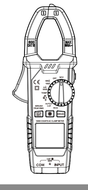
USER'S MANUAL



DIGITAL CLAMP METER

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

USER'S MANUAL

MADE IN CHINA

CE RoHS

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1.Security Information

Warning

Special attention should be paid when using this instrument. Improper use may cause electric shock or damage to the instrument. In use, it is required to follow the normal safety regulations and fully comply with the safety measures specified in the User Manual.

In order to make full use of the functions of the instrument and ensure safe operation, please read carefully and follow the usage of the Manual.

The instrument conforms to the general technical conditions of Generic Specification for Digital Multimeters GB/T 13978-92 and the Safety Requirements for Electronic Measuring Instruments in GB4793.1-1995 (IEC-61010), and belongs to the Class II pollution. The overvoltage standard is CAT III 600 V

Please follow the safe operation instructions to ensure the safe use of the instrument.

If the instrument is used in protection, the instrument will give you satisfactory service

1.1 Preparation

1.1.1 When using instruments, users must abide by standard safety rules

1.1.2 After storage and shipment in poor conditions, check and confirm whether the instrument is damaged.

1.1.3 Before using the instrument, it is needed to inspect use, check to see whether the insulation of the probe is damaged and whether the wire of the lead is exposed.

1.1.4 The use of the probe provided with the meter can ensure safety. If necessary, the same or the same grade of probes must be used instead.

1.2 Use

1.2.1 When using, the correct function and range must be used.

1.2.2 Do not exceed the protection range indication value of each range for measurement.

1.2.3 Operation: Connect the probe (metal part) when the meter is connected to the measuring circuit

1.2.4 During measurement, if the measured voltage is higher than 60 V DC or 30 V AC (effective value), care should be taken to ensure that the hand protector contacts behind the probe for operation.

1.2.5 If the voltage between the measuring and the earth exceeds AC 600 V, do not measure the voltage.

1.3 Mark

Attention (for important safety information, please refer to the Operation Manual)

It can be used on dangerous live conductors.

Double insulation protection (Grade II)

CAT Ⅲ refers to the level of impulse withstand voltage protection provided according to overvoltage (installation) grade III and pollution grade II of IEC-61010.

Conform to European Community (EU) standards

Grounding

2. Description

The instrument is a portable and professional measuring instrument with a liquid crystal digital display and a backlight, which makes it convenient to read data in the dark. The meter is easy to operate with one hand operation and has overload protection and low battery indication. Whether used by professionals, factories, schools, enthusiasts or families, it is an ideal multi-functional instrument.

The instrument is used for AC current, surge current, AC voltage, VFD AC voltage measurement, resistance measurement, on-off, diode test, temperature measurement, non-contact voltage detection and RCD measurement. The instrument has automatic shutdown function.

3. Specification

The instrument shall be designated as a one-year cycle, and shall be re-calibrated under the conditions of 18 ℃~28 ℃and relative humidity less than 75%.

3.1 Overview

- Automatic range.
- Full range overload protection.
- The maximum voltage allowed between the measuring terminal and the earth: 600 V AC or 600 V DC
- Working height: Max 2000 m
- Display: LCD
- Maximum display value: 9999 digital.
- Polarity indication: Automatic indication, '-' indicates negative polarity.
- Over range display: 'OL' or '-OL'.
- Sampling time: About 3 times/second.
- Automatic shutdown time: 15 minutes
- Power supply: 1.5Vx3battery.
- Battery under voltage indication: Display symbols.
- Operating temperature: 0 ℃ ~40 ℃
- Storage temperature: -10 ℃ ~ 50 ℃
- Dimension: 20x7.5 cm
- Weight: 226g

3.2 Technical index

Ambient temperature: 23±3 ℃ Relative humidity: <75%

3.2.1 AC current

Range	Resolutions	Accuracy
9999mA	0.001A	± (2.5% reading+6 words)
100A	0.1A	
600A	0.1A	± (3.0% reading+6 words)

- Maximum input current: 600AAC
- Frequency range: 40 ~ 400Hz

3.2.2Surge current

Range	Resolutions	Accuracy
9999mA	0.001A	
100A	0.1A	± (10% reading+60 words)
600A	0.1A	

3.2.3 DC voltage

Range	Resolutions	Accuracy
600V	1V	± (0.8% reading+3 words)

- Input impedance: 1MΩ
-Maximum input voltage: 600 V AC (effective value) or 600 V DC

3.2.4 AC voltage

Range	Resolutions	Accuracy
100V	0.1V	± (0.8% reading+4 words)
600V	1V	± (1.0% reading+4 words)

-Input impedance: 1MΩ
- Maximum input voltage: 600 V AC (effective value) or 600 V DC
- frequency range: 40 ~1000 Hz

3.2.5 Resistance

Range	Resolutions	Accuracy
1kΩ	1Ω	
10kΩ	10Ω	± (1.0% reading+3 words)
100kΩ	0.1kΩ	
1MΩ	1kΩ	
10MΩ	10kΩ	± (1.2% reading+3 words)
100MΩ	100kΩ	± (2.0% reading+5 words)

- overload protection: 250 V DC or AC (effective value)

3.2.6 Line on-off test

Range	Resolutions	Function
)))	0.1Ω	If the resistance of the tested line is less than 50Ω, the buzzer attached to the meter may sound.

