



JM-G3401

JIMI Multimeter User Manual






1. Product Description

JM-G3401 is a pocket-size automatic digital multimeter with 3 5/6 digit. This device has stable performance, high precision, high reliability, clear reading and overload protection functions. It's powered by two AAA 1.5V batteries. The oversized LCD display is powered by a boost voltage to ensure ultra-bright backlight even at low battery of the 2.3V. It's portable and popular. The backlight is long bright and it can be automatically turned off after 15 seconds with no operation. It has various functions for testing DC /AC voltage, DC/AC current, 9V battery, 1.5V battery, resistance, capacitance, diodes, circuit on-off, zero fire line judgment, turn RMS and frequency measurement . This device has high performance and it is the ideal tool for laboratory, factory, radio hobbyist and family.

2. Safety Warnings

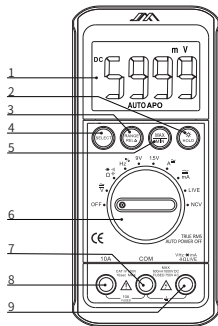
This device is designed to conform the term of IEC1010 (safety standard issued by the International Electrotechnical Commission). Please read the safety notes before using.

- 1) Do not input exceed DC 1000V or AC 750V when measuring the voltage.
- 2) The safe voltage is below 36V. When measuring the voltage higher than 36V DC and 25V AC, it is necessary to check whether the test pens are in reliable contact, connected correctly and insulated in case electric shock.
- 3) The test pen must leave the test point when changing functions and measurement ranges.
- 4) Choose the correct function and measurement range to avoid wrong operation. This device has full range protection function, for the sake of safety, please pay more attention.

- 5) Do not input more than 10A current during measurement.
- 6) Safety symbol: “” means hazardous voltage; “” means grounding; “” means double insulation ,
 “” means operators must refer to the instruction manual; “” means Low voltage.

3. Instructions For Use


- 1) LCD display
- 2) HOLD button, control the backlight on/off.
Press longer than 2 seconds, backlight is on.
Press longer than 2 seconds again, backlight is off.
- 3) RANGE button is the conversion of manual range.
It is used as REL relative measurement function when capacitance is tested.
- 4) Function selection button
- 5) MAX/MIN measurement
- 6) Multi function dial
- 7) COM input jack(negative input, insert Black plug)
- 8) 10A input jack
- 9) Input jack for voltage, resistance, diodes, capacitance, frequency, current, 9V battery, 1.5V battery, Live test



400mA

4. Specifications

1) General Information

- ① Display: LCD
- ② Display max count: 5999(3 5/6)digit automatic polarity display
- ③ Measurement method: high precision high speed A/D converter
- ④ Sampling rate: about 3 times / second
- ⑤ Overload display: "OL"
- ⑥ Low voltage: LCD displays "  "
- ⑦ Working environment temperature: (0 ~ 40) °C, relative humidity < 80%
- ⑧ Battery: AAA 1.5V
- ⑨ Appearance size: 153×70×53mm (Length×Width×Height)
- ⑩ Weight: approx.340g (with battery)
- ⑪ Accessories: user manual*1pc, certificate*1pc, package box*1pc, test pen*1pc, AAA1.5V battery*2pcs, storage bag *1pc

2) Technology Information

2-1. Accuracy: (Reading a%+least significant digit),Ensure accuracy of ambient temperature:(23±5) °C,
relative humidity < 75%,The calibration guarantee period is one year from the ex-factory date.

2-2. Performance (“▲”Indicates it has this function)

Function	
DCV	▲
ACV	▲
DCA	▲
ACA	▲
resistance,diodes,circuit on-off	▲
Frequency	▲
Capacitance	▲
NCV	▲

zero/fire line Live test	▲
full unit symbol	▲
backlight manual/automatic off	▲
true RMS measurement	▲
9V battery, 1.5V battery	▲


2-3. Echnology Index

2-3-1. DC Voltage

Measurement Range \ Accuracy	JM-G3401	Resolution
600mV	$\pm (0.5\%+3)$	0.1mV
6V		1mV
60V		10mV
600V		100mV
1000V	$\pm (0.8\%+10)$	1V

Input resistance: 10M Ω | Overload protection: measurement range of 6V is 550V DC or maximum of AC |
Other measurement range is 1000V DC or maximum 750V of AC |

Operation as following:

1. Insert the Black plug into "COM" jack, insert the Red plug into "V/ Ω /Hz" jack.
2. Turn the dial to " " and press SELECT button to "DC" measurement mode. (The default value is DC voltage.)
3. Put the test pen in reliable contact with the test point, screen will display the measured voltage value.
The connected point of red test pen is the voltage polarity.

