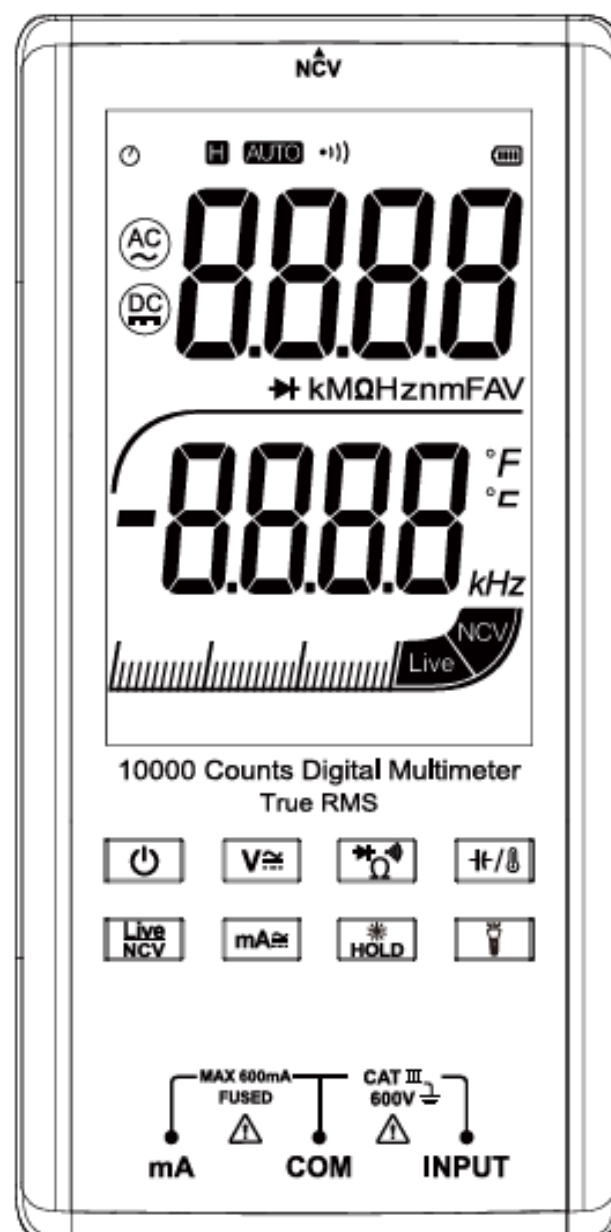


USERS MANUAL

Digital multimeter



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

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OVERVIEW

This instrument is a digital multimeter with 10000 counting, auto range, multi-display and super big screen. It features easy operation, high precision, clear reading, overload protection and good portability.

It can be used for measurement of AC/DC voltage, AC/DC, resistance, capacitance, diode, continuity, temperature, live wire identification and NCV detection .

1. SAFETY INFORMATION

1.1 ATTENTION



Please read the manual carefully before use to prevent the possible electric shock or damage to the instrument.

1.1.1 After receiving the instrument, please check whether it is damaged during transportation and whether the probe is in good condition.

1.1.2 It is forbidden to measure beyond the indicated value of the protection range, and to switch gears during measurement.

1.1.3 When the instrument is connected to the tested circuit, the finger must be placed behind the probe sheath protection device, and it is forbidden to touch the top (metal part) of the probe.

1.1.4 If the measured voltage is higher than 60V DC or 30V AC, care should be taken, and the highest voltage measured at the COM port and the INPUT port should not exceed AC/DC 600V.

1.2 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 over-voltage (installation) level III and pollution degree 2 according to IEC-61010 standard
CE	Complies with the directives of the European Union
	Ground

2. SPECIFICATIONS

Full-range overload protection voltage: 250V

The maximum input voltage at COM port and INPUT port: AC/DC voltage gear 600V

Display: LCD

Maximal display value: 9999

Overrange display: OL or -OL

Backlight: Automatic shutdown after 30 seconds

Automatic shutdown: About 15 minutes

Power supply: 2x1.5V AAA battery

Low battery: LCD display symbol “”

