

# USER'S MANUAL

## 1. SUMMARIZE

This meter is a handheld automatic range digital multimeter which driven by battery. It can be used to measure such parameters as DCV, ACV, ACA, Resistance, Continuity Buzzer, Diode, Capacitance, etc.


## 2. GENERAL

Displaying: Max. displaying:2000,

Sampling rate: approx. 3 times/second.

Polarity indication: Automatic negative polarity indication

Over range indication: "OL" shown on the LCD

Low battery indication:  " appears

Operation environment: 0°C~40°C, R.H.<75%.

Storage environment: -10°C~50°C, R.H.<80%.

Power supply: (Size AAA) 1.5V×2

Size: 193×73×37mm

Weight: about 220g.

Accessories: user's manual, battery, testleads.

## 3. TECHNICAL CHARACTERISTIC

Accuracy:±(a%×rdg+d) Temperature:(23±5)°C, R.H.<75%

### 3-1.AC V (V~)

RANGE	ACCURACY
2V/20V/200V	± (0.8%+10d)
600V	± (1.0%+10d)

Input resistance: 10MΩ

Frequency response: SIN wave and triangular wave is 40Hz~1kHz, other wave is 40Hz~200Hz

### 3-2.DCV (V=)

RANGE	ACCURACY
200mV/2V/20V/200V	± (0.5%+4d)
600V	± (1.0%+6d)

Input resistance: 10MΩ

### 3-3.RESISTANCE Ω (auto range)

RANGE	ACCURACY
200 Ω /2k Ω /20k Ω /200k Ω /2M Ω	± (1.0%+5d)
20M Ω	± (1.2%+10d)

### 3-4.ACA A~(auto range)

RANGE	ACCURACY
2A/20A	± (2.5%+8d)
200A/600A	± (2.5%+8d)

Frequency response: 50~60Hz

### 3-5. CAPACITANCE (auto range)


RANGE	ACCURACY
2nF/20nF/200nF/2uF/20uF/1000uF	± (5.0%+8d)

## 4. FRONT PANEL DESCRIPTION

### 4-1.Data Hold Key (HOLD/BL)

When press the key, the "HOLD" symbol and the last reading of the meter will be shown on the LCD, until press the key again or turn the function switch, the symbol disappear and the readings comes back. Press "HOLD/BL" key to turn on the meter, the "APO" symbol disappear, the auto power off function canceled. If turn on the meter by switch like usual, the auto power off function is on, the meter will turn off in 15 minutes if without any operation. This key got a backlight function, press this key for 3 seconds, the backlight on; if press this key again for more than 3 seconds, the backlight off.

### 4-2.Select Key (SELECT)

Turn switch to  range, press the key can choose the function you wish.

### 4-3.Max/Min Key

Press the key to measure the Max value and press it again to measure the Min value, then press it again will back to Max measurement. If you press the key for a long time, you will leave the Max/Min measurement.

## 5. OPERATE INSTRUCTIONS

### 5-1.AC V measurement V~

Turn to range ACV

a. Connect the red test lead to VΩ terminal, and black test lead to COM terminal.

b. Connect the test leads to the circuit which should be tested. Get the result directly.

### 5-2.DCV measurement V=

Turn to range DCV.

a. Connect the red test lead to VΩ terminal, and black test lead to COM terminal.

b. Connect the test leads to the circuit which should be tested. Get the result directly. and the polarity of the red test lead will be

shown together on the LCD.

### 5-3. Resistance Measurement

- Turn to range  $\Omega$ .
- Connect the red test lead to V  $\Omega$  terminal, and black test lead to COM terminal.
- Connect the test leads to the circuit or resistance which should be tested.


#### NOTE:

To measure resistance which is more than  $2M\Omega$ , the meter needs few seconds to get the stable readings, and for the high resistance, this is a normal situation.

When it is out of connection or under open circuit, it will show "OL".

When the online resistor is measured, be sure to shut off the line power supply and discharge all capacitors completely.


### 5-4. Diode and Continuity test (buzzer function)

- Connect the red test lead to V  $\Omega$  terminal, and black test lead to COM terminal.
- Turn to range , and press "SELECT" to choose the range diode or continuity buzzer.
- If the resistance between both ends of the circuit is less than about  $30\Omega$ , the built-in buzzer will sound.
- Under the range DIODE, connect the red test probe onto the positive of the diode and the black test probe onto the negative. The forward conduction voltage drop will be shown on the LCD.

### 5-5. ACA measurement (A $\sim$ )

Turn to range  $2/20A\sim$  or  $600A\sim$ , place the wire vertically in the center of the clamp head, and the reading is the ACA value.

### 5-6. Capacitance Measurement


- Connect the red test lead to V  $\Omega$  terminal, and black test lead to COM terminal.
- Turn to range , (note that the polarity of the red test lead is positive.)
- Connect the test leads to the circuit which should be tested. And check if the polarity is correct.

NOTE: be sure to discharge all capacitors completely before measurement, when testing the big capacitance, it needs about 10 seconds to get the stable value.

### 5-8. NCV measurement

Turn to range NCV, connect the clamp head to the wire or socket, when the wire or socket got any AC signal through, the meter will judge the signal and buzzer in different sound.

## 6. BATTERY REPLACEMENT

When  symbol shows on the LCD, please replace the battery (AAA 1.5V).

## 7. Note

In order to avoid the damage of the meter, please do not input 250V DC or RMS AC under range  $\Omega$  / 