DIGITAL MULTIMETER

AX-101

OPERATION MANUAL

GENERAL

The instrument is a pocket digital multimeter, which be used to measurement DCV, ACV, DCA, resistance, diode and continuity test. The instrument is an excellent ideal tool for labs; household and wireless enthusiast.

SAFETY NOTES

1. Do not input a limited value when measuring ranges.
2. Voltage less than 36V DC and 25V AC is a safety voltage. When measuring voltage higher than DC 36V, AC 25V, check the connection and insulation of test leads to avoid electric shock.
3. Be sure to keep the test leads off the testing point when converting function and range.
4. Don't input the voltage value when measuring resistance.

SPECIFICATION

1.GENERAL

Displaying:	22mm data height LCD display
Max. indication:	1999 (31/2), auto polarity indication
Sampling rate:	approx. 3 times/sec
Over range indication:	MSD display "1"
Low battery indication:	" " symbol displays
Operation environment:	0 ～4 0℃, relative humidity < 80%
Store environment :	-10 ～ 50 ℃, relative humidity < 80%
Power:	one 9V battery (NEDA1604/6F22 or equivalent)
Measurement:	140x65x40 mm (lengthxwidthxheight)
Weight:	approx. 180g (including a 9V battery)
Accessories:	operation manual, gift box, test lead and a 9V battery

2. TECHNICAL DATA

Accuracy:	±(a% × reading + d)
Surrounding:	(23 ± 5),℃, relative humidity<75%. Guaranteed for one year since production data

DCV

RANGE	ACCURACY	RESOLUTION
200mV	±(0.5%+4)	100uV
2V		1mV
20V		10mV
200V		100mV
600V	±(1.0%+5)	1V

Input resistance : 1M Ω for all range

ACV

RANGE	ACCURACY	RESOLUTION
200v	±(1.2%+10)	100mV
600v		1V

Input resistance : 1MΩ
Frequency response : 40~400Hz

DCA

RANGE	ACCURACY	RESOLUTION
2mA	±(1.5%+3)	1uA
200mA		100uA
10A	±(2.0%+5)	10mA

Max. input current: 10A (within 10 seconds)
Overload protection: 0.2A / 250V self-resume fuse, 10A/250V fast melt fuse.

RESISTANCE (Ω)

RANGE	ACCURACY	RESOLUTION
200 Ω	±(0.8%+5)	0.1 Ω
2k Ω	±(0.8%+3)	1 Ω
20k Ω		10 Ω
200k Ω		100 Ω
20M Ω	±(1.0%+15)	
200M Ω	±[5.0%(1.0%+15)]	10k Ω

Note: For the range of 200Ω short-circuit test probes together to measure the resistance of the test leads and then subtract it from the real measurement result.

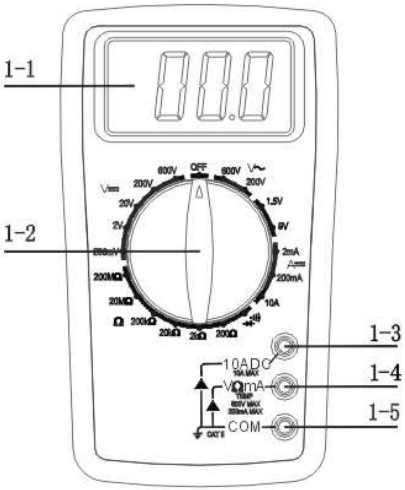
Diode and continuity testing

RANGE	DISPLAYING	TESTING CONDITION
	Forward voltage drop of diode	Forward DCA is approx. 1mA, the backward voltage is approx 3V
	Buzzer makes a long sound while resistance is less than (70±20)Ω	Open voltage is approx. 3V

Overload protection：DC 250V or AC peak value.

