



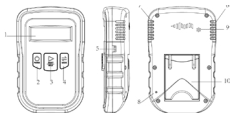
# AiRead N1

—User's Guide—

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# 1. Introduce



(1) Display screen: The device's display shows test data and basic information.

(2) POWER button: In the off status, long press to start up; in the on status, short press to shutdown.

(3) HOLD/SELECT key: Short press the HOLD key to stop the test and keep the measured data unchanged. In the formaldehyde mode, press and hold the HOLD key for 3 seconds to set the formaldehyde value in this environment to zero.

(4) MODE key: Switch between PM2.5, formaldehyde, temperature and humidity detection and integrated mode.

(5) USB port: Use a USB line to connect the device to a power

adapter or computer for charging.

(6) Air inlet: Air inlet.

(7) Outlet: Outlet for flowing air.

(8) RESET button: Press this button to restore the factory settings.

(9) Formaldehyde detection port: Detection of formaldehyde vents.

(10) Bracket: Open the bracket to support the device.

## **2. Boot detection and working mode**

Press the POWER button for a long time, and the default is to enter the PM2.5 real-time detection mode. In addition to the integrated mode and WIFI configuration mode, 13 minutes automatically shut down in other modes.

### **(1) Working mode switch**

Press the MODE key to switch between PM2.5, formaldehyde, temperature and humidity, and integrated mode.

In the PM2.5, formaldehyde, temperature

and humidity mode, press the HOLD key shortly to enter the HOLD mode, at which point the machine stops testing. Press the HOLD or MODE key again to release the HOLD mode and resume real-time detection.

## **(2) Working mode**

### **PM2.5 detection**

Displays PM2.5 values and air quality levels. About 4 seconds after entering this mode, the detection results tend to be stable, and the detection data is updated every second. PM2.5 measurement range: 0 ~ 999.9 $\mu\text{g}/\text{m}^3$ . The air quality indicates the current level of air pollution and is divided into: Good, Moderate, Unhealthy, Hazardous, and 4 levels.

Due to the high power consumption of this mode, the machine automatically stops detecting and enters HOLD mode after 5 minutes of operation.

Out of range display: When the PM2.5 concentration exceeds the measurement range, the screen shows 999.9 $\mu\text{g}/\text{m}^3$ .

### **Formaldehyde detection mode:**

The formaldehyde content and the pollution level are shown. The formaldehyde measurement range is 0 to 1.5  $\text{mg}/\text{m}^3$ . The pollution level indicates the current level of formaldehyde pollution in the air. It is classified into: Good, Moderate, Unhealthy, Hazardous, with 4 grades. If the WIFI mode is not configured, the fan in the formaldehyde detection mode does not work.

Out of range display: When the formaldehyde concentration exceeds the measurement range, the screen shows 1.5 $\text{mg}/\text{m}^3$ .

Formaldehyde zero calibration: Zero calibration is to calibrate the environment

you think is clean to a zero value in order to compare the relative formaldehyde content in other environments. The operation method is: in the formaldehyde detection mode, stand in a clean environment. After the numerical value is stable, press and hold the HOLD key for 3 seconds to mark the formaldehyde value in the current measurement environment as  $0 \text{ mg/m}^3$ , and then take the high value environment. The relative formaldehyde content is measured (the device will always show  $0 \text{ mg/m}^3$  when the formaldehyde concentration in the measurement environment is lower than the zero environment). The zero value of each calibration will be invalid after shutdown, and the factory settings have been restored when the power is turned on again.

**Temperature and humidity mode**  
Display temperature and humidity

values and air comfort level, the measurement range is: temperature: 32 ~ 122°F, humidity: 20 ~ 95%. Measurement error: Temperature:  $\pm 36^{\circ}\text{F}$ , Humidity:  $\pm 10\%$ . The air comfort expresses the current comfort level and is divided into: Cold, Cool, Neutral, Warm, Hot, with 5 levels.

### **Integrated mode**

Displays PM2.5, formaldehyde, temperature, and humidity values. When a value exceeds the standard, "!" is displayed. In this mode, in order to save power, it is easy to observe for a long time, automatically HOLD after 2 minutes, keeping the measured data unchanged. The test starts automatically after 8 minutes and again after 2 minutes. This loops until the device is discharged.

Automatic HOLD and shutdown

It will not automatically HOLD and

shut down when charging.

## **WIFI configuration mode**

While the derice is in the power-off state, press the POWER and MODE keys simultaneously for about 3 seconds to enter the WIFI configuration mode. Use the APP installed in the phone to scan the QR code and configure it (see the APP configuration guide for configuration details).

When the phone configuration is complete, restart the derice, all test modules will run, automatically upload all measurement data in any interface, and send all measurement data to the mobile phone APP through Hanvon cloud (pause sending in HOLD mode).

## **3. WIFI icon status description**



**icon**

This icon is displayed in the upper right corner after power on, indicating that



the current device WIFI is working properly. If there is no such icon, enter WIFI configuration mode to activate WIFI. To turn off WIFI, press the RESET button.

### icon

This icon is displayed in the upper right corner after power on, indicating that the WIFI configuration of the watch is completed, the route is successfully connected and the data is sent to Hanvon Cloud. At this point, you can view the data through the APP on your mobile phone.

## 4. Hanvon blue sky APP

Hanvon Blue Sky App will display real-time data and other related content according to the data uploaded by you. Download Hanvon Blue Sky APP (See APP Configuration Guide for details)

Android phone users scan the QR code below to download the app.



Iphone users search for "Hanwang Blue Sky" APP in the App Store.