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

3.2.7 Diode test

Range	Resolutions	Function
⇻	0.001v	Display approximate diode forward voltage value

-Forward DC current is about 1 mA -Reverse DC voltage is about 2.0 V
-Overload protection: 250 V DC or AC (effective value)

3.2.8 电容

Range	Resolutions	Accuracy
10.00mF	0.001nF	
100.0nF	0.01nF	
1.000μF	0.001μF	
10.00μF	0.01μF	± (3.5% reading+5 words)
100.0μF	0.1μF	
1.000mF	0.001mF	
60.00mF	0.01mF	

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

3.2.9 Temperature test

Range	Resolutions	Accuracy
-20~1000℃	1℃	± (2.0% reading+2 words)
-4~1832℉	1℉	± (2.0% reading+4 words)

- Overload protection: 250 V DC or AC effective value

4. Operation Guide

4.1 Reading hold/clamp head illumination

In the process of measurement, if the reading needs to be kept, press the "HOLD/ " key for a short time, the displayed value will be locked, and press the "HOLD/ " key for a short time to release the reading.

Press the "HOLD/ " key for 2 seconds to turn on the tong head lamp, and press the "HOLD/ " key for 2 seconds to turn off the tong head lamp

4.2 NCV

For non-contact voltage detection of NCV, switch the range switch to NCV measurement, and place the NCV sensing area close to the detected conductor. If it is greater than AC 90 V, the NCV indicator will flash and the buzzer will sound at intervals.

4.3 Backlight source

(1) In the process of measurement, if the ambient light is too dim to make reading difficult, press the "☀" key to turn on the backlight.

(2) If the " ☀ " key is pressed again during this period, the backlight will be turned off.

4.4 VFD measurement

In the AC current gear, press the VFD key to enter the VFD (AC current frequency conversion measurement) function, and press once again to exit the VFD measurement function.

4.5 Surge measurement

In the AC current measurement state, press the INRUSH key to enter the surge measurement state, and press the INRUSH key again to exit the surge measurement state.

4.6 Automatic shutdown

(1) When there is no operation within 15 minutes after startup, the instrument will enter a dormancy state and automatically shut down to save power.

(2) After automatic shutdown, press any key to restore the instrument to its working state.

(3) Press and hold the "VFD" key while starting the machine, and the automatic shutdown function will be cancelled.

4.7 Current measurement

(1) The range switch is placed in the A range position. At this time, it is the AC current measurement state, and select the appropriate range.

(2) Hold the trigger, open the clamp head and clamp one wire of the tested circuit in the jaw.

Note:

(1) Clamping two or more wires at the same time cannot obtain correct measurement results.

(2) In order to obtain accurate reading, the wire to be measured should be positioned at the center of the clamp head as far as possible.

(3) " " indicates that the maximum input AC current is 600 A.

(4) Press VFD key to enter AC current frequency conversion measurement function.

4.8 AUTO-V LoZ automatic voltage measurement

(1) Insert the black probe into the COM jack and the red probe into the INPUT jack.

(2) Set the change-over switch to the AUTO-V LoZ position. At this time, the instrument is in the state of voltage measurement.

(3) Connect the probes in parallel to both ends of the voltage source or load for measurement

Note:

(1) When the voltage range is small, the probe is not connected to the circuit under test, and the LCD will have a jumping reading. This is normal because of the high sensitivity of the instrument. When the meter is connected to the circuit under test, the real measurement will be displayed.

(2) The voltage measurement is a low impedance automatic identification AC and DC voltage measurement function.

4.9 Resistance measurement

(1) Insert the black probe into the COM jack and the red probe into the INPUT jack.

(2) The range switch is in the Ω gear position, and the meter is in the resistance measurement state.

Note:

When the input is open, the LCD will display the "OL" over range status.

4.10 Diode/on-off test

(1) Insert the black probe into the COM jack and the red probe into the INPUT jack.

(2) Press SEL key to switch to diode or on/off in Ω gear.

Note:

(1) The meter shows the approximate value of the diode forward voltage drop.

(2) If the probe is connected in reverse or the probe is open, the LCD displays "OL".

4.11 Temperature measurement

1. Set the range switch to the TEMP range position.
2. At this time, the LCD display shows the current ambient temperature.
3. When measuring temperature with thermocouple, insert the red plug of the thermocouple into the "℃/℉" jack, and the black plug into the "COM" jack. The thermocouple probe contacts the measured object or area for measurement.

4.12Measuring capacitance

(1) Insert the black probe into the COM jack and the red probe into the INPUT jack.

(2) Press SEL key to switch to capacitance measurement mode in Ω gear.

4.13 RCD measurement (leakage protection disconnection test)

(1) Insert the black probe into the COM jack and the red probe into the INPUT jack.

(2) Set the range switch to the RCD range position.

(3) The probe is respectively connected to the live wire and and the ground wire end to test the leakage switch. At the moment of contact, the leakage switch will trip off. If it does not trip, it indicates that there is a problem with the leakage switch and it needs to be repaired.

Note:

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

(2) The measuring time of this gear should be controlled within 5 seconds, and long-term measurement cannot be carried out.

(3) The measured voltage shall not be higher than the effective value of 250 V AC/DC.

5. Maintenance

5.1 Battery replacement

(1) If the " " symbol appears, it indicate that the battery should be replaced.

(2) Unscrew the fastening screw of the instrument battery cover and remove it.

(3) Replace the old battery.

(4) Install the battery cover as it is.

Note:

The polarity of the battery shall not be reversed, and it is strictly prohibited that the instrument is in the measuring state when replacing the battery.

5.2 Replace probe

When replacing the probes, they must be replaced with the same or the same grade of probes. The probes must be in good condition and the grade of the probe is: 1000 V 10 A.

If the insulating layer of the probe is damaged, such as the wire of the wire is exposed, the probe must be replaced.

6. Annexes

1. Clamp meter……1 set
2. Manual……1 book
3. Instrument package……1 package
4. Test line……1 pair