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AVHzY J7

AVHzY J7 USB C Tester User Manual

Model: J7 | Brand: AVHzY

1. Introduction

The AVHzY J7 USB C Tester is a versatile 2-in-1 Type-C and Type-A digital multimeter designed for real-time monitoring of charging status. It accurately measures voltage, current, power, resistance, temperature, and capacity. This device supports various fast charging protocols including PD2.0/PD3.0, QC2.0/QC3.0, BC1.2, Apple 5V/2.4A, and MTK-PE. It is an essential tool for quality inspection of 3C digital peripheral products, providing immediate insights into the performance of chargers, power banks, and cables.

2. Safety Information and Important Notes

- **PD Charger Testing:** When testing a Power Delivery (PD) charger, the device under test (e.g., mobile phone, tablet, laptop) must be connected to the USB-C OUT port of the tester. The PD charger will only output voltage after successful communication with a connected device. If no device is connected, the tester may not power on or display readings.
- **USB Resistor Load Usage:** If using a USB resistor load, ensure its working voltage does not exceed 5V. Do not use it for more than 2 minutes continuously without active heat dissipation. The resistor load will generate high temperatures during operation; avoid touching it. It is normal for the green layer of the resistor to peel off due to high temperatures.
- Always read this user manual carefully before operating the device.

3. Product Overview

The AVHzY J7 USB C Tester features multiple input and output ports, allowing for comprehensive testing across various USB standards.



Image 3.1: The AVHzY J7 USB C Tester with its various ports and included accessories, such as the clip cable and resistor load.

3.1. Key Components and Ports

- **USB Input:** Standard USB-A male connector for power input.
- **Micro USB Input:** Micro USB port for power input or data passthrough.
- **Type-C Input:** USB-C male connector for power input.
- **USB Output:** Standard USB-A female port for connecting devices.
- **Type-C Output:** USB-C female port for connecting devices.
- **Display/Reset Button:** Used to cycle through display interfaces and reset data.
- **IPS Color Screen:** High-resolution display showing various measurement parameters.



Image 3.2: A detailed diagram illustrating the various display elements and physical ports of the AVHzY J7 USB C Tester.

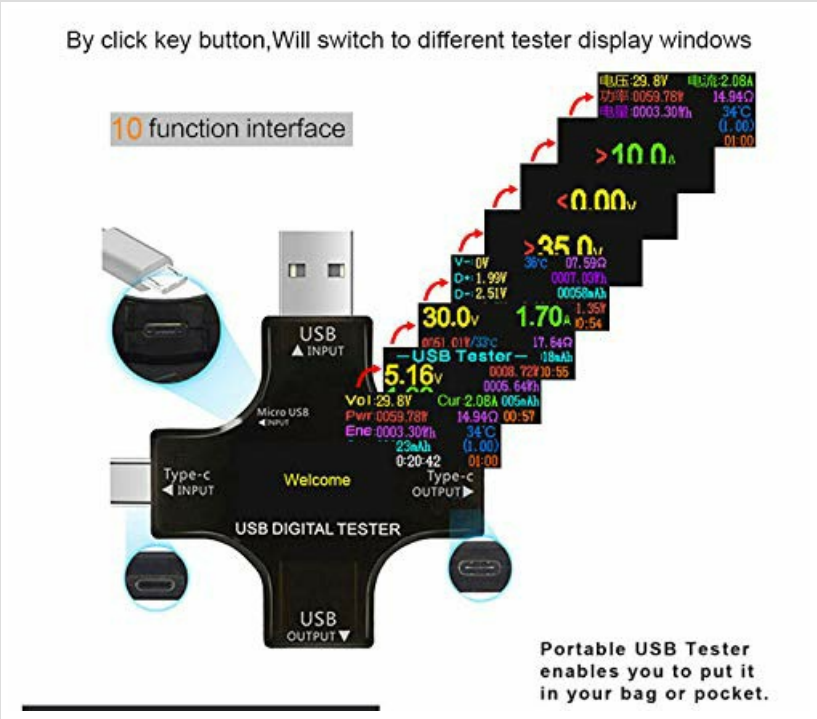


Image 3.3: The Micro USB input port, allowing for additional connectivity options.

4. Setup and Basic Connection

To begin using your AVHzY J7 USB C Tester, follow these general connection guidelines:

1. Identify the power source (charger, power bank, computer USB port) and the device you wish to test (phone, tablet, USB load).
2. Connect the appropriate input port of the tester (USB-A Input, Micro USB Input, or Type-C Input) to your power source.
3. Connect the device you wish to test to the corresponding output port of the tester (USB Output or Type-C Output).
4. The tester's IPS color screen will automatically illuminate and display real-time measurement data.