Attentions:


- Do not input voltage exceed DC1000V or AC750V to avoid the risk of damage to the device circuit.
- Special care should be taken to avoid electric shock when measuring high-voltage circuits.
- Must disconnect the test pen from the circuit under test, after all measurement operations are completed.

2-3-2. AC Voltage

Measurement Range \ Accuracy	JM-G3401	Resolution
600mV	$\pm (2.0\%+10)$	0.1mV
6V	$\pm (0.8\%+3)$	1mV
60V		10mV
600V		100mV
750V	$\pm (1.2\%+10)$	1V

Input resistance: 10M Ω | Standard sinusoidal and triangular wave frequency response is 40Hz-1kHz |
Other waveform frequency response is 40Hz-200Hz |

Operation as following:

1. Insert the Black plug into "COM" jack, insert the Red plug into "V/ Ω /Hz" jack.
2. Turn the dial to " " and press SELECT button to "AC" measurement mode. (The default value is DC voltage.)

Attentions:

- There are some residual digits in each range before the test, but they do not affect the measurement accuracy.
- Do not input voltage exceed 750Vrms to avoid the risk of damage to the meter circuit.
- Special care should be taken to avoid electric shock when measuring high-voltage circuits.
- Must disconnect the test pen from the circuit under test, after all measurement operations are completed.

2-3-3. 1.5V/9V Battery Measurement (DC)

Measurement Range \ Accuracy	JM-G3401	Discharge Resistance	Resolution
1.5V	± (2%+3)	36Ω	1mV
9V		360Ω	10mV

Input resistance: 1.5V points 36Ω discharge resistance | 9V points 360Ω discharge resistance |
Overload protection: 1.5V/9V: 200mA/250V Self recovery fuse

Operation as following:

1. Insert the Black plug into "COM" jack, insert the Red plug into "V/Ω/Hz" jack.

- Turn the dial to "1.5V" or "9V", and turn to different gears according to the different battery measurement .
- Put the test pen in reliable contact with the test point, screen will display the measured value.
The connected point of red test pen is the voltage polarity.

Attentions:

- It is forbidden to input exceed 36V DC and 25V AC voltage between the current jack and the "COM" jack.
- Do not input a current value exceed 400mA into the battery, or it will burn out the fuse.

2-3-4. DC mA

Measurement Range \ Accuracy	JM-G3401	Resolution
60mA	± (1.2%+10)	10uA
400mA		100uA
6A	± (2.0%+10)	1mA
10A		10mA

Maximum measured pressure drop: 600mV | Overload protection: 400mA: 200mA/250V Self recovery fuse | 10A:10A/250V Quick melting ceramic fuse|

Operation as following:

1. 400mA current measurement; Insert the Black plug into "COM" jack, insert the Red plug into "V/ Ω /Hz" jack. Turn the dial to "mA" and press SELECT button to "DC" measurement mode.(The default value is DC.); Then use the test pen to measure the circuit.
2. 10A current measurement; Insert the Black plug into "COM" jack, insert the Red plug into "10A"jack. Turn the dial to "A" and press SELECT button to "DC" measurement mode (The default value is DC.); Then use the test pen to measure the circuit.
3. The measured current value and the current polarity of the red test pen point will be displayed on the screen at the same time.

Attentions:

- The power supply in the circuit should be turned off before the test pen is connected in series to the circuit to be tested.
- The maximum input current of mA is 400mA; The maximum current of 10A range is 10A (Depends on where the red test pen is inserted). Excessive current will damage the fuse of mA range. Must be careful that each measurement time should not exceed 10 seconds, large current will make the circuit heating, and even damage the device.
- When plug into the current input jack, do not connect the test pen to any circuit in parallel. It will damage the fuse and device.
- It is forbidden to input exceed 36V DC and 25V AC voltage between the current jack and the "COM" jack.

