AP&T®

Static Measurer

AP-YV1301/1302/1303

User manual

Shanghai Anping Static Technology Co.,ltd

3rd Floor, Building 27, No.69, Guiqing Road, Shanghai, China

Tel: 021-64517676

Fax: 021-64517673

AP-YV1301/1302/1303 Static Measurer

Product Overview

The AP-YV1301/1302/1303 type static meter is a test instrument developed by Anping Company to detect the electrostatic voltage on the surface of electrostatic objects. It uses non-contact measurement technology to influence the electrostatic field of the surface of the object. Minimized to ensure the accuracy of measurement, can be widely used in electronics, plastics, chemicals, printing, optoelectronics and other industries.

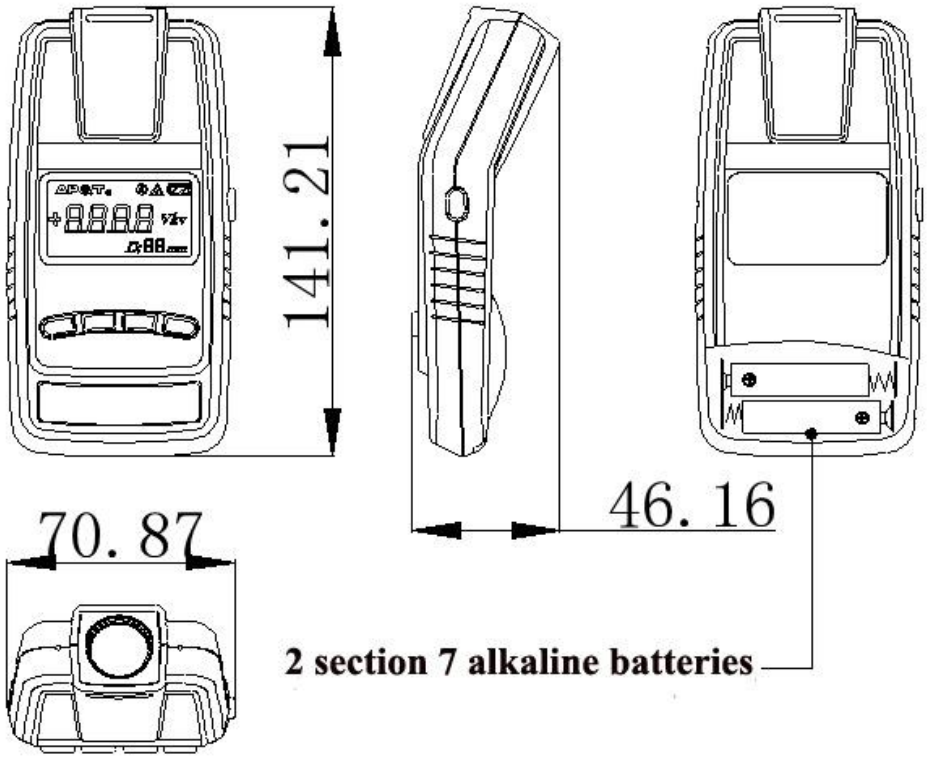
The product features

1. Feel comfortable and beautiful in appearance.
2. Double LED precise positioning and accurate detection distance.
3. The detection potential range is wide and the detection accuracy is high.
4, the button operation is comfortable, easy to use.
5, high-definition, full-scale LCD data display.

The performance parameters

Type	AP-YV1301	AP-YV1302	AP-YV1303
Detection range	0.001KV-±2.000KV	0.01KV-±20.00KV	0.1KV-±200.0KV
Appearance	Gray shell gray button	Black shell gray button	Black shell black button
Detection accuracy	±10%		
Detection distance	25mm±1.0mm		
Input voltage	DC3V（2*AAA）		
Working current	<100mA		
Power off	Press and hold the power button for 3 seconds or 180 seconds to automatically power off		
Working temperature	－18℃→＋50℃		
Working humidity	0-85%RH		
Dimensions	141*71*38mm（L*W*H）		
Net weight	146g（Includes: 2 batteries）		
Gross weight	359g±20g(Including: 4 batteries and packaging accessories)		

