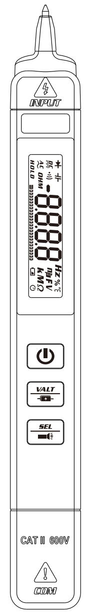
智能万用表



TRUE RMS

CE

CAT.II 600V
CAT.III 300V

1. 安全注意事项

⚠ **使用此仪表时应特别注意，不当的使用可能造成电击或损坏仪表。在使用中应遵循通常的安全规程及完全遵守使用手册所规定的安全措施。**
为了充分地利用仪表的功能和确保安全操作，请仔细地阅读并遵循本说明书的使用方法。

仪表符合GB/T 13978-92数字多用表通用技术条件，符合GB4793.1-1995(IEC-61010-1)电子测量仪器安全要求，属二级污染，过压标准为CAT Ⅱ 600V。

请遵循安全操作指南，保证安全使用仪表。
适当的使用和保护，仪表将给你令人满意的服务。
1. 使用仪表时，用户必须遵守标准的安全规则：
-通用的防电击保护
-防止误用仪表
2. 接收仪表后，检查是否在运输中损坏。
3. 在恶劣的条件下保存、装运后，检查并确认仪表是否损坏。
4. 表笔必须处于好的状态。在使用之前，检查表笔的绝缘是否损坏，导线的金属丝是否裸露。
5. 使用时,必须使用正确的功能及量程。
6. 不要超过各量程的保护范围指示值进行测量。
7. 在仪表连接测量电路的时候，不要接触表笔顶端（金属部分）。
8. 在测量时，若被测电压高于60V DC或者30V AC(有效值)，应注意保持手指头始终在表笔护指装置之后。
9. 若测量端电压超过500V DC或者500V AC时，不要测量电压。
10. 在改变测量功能之前，应将表笔从被测电路移开。
11. 不要带电测量电阻及线路通断。
12. 在电阻及线路通断测试量程，应小心避免将仪表连接电压源。
13. 不要在爆炸性的气体、蒸汽或灰尘附近使用本仪表。
14. 如果发现仪表有任何异常或故障，应停止使用。
15. 不要在阳光直射、高温、高潮湿的环境下存储或使用本仪表。

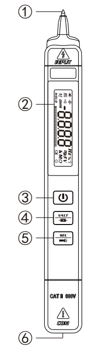
仪表外观及使用说明符号

回	双重绝缘保护（Ⅱ类）
CATⅡ	按照IEC-61010-1标准的过电压（安装）等级Ⅱ、污染程度2，CATⅡ指所提供的脉冲耐受电压保护的级别。
CE	符合欧共体（EU）标准
⏚	接地

2. 产品描述

1、产品外观描述

序号	说明
1	输入笔尖(正端)
2	液晶显示屏
3	电源按键
4	非接触电压感应
5	功能切换按键
6	可拔插表笔(负端)



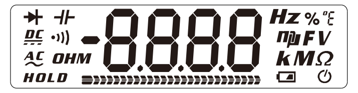
2、开关与按键说明

⏻ 电源按键：
长　　按：开机。
开机后长按：自动关机功能。
短　　按：关机。

VALT 非接触电压感应：
短按：切换非接触电压感应正常模式/高灵敏模式。
长按：无。

SEL 功能切换按键：
短按：模式切换，包含自动模式、电阻模式、通断模式、直流电压、交流电压、频率模式、火线判别模式。
长按：背光及手电开关(背光与手电只能同时开、同时关，不能单独控制)。

3、LCD符号说明



符号	说　　明
DC	直流电压
AC	交流电压
⏻	自动关机标识
▭	低电量提示
→|	二极管测量模式
•)))	通断识别符号
⊣⊢	电容测试模式
%	占空比测试百分比符号
HOLD	数据保持
V,mV	伏特，毫伏
mF,μF,nF	毫法，微法，纳法
MΩ,KΩ,Ω	兆欧，千欧，欧姆
OHM	电阻模式
KHz,Hz	千赫兹，赫兹
°C/°F	摄氏度，华氏度

3. 规 格

概述

1. 自动量程。
2. 全量程过载保护。
3. Auto模式：可自动识别交流电压、直流电压、电阻。
4. 显示：LCD 。
5. 最大显示值：1999数字。
6. 极性指示：自动指示，‘-’表示负极性。
7. 超量程显示：‘0L’或‘-0L’。
8. 采样速率：约3次/秒。
9. 自动关机时间：5分钟。
10. 电池欠压指示：LCD显示 ▭ 符号。
11. 工作温湿度：0~40℃，0~80%RH 。
12. 存储温湿度：-10~60℃，0~70%RH 。
13. 供电：1.5V AAA x 2。
14. 工作高度：最大2000米。
15. 尺寸：22*22.5*188mm。
16. 重量：52g(不含电池)。

