

AVD24 Voltage Detector User Manual

Preface

Thank you for purchasing the new voltage detector. In order to use this product safely and correctly, please read this manual thoroughly, especially the Warning part.

After reading this manual, it is recommended to keep the manual at an easily accessible place, preferably close to the device, for future reference.

Limited warranty and liability

WIPCOOL guarantees that the product is free from any defect in material and workmanship within one year from the purchase date. This warranty does not apply to damages caused by accident, negligence, misuse, modification, contamination and improper handling. The dealer shall not be entitled to give any other warranty on behalf of WIPCOOL. If you need warranty service within the warranty period, please contact your seller directly.

WIPCOOL will not be responsible for any special, indirect, incidental or subsequent damage or loss caused by using this device. As some countries or regions do not allow limitations on implied warranties and incidental or subsequent damages, the above limitation of liability may not apply to you.

Overview

The AVD24 products are non-contact voltage detectors with built-in flashlight and acousto-optic synchronous alarm function. The CAT IV 1000V safety class ensures users' safety, making them essential tools for industry and home.

Low voltage mode (24V AC ~ 1000V AC)

Suitable for testing low-voltage motor (< 90V), audio systems, arc welding machines, underground mine lighting, cables with thick insulation layer, and other weak electromagnetic AC signals.






High voltage mode (90V AC ~ 1000V AC):

For detecting urban electric supply and three-phase systems. For example, power distribution units, electrical panels, electrical appliances.

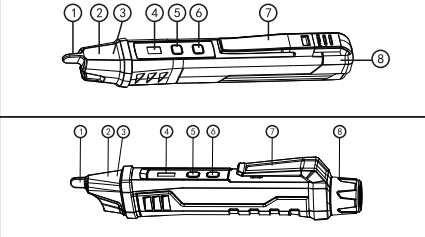
Warning

1. Please carefully read and fully understand the warnings and operating instructions before use. If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
2. Please test the detector on a known live source within the rated AC voltage range before use.
3. If the detector appears damaged or is not working properly, stop using it immediately.
4. Do not detect voltage higher than 1000V.
5. Use caution when working with voltages above AC 30Vr.m.s, 42Vpeak or DC 60V. Such voltages pose a shock hazard. Clean the tester casing with a damp cloth and mild detergent. Do not use abrasives or solvents!
6. There may still be voltage even when no acousto-optic alarm is on.
7. The insulation type, wire thickness, distance from voltage source, shielded wire, other wires, socket design, and other factors may adversely affect test result. If there are uncertainties, use other methods to verify the voltage.
8. Do not assume neutral or ground wire is safe to touch. Incorrect or poorly connected circuits may cause wires to be charged.
9. When low battery indication appears, please replace the batteries.
10. When using the detector, please only hold up to the line before the translucent sensing part and not over.
11. Comply with local and national safety regulations and requirements.
12. The detector will not detect any voltage if:
 - The wire is shielded
 - The operator is not connected with the ground or isolated from an effective ground
 - The voltage is DC
13. The detector may not detect any voltage if:
 - The operator does not hold the detector
 - The operator is wearing gloves
 - The wire under test is partially buried or in a grounded metal conduit
 - The magnetic field generated by the voltage source is blocked, suppressed or interfered with
 - The frequency of the voltage being detected is not a perfect sine wave and may be distorted by harmonics
 - The detector is used outside of the operating specifications (see Technical Specifications for details)

Electrical Symbols

	Protected throughout by Double insulation or Reinforced insulation
	Alternating current
	Caution, possibility of electric shock
	Warning! Refer to the manual
	In compliance with the directive of European Union
CAT IV	It is applicable to test and measuring circuits connected at the source of the building's low-voltage MAINS installation.

Panel Description



1	NCV sensor head	2	Flashlight lighting
3	sensing signal LED	4	Mode status indicator light
5	Power button	6	Flashlight button
7	Pocket clip	8	End of the detector

Operating Instructions

1. Turning on the detector

Short press the power button. The buzzer will beep twice and the red indicator light on the panel will light up, indicating that the detector is on and ready for use. The default AC voltage detection range is 90-1000V.

2. Turning on/off the flashlight

Flashlight on/off: Short press the flashlight button to turn on/off the flashlight. The flashlight will automatically turn off when the detector is not used for 5 minutes.

3. AC voltage detection

Place the sensor head near the test object or the power socket with AC voltage. When AC voltage is detected, the red LED in the tip and buzzer will be on. Buzzer and sensing LED frequencies increase when detector gets closer to the test object.

Note: Please unplug other electrical devices on the socket before detection.

4. Detection range selection

- a) When the detector is on, the default mode is high voltage mode, with detection range of 90-1000V. The red indicator light on the panel will light up.
- b) Short press the power button once. The red indicator light will switch to green, and the device will switch to low voltage mode, with range of 24-1000V. In low voltage mode, the detector is more sensitive to electrical interference/noise. Please only use low voltage mode during weak electrical field environment.
- c) Short press the power button once again.