4.1. Data Line Passthrough

The tester supports USB internal data line passthrough, allowing it to be used for voltage and current measurement applications while simultaneously facilitating U disk readings and computer USB interface data transfer.

5. Operating Instructions

5.1. Navigating Display Interfaces

The AVHzY J7 features multiple display interfaces, each presenting different sets of measurement data. To switch between these interfaces, press the **Display/Reset** button located on the tester.



Image 5.1: Pressing the Display/Reset button cycles through various measurement screens, providing up to 10 different data views.



Image 5.2: Examples of different display interfaces, showing various combinations of voltage, current, power, resistance, capacity, and temperature.

5.2. Resetting Data

To reset accumulated data (mAh, Wh, timing), perform the following operations using the**Display**/**Reset** button:

- **Press and Hold:** Long press the button to reset all data (mAh, Wh, time) to zero.

- **Double-Click:** Double-click to reset the capacity (mAh) data.
- **Triple-Click:** Triple-click to reset the electric quantity (Wh) data.
- **Four-Click:** Four-click to reset the timing data.

5.3. Automatic Standby Mode & Timer Settings

The tester features a timing shutdown and full power-off setting method to protect connected devices.

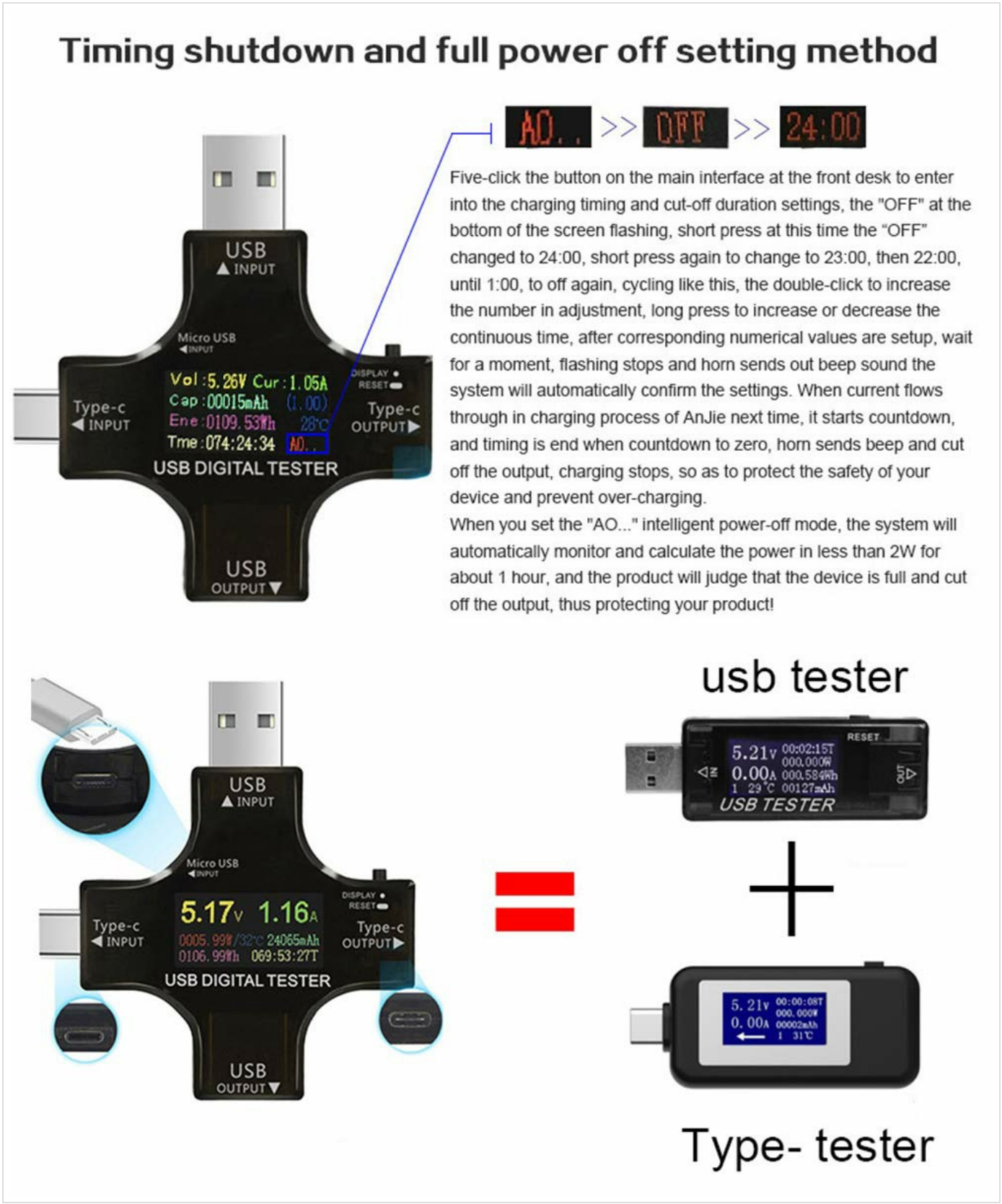


Image 5.3: Visual guide for configuring the timing shutdown and auto-off features.

1. **Accessing Settings:** Five-click the button on the main interface to enter the charging timing and cut-off duration settings.
2. **Adjusting Time:** At the bottom of the screen, where "OFF" is flashing, short press the button to change it to 24:00. Short press again to change to 23:00, then 22:00, until 1:00. Cycle through these values.