## 5. Charging

### Battery level indicator



FULL



Reduce



Empty

### Charging

When the battery is exhausted, it will automatically shut down and display the battery empty icon before shutting down.

Use a USB cable to connect the device to a power source for charging (switching machine charging can be used).

Special Note:Shutdown charging time is about 5 hours.It is recommended

to use a charger with an output of 5.0V DC 1.0A. Using a computer USB port and other chargers does not guarantee that sufficient current can be supplied, which may prolong the charging time.

### **Battery safety precautions**

Lithium batteries have a certain degree of danger. Users must not attempt to remove the battery. Removing or replacing the battery forcibly may cause an explosion. Batteries throwing into the fire can also cause explosions. Keep the battery and device dry, away from water or other liquids, so as not to cause a short circuit. Do not use the battery if it is damaged, distorted or discolored, overheated or emits an odor. Dispose of used used batteries according to the manufacturer's instructions.

Special Note:If the battery is exhausted, it may not start when the charging starts.

Please charge it for a few minutes before trying to boot, or press the RESET button to boot again.

## 6. Maintenance and precautions

### (1) Use caution

When unpacking the first time, it is advisable to use the AiRead N1 in a ventilated environment for more than 24 hours. It is advisable to measure the outdoor value below  $0.03 \text{ mg/m}^3$ .

When the concentration of PM<sub>2.5</sub> in the air is greater than  $250 \text{ ug/m}^3$ , it is not appropriate to use this product to measure the formaldehyde concentration.

AiRead N1 adopts precision sensors, which need to exclude other gas interferences during detection, may be sensitive to harmful organic volatiles such as sulfides, alcohols, etc., and ammonia and other alkaline gases are harmful to them, and it is not easy to place the above gas for a long time.

## **(2)Indoor environment formaldehyde detection requirements and methods**

First test the environment for more than 2 hours ventilation, eliminate interference gas, and then seal the test environment for 4 hours until the formaldehyde is fully and evenly dispersed in the environment. AiRead N1 fully absorbs and detects formaldehyde components in the environment and starts reading for 5 to 10 minutes. Take a stable value. During the entire testing process, do not carry out activities that affect the test results, such as smoking, cooking, spraying perfume or alcohol. Do not hold the device while testing.

## **(3)Testing indoor furniture environmental requirements and methods**

Ventilate the indoor environment for more than 2 hours, remove the interference gas, and then place the device in the furniture for more than 2 hours to ensure that the

N1 fully absorbs the formaldehyde components in the furniture. Read the stable value for 5 to 10 minutes.

#### **(4) Precautions for saving**

When testing formaldehyde, do not place the instrument in a high concentration of interfering gas for long periods of time. If the device will out of range the device in the environment of strong interfering gas or high concentration of formaldehyde, long-term exposure to a higher concentration of interfering gas will also reduce the life of the sensor. The device will be placed in a ventilated and clean atmosphere for 2-12 hours when it out of range. After the equipment value is recovered and stabilized to  $0.03\text{mg}/\text{m}^3$  or less.

#### **(5) Avoid bumps, falls, etc.**

AiRead N1 is a precision detection instrument. Please avoid bumping, gravity hitting, water ingress, and falling.

## 7. Product packing list

After opening the package, please confirm whether the host is in good condition and whether the accessories are complete. If the components are missing or damaged, please contact the dealer promptly.

- (1). AiRead N1
- (2). Instruction manual
- (3). Certificate

## Formaldehyde sensor common gas and its interference component table

gas	concentration	Formaldehyde sensor
Hydrogen sulfide	100ppm	3.7ppm
Ethanol	2000ppm	76.3ppm
Formaldehyde	10ppm	10ppm
Chlorine	10ppm	0.1ppm
Sulfur dioxide	20ppm	0.8ppm
Hydrogen	500ppm	5.5ppm
Ammonia	50ppm	0ppm
Methyl chloride	5ppm	0.1ppm
Ethylene Oxide	10ppm	0.5ppm
Benzene	100ppm	0.1ppm
Acetone	100ppm	0.2ppm
Methanol	200ppm	23.9ppm



## Names and contents of toxic and hazardous substances or elements in products

Part Name	Poisonous and harmful substances or elements					
	Pb	Hg	Cd	Cr(VI)	PBB	PBDE
mainboard	X	O	O	X	O	O
shell	O	O	O	O	O	O
Packaging materials	O	O	O	O	O	O
Assembly materials	O	O	X	O	X	X

O: Said that the content of toxic and hazardous substances in all homogeneous materials of the component is below the limit requirements specified in SJ/T11363-2006 standard.

X: The "x" at the table indicates that the company has not detected or is inspecting the corresponding toxic and hazardous substances of the component for the time being. It cannot be determined whether the toxic and hazardous substances in the component exceed the requirements of the SJ/T11363-2006 standard.

**FCC Warning:**

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television

reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

SAR tests are conducted using standard operating positions accepted by the FCC with the device transmitting at its highest certified power level in all tested frequency bands, although the SAR is determined at the highest certified power level, the actual SAR level of the device while operating can be well below the maximum value.

Before a new device is available for sale to the public, it must be tested and certified to the FCC that it does not exceed the exposure limit established by the FCC. Tests for each device are performed in positions and locations as required by the FCC.

Non-compliance with the above restrictions may result in violation of RF exposure guidelines.

## Contact us



### Webpage instructions

Scan the QR code to view the latest webpage instructions

If you have any questions in use, please contact our technical service personnel to help you solve it.

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