技术指标

测试条件：温度18~28℃，湿度小于80%RH。

1. 直流电压

量　程	最大分辨率	准确度
0V~500V(DC模式) 0.5V~500V(Auto模式)	0.01V	±（0.8%读数 +3字）

输入阻抗：1MΩ
最大输入电压：500V
红色背光提示：>90V

2. 交流电压

量　程	最大分辨率	准确度
0V~500V(AC模式) 0.8V~500V(Auto模式)	0.01V	±（1.2%读数 +5字）

输入阻抗：1MΩ
最大输入电压：500V
红色背光提示：>90V

3. 电阻

量　程	最大分辨率	准确度
0Ω~2.000MΩ	1Ω	±（1.2%读数 +3字）

4. 频率

量　程	最大分辨率	准确度
40Hz~1000Hz(0~30VAC) 40Hz~400Hz(0~500VAC)	0.1Hz	±（2.0%读数 +10字）

5. 其他

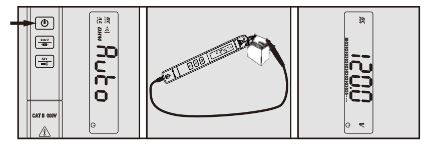
功　能	说　明
通　断	被测电阻<50Ω，蜂鸣器发声。
VALT	根据电源远近显示“≡≡≡≡”图标，蜂鸣器发出不同频率报警，当信号强度为高时，红色背光闪烁提示。
LIVE	测试火线显示“≡≡≡≡”图标，并发出报警声音，同时红色背光闪烁提示；测试零线无反应。
自动关机	约5分钟无信号输入，仪表自动关机

4. 操作说明

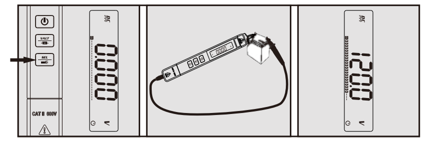
1. 长按 ⏻ 键1秒开机，进入Auto工作模式（Auto模式下可自动识别交直流电压、电阻和通断）。
2. 将表笔连接到待测电压、电阻上，仪表自动判别交直流电压、电阻。
3. 短按 **SEL** 键，可选择自动测量、电阻测试、通断测试、直流电压、交流电压、频率及LIVE（火线）测量模式。
4. 长按 **SEL** 键，背光与手电开/关(同时开或同时关)。
5. 短按 VALT 键，切换VALT(非接触电压感应)正常模式/高灵敏度模式。
7. 短按 ⏻ 键，关机。
8. 长按 ⏻ 键，开启或关闭自动关机功能。

警告：
1. 测量高压时，请谨慎操作，避免触电。
2. 请勿输入高于500V的交直流电压，可能会损坏仪表。
3. 在完成所有的测量操作后，请断开表笔与被测电路的连接。

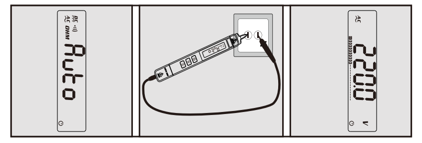
直流电压(自动模式)



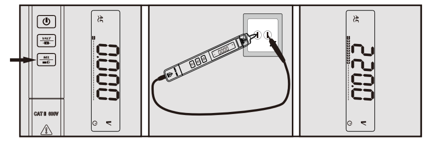
直流电压(手动模式)



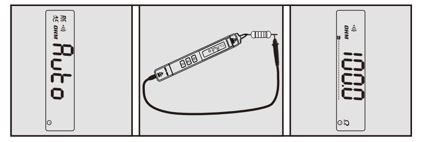
交流电压(自动模式)



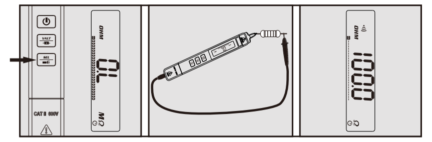
交流电压(手动模式)



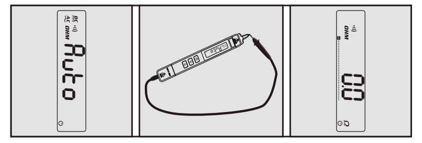
电阻(自动模式)



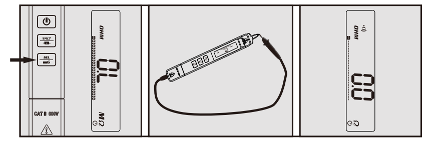
电阻(手动模式)



