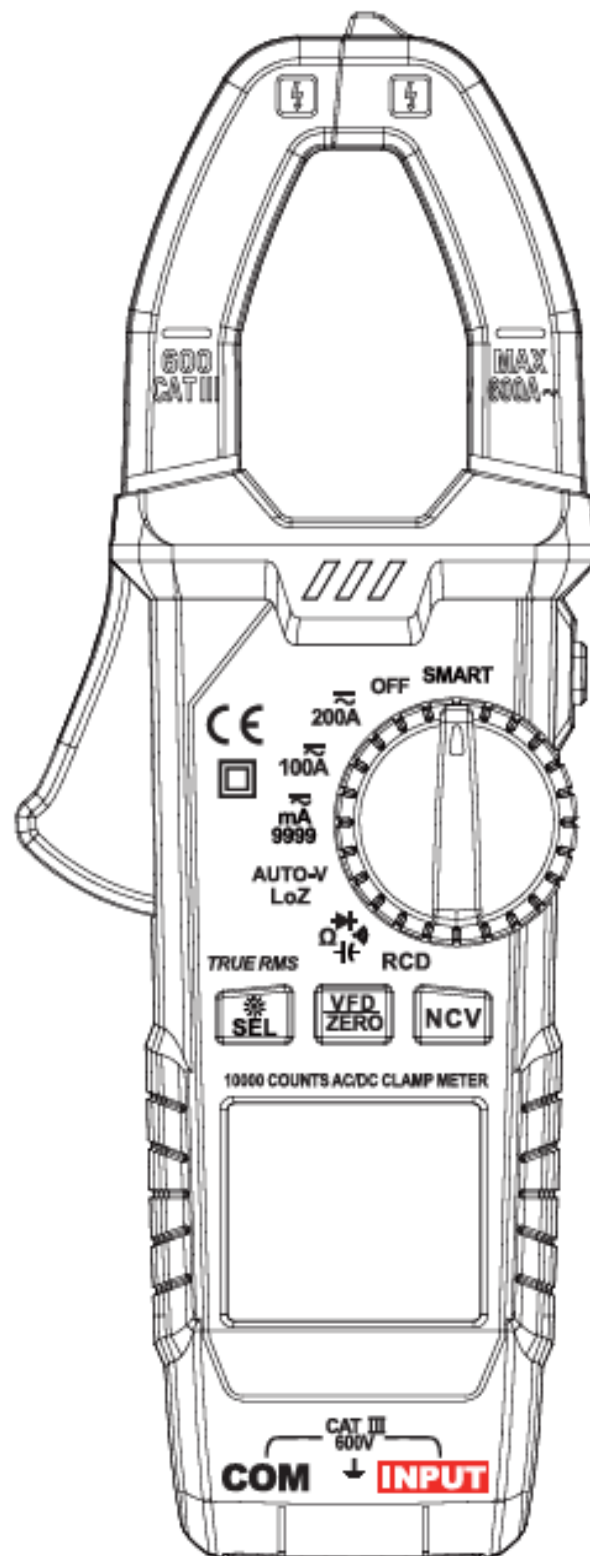


USERS MANUAL



DIGITAL CLAMP METER

CATALOG

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This instrument is a 10000 counting, smart, automatic and portable digital AC/DC clamp meter, which can be used to measure AC/DC, AUTO-V AC/DC voltage, Smart measurement mode, VFD measurement, resistance, capacity, line continuity, diode, NCV non-contact AC voltage detection and RCD leakage protection disconnection test.

Whether used by professionals, factories, schools, enthusiasts or families, it is an ideal multifunctional instrument.

1.SAFETY INFORMATION

1.1 Preparation

1.1.1 When using the instrument, the user must abide by the standard safety rules:

1.1.2 The probe must be in good condition.

1.2 Use

1.2.1 When using, you must use the correct function and range.

1.2.2 Do not measure beyond the protection range of each range.

1.2.3 If the measured voltage is higher than 60V DC or 30V AC, you should keep the finger behind the sheath device of the probe.

1.2.4 Before turning the changeover switch to change the measuring function, remove the probe from the circuit under test.

1.3 Marks

	Attention (important safety information, see the instruction manual)
	It can be used on dangerous live conductors.
	Double insulation protection (class II)
CAT III	refers to the level of pulse withstand voltage protection provided by overvoltage (installation) level III and pollution degree 2 according to IEC-61010 standard.
CE	Meet the European Community (EU) standards
	Ground

1.4 Maintenance

- 1.4.1 In order to avoid electric shock caused by wrong readings, when the instrument displays the symbol "", replace the battery immediately.
- 1.4.2 When the instrument is not in use, turn off the power supply and turn the changeover switch to the OFF position.
- 1.4.3 If the instrument is not used for a long time, take the battery out to prevent damage to the instrument.

