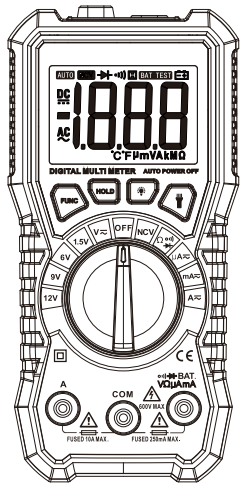


User Manual  
Professional Digital Multimeter



Made in China  
CE RoHS

#### 1. Preface

This digital multimeter is pocket sized with multiple functions, using 3 x 1.5v AAA batteries. The design adapts dual-interjection mold to produce its exquisite appearance that is both comfortable and durable by using elastic ABS material.  
The product meets technical specification standard of Digital Multimeter GB/T 13978-92 and safety standard requirement of Electronic Measuring Meter GB4793.1-1995 (IEC-61010-1:2001). the pollution category is Level 2 and its over-voltage standard is CAT II 600V.  
Applicable environment and professions of applying the DM08 can be in a variety of area, such as, but not limited to, educational facilities, research and development institutes, factories and other enterprises.

#### WARNING:

Improper use or without proper safety knowledge may result in personal injury or product damage. Please read and understand all safety measures and operation stated in each section of the manual for safe operation.

#### 2. Safety Information

In order to avoid injuries caused by electric shock or damaging the meter itself, please ensure these safety tips are followed:  
• Do not measure any voltage that exceeds capability of the DM08. (100V or more)  
• Internal circuit protection cannot protect the product from high currents. (100V or more)  
• Do not use if test leads are damaged or its metal conductors are exposed.  
• Do not use the DM08 under direct sunlight or in extremely high temperature environment.  
• Increased risk of electric shock when measuring voltage above 30V AC or 50V DC.  
• Make sure the DM08 is powered off before connecting any device to be measured.  
• Make sure the battery position (+/-) is correct when being replaced.

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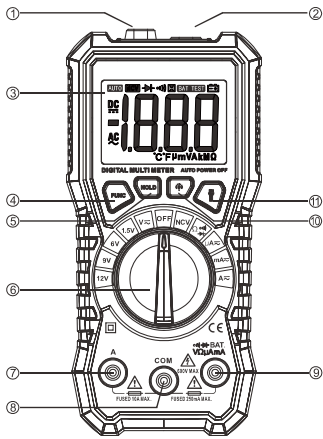
#### Display Indicators:

	dangerous voltage		ground connection
	AC		Warning, see the tips in the manual.
	DC		Double - insulated
	AC or DC		fuse

#### 3. Product Details

##### 3.1 Button/Display Description

1. NCV induction field
2. Flashlight
3. LCD Display
4. "FUNC"Function Selector
5. "HOLD"Data-hold button
6. Function range switch
7. 10A Input
8. "COM"Input
9. "V/Ω/μA/mA/ / /BAT"Input
10. Backlight On/Off
11. Flashlight On/Off



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#### 3-2. Detailed Button Functions:

Buttons	Function
FUNC	When Voltage/Current range is selected, press to select between AC and DC. When Continuity/Resistance range is selected, press to switch
HOLD	Allows data measured to be held in place, indicated by "H" displayed. Press once more to exit from "HOLD" and displays current active measurements.
	Press the "" button for 2 seconds to turn on the backlight, and another 2 seconds to turn off
	Press the "" button to turn on the flashlight, and press again to turn off.

#### 4. Technical Specifications.

##### 4-1. General Specifications

- Manual range, the full range is 1999 counts.
- Display: 3 .1 / 2 bit LCD display
- Overload protection: resistance measurement with PTC to protect circuit.
- HOLD: Data Hold function
- Low battery indicator
- Auto Sleep mode: DM08 will going to sleep mode after 15 minutes without any operation. Simply press any button or turn the switch to wake up the multimeter.
- Battery requirement: 1.5V AAA Battery x 3
- Working temperature and humidity: 0 ~ 40 °C / 32 ~ 104 °F , 45%~80%RH
- Storage temperature and humidity: -20 ~ 60 °C / -4 ~ 140 °F , 45%~80%RH

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- Security Level: IEC61010-1, CAT II 600V
- Dimensions: (L x W x H) 147mm x 71mm x 45mm
- Weight: Approx. 190g (Without batteries)

