6000counts

Operation Manual of Pocket Type Intelligent Scanning Digital Multimeter

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6000Counts Pocket Type Intelligent Scanning Digital Multimeter

1. Overview

6000counts is a pocket type 3 5 / 6-digit pocket type real effective value intelligent scanning digital instrument; the series is triple display: main display, secondary display, analog bar. Except for the display frequency of AC voltage measurement sub display, other function sub display is normal temperature. In the process of using, users can operate continuously. There is no need to turn the dial to select the function. The meter will automatically recognize and measure based on the input AC or DC current/resistance. It has stable performance, high precision, high reliability, clear reading and overload protection. Driven by AAA 1.5V battery, the instrument adopts large screen LCD display and adopts boost power supply. Even at the edge of 2.3V low battery, it can ensure the high brightness of backlight and flashlight. The meter is easy to carry and is very popular among users. This series of instruments can manually switch and measure DC voltage and AC voltage, capacitance, NDV, diode, continuity test, live wire judgment and true RMS. It is a superior tool and an ideal tool for laboratories, factories, radio enthusiasts and families.

2. Safety Precautions

This series of instruments is designed in accordance with IEC1010 (Safety Standards promulgated by the International Electrotechnical Commission), please read the safety precautions before use.

1. When measuring voltage, please do not input the limit voltage exceeding the effective value of DC 700V or AC 500V;
2. The voltage below 36V of the current file is a safe voltage;
3. When changing functions and ranges, the test pen should leave the test point;
4. Select the proper function and range, beware of wrong operation, although the series of instruments with a full-range protection, but for safety reasons, you still pay more attention;
5. Safety Symbol Description: " ⚠ " Exist dangerous voltage, " ⏚ " Ground , " ⧈ " Double insulation, " ⚠ " Operator must refer to the instruction manual, " ⊟ " Low voltage symbol.

3、Characteristics

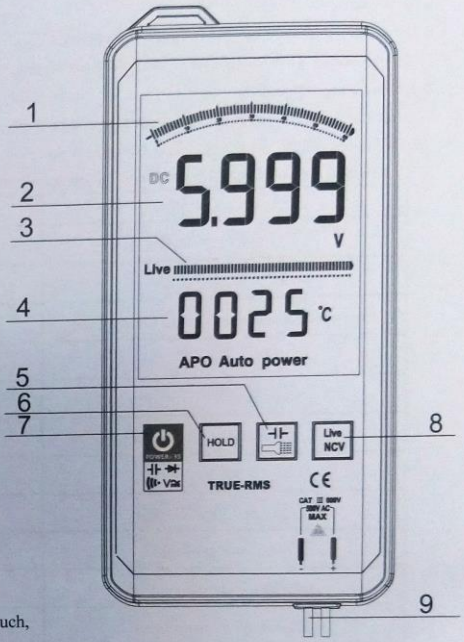
1. General Characteristics
1-1. Display mode: triple display LCD; main display, sub display, analog bar;
1-2. Maximum display: 5999 (3 5/6) bit automatic polarity display;
1-3. Measurement method: double integral A/D conversion;
1-4. Sampling rate: about 3 times per second;
1-5. Over range display: The highest position shows "OL";
1-6.Continuous power operation function;
1-7. Low voltage display: " ⊟ " symbol appears;
1-8. Working environment: (0～40)℃, relative humidity＜80%;

1-9. Power: AAA 2* 1.5V battery;
1-10. Volume (size): 139×68×18mm (L×W×H);
1-11. Weight：about 175g（including 1.5V battery）;
1-12. Attachment: One instruction manual, one certificate, one outer packaging box, one pair of test leads, two AAA1.5V batteries.
2. Technical characteristics
2-1. Accuracy: ±(a% of reading + least significant digit), to ensure accuracy Ambient temperature: (23±5)℃, relative humidity <75%, calibration guarantee period from the date of manufacture for one year.
2-2. Performance (Note "▲" indicates that the meter has this function)