The appearance chart



Product calibration

1, Calibration environmental conditions

The calibration environmental conditions and their requirements are as follows:

a) Ambient temperature: 20 ° C ± 5 ° C

b) Relative humidity: 30-60%

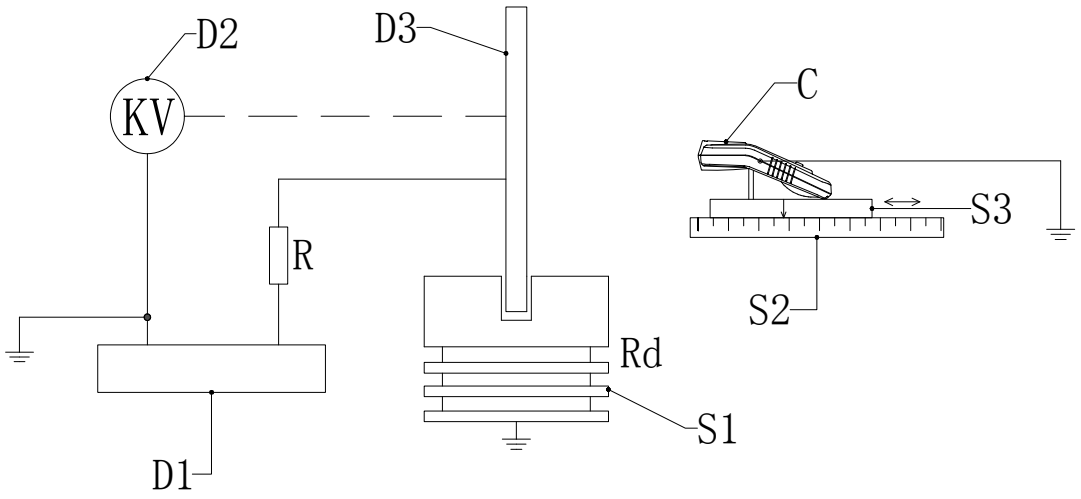
c) There are no measurable electric, magnetic, positive and negative ions around

d) Ground wire, ground wire resistance <100 Ω

2, Calibration equipment

The equipment used for calibration shall be calibrated by the metrology technical organization to meet the calibration requirements and within the validity period.

Calibration equipment mainly includes: DC high voltage meter, DC high voltage power supply, standard flat electrode, distance adjuster and so on. The test chart is located on the center line of the calibration plate. The block diagram of the non-contact electrostatic voltmeter calibration device is as follows:



The equipment and equipment requirements are as follows:

C——calibrated product: static test table

D1——DC high voltage power supply: output range -30KV～+30KV, continuously adjustable, or minimum step 1V, the measurement uncertainty is less than 1/4 of the allowable error limit of the calibration table;

D2——DC high voltage meter: measuring range -40KV～+40KV, the measurement uncertainty is less than 1/4 of the allowable error limit of the calibration table;

D3——Standard plate electrode: The plate electrode should be round or square rounded. The radius of curvature of the edge of the electrode should not cause corona. It is recommended to wrap the edge of the electrode with insulating material; the area of the plate should be large enough. The diameter or side length should be no less than 0.4m. Our calibration plate size is 600mm*600mm square stainless steel plate.

——Protection resistance: The resistance of the resistor should be >20KV, the protection current and the current of the human body are <5mA, and the resistance value meets the requirements of the following formula:

$$R/(R+R_d)<0.1\%$$

Where: for protection of resistance, the unit is ohm (Ω);

The resistance of the insulating bracket is in ohms (Ω), the resistance is >1013Ω, and the compressive strength is >25KV.

The above two resistors, their different resistance values, may cause the detected static voltage values to be different under the same standard voltage.

S1 - insulated bracket

S2——scale, measuring range: 5mm～700mm, measurement uncertainty less than 0.5mm

S3——Distance adjuster: Place the test meter on the calibration device. The front end of the test chart should be extended. The geometry and material of the support should be minimized to affect the electric field distribution around the front end of the test chart.

Use instructions and attention items

Schematic diagram of the electrostatic voltage detection table:

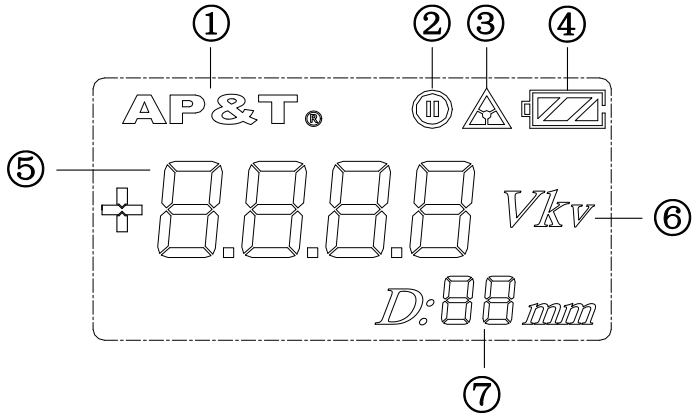
1,Instructions for use:

(1) Install the battery and switch machine:

First open the battery compartment cover on the back of the static voltage detection meter, and put in the 2 7# power supply battery as standard in the package to open the switch. See the picture above for details.