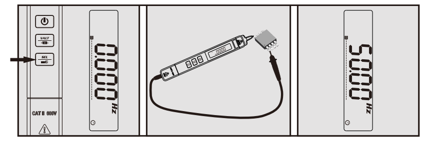
通断测试(自动模式)



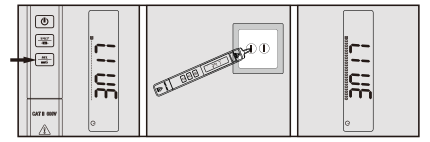
通断测试(手动模式)



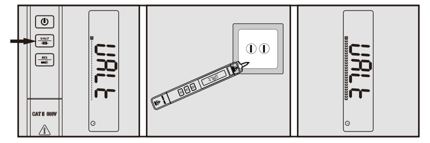
频率测试



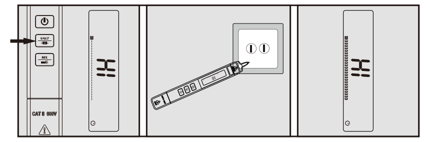
火线判断



非接触电压感应（正常模式）



非接触电压感应（高灵敏模式）

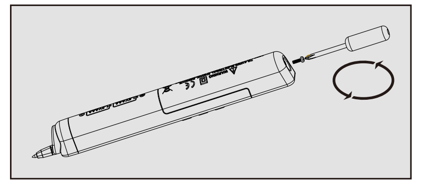


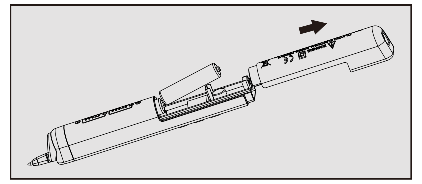
5. 保养与维护

1. 一般保养与维护
- ★ 定期清洁仪表外壳，请勿化学溶剂清洁仪表外壳。
- ★ 保持仪表输入插孔干燥清洁。
- ★ 如发现仪表异常，请停止使用并送回校准维修。

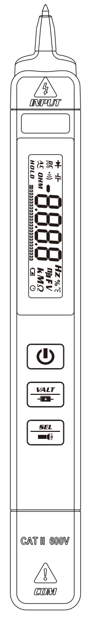
2. 更换电池

如果仪表出现 ▭ 符号，更换电池后再使用，否则会影响测量精度。
- ★ 关闭仪表电源，移除表笔。
- ★ 用螺丝刀取出尾部螺丝，拔出后壳。
- ★ 更换两节1.5V AAA电池，然后装上后盖并和螺丝。





SMART MULTIMETER



TRUE RMS

CE

CAT.II 600V
CAT.III 300V

1. Security Information

⚠ Warming
People who use this meter should pay special attention to it , because the improper use might cause electric shock or damage to the meter. Please follow the actual safety rules and safety measures as specified in the manual.
To fully use the function of this meter and ensure its safety operation,please read and follow its usage methods in the specification carefully.

This meter matched the technical requirement of digital multimeter GB/T 13978-92 and the safety requirement of electronic measuring meter GB4793.1-1995 （IEC-61010-1. It belongs to secondary pollution and its over-voltage standard is CAT Ⅱ 600V.
Please follow the safe operation guide and ensure safe use for this meter.
Proper use and maintenance for meter will give you a satisfied service.

1. Users must follow the standard safety rules when using it :
- Need some universal protection to avoid electric shock.
- To avoid misuse the meter.
2. Check if there is any damage on this meter or not in the process of transportation when received it.
3. Check if there is any damage on this meter or not when preserved,loaded and delivered it in poor condition.
4. The test lead must be in a good condition.Check whether there is any damage on its insulation or not and if meter’s metal wire is exposed or not before using it.
5. The correct function and measuring range must be guaranteed when using it.
6. Don’t overtake the indicating value of protection extent of everymeasuring range when testing.
7. Don’t touch the top of test lead (the metal part) when linked meter with measuring circuit.
8. When testing, if the voltage tested is over 60V DC or 30V AC (RMS),please keep your fingers behind the test lead protector.
9. When the measuring terminal voltage is over 500V DC or 500V AC, please stop testing voltage.
10. Before turning the switch to change the testing function, the test lead should be removed from the measuring circuit.
11. Do not measure resistance and lines with electricity.
12. When measuring resistance and lines with electricity, please do not link meter with voltage source.
13. Don't use the meter under the explosive gas, steam or dust environment.
14. If there is any abnormality or malfunction in the meter, user should stop using it.
15. Multimeter should not be used unless the meter bottom shell and the battery cover are completely clasped in place.

