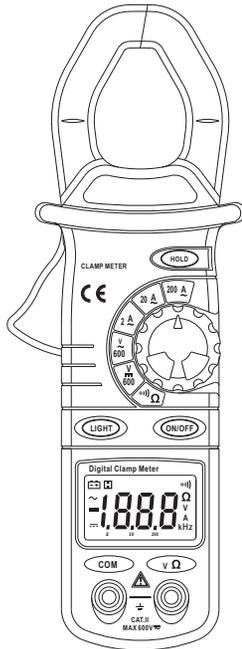


DIGITAL CLAMP METER

OPERATOR'S INSTRUCTION MANUAL



DIGITAL CLAMP METER

CONTENTS

1. General instruction	1
2. Description	1
2.1 Precautions for us	1
2.2 Safety symbols	2
2.3 Maintenance	2
3. Each component	
name description	3
3.1 Meter panel	3
3.2 LCD display	5
3.3 Functional keys	6
3.4 Transformer jaws	6
3.5 Input socket	6
4. Technical index	7
4.1 General index	7
4.2 Accuracy index	8

DIGITAL CLAMP METER

CONTENTS

5. Operating Instructions	10
5.1 AC Current (ACA) measurement	10
5.2 DC Voltage (DCV) measurement	12
5.3 AC Current (ACV) measurement	13
5.4 Resistance (Ω) measurement	14
5.5 Audible continuity test	15
6. Meter Maintenance	16
6.1 Maintenance	16
6.2 Battery replacement	16

DIGITAL CLAMP METER

1. General instructions

This digital clamp meter has been designed according to International Electro Safety Standard IEC-61010 concerning safety requirements for electronic measuring instruments and hand-held current clamps; meeting the requirements for 600CAT.II of IEC-61010 and grade 2 for pollution.
Before using this meter, please read carefully this user's manual and respect the related safety precautions.

2. General instructions

2.1 Precautions for use

- Before measurement, warm up for at least 30 seconds.
- Don't use the meter or lead if they look damaged.
- To meet the safety requirements, only use the test leads supplied with the meter. If the test lead should be replaced, a new one with the same model or same electric specification should be adopted.
- If the meter is placed in a relatively noisy environment, meter readings will become unstable, even with big errors.
- Before changing the measuring range, you must ensure that the test lead is not connected to any circuit to be tested.
- When you can't determine the size range of signal to be tested, please switch the measuring range to the maximum position.
- When you use the meter to measure, you should make the test lead and the rotary switch in the correct position.
- When use the test lead to measure, you should keep the fingers behind the protection ring.

DIGITAL CLAMP METER

- When the voltage to be tested exceeds 60VDC or 30VAC RMS, please operate carefully to prevent electric shock.
- Do not exceed the input limit specified in each measuring range to prevent the meter to be damaged.
- When measuring current, the test lead can not be inserted into the input socket.
- When you hold the clamp meter to measure, you should keep the fingers behind protection ring of meter body.
- Before on-line resistance measurement, you should turn off the power for all circuits and discharge all capacitors.
- Change the battery as early as possible when the “” symbol appears to avoid incorrect reading.

2.2 Safety symbols

Symbols used on the meter and in this manual:

	Important cautions, refer to the instruction manual.
	Earth
	Double insulation (safety equipment with category II)

2.3 Maintenance

- Maintenance and calibration should be done by professionals.
- To prevent contamination or electrostatic damage inside the meter, before opening the meter case, appropriate protective measures should be taken.
- If you notice any abnormality, the meter should be turned off and sent for repair immediately.