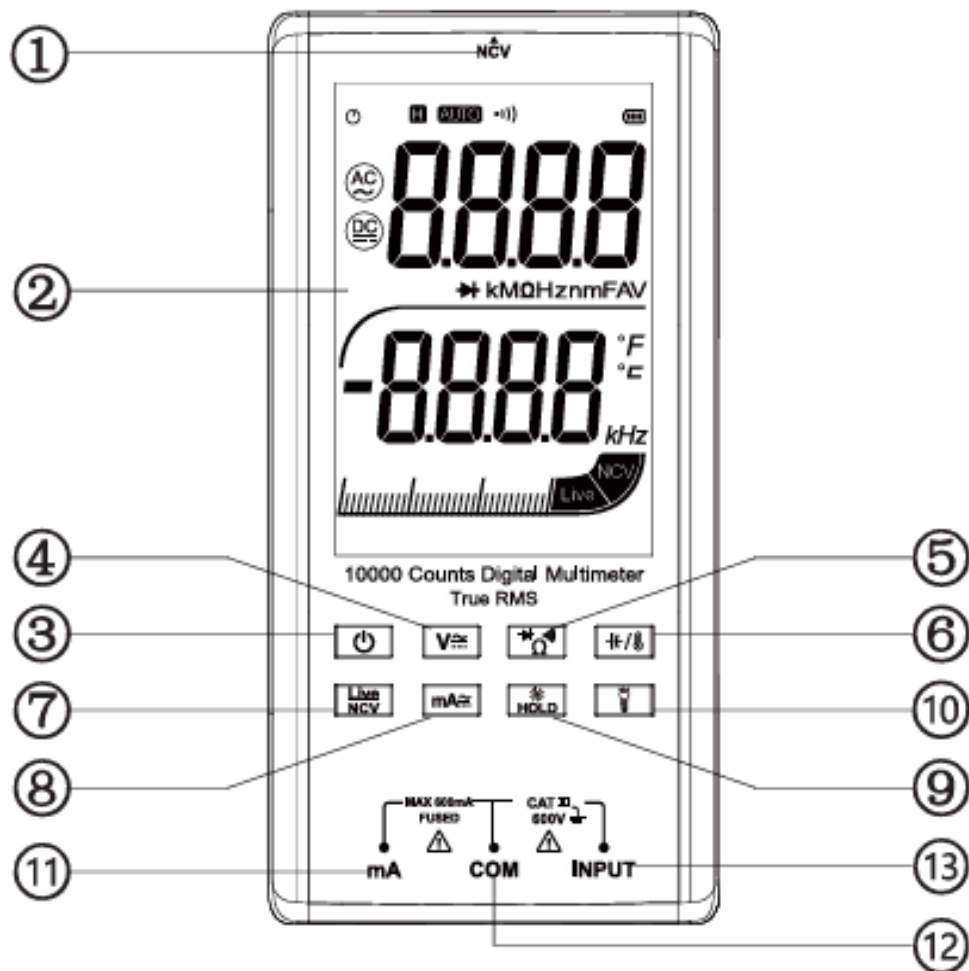
Working temperature: 0°C~40°C

Storage temperature: -10°C ~ 50°C

Dimension: 156 x 78 x 20mm

Weight (excluding battery) : 160g(batteries not included)

3. THE PANEL SCHEMATIC



1. NCV sensing area

2. LCD display

3. Power

4. AC/DC voltage switch

5. Resistance/diode/continuity switch

6. Capacitance/Temperature switch

7. Live wire identification/NCV detection

8. AC/DC voltage switch

9. Reading Hold/Backlight

10. Flashlight

11. mA AC/DC Input port

12. COM port

13. INPUT port

4. SYMBOL DESCRIPTION

4.1 Description of display symbols

Symbols	Description
	Low battery
	Automatic shutdown function
HOLD	Reading hold mode
	High voltage warning
	Blown fuse prompt
AUTO	Auto range mode
	AC voltage
	DC voltage
°C/°F	Temperature
	Diode test
	Continuity test
Ω	Resistance
nF	Capacitance
Hz	Frequency
mA	Current
NCV	Non-contact AC voltage detection
Live	Live fire identification

DESCRIPTION OF INPUT PORT/FUNCTIONS

4.2 Description of input port

Input socket	Description
COM	The COM port is connected with the black probe.
INPUT	The INPUT port of AC/DC voltage, resistance, capacitance, diode, continuity, temperature and live wire identification is connected with the red probe.
mA	The input port of current is connected with the red probe.

5. FUNCTIONS

5.1  turn on or off the power.

5.2  switch AC/DC voltage

5.3  switch resistance, diode, continuity

5.4  switch capacitance or temperature

5.5  switch live wire identification, NCV detection

5.6  switch AC/DC

5.7  hold the measured data or to exit the data hold, and long press to turn on or off the backlight.

5.8  turn the flashlight on or off.

6. OPERATION GUIDE

6.1 AC/DC voltage

- (1) When the power is on, short press  to switch to **AC** or **DC** .
- (2) Plug the black probe into the COM port, and the red probe into the INPUT port,
- (3) Connect the red and black probe to the circuit under test.

6.2 Resistance/diode/Continuity test

- (1) Short press  to switch to resistance/diode/continuity.
- (2) Plug the black probe into the COM port, and the red probe into the INPUT port,
- (3) Connect the red and black probe to the circuit under test.

Notes:

- (1) Please don't measured the alive circuit during the maintenance.
- (2) The measured value on the circuit may be different from the actual value.
- (3) When the meter is open circuit or the measured value is too high, it will display "OL", indicating the measured value is beyond the range.
- (4) When measuring a normal diode, the meter displays the forward voltage drop of the diode under test.
- (5) When the resistance value of the tested circuit is less than about 30Ω, the buzzer makes continuous sounds .