#### 4-2. Technical Index

Accuracy: (±a% rdg +digits) , 12 months warranty (Ambient temperature: 23 ± 5 °C relative humidity: <75%)

##### 4.2. 1 DC Voltage

Range	Resolution	Accuracy
200mV	0.1mV	± (0.5%rdg+2 digits)
2V	0.001V	
20V	0.01V	
200V	0.1V	
600V	1V	± (0.8%rdg+2 digits)

Input impedance: 10MΩ

Maximum Input Voltage: 600V DC (RMS)

##### 4.2.2 AC Voltage (50Hz-400Hz)

Range	Resolution	Accuracy
2V	0.001V	± (1%rdg+3 digits)
20V	0.01V	
200V	0.1V	
600V	1V	± (1.2%rdg+3digits)

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- \* Input impedance: 10MΩ
- \* Response: Average (sine wave RMS)
- \* Maximum Input Voltage: 600V AC(RMS)

##### 4.2.3 Resistance

Range	Resolution	Accuracy
200Ω	0.1Ω	± (0.8%rdg+2 digits)
2KΩ	0.001KΩ	
20KΩ	0.01KΩ	
200KΩ	0.1KΩ	
2MΩ	0.001MΩ	± (1%rdg+2 digits)
20MΩ	0.01MΩ	

##### 4.2.4 Diode

Range	Resolution	Accuracy
	0.001V	Displays the approximate value of the diode forward voltage

\* the Forward DC Current: tabout 1mA

\* the Reverse DC voltage: about 1.48V

##### 4.2.5 Continuity

Range	Accuracy
	If the resistance of the measured line is less than 100Ω, the buzzer will sound to indicate.

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- \* Open-circuit voltage: about 0.5V

#### 4.2.6 DC Current

Range	Resolution	Accuracy
200μA	0.1μA	± (1.5%rdg+3 digits)
2000μA	1μA	
20mA	0.01mA	
200mA	0.1mA	
10A	0.01A	± (2.0%rdg+5 digits)

\* Overload protection: μA/mA Range: F250mA (Fast blows), 10ARange: F10A Fuse (Fast blows).

\* Maximum Input Current: mA jack: 250mA, 10A jack: 10A.

#### 4.2.7 AC Current (50Hz-400Hz)

Range	Resolution	Accuracy
200μA	0.1μA	± (1.5%rdg+4 digits)
2000μA	1μA	
20mA	0.01mA	
200mA	0.1mA	
10.00A	0.01A	± (2.5%rdg+5 digits)

\* Overload protection: μA/mA Range: F250mA (Fast blows), 10ARange: F10A Fuse (Fast blows).

\* Maximum Input Current: mA jack: 250mA, 10A jack: 10A.

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#### 4.2.8 Battery Test

Range	Resolution	Built-in load
1.5V	0.001V	1.8KΩ
6V	0.01V	150Ω
9V	0.01V	910Ω
12V	0.01V	62Ω

\* Overload protection: F250mA(Fast blows)

#### 5. Operations

##### 5.1 DC/AC Voltage Test

1. The function switch must be selected to " " (Default voltage selection is DC, press "FUNC" to select between DC/AC). Connecting the black/orange test leads to the "COM" and "V" input sockets respectively Using the two terminals of test lead to measure the value of the pending circuit voltage(In parallel with the pending circuit),the meter LCD screen will display the voltage value.When testing DC voltage,meter screen can simultaneously display the voltage polarity which is connected by the orange test lead.

##### 5.2 Resistance Test

The function switch must be selected to " " setting (When meter screen displays "OL",it indicates that the input is open-circuited,that is to say,there is no any resistance connecting with meter).Connecting the black/orange test leads to the "COM" and "V" input sockets respectively. Using the two terminals of test lead to measure the value of the pending circuit

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resistance,the meter LCD screen will display the resistance value.

##### 5.3 Diode Test

The function switch must be selected to " " setting(Switching to diode " " level by pressing "FUNC"button).Connecting the black test lead and the orange test lead with the " Connecting the black/orange test leads to the "COM" and "V" input sockets respectively and connecting the black test lead and the orange test lead with the negative and positive of the measuring diode respectively,meter screen will display the value of diode forward bias voltage.If the test lead connected the opposite polarity with meter, meter screen will display"OL". Actually,an intact diode should generate 0.5V to 0.8V forward voltage drop.But the reading of the reverse bias voltage will depend on the change of the resistance readings in the other channel of two test lead needle.