3. **Confirming Settings:** To increase or decrease the continuous time, long press the button. Once numerical values are set, wait for a moment. Flashing stops, and a beep sound confirms the system will automatically confirm the settings.
4. **Auto-Off Function:** When current flows through in the charging process, the timer counts down. When the timing ends, the system sends a beep and cuts off the output, stopping charging. This protects your device and prevents over-charging.
5. **Intelligent Power-Off:** When you set the "AO..." intelligent power-off mode, the system automatically monitors and calculates the power. If the power is less than 2W for about 1 hour, the product will judge that the device is fully charged and cut off the output, protecting your product.

5.4. Testing PD Chargers

Due to the specific communication protocol of USB-C Power Delivery (PD) chargers, a device must be connected to the tester's output for the PD charger to activate and supply power. Without a connected device, the PD charger will not trigger, and the tester will not display readings.



Image 5.4: Correct connection for PD charger testing involves connecting the PD charger to the tester's input and a mobile device to the tester's output.

Correct Connection Method:

1. Connect the PD charger to the Type-C Input of the AVHzY J7 tester.
2. Connect your mobile phone or other PD-compatible device to the Type-C Output of the AVHzY J7 tester.
3. The tester will then display the voltage, current, and other parameters as the PD charger communicates with and charges the connected device.

For scenarios involving Micro USB adapters to trigger PD protocols, ensure the adapter is correctly inserted between the PD charger and the tester's input, with the mobile device connected to the tester's output.

6. Applications

The AVHzY J7 USB C Tester can be used in a wide range of scenarios to monitor and evaluate USB power delivery.