6.3 Capacitance

- (1) Short press  button to switch to the (nF) gear.
- (2) Plug the black probe into the COM port, and the red probe into the INPUT port.
- (3) Connect the red and black probe to the measured capacitance.

6.4 Temperature

- (1) Short press  button to switch to the (°C/°F) gear.
- (2) Plug the red port of the K thermocouple into the INPUT port and the black port into the COM port.
- (3) The thermocouple probe contacts the object to be measured.
- (4) Unit switch: at the temperature gear, long press  to switch to °F, and operate again to switch to °C.

6.5 NCV detection

Short press  button to switch to NCV non-contact AC voltage detection. Close the the meter  to the conductor, and the meter judges the measured voltage according to the intensity of the detected voltage signal. When the AC voltage is detected, L, M and H are displayed respectively on the screen simulation bar for the low, middle and high voltage, the buzzer gives out alarm.

Notes:

- (1) Even if there is no indication, the voltage may still exist. Don't rely on non-contact AC voltage detection to determine whether there is voltage in the wire.

(2) The detection process may be affected by factors such as socket design, insulation thickness and types.

6.6 Live wire identification

Short press  button to switch to Live wire identification. Plug the red probe into the INPUT port, when closing the the meter to the conductor, L, M and H are displayed on the screen simulation bar respectively for the low, middle and high voltage, the buzzer gives out alarm,the tested circuit is live wire , or it's the zero wire or earth wire.

Notes:

- (1) Before use, please test on the known electric conductor to make sure the meter is in good condition.
- (2) When using Live wire identification, please plug the red probe into the INPUT port and unplug the black probe against electric shock.

6.7 AC/DC

- (1) Short press  button to switch to  or .
- (2) Plug the red probe into the mA input port, and the black probe into the COM port.
- (3) Connect the red and black probe into the tested circuit.
- (4) The maximum measured AC/DC is 600mA.

7. TECHNICAL INDICATORS

7.1 DC voltage

Range	Resolution	Accuracy
1000mV	0.1mV	$\pm (0.5\% \text{ reading} + 3 \text{ digits})$
10V	0.01V	
100V	0.1V	
600V	0.1V	$\pm (0.8\% \text{ reading} + 3 \text{ digits})$

Input impedance: 10M Ω ; The maximum input voltage: 600V

7.2 AC voltage

Range	Resolution	Accuracy
1000mV	0.1mV	$\pm (0.8\% \text{ reading} + 5 \text{ digits})$
10V	0.01V	
100V	0.1V	
600V	0.1V	$\pm (1.0\% \text{ reading} + 10 \text{ digits})$

Input impedance: 10M Ω ; The maximum input voltage: 600V

Frequency response: 40Hz-400Hz

7.3 Resistance

Range	Resolution	Accuracy
100 Ω	0.1 Ω	$\pm(0.8\% \text{ reading} + 3 \text{ digits})$
1K Ω	0.1 Ω	
10K Ω	0.001K Ω	
100K Ω	0.1K Ω	
1M Ω	0.001M Ω	
10M Ω	0.01M Ω	$\pm(1.0\% \text{ reading} + 5 \text{ digits})$
100M Ω	0.01M Ω	$\pm(1.2\% \text{ reading} + 10 \text{ digits})$

Overload protection: 250V; /open circuit voltage: 1.2V

7.7 DC

Range	Resolution	Accuracy
100mA	0.1mA	$\pm (0.8\% \text{ reading} + 10 \text{ digits})$
600mA	0.1mA	

Maximum input current: 600mA

7.8 AC

Range	Resolution	Accuracy
100mA	0.1mA	$\pm (1.2\% \text{ reading} + 10 \text{ digits})$
600mA	0.1mA	

Maximum input current: 600mA; frequency range: 40Hz ~ 400Hz

7.9 Temperature

Range	Resolution	Accuracy
-20 ~ 1000°C	1°C	$\pm (2.0\% \text{ reading} + 2 \text{ digits})$
-4 ~ 1832°F	1°F	$\pm (2.0\% \text{ reading} + 4 \text{ digits})$

Overload protection: 250V

8. BATTERY REPLACEMENT

1. Turn off the power supply.
2. Pull the probe out of the tested circuit.
3. Unscrew the screws fixing the battery cover with a screwdriver.
4. Remove the battery cover.
5. Remove the old battery.
6. Replace with new 2 x 1.5V AAA batteries.
7. Install the battery cover and tighten the screws.

9. ACCESSORIES

1. Multimeter	One
2. Instruction manual	One
3. Probe	A pair
4. 1.5x2 AAA battery	Two
5. Thermocouple	One

USERS MANUAL

Made in China

CE RoHS



M101040036



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