Bartery test:

At 1.5V range, overload inside is 15Ω, working current is 100mA
At 9V range, overload inside is 900Ω, working current is 10mA



PANEL DESCRIPTION

1. LCD displaying：display the value and unit,
2. knob switch: change the test function and range,
3. 10A current test jack,
4. Voltage, resistance, current jack: less than 200mA current test jack,
5. GND

DC Voltage Measurement

1. Apply the black test lead to “COM” terminal and the red one to V/Ω terminal;
2. Set the knob to a proper DCV range, and connect the leads crossly to the electric circuit under test; LCD displays polarity and voltage under test connected by the red test lead.

Note:

1. Firstly users should set the knob to the highest range, if users had no idea about the range of voltage under test, then select the proper range based on displaying value.
2. When LCD displays icon “1”, meter is over range thus should set the knob to a higher range.
3. Max. input voltage is 600V, over it might damage the circuit.
4. Please avoid touching high voltage circuit when measuring it.

AC Voltage Measurement

1. Apply the black test lead to “COM” terminal and the red one to“V/Ω“terminal;
2. Set the knob to a proper ACV range, and connect the leads crossly to the electric circuit.

Note:

1. Firstly users should set the knob to the highest range, in the case of no idea about the range of voltage under test, and then select the proper range based on displaying value.
2. When LCD displays icon “1”, meter is over the max. Value of range thus should set the knob to a higher range.
3. Max. input voltage is 600Vrms, over it might damage the circuit.
4. Please avoid touching high voltage circuit when measuring it.

DC Current Measurement

1. Apply the black test lead to “COM” jack and the red one to “V/Ω/mA” jack (Max. 200mA), or the red one to “10A” jack(Max.10A);
2. Set the knob to a proper DCA range, and connect the leads in series to the electric circuit under test, LCD displays polarity and current value under test connected by the red test lead

Note :

1. First, set the knob switch to the top range if you do not know the approximate value of the measured current, and then select the appropriate range based on the displayed value.
2. If the LCD shows only "1", it means that the measuring range has been exceeded. Select a higher range using the knob switch.
3. Max. input current is 200mA or 10A (depends on the insert position of the red test lead), over large current will melt the fuse. When measuring, if the meter is no reading display, please check the relevant fuse.

Resistance measurement

1. Apply the black test lead to “COM” jack and the red one to “V/Ω” jack;
2. Set the knob to a proper resistance range, and connect the leads crossly to the resistance under test.

Note :

1. The LCD displays “1”, while the resistance is over the selected range. The knob should be adjusted to a higher range. When resistance under test is over 1MΩ, reading shall be stable in a few seconds, which is a normal status when measuring high resistance.
2. When input terminal is in open circuit, overload displays.
3. When measuring in line resistor, be sure that the power is off and all capacitors are released completely.
4. Do not input voltage at the range of resistance, it is forbidden absolutely.

Diode and Continuity test

1. Apply the black test lead to “COM” terminal and the red one to V/Ω terminal (the polarity of red lead is “+”) ;
2. Set the knob to“  ”range, connect test leads to the diode under test, the red test lead connect to diode positive polarity, the reading is the approx. value of diode forward volt drop.
3. Apply test leads to two points of tested circuit, if the inner buzzer sounds, the resistance is less than (70 ± 20) Ω.

Battery test

Set the range to :1.5V” or “9V”, it can test if the “1.5V” or “9V” battery has enough working current, thus can judge the quality of battery.

MAINTENANCE

Do not try to modify the circuit.

NOTE:

1. Do not input voltage over than DC 600V or AC 600Vrms;
2. Do not measure a voltage on range Ω;
3. Be sure to fit on the battery correctly and close the cabin before taking measurement;
4. Remove the test leads off testing points and turns off the meter before replacing battery or fuse.

BATTERY REPLACEMENT

NOTE: Pay attention to the battery status. Please replace the battery as following steps when the icon “  ”displays:

1. Open the back cover.
2. Replace a new battery with 9V. An alkaline battery is recommended because of its good capacity.;
3. Fix back cover.

FUSE REPLACEMENT

Please use the same size fuse as replacement.

- The specifications are subject to change without notice.
- The content of this manual is regarded as correct, error or omits Pls. contact with factory.
- We hereby will not be responsible for the accident and damage caused by improper operation.
- The function stated for this User Manual cannot be the reason of special usage.

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