Note: In the magnetic field detection mode, voltage cannot be detected at the same time.

5. Auto power off

The detector will auto power off when it is not used for 5 minutes.

6. Turning off the detector manually

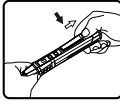
Long press the power button for 2 seconds to turn off the detector

7. Low battery indication

When the battery voltage is lower than 2.4V, the detector will automatically shut down.

Battery Replacement

1. Hold the detector with one hand, use your thumb of the other hand to press down on the battery compartment latch, and pull the end of the detector.
2. Pull out the end of the detector along the direction shown at right pictures and replace the batteries.



WARNING:

Do not mix old and new batteries. Do not mix alkaline, standard (carbon-zinc), or rechargeable (ni-cad, ni-mh, etc) batteries.

Technical Specifications

Items	Models	AVD24
AC voltage range		90 ~1000V AC (red indicator) 24 ~1000V AC (green indicator)
Frequency range		50Hz/60Hz
Alarm mode		Audio/visual
Flashlight		White spotlight
Auto power off		About 5 minutes
Low battery indication		√
Vibration function		N/A
Magnetic field detection mode		N/A
IP rating		N/A
Safety class		CAT IV 1000V
Operating temperature		0~40°C
Storage temperature		-20~50°C
Humidity		≤ 80% (non-condensing)
Altitude		< 2000m
Battery		2x1.5V AAA
Product size		150x18x23 (mm)
Weight		About 50g

Standards: IEC/EN61010-1, IEC/EN 61010-2-030,
IEC/EN 61326-1, IEC/EN 61326-2-2

AVD24 测电笔用户手册

本产品是一款非接触式测电笔，内置手电筒，具有声光同步报警功能，智能区分零火线。CAT IV 1000V安规等级确保用户使用安全，是工业和家庭的必备工具。

低电压感应模式 (24 ~ 1000V)：

适用于低压交流电机 (<90V)，音频系统，电弧焊，井下矿灯，较厚绝缘层的线缆以及其它弱电磁交流信号的检测。





高电压感应模式 (90 ~ 1000V)：

主要用于检测城市供电及三相供电系统。比如配电箱，配电板，电器和电气设备。

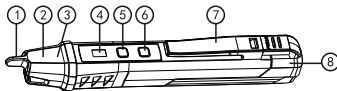
警告

- 1> 在使用测电笔前请仔细阅读并正确理解用户手册中的警告和操作指示部分。
- 2> 请严格按照用户手册正确使用测电笔，否则测电笔具有的安全特性可能无法保护用户。
- 3> 在使用前请用测电笔在额定交流电压范围内的已知电源上进行试测以确保测电笔处于可正常使用状态。
- 4> 如果测电笔已经损坏，或者测电笔无法正常工作，请立即停止使用。若有疑问，请将测电笔送修。
- 5> 请勿测试已超过测电笔上标注的额定电压 (1000V)。
- 6> 当被测交流电压超过30V时，要小心使用，因为存在触电危险。
- 7> 在使用测电笔时，即使没有声光报警，仍然可能有电压存在，因为测电笔只是指示在有交流电压产生足够强度静电场时的有效电压。如果感应强度很低，测电笔可能检测不到，在有高频开关电源使用的附近，有辐射干扰产生时可能有误报情况。
- 8> 导线的绝缘类型和厚度、与电压源的距离、屏蔽的导线、被测导线周围有其他导线、插座设计上的差异等因素都可能对正常测试带来不利影响。如有不确定因素，可采用其他方法进行电压验证。
- 9> 不要认为零线或接地线是不带电的。多线分支电路中的零线在断开时可能仍然带电，地线没有接地或接地不良时仍然可能带电。
- 10> 当出现电池低电量提醒时，请不要继续使用，应当及时更换电池。
- 11> 握住测电笔的手指不能进入到测电笔前端的半透明部分。
- 12> 测试时佩戴好防护用品。
- 13> 遵守当地和国家的安全法规和要求。
- 14> 以下情况测电笔检测不到电压：
 1. 导线是屏蔽的。
 2. 操作人员未接地或有效接地隔离。
 3. 被检测的为直流电压。
- 15> 以下情况测电笔可能检测不到电压：
 1. 操作人员未握住测电笔。
 2. 操作人员因佩戴手套导致手没有和测电笔良好接触。
 3. 被测导线部分埋在地下或处在接地金属管道中。
 4. 由电压源产生的磁场被阻塞、抑制或干扰。
 5. 被测电压的频率不是完美的正弦波，可能存在谐波引起的畸变。
 6. 测电笔未在正常工作条件下进行使用（详见技术指标）。