2.SPECIFICATIONS

2.1 Overview

Full range overload protection.

Maximum allowable INPUT voltage between COM terminal and input terminal: 600V

Polarity indication: automatic indication, '-' indicates negative polarity.

Overrange display: 'OL' or '-OL'.

Automatic shutdown time: 15 minutes.

Battery undervoltage indication: LCD display  symbol.

Working temperature: 0°C ~ 40°C

Storage temperature: -10°C ~ 50°C

Dimensions: 20x7.5x3.5cm

Weight: 226g

2.2 Description of display symbols

Display symbols

Symbols	Description
	Battery undervoltage indicator/Low battery charge
	Automatic shutdown function
RCD	Leakage protection disconnection test
-	Negative electrode
	AC voltage
	DC voltage

	Disconnection test
	Diode test
LoZ	Low impedance voltage measurement
VFD	Frequency conversion measurement of AC voltage and current
NCV	Non-contact AC voltage detection
H	Reading hold mode
	Capacity measurement
Hz	Frequency display
mA/A	Current measurement

2.3 Description of buttons

Buttons	Description
SEL/ 	Function selection (short press)/backlight (long press for 2 seconds)
HOLD/ 	Data hold (short press)/flashlight switch (long press for 2 seconds)
VFD/ZERO	AC voltage and current frequency conversion/DC base reset button
NCV	Long press for 2 seconds for non-contact voltage test

2.4 Description of input socket

Input socket	Description
COM	The common input end is connected with a black probe.
V Ω    LOZ RCD Smart	The INPUT end is connected with the red probe.

3.OPERATION GUIDE

3.1 Routine operation

3.1.1 Reading holding mode/flashlight

Reading hold mode: short press can lock the measured reading on the display, change the measuring gear or short press HOLD button again to exit the reading hold mode, and long press for 2 seconds to turn on or off the flashlight.

3.1.2 Automatic shutdown function

1. Shut down automatically after about 15 minutes without any operation.
Press VFD button in automatic shutdown mode to restart.
2. Press SEL key to start, cancel the automatic shutdown function, and resume the automatic shutdown function after restarting.

3.2 Measurement Guide

This instrument adopts Smart/Automatic integrated design. When measuring AC/DC voltage, resistance and disconnection, you can choose Smart range measurement or automatic range measurement.

3.2.1 AUTO-V LoZ Automatic voltage measurement

- (1) Turn the rotary switch to the AUTO-V LoZ gear, and the metre is in low impedance measurement state, and automatically identifies AC voltage and DC voltage.
- (2) Insert the probe into the COM and INPUT end.
- (3) Connect the probe into the tested line for measurement.
- (4) When AC voltage is identified, short press VFD button to enter AC voltage frequency conversion measurement.

3.2.2 Capacity measurement

Measure the capacity:

1. Turn the rotary switch to $\frac{1}{f}$ gear, and press SEL to select capacity gear μF .
2. Insert the probe into the COM and INPUT end.

Note :

When measuring large capacity, it takes time to stabilize the reading.

3.2.3 Continuity/diode/resistance measurement

The metre is switched on and off by default, and the diode is automatically identified.

1. Turn the rotary switch to  gear.
2. When measuring diodes or disconnection, insert probes into COM and INPUT end.
3. When measuring a diode, the metre will display the forward voltage drop of the diode, and the normal diode should produce a forward voltage drop of 0.5V to 0.8V.
4. When the resistance of the circuit under test is less than about 30, the metre automatically switches to on-off measurement mode, the indicator light (red light) of the metre is always on, and the buzzer sounds continuously.
5. When measuring resistance, press SEL button to switch to Ω gear.

3.2.4 NCV test

Short press the NCV button in any gear to switch to NCV non-contact AC voltage detection. Close the top of the clamp head of the metre to the conductor. The metre judges the measured voltage according to the intensity of the detected voltage signal. For the low voltage the screen displays --L, for the high voltage, the screen displays --H, and the red indicator light and buzzer give out warnings with different frequencies.

3.2.5 Smart measurement mode

1. Turn the rotary switch to Smart gear, and the metre enters Smart measurement mode.
2. Insert the probes into COM and INPUT end.
3. In the Smart gear, without any conversion, contact the probe with the measured object, and the metre automatically identifies AC voltage, DC voltage, resistance and disconnection test.

3.2.6 VFD measurement

In AUTO-V LoZ AC voltage gear or AC current gear, short press VFD button to enter VFD (frequency conversion measurement) function, and then short press it to exit VFD function.

3.2.7 AC/DC current measurement

- (1) Set the range switch to mA or A gear, and press SEL button to switch AC and DC current according to the test requirements.
- (2) Open the jaw by holding the trigger, clamp a wire of the tested line in the center of the jaw, and completely close the left and right clamp heads.