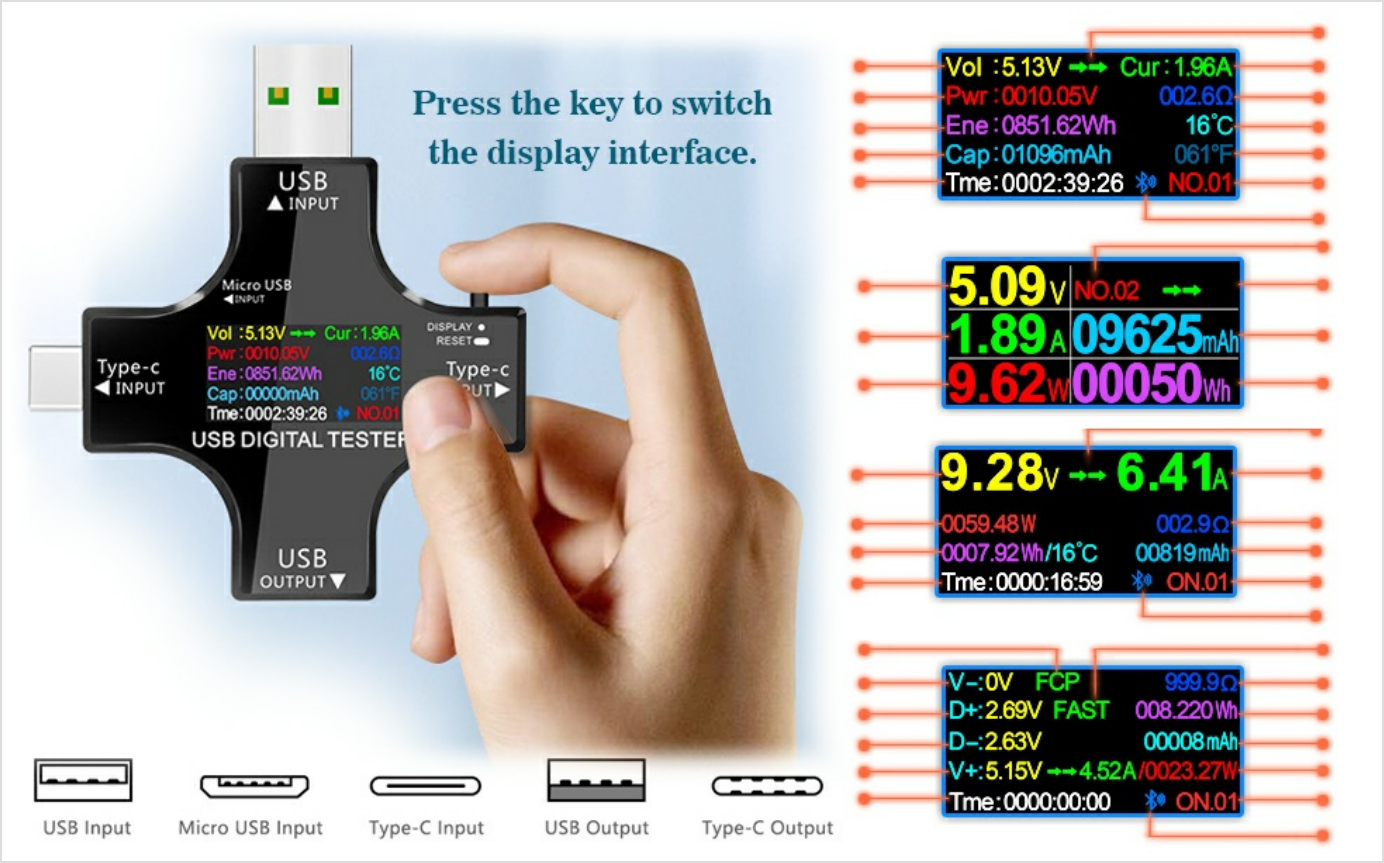


Image 6.1: The tester can be used with ordinary chargers, notebooks, computers, power banks, Type-C phones, Type-C loads, smart sockets, and various USB accessories like fans and lights.



Image 6.2: The tester can be integrated into more advanced setups, such as with electronic loads, for precise power and current analysis.

Common applications include:

- Testing the actual output of wall chargers and power banks.

- Monitoring charging speed and efficiency of mobile phones, tablets, and laptops.
- Evaluating the quality and performance of USB cables.
- Detecting issues with USB loads or other USB-powered accessories.
- Verifying fast charging protocols (PD, QC, BC1.2, MTK-PE).

7. Specifications

Parameter	Value	Resolution/Precision
Voltage Measuring Range	3.6V ~ 32.0V	0.01 V
Current Measuring Range	0.00 ~ 5.10A	0.001 A
Power Cumulative Range	0 ~ 999999 MWH	0.001 Wh
Power Metering Range	0 ~ 299.99W	0.001 W
Timing Maximum Time	999 H 59 M 59 S	1 S
Time to Refresh	> 500 ms/time	> 500 ms/time
Measurement Rate	0.5 times/s	N/A
Product Dimensions	67 x 60 x 12 mm	N/A
Since the Power Flow	< 0.015 A	N/A
Working Temperature	-10 ~ +60 °C	N/A
Working Humidity	10 ~ 80% (non-condensing)	N/A
Working Pressure	80 ~ 106 kPa	N/A

8. Troubleshooting

8.1. No Display / Tester Not Turning On

- **Check Power Source:** Ensure the power source (charger, power bank) is active and supplying power.
- **PD Charger Specifics:** If testing a PD charger, ensure a device (e.g., mobile phone) is connected to the tester's output. PD chargers require communication with a device to activate.
- **Cable Connection:** Verify all cables are securely connected to both the input and output ports of the tester.