Function	
DC voltage DCV	▲
AC voltage ACV	▲
Resistor / Diode / On-Off Test / Capacitor	▲
Frequency F	
Touch key	▲
Continuous power operation	▲
NCV	▲
Zero line / Fire line test	▲
Full unit symbol	▲
Backlight manual/Auto off	▲
True RMS measurement	▲
Temperature（℃/℉）	▲
Flashlight lighting	▲

4. Operation panel instructions

1. Simulation bar;
2. LCD display;
3. Live wire simulation indication;
4. Normal temperature display status;
5. Quick selection of capacitor/flashlight key;
6. Data lock key;
7. Power on and off for more than 3 seconds; short trigger for AC voltage/ DC voltage / diode / buzzer / capacitor switching, so as to cycle;
8. Electric field measurement (NCV) / neutral wire measurement (LIVE);
9. The red probe is the input port of voltage, resistance, diode, capacitor and buzzer; Black is the negative end of the input.



Note:

1) The back light is always on, LCD is highlighted, and the user is constantly on In use, the instrument will not turn off the power supply; when it stops using, it will automatically Power off; truly intelligent operation without power off, refer to the power off instructions for details.

2) The table adopts touch design for keys, which is more safe and reliable. When using touch, Every time a key is triggered, it is better to have an interval of more than 1 second to avoid false triggering.

3) When touch any touch key, the touch key and panel are on, and you can switch the function key. After 5 seconds, the touch key and panel light are turned off and locked.

5. Technical Specifications

1. DC voltage / AC voltage automatic scanning test (DCV / ACV)

Range \ Accuracy	6000counts	Resolution
DC/AC6V	±（0.5%+3）	0.001V
DC/AC60V		0.01V
DC/AC600V		0.1V
DC1000V/AC750V	±（0.8%+10）	1V

Input impedance: 10MΩ; overload protection: 1000V DC or 750V AC peak.

The specific operations are as follows:

1-1. Long press POWER is greater than 2S, the boot display is automatically scanned state "----".

1-2. Insert the black test lead into the "COM" jack and the red test lead into the "V/Ω" jack; the test leads are reliably in contact with the test point.

1-3. When the measured voltage between the input port "COM" and "VR" is greater than 0.6V, regardless of the AC voltage or DC voltage, the meter will compare the DC component with the AC component, take the larger component signal, and then measure according to the measurement. The value is automatically switched between 6V/60V/600V/DC700V (AC500V) and the measured value is displayed on the LCD.

Note:

1) The input voltage must not exceed DC700V or AC500V. If it exceeds, there is danger of damage to the instrument circuit. When high voltage circuit, pay special attention to avoid electric shock;

2) After completing all measurement operations, disconnect the test leads from the circuit under test.

2. Resistance（Ω）

Range \ Accuracy	6000counts	Resolution
600Ω	±（0.8%+5）	0.1Ω
6kΩ	±（0.8%+3）	1Ω
60kΩ		10Ω
600kΩ		100Ω

6MΩ	±（2.5%+3）	1kΩ
60MΩ		10kΩ

Input impedance: 10MΩ; overload protection: 1000V DC or 750V AC peak.

The specific operations are as follows:

2-1. The boot display is in the automatic scan status "----".

2-2. Insert the black test lead into the "COM" jack and the red test lead into the "V/Ω" jack; the test leads are reliably in contact with the test point.

2-3. 3. If the measuring resistance at both ends of the probe is less than 50 Ω, the buzzer will emit continuous sound. It needs to measure with a fast buzzer, and the power key will be triggered repeatedly to enter the buzzer for rapid measurement

The symbol "  " will be displayed on the LCD for fast buzzer / diode measurement. This function can be switched automatically according to the needs of measurement.

2-4. If the closed loop resistance is measured, the resistance across the resistance to be measured must be discharged. Otherwise, if the voltage in the loop is greater than 0.6V, the meter will mistakenly consider the voltage measurement and enter the voltage measurement mode.

2-5. Input the resistance measurement value between the input port "COM" and "V/Ω". The meter will automatically switch between 600Ω/6kΩ/60kΩ 600kΩ/6MΩ/60MΩ according to the measured value of the resistance, and then the measured value will be on the LCD.