DIGITAL CLAMP METER

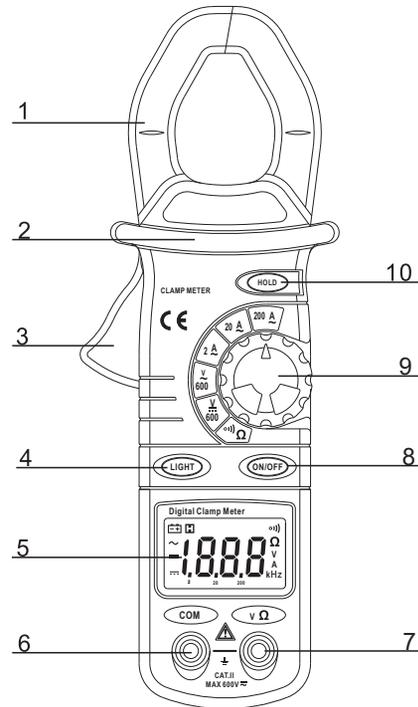
- If the casing is not covered properly, screws are not tightened, do not put it to use.
- When it is not in use for a long time, please remove the battery and avoid storing it in the place with high temperature and humidity.

3. Each component name description

3.1 Meter panel

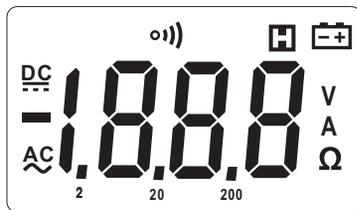
- (1) Transformer jaws
- (2) Protection ring
- (3) Jaw opening trigger
- (4) LIGHT key
- (5) LCD display
- (6) COM input socket
- (7) V Ω input socket
- (8) ON/OFF key
- (9) Rotary switch
- (10) HOLD key

DIGITAL CLAMP METER



DIGITAL CLAMP METER

3.2 LCD display



	Low battery indication
	Hold data indication
	Continuity function indication
V	Voltage measurement indication
A	Current measurement indication
Ω	Ohm measurement indication
DC	DC input indication
AC	AC input indication
	Negative polarity indication

DIGITAL CLAMP METER

3.3 Functional keys

HOLD key:

- Press this key; LCD display will keep the test value.
- Press this key again, the meter will return to normal mode.

ON/OFF key:

- This key is used to turn the meter on or off.

LIGHT key:

- Holding this key for 3 seconds to turn the backlight on, press it again, the backlight is auto-off.

3.4 Transformer jaws

- Pick up live conductor to induce AC current signals.

3.5 Input socket

- **V Ω input socket:** Positive terminal of voltage, resistance measurement and audible continuity test (connected with red lead).
- **COM input socket:** Negative terminal of voltage, resistance measurement and audible continuity test (connected with black lead).

DIGITAL CLAMP METER

4. Technical index

4.1 General index

- Environmental conditions for using:
Temperature and relative humidity of working environment: 0~40 °C (<80%RH).
- Temperature and relative humidity of storage environment: -10~60 °C (<70%RH, removing battery).
- Maximum voltage between any input socket and earth: 600Vrms.
- Principle of measurement: double integral A/D conversion.
- Sampling rate: about 2 times/second.
- Display: 3 1/2 digits LCD display with max. reading 1999.
- Automatically indicate unit and symbol according to function level.
- Measuring range switch method: manually
- Over measuring range indication: "OL" will display on LCD. When the input measuring voltage exceeds 2000V, "OL" will display on the LCD (ACV and DCV).
- Input polarity indication: "-" symbol will display automatically.
- Low battery indication: When the low battery is lower than the normal operating voltage, "E+" will display on the LCD.
- Battery: DC 1.5V X 2 SIZE AAA
- Max. opening dimension of transformer jaws: $\varnothing 28\text{mm}$.
- Max. dimension of conductor: $\varnothing 28\text{mm}$.
- Dimension: 194(L) \times 72(W) \times 35(H)mm.
- Weight: about 200g (with battery).
- Accessories: Instruction Manual, leads, package bag and package box.

