A. Introduction

This product is a battery-powered, true-rms, auto-ranging digital multimeter with a 9999 counts LCD display and a backlight.

B. Safety Information

To avoid possible electrical shock, fire, or personal injury, please read all safety information before you use the product.

 Do NOT exceed the "maximum value" indicated in the Specification.
 Examine the connection of the test leads and the insulation of the product before measuring voltage higher than 36V DC or 25V AC.

(3) Disconnect the test leads from the circuit before changing the mode.

(4) Misuse of mode or range can lead to hazards, be cautious. "OL" will be shown on the display when the input is out of range.

(5) Safety symbols:

\triangle	Hazardous Voltage	4	Earth
	Double Insulated	e	Low Battery
Δ	Risk of Danger. Check the User Manual.		

User Manual

- 1 -

$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	C.	Specifications						
$ \begin{array}{c ccccc} \hline DC Voltage & 99.9 mV & 0.1mV & 99.99.V \\ \hline DC Voltage & 99.99V & 0.001V & 99.99.V \\ \hline (V) & 99.99V & 0.01V & \\ \hline (V) & 99.99.V & 0.01W & \\ \hline (mV) & 99.99mV & 0.001W & \\ \hline 99.99mV & 0.1mV & \\ \hline 099.9VV & 0.1mV & \\ \hline (mV) & 99.99mV & 0.01W & \\ \hline (V) & 99.99V & 0.01V & \\ \hline (V) & 99.99V & 0.01V & \\ \hline (V) & 99.99V & 0.01W & \\ \hline (C V) & 75.0V & 0.1mV & \\ \hline (V) & 99.99V & 0.01W & \\ \hline (C C urrent & 999.9mA & 0.1mA & \\ \hline (mA&A) & 9.999A & 0.01\muA & \\ \hline (mA&A) & 9.999A & 0.01\muA & \\ \hline (mA&A) & 9.999A & 0.1mA & \\ \hline (mA&A) & 9.999A & 0.01\muA & \\ \hline (mA&A) & 0.1mA & \\ \hline (mA&A) & 0.01A & \\ \hline (mA&A) & 0.1mA & \\ \hline (mA&A) & 0.01A & \\ \hline (mA&A) $								
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$\begin{array}{c $		DC Current	99.99µA	0.01µA	±(0.8%+3)	999.9µA		
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999.9Ω 0.1Ω 9.994.00 0.001kΩ 99.99KΩ 0.01kΩ 99.99KΩ 0.1kΩ 99.99KΩ 0.1kΩ 99.99KΩ 0.1kΩ 9.999MΩ 0.01kΩ +/1.5%+3) 99.99MΩ		(μA)	999.9µA	0.1µA				
9.999kΩ 0.001kΩ 99.99kΩ <			99.99Ω	0.01Ω	±(1.0%+3)			
Resistance 99.99kΩ 0.01kΩ ±(0.5%+3) 99.99MΩ 99.95kΩ 0.1kΩ ±(1.5%+3) 99.99MΩ 9.959MΩ 0.001MΩ ±(1.5%+3) ±(1.5%+3)		Resistance	999.9Ω	0.1Ω	±(0.5%+3)	99.99MΩ		
99.99KΩ 0.01KΩ 99.99KΩ 99.99MΩ 0.001MΩ +(1 5%+3)			9.999kΩ	0.001kΩ				
9.999MΩ 0.001MΩ +(1.5%+3)			99.99kΩ	0.01kΩ				
			999.9kΩ	0.1kΩ				
99.99MΩ 0.01MΩ ±(1.5%+5)			9.999MΩ	0.001MΩ	+(1 59(+2)			
			99.99MΩ	0.01MΩ	±(±.3%+3)			

Function	Danga	Resolution	A	MAX, Value	Other
Function	Range 9.999nF	0.001nF	Accuracy	IVIAX. Value	Other
		0.001nF	±(5.0%+20)	9.999mF	
	99.99nF		±(2.0%+5)		
	999.9nF	0.1nF			
Capacitance	9.999µF	0.001µF			
	99.99µF	0.01µF			
	999.9µF	0.1µF		4	
	9.999mF	0.001mF	±(5.0%+5)		
	99.99Hz	0.01Hz		9.999MHz	
	999.9Hz	0.1Hz			
Frequency	9.999kHz	0.001kHz	±(0.1%+2)		
requercy	99.99kHz	0.01kHz	±(0.1%+2)		
	999.9kHz	0.1kHz			
	9.999MHz	0.001MHz			
Duty Cycle	1%~99%	0.1%	±(0.1%+2)		
Diode			v		
Continuity			v		
NCV			V		
Temperature	(-20~1000)°C		±(2.5%+5)	1000°C	
remperature	(-4~1832)°F	1°F		1832°F	
		General Specifi	ications		
Display (LCD)			9999 Counts		
Ranging			Auto/Manual		
Material			ABS		
Update Rate		3	Times/Second	ł	
Ture RMS			V		
Back Light			V		
Data Hold			v		
Low Battery Alert			V		
Auto Power Off			V		
	M	echanical Spec	ifications		
Dimension	1		130*65*32mm		
Weight			114g		
Battery Type	-	1.5V	AAA Batteries	* 2	
Warranty			One year		
	Env	ironmental Spe			
	Temperature			10°C	
	Humidity <75%				
Operating			<	75%	
Operating Storage		2		75% ′60℃	