Note:

1) When measuring low resistance, the test leads will bring internal resistance. To obtain accurate reading, you can record the short value of the test lead first, and subtract the value when the test lead is shorted in the measurement reading;

3. Fast continuity test / diode / capacitor

Range	display value	test condition
"----"	Diode forward voltage drop	Forward DC current is about 1mA, open circuit voltage is about 3V
	The buzzer sounds long and the resistance of the test is less than (50±20) Ω.	Open circuit voltage is about 0.4V, press "power" for two-speed function switching

4. Capacitance(C)

Range \ Accuracy	6000counts	Resolution
10nF	±（3.5%+20）	10pF
100nF		100pF
1uF		1nF
10uF		10nF
100uF		100nF
1mF		1uF
10mF		10uF
60mF	±（5%+3）	100uF

Overload protection: 1000V DC, 750V AC peak.

4-1. The boot display is in the automatic scan status "----".

4-2. Insert the black test lead into the "COM" jack and the red test lead into the "V/Ω" jack; the test leads are reliably in contact with the test point.

4-3. For fast on/off test/diode/capacitance measurement, continuously trigger the "power" switch to enter the fast on/off test/diode/capacitance measurement in the second cycle, and select the corresponding function measurement according to the measurement requirements. When measuring the capacitance, the size of the measured capacitance will automatically select different ranges, and the measured value will be displayed on the LCD. The capacitance measurement file is 10nF/100nF / 1uF/10uF/100uF/1mF/10mF/60mF.

Note:

1) When measuring capacitance with 10nF file, there may be residual reading on the screen display value. This number is the distributed capacitance of the test pen. It is an accurate reading and can be subtracted after measurement.

2) When the large capacitance file measures severe leakage or breakdown capacitance, some values will be displayed and unstable; when measuring large capacitance, the reading takes several seconds to stabilize, which is normal when measuring large capacitance;

3) Please fully discharge the capacitor before testing the capacitor capacity, otherwise it will enter the voltage measurement mode.

4) Unit: 1F=1000mF, 1mF=1000uF, 1uF=1000nF, 1nF=1000pF

5. NCV measurement;

The operation is as follows:

5-1. Press and hold the "NCV/LIVE" button; enter the EF measurement.

5-2. The front end of the meter has NCV test points. As long as the point is close to the AC voltage, the buzzer will emit different continuations according to the different strength of the signal, and the LCD will also display according to the strength of the signal. Different number of segments.

5-3.Cycle to trigger "NCV/LIVE" key, enter live live live live wire measurement, display live character on LCD, close to live wire test point with a red meter, and make reliable contact with the point, the black meter end is suspended, and does not contact any test point; if the test point is live wire, the LCD will display OL, and the buzzer will send continuous sound.

6. Automatic switch machine

When the instrument is out of service for about 5 minutes, the instrument will automatically power off; to restart the power supply, long press the "power" key for more than 3 seconds, and the LCD will display as "auto scan" ---- ",

In order to make it more convenient for the user, the design of the machine adds the design of continuous operation and power supply, that is, the user will not automatically shut down the machine during the use process, and can only enter the shutdown state after 5 minutes of stop using,

be careful:

1) In the manual non measurement state, no matter the AC voltage or DC voltage level, because the instrument probe is completely welded at the input end, there will be certain data on the LCD. In the design, we define the manual DC voltage level, the input end has 10 words, the AC voltage level has 100 words, and the capacitance has 100 words. In this state, we default it to no measurement state, 5 minutes It will turn off automatically.

7. Troubleshooting

If your instrument does not work, the following method can help you solve the general problem, if the fault still can not be excluded, please contact the service center or dealer.

Failure phenomenon	Inspection site and method
Not shown	Battery not connected
	Replace the battery
Low battery symbol	Replace the battery
Current is not input	Replace fuse
Resistance display error	The test pen is not in contact

This manual is subject to change without notice;

The contents of this manual are considered correct. If the user finds any errors, omissions, etc., please contact the manufacturer;
The company does not bear the accidents and hazards caused by the user's wrong operation;
The functions described in this manual are not intended to reasons of the product for special purposes.

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