

User Manual

Introduction

This product is a battery-powered, auto-ranging, true RMS digital multimeter with a 8000 counts LCD display.

Safety Information





To avoid possible electrical shock, fire, or personal injury, please read all safety information before you use the product. Please use the product only as specified, or the protection supplied by the product can be compromised.

- Examine the case before you use the product. Look for cracks or missing plastic. Carefully look at the insulation around the terminals.
- The measurement must be made within the allowable measuring range.
- Do not use the product around explosive gas, vapor, or in damp or wet environments.
- When the voltage to be measured exceeds 36V DC or 25V AC, the operator shall be careful enough to avoid electric shock.
- 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.



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Specifications are subject to change without notice.

- Low level of a battery will result in incorrect readings. Change the batteries when battery level is low. Do not make measurements when the battery door is not properly placed.

Instruction Buttons

	Push this button to turn on or turn off the product. The product automatically powers off after 15 minutes of inactivity and the built-in beeper beeps 5 times 1 minute before auto power off. To cancel auto power off, push HOLD before turning on the product.
	Push once to hold the current reading on the display; push again to continue normal operation.
	Push this button to toggle between the two function groups.
	Push this button to toggle between the testing modes in the same function group, including DCV/ACV/NCV DCmV/VACmV/Resistance/Continuity/Diode/Capacitance/Temperature

Push this button once for the current testing, push once more to change between DCA and ACA.

	Push this button once to enter the manual range mode. In manual range mode, each push increases the range; when the highest range is reached, the next push will lead to the lowest range. To exit the manual range mode, push for more than 2 seconds.
	Push this button once for the frequency testing, push twice for the duty cycle testing.

Measurements

Measure DC/AC Voltage

1. When the voltage to be measured > 800.0mV, push FUNC until "v" shows at the lower right corner of the display; when the voltage to be measured ≤ 800.0mV, push FUNC until "mV" shows at the lower right corner of the display.
2. Push SELECT to toggle between AC/DC.
3. Touch the probes to the correct test points of the circuit to measure the voltage.
4. Read the measured voltage on the display.

Measure Resistance

1. Push FUNC until "mV" shows at the lower right corner of the display.
2. Push SELECT twice to toggle to the mode of Resistance.
3. Touch the probes to the desired test points of the circuit to measure the resistance.
4. Read the measured resistance on the display.

Test for Continuity

1. Push FUNC until "mV" shows at the lower right corner of the display.
2. Push SELECT three times to toggle to the mode of Continuity.
3. Touch the probes to the desired test points of the circuit.
4. The built-in beeper will beep when the resistance is lower than 50Ω, which indicates a short circuit.

Test Diodes

1. Push FUNC until "mV" shows at the lower right corner of the display.
2. Push SELECT three times to toggle to the mode of Diode.
3. Connect the red probe to the anode side and the black probe to the cathode side of the diode being tested.
4. Read the forward bias voltage value.
5. If the polarity of the test leads is reversed with diode polarity or the diode is broken, the display reading shows "OL".

Measure Capacitance

1. Push FUNC until "mV" shows at the lower right corner of the display.
2. Push SELECT four times to toggle to the mode of Capacitance.
3. Connect the red probe to the anode side and the black probe to the cathode side of the capacitor being tested.
4. Read the measured capacitance value on the display once the reading is stabilized.

Measure Temperature

1. Push FUNC until "mV" shows at the lower right corner of the display.
2. Push SELECT five times to toggle to the mode of Frequency.
3. Touch the probes to the desired test points.
4. Read the measured frequency value on the display.

Test for NCV

1. Push FUNC until "V" shows at the lower right corner of the display.
2. Push SELECT twice to toggle to the mode of NCV.
3. 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

Measure Frequency

1. Push FUNC to "V" or "mV" shows at the lower right corner of the display.
2. Push SELECT once time to toggle to the "AC" mode.
3. Then push the $\frac{Hz}{\%}$ button to enter the frequency mode.
4. Touch the probes to the desired test points.
5. Read the measured frequency value on the display.

Measure Duty Cycle

1. Push FUNC to "V" or "mV" shows at the lower right corner of the display.
2. Push SELECT once time to toggle to the "AC" mode.
3. Then push the $\frac{Hz}{\%}$ button twice to enter the duty cycle mode.
4. Touch the probes to the desired test points.
5. Read the measured duty cycle value on the display.

Measure Current

1. Push $\frac{mA}{\%}$ button to enter the current testing mode. Push $\frac{Hz}{\%}$ once time to toggle to the "AC" mode
2. Break the circuit path to be measured, connect the test leads across the break and apply power.
3. Read the measured duty cycle value on the display.

Specifications

Function	Range	Resolution	Accuracy	Max Value
DCV	8.000V	0.001V	±(0.5%+3)	1000V
	800.0V	0.01V		
	8000.0V	0.1V		
	10000V	1V		

DCmV	80.00mV	0.01mV	±(0.5%+3)	8000mV
ACV	8.000V	0.001V	±(1.0%+3)	750V
ACmV	80.00mV	0.01mV	±(1.0%+3)	800mV
DC Current (A/mA)	999.9mA	0.1mA	±(1.0%+3)	9.999A
AC Current (A/mA)	999.9mA	0.001A	±(1.2%+3)	9.999A
	800.0Ω	0.001Ω	±(1.0%+3)	
Resistance	8.000KΩ	0.001KΩ	±(0.5%+3)	800MΩ
	800.0KΩ	0.01KΩ		
	8.000MΩ	0.001MΩ	±(1.5%+3)	
	80.00MΩ	0.01MΩ	±(5.0%+20)	
Capacitance	9.999μF	0.001μF	±(2.0%+5)	9.999mF
	99.99μF	0.01μF		
	999.9μF	0.1μF	±(5.0%+5)	
	9.999mF	0.001mF	±(0.1%+2)	
Duty cycle	1%~99%	0.1%		
Temperature	(-20~1000) °C (-4~1832) °F			
Diode	√			
Continuity	√			
NCV	√			
Frequency response at AC modes: 40Hz ~ 1kHz				

Frequency	99.99Hz	0.01Hz	99.9Hz	0.1Hz	9.999kHz	0.001kHz	99.99kHz	0.01kHz	999.9kHz	0.1kHz	5.000MHz	0.001MHz
	±(0.1%+2)											
	5.000MHz											

General Specifications			
Display	8000 counts	Data Hold	√
Ranging	Auto/Manual	Backlight	√
Material	ABS	Flashlight	X
Update Rate	3 / s	Low Battery Indication	√
True RMS	√	Auto Power Off	√
Environmental Specifications			
Operating	Temperature	0~40°C	
	Humidity	<75%	
Storage	Temperature	-20~60°C	
	Humidity	<80%	

LIMITED WARRANTY AND LIMITATION OF LIABILITY

Customers enjoy one-year warranty from the date of purchase.
 This warranty does not cover fuses, disposable batteries, damage from misuse accident, neglect, alteration, contamination, or abnormal conditions of operation or handling, including failures caused by use outside of the product's specifications, or normal wear and tear of mechanical components.