Note:

- (1) It is only necessary to clamp a single wire to measure the current, and it is impossible to measure correctly by clamping two wires at the same time.
- (2) The tested wire is at the center of the clamp head.
- (3) The maximum input AC/DC current is 200A.
- (4) Short press VFD button in AC current mode to enter AC current frequency conversion measurement.
- (5) Ensure the accuracy of the measurement reading. Short press the ZERO button in the DC current mode to clear the low number caused by the electromagnetic interference in the use environment.

3.2.8 RCD measurement (Leakage protection disconnection test)

- (1) Insert the probe into the COM and INPUT end.
- (2) Set the range switch to the RCD range .
- (3) The probes are connected between the live wire and the ground wire respectively, and the leakage protector will trip at the moment of contact. If it is not tripped, it means that the leakage protector or the line is abnormal and needs to be repaired.

Note:

- (1) If no leakage switch is installed on the line, the measurement of this gear cannot be carried out to avoid accidents.

- (2) The measurement time of this gear should be controlled within 3 seconds, and long-term measurement cannot be performed.
- (3) The measured voltage cannot be higher than 250V/AC.

4. TECHNICAL INDICATORS

4.1 AUTO-V LoZ DC voltage

Range	Resolution	Accuracy
1V	0.01V	$\pm (0.5\% \text{ reading} + 3 \text{ digits})$
10V	0.01V	
100V	0.1V	
600V	0.1V	

(SMART)DC voltage

Range	Resolution	Accuracy
0.5-600V	0.1V	$\pm (0.5\% \text{ reading} + 4 \text{ digits})$

Input impedance: 1M

The maximum input voltage: 600V
the minimum measured voltage value: 0.5V.

4.2 AUTO-V LoZ AC voltage

Range	Resolution	Accuracy
1V	0.01V	$\pm (1.0\% \text{ reading} + 3 \text{ digits})$
10V	0.01V	
100V	0.01V	
600V	0.1V	

(SMART)AC voltage

Range	Resolution	Accuracy
1V-600V	0.1V	$\pm (1.0\% \text{ reading} + 7 \text{ digits})$

Input impedance: $1\text{M}\Omega$

The maximum input voltage: 600V.

Frequency response: 50Hz-100Hz

4.3 Automatic resistance

Range	Resolution	Accuracy
1000 Ω	0.1 Ω	$\pm(0.8\% \text{ reading} + 3 \text{ digits})$
10K Ω	10 Ω	
100K Ω	100 Ω	
1000K Ω	1K Ω	
10M Ω	10K Ω	

(SMART)Resistance

Range	Resolution	Accuracy
0-6K Ω	0.1 Ω	$\pm(1.2\% \text{ reading} + 5 \text{ digits})$

Overload protection: 250V open circuit voltage: 1.2V

4.4 Diode

Function	Range	Resolution	Test condition
Diode test 	0.15V-2.5V	0.001V	Forward DC current: about 1mA; Open circuit voltage: about 2.5V. The approximate value of diode forward voltage drop is displayed on the display.

Overload protection: 250V

4.5 Buzzer continuity

Function	Range	Resolution	Description	Test condition
	100Ω	1Ω	When the resistance is less than 30, the buzzer sounds.	Open circuit voltage: about 1V

Overload protection: 250V

4.6 Capacity

Range	Resolution	Accuracy
1uF	0.1uF	± (3.5%reading+15digits)
10uF	0.1uF	
100uF	0.1uF	
1000uF	1uF	
6mF	1uF	

Overload protection: 250V

4.7 AC Current

Range	Resolution	Accuracy
9999mA	1mA	± (2.5% reading + 6digits)
100A/200A	0.1A	± (3.0% reading + 6digits)

Maximum input current: 200A AC/frequency range: 40 ~ 400Hz

4.8 DC Current

Range	Resolution	Accuracy
9999mA	1mA	± (2.5% reading + 6digits)
100A/200A	0.1A	± (3.0% reading + 6digits)

5. 5. Battery replacement/Accessories

5.1 Please replace the battery according to the following steps:

1. Turn off the power supply,
2. Pull all the probes out of the input socket.
3. Unscrew the screws fixing the battery cover with a screwdriver.
4. Remove the battery cover.
5. Remove the old battery.
6. Replace with a new 2 x 1.5V AAA battery.
7. Install the battery cover and tighten the screws.

5.2 Accessories

1. Clamp metre	One
2. Instruction manual	One
3. Probe wire	A pair
4. 1.5x2 AAA battery	Two
5. Storage bag	One

USERS MANUAL

MADE IN CHINA

CE RoHS



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Before using the instrument, please read this manual carefully, and save it well for future using.