2-3-5. AC mA

Measurement Range \ Accuracy	JM-G3401	Resolution
60mA	$\pm (1.2\%+10)$	10uA
400mA		100uA
6A	$\pm (2.0\%+10)$	1mA
10A		10mA

Maximum measured pressure drop: 600mV | Overload protection: 400mA: 200mA/250V Self recovery fuse | 10A: 10A/250V Quick melting ceramic fuse |

Operation as following:

1. 400mA current measurement; Insert the Black plug into "COM" jack, insert the Red plug into "V/ Ω /Hz" jack. Turn the dial to "mA" and press SELECT button to "AC" measurement mode (The default value is DC.); Then use the test pen to measure the circuit.

2. 10A current measurement; Insert the Black plug into "COM" jack, insert the Red plug into "10A" jack. Turn the dial to "A" and press SELECT button to "AC" measurement mode (The default value is DC.); Then use the test pen to measure the circuit.
3. The measured current value and the current polarity of the red test pen point will be displayed on the screen at the same time.

Attentions:

- The power supply in the circuit should be turned off before the test pen is connected in series to the circuit to be tested.
- The maximum input current of mA is 400mA; The maximum current of 10A range is 10A (Depends on where the red test pen is inserted). Excessive current will damage the fuse of mA range. Must be careful that each measurement time should not exceed 10 seconds, large current will make the circuit heating, and even damage the device.
- When plug into the current input jack, do not connect the test pen to any circuit in parallel. It will damage the fuse and device.
- It is forbidden to input exceed 36V DC and 25V AC voltage between the current jack and the "COM" jack.

2-3-6. Resistance (Ω)

Measurement Range \ Accuracy	JM-G3401	Resolution
600 Ω	$\pm (0.8\%+5)$	0.1 Ω
6k Ω	$\pm (0.8\%+3)$	1 Ω
60k Ω		10 Ω
600k Ω		100 Ω
6M Ω		1k Ω
60M Ω	$\pm (2.5\%+3)$	10k Ω

Open-circuit voltage: less than 3V | Overload protection: 550V DC or maximum of AC


Operation as following:

1. Insert the Black plug into "COM" jack, insert the Red plug into "V/ Ω /Hz" jack.
2. Turn the dial to " Ω " and press SELECT button to " Ω " measurement mode.

Attentions:

- When measuring low resistance, the test pen will bring internal resistance. In order to obtain accurate readings, you can record the short circuit value of test pen first. Subtract the short circuit value of test pen from the measured reading.
- When measuring the on-line resistance, all the power supply of the circuit under test must be turned off and all the capacitors must be fully discharged to ensure the correct measurement value.
- It is strictly forbidden to input voltage in the resistance range, although this device has a voltage protection function in this range.

2-3-7. Diode and on-off test

Measurement Range	Display Value	Test Condition
	Forward voltage drop of diode	DC forward current is about 1mA Open-circuit voltage is about 3V
	Buzzer makes a long sound, resistance test value of two points is less than $(50 \pm 20)\Omega$	Open-circuit voltage is about 3V Press "SELECT" button to switch the function

Overload protection: 550V DC or maximum of AC.

WARNING: For safety, it's forbidden to input voltage values at this measurement range.

Operation as following:

1. Insert the Black plug into "COM" jack, insert the Red plug into "V/ Ω /Hz" jack.
(Note the polarity of the red test pen is "+").
2. Turn the dial to " $\overline{\Omega}$ " and press SELECT button to " \rightarrow " measurement mode.
Connect the test pen to the diode, the reading is an approximation of the forward voltage drop for the diode.
For silicon PN junction, the normal value is generally about 500mV~800mV.
If the measured diode is open circuit or polarity reverse, it will display "OL".
3. Press SELECT button to " \cdot)" measurement mode, connect the test pen to two points of circuit.
If device has built-in buzzer.
4. The resistance between two points is less than $(50 + 20)\Omega$ when buzzer sounds and on-off alarm indicators.