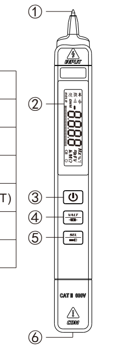
Marks

回 Double insulation protection. (Ⅱ Level)
CAT Ⅱ In accordance with the IEC-61010-1 standard over-voltage (installation) level Ⅱ,pollution level 2,CAT Ⅱ means the level of pulse withstand voltage protection provided.
CE Matched EC(EU) standard.
⏚ Electrical grounding.

2. Product Description

1、Part Name

No.	Description
1	Input lead(positive)
2	LCD Screen
3	Power button
4	Non-contact voltage sensing(VALT)
5	Function switch
6	Test lead(negative)



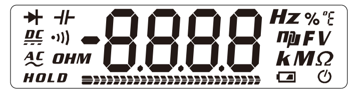
2、Button Description

⏻ **Power button:**
Long press：Power on.
Long press after power on：Auto shutdown enable/disable.
Short press：Power off.

VALT **Non-contact voltage sensing**:
Short press: Switch VALT mode/high sensitivity VALT mode.
Long press: Null.

SEL **Function switch:**
Short press: mode switch, includes auto mode, resistance mode, continuity mode, DC voltage, AC voltage, frequency mode, live check mode.
Long press: Backlight and flashlight switch.(Backlight and flashlight can only be switched on and off at the same time Cannot be controlled separately)

3、LCD full display symbol



Symbol	Explanation
DC	DC voltage
AC	AC voltage
⏻	Auto shutdown function indication
▭	Low battery indication
→|	Diode mode
•)))	Continuity
⊣⊢	Capacitance
%	Duty ratio
HOLD	Data hold
V,mV	Voltage unit: volt, millivolt
mF,μF,nF	Capacitance unit
MΩ,KΩ,Ω	Resistance unit
OHM	Resistance mode
KHz,Hz	Frequency unit
°C/°F	celsius/fahrenheit

3. Specification

Overview

1. Automatic range.
2. Full measuring range overload protection.
3. Auto mode: Automatic identification of AC voltage, DC voltage, resistance.
4. Display: LCD
5. Maximum display value: 1999 digits.
6. Polarity indication : Self-indicating, ‘-’ means Negative polarity.
7. Over-range display: ‘OL’ or ‘-OL’.
8. Sampling time : The meter figures show about 0.4 seconds.
9. Automatic Power off time: 5 minutes.
10. Battery low voltage indication: LCD display ▭ symbol.
11. Operational temperature and humidity : 0~40℃, 0~80%RH.
12. Storage temperature and humidity : -10~60℃, 0~70%RH.
13. Battery: 1.5V AAA x 2.
14. Operating altitude: ≤2000m.
15. Boundary dimension: 22*22.5*188mm.
16. Weight: 52g (without battery) .

Technical index

Test conditions: environmental temperature 18 ℃ to 28 ℃, relative humidity <80%RH.

1. DC voltage

Range	Resolution	Accuracy
0V~500V(DC mode) 0.5V~500V(Auto mode)	0.01V	±(0.8% +3counts)

Input impedance: 1MΩ
Maximum input voltage : 500V DC&AC (RMS)
Red backlight alert: >90V

2. AC voltage

Range	Resolution	Accuracy
0V~500V(AC mode) 0.8V~500V(Auto mode)	0.01V	±(1.2% +5counts)

Input impedance：1MΩ
Maximum input voltage：500V
Red backlight alert: >90V

3. Resistance

Range	Resolution	Accuracy
0Ω~2.000MΩ	1Ω	±（1.2%+3counts)

4. Frequency

Range	Resolution	Accuracy
40Hz~1000Hz(0~30VAC) 40Hz~400Hz(0~500VAC)	0.1Hz	±(2.0%+10counts)

5. Other

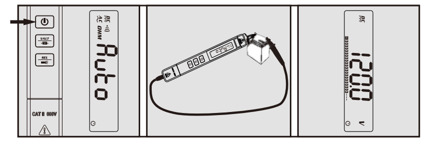
Function	Explanation
Continuity	If the resistance <50Ω,the buzzer sounds.
Non-contact voltage induction	LCD display “≡≡≡≡” icon if live voltage signal recognized , and the buzzer sounds, red backlight flashes when signal strength is high.
Live wire check	LCD display “≡≡≡≡” icon if live wire recognized , and the buzzer sounds and the red backlight flashes
Auto power off	No signal input for about 5 minutes