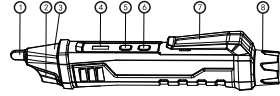
重要信息：

	全部由双重绝缘或加强绝缘保护的
	小心，电击危险
	小心，危险
	交流
CAT IV	测量类别 IV 为适用于在低压设施的源端处进行的测量

一、面板说明：



1	NCV感应头	2	手电筒照明灯
3	感应信号红色指示灯	4	模式状态指示灯
5	电源开关键	6	手电筒开关键
7	挂扣	8	笔尾



1	NCV感应头	2	手电筒照明灯
3	感应信号指示灯	4	模式状态指示灯
5	电源开关键	6	手电筒开关键
7	挂扣	8	电池盖

二、操作指示：

1> 测电笔启动

短按电源按键，蜂鸣器响两声，面板红色LED常亮，表示测电笔成功启动，进入待测状态，默认交流电压探测范围：约90~1000V。

2> 手电筒开启/关闭

手电筒开启：短按手电筒键，开启手电筒；

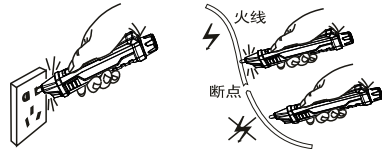
手电筒关闭：在手电筒开启状态下，短按手电筒键，关闭手电筒；手电筒单独打开，约5分钟后会自动熄灭。

3> 交流电压检测

将测电笔的探头靠近带有交流电压的被测物体或电源插座，当测电笔探测到交流电压信号时，笔尖里的红色LED闪烁同时蜂鸣。越接近带有交流电压的被测物体，则被检测到的信号就越强，笔尖里的红色LED闪烁越快蜂鸣越急促。

当需要做零/火线判断时，由于插座结构不同，应该用测电笔的笔尖分别插入插座的两个插口，并观察两个插口的信号强弱来区分零/火线，强信号插口为火线，弱信号插口为零线或地线。此测电笔也可用于检测并判断火线断点的位置，断点以前的部分在检测到有电时红色LED闪烁同时蜂鸣。断点以后的部分无LED闪烁和蜂鸣。

注：如插座上有其它用电设备需拔掉。



4> 探测范围选择

测电笔开机默认交流电压探测范围：约90~1000V，面板红色指示灯常亮。

短按一次电源键，面板红色指示灯灭，绿色指示灯亮，测电笔探测电压范围约24~1000V，在此低压模式下，测电笔对高压源和电噪声更为敏感。因此在预测的电压高于90V时，推荐使用高压模式 (90~1000V) 进行检测。

注：在磁场检测模式下，不可同时检测感应电压。

5> 自动关闭电源

如果大约5分钟不使用测电笔，为节省电池电量会自动关闭电源。蜂鸣器长响一声，表示关机。

6> 手动关闭测电笔

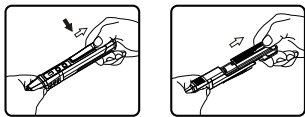
长按电源键2秒测电笔会关机，蜂鸣器长响一声，面板指示灯灭。

7> 电池低电量指示

当电池电压低于约2.4V时，黄色指示灯闪烁三次，同时蜂鸣器响一声，自动关机，提示更换电池。当电池电压低于2V时，不能正常启动开机，不会正常提示低电压报警。

三、电池更换

1. 如下图所示，一手握住笔身，另一只手的大拇指压住笔尾的卡位，同时后拉笔尾；
2. 顺着图示的方向把测电笔的笔尾抽出，将旧电池更换掉即可。




⚠ 警告：不要将新旧电池混用。不要将碱性电池，碳锌电池或可充电电池混用。

四、技术指标

交流电压范围	90~1000V AC (红色指示灯亮) 24~1000V AC (绿色指示灯亮)
频率范围	50Hz/60Hz
报警方式	声光同步报警
手电筒	白色聚光
自动关机	约5分钟
低电压提醒	√
零线/火线判断	√
断点检测	√
振动功能	N/A
磁场检测模式	N/A
IP防护等级	N/A
安全等级	CAT IV 1000V
工作温度	0~40℃
存储温度	-20~50℃
湿度	≤80% (非冷凝)
海拔	<2000m
电池	2x1.5V AAA
机身尺寸	150x18x23mm
重量	约50g

执行标准：GB4793.1；GB/T 18268.1；GB/T 18268.21；
GB/T 18268.22

彩盒 菲林做货要求：

序号	项目	内容	备注
1	尺寸	展开:210*140mm 折后: 105*70mm	
2	材质	60g书纸	
3	颜色	单色	
4	外观要求	完整清晰、版面整洁，无斑墨、残损、毛边、刀线错位等缺陷。	
5	装订方式		
6	表面处理		
7	其它	无	
版本			
DWH 设计		MODEL 机型: AVD24 (UT12D改)	Part NO. 物料编号: 110401112814X
CHK 审核		 优利德科技(中国)有限公司 UNI-TREND TECHNOLOGY (CHINA) LIMITED	
APPRO. 批准			