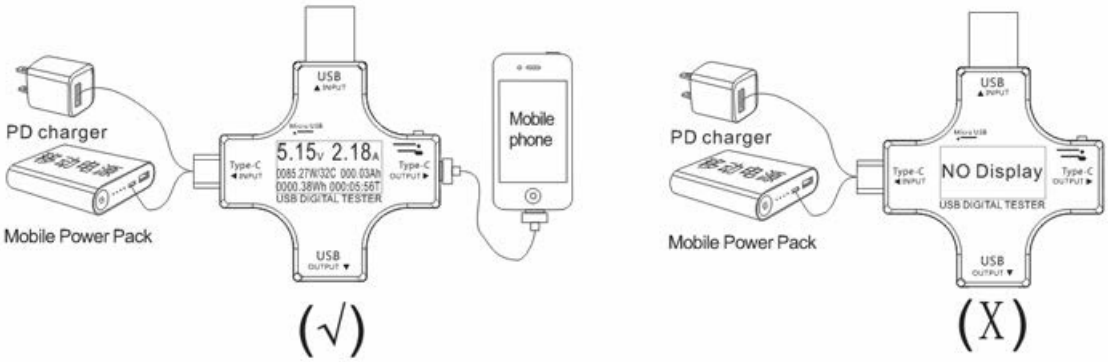
USB Energy Tester

- Usage introduction -

How to test PD charger

Because PD charger (USB-C) has its own PD protocol, if you don't connect a mobile phone with PD protocol, the PD protocol cannot be triggered, and the PD charger cannot work normally, so you need to connect the mobile phone to test, and its protocol works normally !

So:The input is connected to the PD charger, the output is connected to the mobile phone



Operation introduction:

1) Keep Press long time the key: Zero all data(mAh,Wh,00:00:00)
2) Double-click the key: for the Capacity(mAH) data reset to zero
3) Three-click the key:for the electric quantity(Wh) data reset to zero
4) Four-click the key: for the time(00:00:00) data reset to zero
5) Five-click the key: Auto-Standby Mode & Timer for discharge alert(1:00~24:00) &OFF
6) Single-click to change the window, entering the setup window for high&Low Voltage background light, adjust the parameters by double-clicking or three-clicking, click-holding for continuous and quick adjust.
7) Without load,quickly click the key for 7 times, for current data reset to zero(0.00A).It is for Precise calibration in local circumstance,so that the small current could be precisely measured.
8) Keep pressing the key when power-off, then power-on, entering the Background setup window for High&Low Voltage over-load, single-click or double-click to adjust the parameters, keep press the key long time to reset to the default setup
(Note: Please don't calibrate the voltage or current if without standard instruments)

Specification :

Voltage measuring range: 3.60V ~ 32.0 V	Resolution precision: 0.01 V
Current measuring range: 0.00 ~ 5.10 A	Resolution precision: 0.01 A
Power cumulative range: 0 ~ 999999 MWH	Resolution precision: 0.001 Wh
Power metering range: 0 ~ 299.999 W	Resolution precision: 0.001 W
Timing maximum time: 999 H 59 M 59 S	Resolution precision: 1 S
Time to refresh: > 500 ms/time > 500 ms/times	
Measurement rate: 0.5 times/s	Working temperature: - 10 ~ + 60 ℃
Product size: 67 x 60 x 12 mm	Working humidity: 10 ~ 80 (no doubt)
Since the power flow: < 0.015 A	The pressure of work: 80 ~ 106 kpa

Image 8.1: Examples of correct and incorrect connections for triggering the PD protocol. A device must be connected to the output.



Image 8.2: Incorrect connections, such as connecting only the charger without a load, or improper cable routing, will prevent the tester from functioning.

8.2. Inaccurate Readings

- **Cable Quality:** Poor quality or damaged cables can affect readings. Try using a different, known-good cable.
- **Load Conditions:** Ensure the device being charged or tested is drawing sufficient current for accurate measurement.
- **Environmental Factors:** Extreme temperatures or humidity can sometimes influence electronic measurements. Operate within specified environmental ranges.

8.3. Tester Resets Unexpectedly

- **Power Fluctuations:** Unstable power sources can cause unexpected resets. Ensure a stable power input.
- **Overload Protection:** The tester has built-in over-voltage, over-current, and low-voltage protection. If these thresholds are exceeded, the tester may reset or shut down to protect itself and connected devices.

9. Maintenance

- **Cleaning:** Use a soft, dry cloth to clean the tester's screen and body. Avoid using abrasive cleaners or solvents.
- **Storage:** Store the tester in a cool, dry place away from direct sunlight and extreme temperatures.
- **Handling:** Handle the device with care to avoid physical damage. Do not drop or expose it to excessive force.

10. Warranty and Support

For warranty information and technical support, please refer to the product packaging or contact AVHzY customer service directly. Keep your purchase receipt as proof of purchase.
For further assistance, you may visit the AVHzY Store on Amazon.

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