



VENLAB VM-200M Digital Multimeter User Manual

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VENLAB VM-200M Digital Multimeter



READ AND UNDERSTAND THIS MANUAL BEFORE USING THE INSTRUMENT

Failure to understand and comply with the WARNING and operating instructions can result in serious or fatal injuries and/or property damage.

- **Contact us:** support@venlabtools.com

Made in China.

Safet Information

- The Meter conforms to IEC1010 600V (CAT II) over voltage safety standard and pollution level 2.
- A Warning identifies conditions and procedures that are dangerous to the user.

To prevent possible electrical shock, fire, or personal injury:

- Do not alter the Product and use only as specified, or the protection supplied by the Product can be compromised.
- Do not use the Product around explosive gas, vapor, or in damp or wet environments.
- Do not operate the Product with covers removed or the case open. Hazardous voltage exposure is possible.
- Do not apply more than the rated voltage, between the terminals or between each terminal and earth ground.
- Do not use test leads if they are damaged. Examine the test leads for damaged insulation, exposed metal, or if the wear indicator shows. Check test lead continuity.
- Use the correct terminals, function, and range for measurements.
- The range switch should be placed in the correct range position.
- The input signal is not allowed to exceed the specified limit value to prevent electric shock and damage to the instrument.
- When measuring televisions or switching power supplies, be aware that there may be pulses in the circuit that can damage the circuit.
- Remove the batteries if the Product is not used for an extended period of time, or if stored in temperatures above 50°C.

Features

Display HOLD

In the Display HOLD mode, the Meter freezes the display.

1. Press the ' HOLD ' button, the meter display will hold the measured reading.
2. Press the ' HOLD ' button again to release the data, and the meter will return to the normal measurement state.

WARNING:

To avoid electric shock, when Display ' HOLD ' is activated, be aware that the display will not change when you apply a different voltage.

Backlight

1. Press ' LIGHT ' button to toggle the backlight on and off.
2. The backlight automatically turns off after 30 seconds.

NOTE:

When the battery power is low, the backlight brightness will not be enough.


Maintenance

Cleaning


- Turn off the power to the Meter and remove the test leads.
- Wipe the case with a damp cloth and mild detergent.
- Dirt or moisture in the terminals can affect readings.
- If there is any abnormality, stop using the meter immediately.

Measurement


Note:

- Check the battery first, if '  ' is displayed, the battery needs to be changed.
- Signal besides sockets warns the maximum input voltage and current.
- Switch to the right range before measurement.
- The red lead mentioned in this manual is positive in polarity, the black lead is negative.

DC Voltage Measurement

1. Put the black lead into the ' COM ' port and the red lead into the ' VIlmA ' port.
2. Switch to the '  ' area, select suitable ranges and put the test leads to the loaded circuit.

AC Voltage Measurement


1. Put the black lead into the 'COM' port and the red lead into the 'V/mA' port.
2. Switch to the '' area, select suitable ranges and put the test leads to the loaded circuit.

Voltage Measurement Note:

- If the correct range is unknown, choose the highest range, then switch from the high range to the low range.
- 'OL' means overload, please switch to a higher range.
- The Maximum input voltage is 600V.
- Avoid electric shock when measuring high voltage.

DC Current Measurement

1. Put the black lead into the 'COM' port and red lead into the '**VΩmA**' port if the current is under 200mA; put the red lead into the '10A' port if the current is between 200mA – 10A.

2. Switch to the '' area, select suitable ranges and put the test leads to the loaded circuit.

Note:

- If the correct range is unknown, choose the highest range, then switch from the high range to the low range.
- When the red lead is in the "10A" port, the measuring time should be less than 10 seconds to avoid the circuit heating affecting the accuracy.
- 'OL' means overload, please switch to a higher range.
- When the fuse is blown, replace it with the same specification.
- Do not measure AC current.

Resistance Measurement

1. Put the black lead into the '**VΩmA**' port and the red lead into the 'VΩmA' port.
2. Switch to the 'Ω' area, select suitable ranges and put the test leads to the loaded circuit.