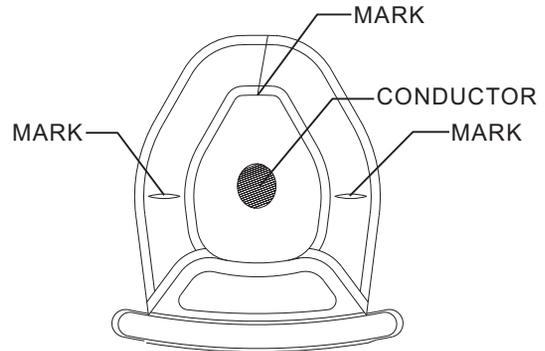
DIGITAL CLAMP METER

4.2 Accuracy index

Accuracy: \pm (% reading + the number of characters), guarantee for one year.

Base condition: ambient temperature is from 18 °C to 28 °C, relative humidity is not greater than 80%

- When making AC current measurement, please position the conductor to the center. If the conductor is not positioned at the center, the max. additional error resulted is 1.5%.



DIGITAL CLAMP METER

4.2.1 AC Current

range	Resolution	Accuracy
2A	0.001A	±(2% of rdg + 20 characters)
20A	0.01A	
200A	0.1A	

- Frequency range: 50/60Hz

4.2.2 DC Voltage

Range	Resolution	Accuracy
200V	0.1V	±(1% of rdg + 5 characters)
600V	1V	

- Input impedance: 10M Ω

-Maximum input voltage: 600V DC or 600V AC RMS.

4.2.3 AC Current

Range	Resolution	Accuracy
200V	0.1V	±(1.5% of rdg + 5 characters)
600V	1V	

- Input impedance: 10M

- Frequency response: 40~400Hz

- Maximum input voltage: 600V DC or 600V AC RMS.

4.2.4 Resistance

Range	Resolution	Accuracy
200 Ω	1 Ω	±(1% of rdg + 5 characters)

- Open-circuit voltage: Less than 700mV

- Overload protection: 250V DC or 250V AC RMS.

DIGITAL CLAMP METER

4.2.5 Audible continuity

Range	Resolution
o)	Inbuilt buzzer will alarm when the resistance is lower than 70 Ω

- Open-circuit voltage: below 700mV

- Overload protection: 250V DC or 250V AC RMS.

5. Operating Instructions

5.1 AC Current (ACA) measurement

WARNING

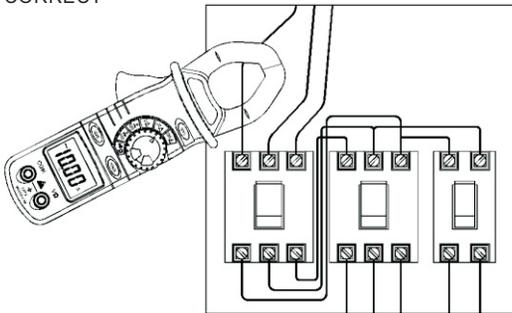
Please make sure that all test leads are removed from the input socket.

The current of the conductor with high voltage (>600V) is not allowed for measurement to prevent electrical shock.

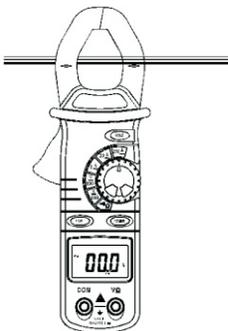
- Turn the rotary switch to position A in the desired range.
- Pull the trigger, clamp the wire to be measured (one line) in the center of transformer jaws (shown as below figure) and make transformer jaws fully closed.
- The measurement current value can be read through the LCD display.
- If only "OL" shows on the display, it means overload, and a higher measuring range should be selected immediately.

DIGITAL CLAMP METER

CORRECT



INCORRECT



11

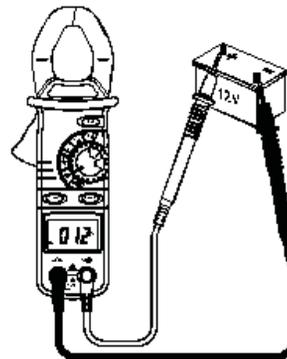
DIGITAL CLAMP METER

5.2DC Voltage (DCV) measurement

⚠ WARNING

Maximum input voltage of DC voltage (DCV) is 600VDC. DC voltage higher than 600Vdc is not allowed for measurement to prevent electrical shock and / or damage the meter.