##### 5.4 Continuity Test

The function switch must be selected to " " setting(Switching to diode " " level by pressing "FUNC"button)Connecting the black/orange test leads to the "COM" and "V" input sockets respectively and connecting the black test lead and the orange test lead with the negative and positive of the measuring diode respectively,meter screen will display the value of diode forward bias voltage.If the test lead connected the opposite polarity with meter,meter screen will display"OL". Actually,an intact diode should generate 0.5V to 0.8V forward voltage drop.But the reading of the reverse bias voltage will depend on the change of the resistance readings in the other channel of two test lead needle.

##### 5.5 DC/AC Current Test

1. Turn off the power and connected circuits, discharge all voltage capa

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1. - ciance on tested circuits. Select the desired function using the center switch.
2. Connect the black/orange test lead to each respective input sockets and turn off any pending circuitry.
3. Connect the black/orange test lead to each respective circuitry. Making the test lead opposite will make the reading of meter screen minus, but won't damage the multimeter.

4. Power on the multimeter to display readings on the LCD screen.
5. Once complete, power off the tested circuitry. Power off the multimeter, then proceed to disconnect the test leads from the circuitry.

#### CAUTION:

- (1) When measuring high currents between 5A to 10A, the conduction time should not exceed 10 seconds so as to avoid to generate the unstable data when doing heating test.
- (2) When performing multiple tests, 3-5 minutes gap between each measurement is recommended, so that the temperature of the shunt can restore to room temperature.

##### 5-6. NCV Test

Taking the NCV of meter top to conductor closely. When testing above 90V (RMS), the meter flashlight will light up and the buzzer will beep to indicate.

#### Notice:

1. Even if there is no sign for the meter,the voltage may still exist. Don't rely on non-contact voltage detector to determine whether there is any voltage on the meter wire or not. The detection operation may be influenced by the electrical outlet design, insulation thickness and other different

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1. factors.
2. Because of induction voltage,when the input terminal of meter inputs voltage,the meter backlight will light up.
3. The interference sources of external environment (such as flashlight, motor and so forth) might trigger non-contact voltage detection.

##### 5-7. Battery Voltage Test

Because of the built-in load, do not measure any non-battery voltage in order to avoid electric shock or make damages to meter.

1. The rotating switch must turn to "Test Cell" setting,meter LCD screen will display "BAT TEST".Connecting the black test lead and the orange test lead with the "COM"input socket and "V"input socket respectively. Using the two terminals of test lead to measure the value of the pending battery voltage.(In parallel with the pending circuit)Meter LCD screen can read its voltage value and display the voltage polarity of orange test lead.

#### 6. Maintenance

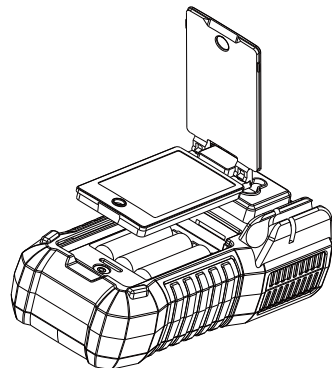
##### 6-1. Battery Replacement

#### WARNING

To avoid shock hazard,users should remove meter pen from the testing circuit before opening the battery cover of the meter.  
If the meter LCD screen displays " " symbol,it indicates that you must replace its battery.

1. Taking the testing wire apart from meter,then turning its power off. Removing the protective cover and using a screwdriver to open the meter battery cover,then removing the meter battery.Inserting the same type of fuse into the meter,Fastening meter battery cover.

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##### 6-2. Fuse Replacement

Steps to replacing fuse are as follows:

1. Taking the test wire apart from meter, then turning it off.
2. Removing the meter cover, then using the screwdriver to open the back of meter cover and removing the broken fuse.
3. Inserting the same type of fuse into the meter, covering the back of meter cover, fastening meter screws, and installing the protective cover.

##### 6-3. Cleaning

When users need to clean the surface of the meter, please use soft cloth it.Don't use some organic solvents that are able to corrode and dissolve the meter shell.

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