Note:

- 'OL' means overload, please switch to a higher range.
- 'OL' will also be displayed if open-circuited.
- If the measured resistance is $> 1\text{M}\Omega$, it takes several seconds to get a stable reading, which is a normal phenomenon for the measurement of high resistance.
- Before testing a resistor in the circuit, please make sure the circuit is powered off and the capacitor is completely discharged.

hFE Measurement


1. Switch to the 'hFE' range.

2. Please confirm whether the transistor is 'PNP' or 'NPN'. Then put the 'E. B. C' feet into the corresponding sockets.


Note:

- The Meter tests the approximate value of h_{FE} , and the test conditions are base current $10\mu A$ and V_{ee} about $3V$.


Diode Measurement

1. Put the black lead into the 'COM' port and the red lead into the 'VOM A' port.
2. Switch to the '


Note:

- 'OL' will be displayed if open-circuited.
- If the test leads are connected reversely with the diode polarity, 'OL' will also be displayed.
- '


Continuity Measurement

1. Put the black lead into the 'COM' port and the red lead into the 'VΩmA' port.
2. Switch to the '

Note:

- 'OL' will be displayed if open-circuited.
- The circuit should be tested when the power is off because any loaded signal would make a buzzer.
- '

Specifications

Maxim Display	2000 counts
Low Battery Indication	‘  ’ displayed
Operation Temperature	0°C—40°C, <85%RH
Storage Temperature	-10°C—50°C, <85%RH
Battery Type	1.5V AA Batteries
Fuse	200mA/250V PPTC, 10A/250V fuse
Accessories	1 x Manual, 2 x AA Batteries, 2 x Test Leads
Input polarity indication	Automatically displays “-“
Data Hold	“H” displayed

DC Voltage

Range	Resolution	Accuracy	Overload Protection
200mV	0.1mV	$\pm (0.5\%+5)$	250V
2V	0.001V		600V
20V	0.01V		
200V	0.1V		
600V	1V	$\pm (0.8\%+5)$	
Input Impedance: 10MO			
Overload Protection: 200mV 250V; Other: DC/AC 600V			

AC Voltage

Range	Resolution	Accuracy
200V	0.1V	± (1.2%+10)
600V	1V	
Frequency Response: 40Hz-400Hz; T-RMS		

DC Current

Range	Resolution	Accuracy
200uA	0.1uA	± (1%+2)
2mA	1uA	± (1.5%+2)
20mA	0.01mA	
200mA	0.1mA	
10A	0.01A	± (3%+2)
Overload Protection: mA: 200mA / 250V PPTC 10A: 10A/250V fuse		



Resistance

Range	Resolution	Accuracy
2000	0.1 0	± (0.8%+3)
2KO	0.001KO	± (0.8%+2)
20KO	0.01KO	
200KO	0.1KO	
2MO	0.001MO	± (1%+3)
Overload Protection: 250V AC		

hFE

Range	Instruction	Condition
hFE	NPN or PNP , 0-1000	Base current 10uA, Vee about 3V

Diode and Audible Continuity

Range	Instruction	Condition
	Show forward voltage	OCV 3V DC
	<500, buzz	OCV3V

Three Year Warrant

For further detail of warranty coverage and warranty repair information, send email to support@venlabtools.com.



UK/REP

YH Consulting Limited

- C/O YH Consulting Limited Office 147, Centurion House, London Road, Staines-upon-Thames, Staines, Surrey, London, TW18 4AX
- +44 07514-677868
- H2YHUK@gmail.com.

EC/REP

E-CrossStu GmbH

- Mainzer Landstr.69, 60329, Frankfurt am Main, Germany.
- e-crossstu@outlook.com.
- +49 69332967674

Documents / Resources

 Multimeter User Manual VM-200M <small>READ AND UNDERSTAND THIS MANUAL BEFORE USING THE INSTRUMENT Failure to understand and comply with the WARNING and operating instructions can result in serious or fatal injuries and/or property damage. Contact us: support@venlab.com Made in China CE RoHS</small>	VENLAB VM-200M Digital Multimeter [pdf] User Manual VM-200M Digital Multimeter, VM-200M, Digital Multimeter, Multimeter
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References

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