- Turn the rotary switch to 600V $\overline{\text{---}}$.
- Connect black test lead and red test lead to COM input socket and V input socket separately.
- Use the other two ends of test leads to measure the voltage of circuit to be measured. (Connect with the circuit to be measured in parallel)
- The measurement current value can be read through the LCD display.



12

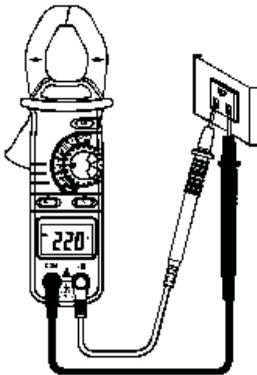
DIGITAL CLAMP METER

5.3 AC Voltage (ACV) measurement

⚠ WARNING

Maximum input voltage of AC current (ACV) is 600Vrms. AC voltage higher than 600Vrms is not allowed for measurement to prevent electrical shock and / or damage the meter.

- Turn the rotary switch to 600V~.
- Connect black test lead and red test lead to COM input socket and V input socket separately.
- Use the other two ends of test leads to measure the voltage of circuit to be measured. (Connect with the circuit to be measured in parallel)
- The measurement voltage value can be read through the LCD display.



13

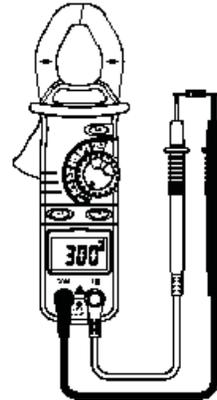
DIGITAL CLAMP METER

5.4 Resistance (Ω) measurement

⚠ WARNING

Before making online resistance measurement, make certain that all test circuits are disconnected and discharge all capacitors.

- Turn the rotary switch to Ω .
- Connect black test lead and red test lead to COM input socket and V input socket separately.
- Use the other two ends of test leads to measure the resistance of circuit to be measured.
- The measurement voltage value can be read through the LCD display.



14

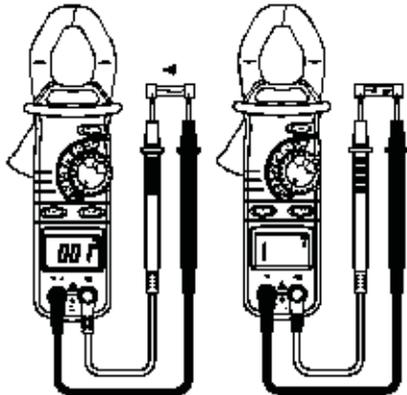
DIGITAL CLAMP METER

5.5 Audible continuity test

⚠ WARNING

Before making online resistance measurement, make certain that all test circuits are disconnected and discharge all capacitors.

- Turn the rotary switch to Ω
- Connect black test lead and red test lead to COM input socket and V input socket separately.
- Use the other two ends of test leads to make continuity test.
- When making continuity test, if the resistance of circuit to be measured is less than 70Ω , buzzer will alarm continuously.



Continuity (audible)

No continuity

DIGITAL CLAMP METER

6. Meter Maintenance

6.1 Maintenance

⚠ WARNING

Before opening the back cover, you should power off and make sure that the test lead is disconnected from the measurement circuit to avoid electric shock.

Use a piece of damp cloth and a small amount of detergent to clean the meter regularly, do not use chemical solvent to clean the meter.

6.2 Battery Replacement

⚠ WARNING

Before opening the battery cover, power off and make certain that all test leads are disconnected from the testing circuits to avoid electric shock.

Follow these steps to replace the battery:

- When the battery voltage is lower than the normal operating voltage, low battery symbol "  " will display on the LCD display. At this moment, the battery should be replaced.
- Press the power switch to cut off the meter power supply.
- Unscrew the screws on the battery cover, remove the old battery and replace it with a new AAA 1.5V battery.
- Install the bottom shell back and tighten the screws.

DIGITAL CLAMP METER