(2) Preparation before testing:

In order to ensure the normal use of the static voltage detection table, first confirm that the three-segment power display on the display screen is marked as full (or enough power), and then the parameters of the visual screen are clearly visible. Check whether the various function keys are clear. Can be used normally. See the display function diagram for details:



①Corporate trademark ②Holding key open mark ③Test distance positioning mark ④Power display mark ⑤ voltage value ⑥ voltage unit ⑦ test distance

Display function diagram

(3) Detecting static electricity on the surface of the object:

When using, the static detection window of the test table should be parallel to the surface of the object to be measured, and 25mm away from the surface of the object to be measured, which is the standard detection distance; if conditions permit, it is recommended to use a ruler for distance calibration.

After measuring the data, you can press the data hold button to keep the measured data on the display; press the data hold button repeatedly to resume the detection status.

2, The button description

Power: Short press to turn on (the screen displays ON), long press to turn off (the screen displays OFF)

Zero: long press to clear

BL: short press, turn the backlight on or off

WD: Short press, turn LED on or off focus

HOLD: Short press, the data remains unchanged; press again again to resume real-time display

3, Matters needing attention

1) In order to use the device correctly, please read the instruction manual carefully before use.

2) Please operate at the specified ambient temperature (-18 to 50 ° C).

3) Do not touch the static detection window with a sharp object.

4) The display screen should not be stressed by external force to avoid breakage.

5) The product is strictly prohibited from touching water stains, otherwise abnormalities may occur, resulting in electric shock or fire.

6) Do not touch the static electricity detecting head during testing.

7) Ensure that the sensing window is free from particles and dust.

8) There should be no obstruction between the test table and the object to be inspected, otherwise the accuracy of the test result will be affected.

9) There should be no electrical equipment that affects the test table within the test range. Otherwise, internal equipment and chip failure and damage may occur.

10) In order to accurately measure the charged object, the plane of the detection table detection window shall

be parallel to the surface of the object to be measured.

11) Turn on the power button for 5 seconds. Otherwise, sometimes the data display will be unstable.

12) When the charged object is smaller than the calibration plate, the measured value is smaller than the actual electrostatic value of the charged object.

13) When the charged object is larger than the calibration plate, the measured value is larger than the actual electrostatic value of the charged object.

14) It is not allowed to zero in the state of static charge or in the static measurement process (non-electrostatic calibration process); if zero is adjusted during static test, the displayed electrostatic value will be zero.

15) Do not install in high-voltage equipment, such as high-voltage power supply, electrostatic generator, ion generator, and consumer, high voltage will affect the performance and detection accuracy of the test.

16) If the detection range is exceeded, it may cause a product failure.

17) This detector is a precision device and should not be disassembled.

18) The product is subject to mechanical shocks such as drops and collisions, which may cause malfunction.

19) It is strictly forbidden to disassemble the product without authorization. Internal maintenance and repair must be carried out by professionals.

20) The product is designed to detect static electricity on the surface of the object. It is strictly forbidden to use for other purposes. Any abnormal use may cause machine malfunction, electric shock, fire and other hidden dangers.

4, Use fault analysis

NO.	Fault	Possible reason	Solution
1	LCD does not light up	Battery is too low	Replacement battery
2	The measured static voltage value is abnormal or the error is too large	High-voltage equipment, ionization equipment or strong electromagnetic equipment around the test table.	Remove high voltage equipment, ionizing equipment or strong electromagnetic equipment.
		Detection distance setting error	Detection distance is 25mm
		Test table test orientation is not appropriate	Confirm the correct test orientation, the plane of the detection window is parallel to the surface of the object.
3	The product has an odor	Component burning	Return to factory maintenance.
4	If there are other problems or if the problem cannot be solved through the above solutions, please contact the manufacturer or distributor.		

Maintenance and maintenance

1. In order to ensure the performance of the product is good, please store the equipment in a dark place when not in use.
2. In order to ensure the accuracy of the test data, please replace the battery when the display is low.
3. The equipment is a precision detector and should not be strongly shaken during use.

After-sale service

1. The electrostatic voltage test form undergoes rigorous testing and aging treatment before leaving the factory, and the performance fully meets the relevant indicators marked in the instructions for use.
2. AP&T makes the following commitments to the user: Within one year from the date of purchase, the company may replace any parts that have been inspected by the company. However, this commitment does not apply to the following:

(1) The device was used incorrectly;
(2) Inadvertent or accidental damage during use;
(3) Self-modification, disassembly, or repair by other service departments not authorized by Anping.
3. AP&T does not assume any obligations related to this and the related responsibilities of product users, except for repair or replacement of parts within this regulation.

Packaging accessories

1. Warranty card × 1 part
2. Manual × 1 part
3. Certificate of conformity × 1 part
4. 7th alkaline battery × 2 sections