Attentions: Do not input voltage in " $\overline{\Omega}$ " mode to avoid damage to the device.

2-3-8. Capacitance (C)

Accuracy Measurement Range	JM-G3401	Resolution
60nF	$\pm (3.5\%+20)$	10pF
600nF		100pF
6uF		1nF
60uF		10nF
600uF		100nF
6mF		1uF
60mF	$\pm (5\%+3)$	10uF

Overload protection: 550V DC or maximum of AC

Operation as following:

1. Insert the Black plug into "COM" jack, insert the Red plug into "V/ Ω /Hz" jack.
2. Turn the dial to " Ω ", and press SELECT button to "C" measurement mode.
3. Connect the test pen across the capacitance under test.

Attentions:

- When measuring capacitance with 10nF, the display value may have a residual reading which is the distributed capacitance of the test pen. To get accurate reading, please subtract this value after measurement.
- When have severe leakage or breakdown of the large capacitance measurement mode, the display value is not stable. It takes several seconds to get the stable reading. It's normal situation for large capacitance measurements.
- Please discharge the capacitor sufficiently before testing the capacitance capacity to prevent damage to the fuse and device.
- Unit: 1F=1000mF 1mF=1000uF 1uF =1000nF 1nF=1000pF

2-3-9. Frequency Measurement

Accuracy Measurement Range	JM-G3401	Resolution
10Hz	$\pm (0.1\%+3)$	0.01Hz
100Hz		0.1Hz
1kHz		1Hz
10kHz		10Hz
100kHz		100Hz
1MHz		1kHz
10MHz		10kHz

Input sensitivity: 1V RMS | Overload protection: 550V DC or maximum of AC (less than 10seconds)

Frequency Measurement :

1. Insert the test pen plug or shield cable into "COM" jack and "V/ Ω /Hz" jack.
2. Turn the dial to "Hz", connect the test pen or cable to the signal source or load under test, and press "SELECT" button to select duty cycle measurement.

Attentions:

- It's workable to get the reading when input exceed 10Vrms, but the value is not accurate.
- It's best to use shielded cables when measuring small signals in noisy environments.
- Special care should be taken to avoid electric shock when measuring high voltage circuits.
- It's forbidden to input voltage exceed 250V DC or AC peak values to avoid damage to the device.

2-3-10. Zero/fire line measurement (LIVE)**Operation as following:**

1. Turn the dial to "LIVE" (LCD display "LIVE" in no measurement state).
2. Insert the Red plug into "V/ Ω /Hz" jack (It's ok to use single test pen to operate.)

3. Insert the Red test pen into the zero line or fire line. If it's a fire line, the buzzer will make a continuous sound and the backlight is on at the same time, LCD will display "1". If it's the zero line, the device will be switched on.

Attentions: This function is suitable for 50Hz-1KHz frequency signals.

2-3-11. NCV Measurement

Operation as following:

1. Turn the dial to "NCV" (LCD displays "EF" in no measurement state).
2. The device has a test point for NCV at the front end. Close the point to the AC voltage, the buzzer will emit a different sustained sound depends on the intensity of the signal.
Meanwhile the LCD will display different number of segments according to the strength of the signal.

5. Auto power on and off

When stops using the device for about 15 minutes, it will automatically power off and enter dormant state.

When restarting the power, dial to "OFF" and turn to other gear position.

Press and hold the "SELECT" button and turn on the power switch at the same time. The "APO" symbol on the screen will disappear and the automatic shutdown function will be cancelled.

6. Trouble Shooting

If your device is not working properly, the following methods can help you quickly solve the general problem. If the error still cannot be removed, please contact the repair center or dealer.

Error	Inspection position and method
No Display	Power is not connected
	Replace battery
Low battery symbol	Replace battery
No current coming in	Replace fuse
Large error of Resistance Reading	The test pen is not in good contact

- It will not be notified if this manual is updated.
- The contents of this manual are considered to be correct. If user finds any errors or omissions, please contact the manufacturer.
- Our company does not bear responsibility that accident and harm caused by the user's wrong operation.
- The functions described in this manual are not used as a reason to use the product for a special purpose.