D. Instruction

(1) Front Panel (see the picture on the right)
 1. LCD display
 2. buttons

- 2a. RANGE/Backlight: press this button to enter the manual range; each push increases the range; when the highest range is reached, next push will go back to the lowest range; to exit the manual range mode, turn the Rotary Switch to another mode and then turn it back. To turn on the backlight, press this button for more than 2 seconds; longoress acain to turn off.
- 2b. SELECT/HOLD: To toggle between different testing modes (functions), press this button. To hold the current reading, press this button for more than 2 seconds and you will see "HOLD" on the display; long-press again to turn off.
- Rotary Switch: To change mode or range (from OFF, clockwise)
 3a. OFF
- DC Voltage (V)/AC Voltage (V)/Frequency (high voltage with low frequency)/ Duty Cycle

BOOV GAT B

RANGE/OF AUTO POWER OFF SELHO

AmA COM

FUSED

- 3c. DC Voltage (mV)/AC Voltage (mV)/Temperature
- 3d. Resistance/Continuity/Diode/Capacitance
- 3e. Frequency (low voltage high frequency)/Duty Cycle
- 3f. DC Current (mA&A)/AC Current (mA&A)
- 3g. DC Current (µA)/AC Current (µA)
- 3h. NCV
- 4. AmA: Input terminal for current (mA&A) measurements.
- 5. COM: Common terminal for all measurements.
- VΩHz: Input terminal for voltage, current (µA), frequency, duty cycle, resistance, continuity, diode, capacitance, and temperature measurements.
- (2) Measure AC/DC Voltage
- 1. Connect the black test lead to the COM Terminal and connect the red test lead to the V Ω Hz Terminal;
- Turn the rotary switch to the DC Voltage (V) Mode, or the DC Voltage (mV) Mode;
 Press SELECT to toggle between AC/DC;
- 4. Touch the probes to the correct test points of the circuit to measure the voltage; 5. Read the measured voltage on the display.
- *Caution:
- Do not measure voltage that exceeds the MAX Value as indicated in the Specifications;
- b. Do not touch high voltage circuit during measurements.

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- 3 -

(3) Measure AC/DC Current (mA&A)

1. Connect the black test lead to the COM Terminal and connect the red test lead to the AmA Terminal

- 2. Turn the rotary switch to the DC Current (mA&A) Mode:
- Press SELECT to toggle between AC/DC:
- Break the circuit path to be measured. Then connect the test leads across the break and apply power:
- Read the measured current on the display.
- *Caution:
- a Do not measure current that exceeds the MAX Value as indicated in the Specifications
- b. Use the AmA Terminal and the DC Current (mA&A) Mode when you are measuring an unknown current. Then switch to the Terminal and the Mode if necessary.

(4) Measure AC/DC Current (uA)

- 1. Connect the black test lead to the COM Terminal and connect the red test lead to the VOHz Terminal:
- Turn the rotary switch to the DC Current (µA) Mode;
- 3. Press SELECT to toggle between AC/DC;
- 4. Break the circuit path to be measured. Then connect the test leads across the break and apply power;
- Read the measured current on the display.
- *Caution:
- a. Do not measure current that exceeds the MAX Value as indicated in the Specifications:
- b. Use the AmA Terminal and the DC Current (mA&A) Mode when you are measuring an unknown current. Then switch to the Terminal and the Mode if necessary.

Do not input voltage exceeds 36V DC or 25V AC when you are at the setting of measuring current.

(5) Measure Resistance

- 1. Connect the black test lead to the COM Terminal and connect the red test lead to the VQHz Terminal:
- Turn the rotary switch to the Resistance Mode, and the display will show "OL":
- Touch the probes to the desired test points of the circuit to measure the resistance: Read the measured resistance on the display.
- *Caution:
- Disconnect circuit power and discharge all capacitors before you test resistance. b. Do not input voltage at the Resistance Mode.