4. Operation Instructions

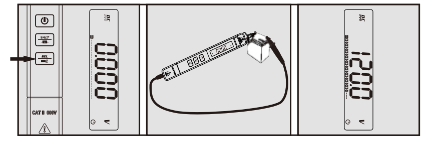
1. Press ⏻ for 1 seconds to power on, Enter AUTO mode(Auto mode can automatically measure AC/DC voltage, resistance and continuity).
2. Connect the test leads to the voltage or resistance, Meter automatically measure AC voltage, DC voltage and resistance.
3. Short press **SEL** button, to switch Auto / Resistance / Continuity / DC / AC / Frequency / LIVE modes.
4. Long press **SEL** to switch on/off the backlight and flashlight.
5. Short press VALT to switch VALT mode or high sensitivity VALT mode.
6. Short press ⏻ button to shutdown.
7. Long press ⏻ button to enable or disable the auto shutdown function.

Warning:
1. When measuring high voltage, be careful to avoid electric shock.
2. Do not input AC or DC voltage higher than 500V, it may destory the meter.
3. Disconnect the test leads from the circuit when completed measurement.

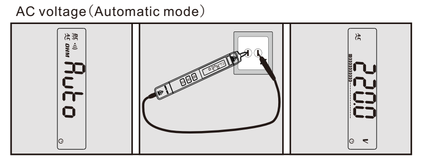
DC voltage(Automatic mode)



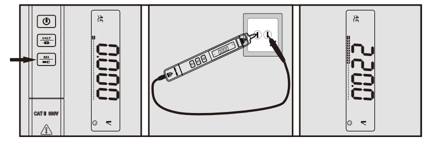
DC voltage(Manual mode)



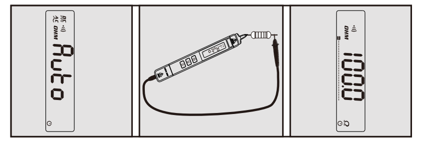
AC voltage(Automatic mode)



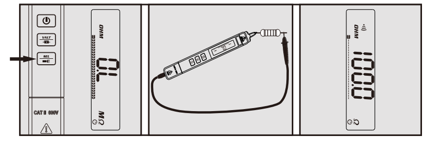
AC voltage(Manual mode)



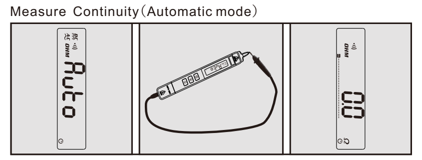
Resistance(Automatic mode)



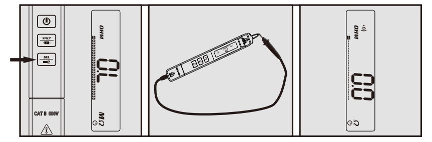
Resistance(Manual mode)



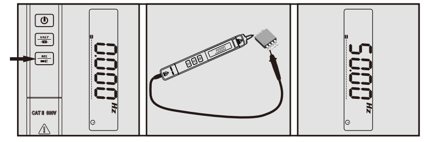
Measure Continuity(Automatic mode)



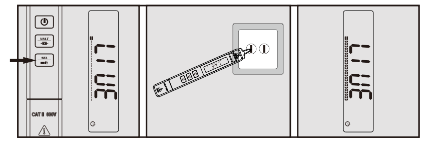
Measure Continuity(Manual mode)



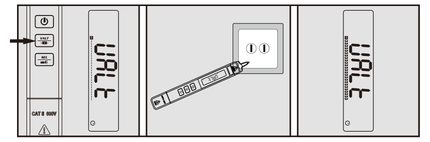
Frequency



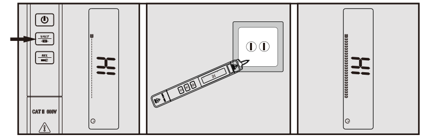
Live wire check



Non-contact voltage sensing



Non-contact voltage sensing high sensitivity mode



5. Maintenance

1. General maintenance
- ★ Clean the meter casing regularly. Do not clean with chemical solvents.
- ★ Keep the meter input jack dry and clean.
- ★ If the meter is abnormal, please stop using it and return it for calibration and maintenance.

2. Replace the battery

If “▭” symbol appears, it should be charged before use, otherwise the measurement accuracy will be affected.
- ★ Shut down the meter and remove test leads.
- ★ Remove the tail screw with a screwdriver, and pull out the rear case.
- ★ Replace two 1.5V AAA batteries, then install the back cover and screw.