(6) Measure Continuity

- 1. Connect the black test lead to the COM Terminal and connect the red test lead
- to the VΩHz Terminal;
- 2. Turn the rotary switch to the Resistance Mode, press SELECT once to toggle to the Continuity Mode:
- 3. Touch the probes to the desired test points of the circuit:
- The built-in beeper will beep when the resistance is lower than 50Ω, which indicates a short circuit.
- *Caution:

a. Do not input voltage at the Continuity Mode.

(7) Measure Diode

- 1. Connect the black test lead to the COM Terminal and connect the red test lead to the VOHz Terminal:
- 2. Turn the rotary switch to the Resistance Mode, press SELECT twice to toggle to the Diode Mode
- 3. Connect the red probe to the anode side and the black probe to the cathode side of the diode being tested;
- Read the forward bias voltage value on the display;
- 5. If the polarity of the test leads is reversed with diode polarity or the diode is broken, the display reading shows "OL".
- *Caution:
- a. Do not input voltage at the Diode Mode.
- b. Disconnect circuit power and discharge all capacitors before you test diode.

(8) Measure Capacitance

- 1 Connect the black test lead to the COM Terminal and connect the red test lead to the VOHz Terminal:
- 2. Turn the rotary switch to the Resistance Mode, press SELECT three times to toggle to the Capacitance Mode:
- Connect the red probe to the anode side and the black probe to the cathode side of the capacitor being tested:
- Read the measured capacitance value on the display once the reading is stablized. *Caution:
- a. Disconnect circuit power and discharge all capacitors before you test capacitance.

(9) Measure Frequency and Duty Cycle

- 1. Connect the black test lead to the COM Terminal and connect the red test lead to the VOHz Terminal:
- 2. To measure high voltage low frequency, turn the rotary switch to the DC Voltage(V) Mode: press SELECT twice to toggle to the Frequency Mode or press SELECT three times to toggle to the Duty Cycle Mode. To measure low voltage high frequency. turn the rotary switch to the Frequency Mode; press SELECT once to toggle to the Duty Cycle Mode:
- 3. Touch the probes to the desired test points of the circuit;
- 4. Read the measured frequency/duty cycle value on the display.

(10) Measure Temperature

- 1. Connect the black thermocouple probe to the COM Terminal and connect the red thermocouple probe to the VOHz Terminal:
- 2. Turn the rotary switch to the Temperature Mode, and the display will show the room temperature, to toggle between °C/°F, press SELECT button;
- 3. Touch the probes to the desired test points;
- 4. Read the measured temperature on the display. *Caution:
- a. Do not input voltage at the Temperature Mode.

(11) Test NCV

- 1. Turn the rotary switch to the NCV Mode:
- 2. Hold the product and move it around, the built-in beeper will beep when the inner sensor detects AC voltage nearby. The stronger the voltage is, the quicker the beeper beeps.

(12) Auto Power Off

- 1. The product automatically powers off after 15 minutes of inactivity;
- 2. The built-in beeper beeps 5 times 1 minute before power off;
- 3. To restart the product, press SELECT button:
- 4. To disable the Auto Power Off function, hold down the SELECT button when turning on the product, you will hear five beeps if you have successfully disabled the function.

F. Genearl Maintenance

Beyond replacing batteries and fuses, do not attempt to repair or service the product unless you are qualified to do so and have the relevant calibration, performance test, and service instructions.

- (1) Do not operate the product around hot, wet, flammable, explosive or magnetic environments.
- (2) Clean the product with damp cloth and mild detergent; do not use abrasives or solvents
- (3) Remove the input signals before you clean the product.
- (4) Remove the batteries if you will not use the product for a long time to prevent possible battery leak. (5) When "⁽¹⁾ is shown on the display, batteries shall be replaced as below:
- 1. Loosen the screw and remove the battery cover: Replace the used batteries with new batteries of the same type:
- 3. Place the battery cover back and fasten the screw.
- (6) Replace fuses as above steps. Use only fuses of the same type as the original ones.

- 1. Do NOT exceed the "maximum value" indicated in the Specification:
- 2. Do NOT input voltage at the Current Mode, the Resistance Mode, the Diode Mode, the Continuity Mode, or the Temperature Mode:
- 3. Do NOT use the product when the batteries or the battery cover is not placed properly:
- 4. Turn off the product and remove the test leads from the test points before changing batteries or fuses.

F. Troubleshooting

If your product do not function as normal, the following steps may help you. If the problem still cannot be solved, please contact your dealer.

Problem	Possible Reason
Display Malfunction	Low battery; replace batteries
😫 Symbol	Replace batteries
No current input	Replace fuse

LIMITED WARRANTY AND LIMITATION OF LIABILITY

Customers enjoy one-year warranty from the date of purchase. This warranty does not cover fuses, disposable batteries, or damage from accident, neglect, misuse, alternation, contamination, or abnormal conditions of operation or handling.

All rights reserved. Specifications are subject to change without notice.

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Warning: