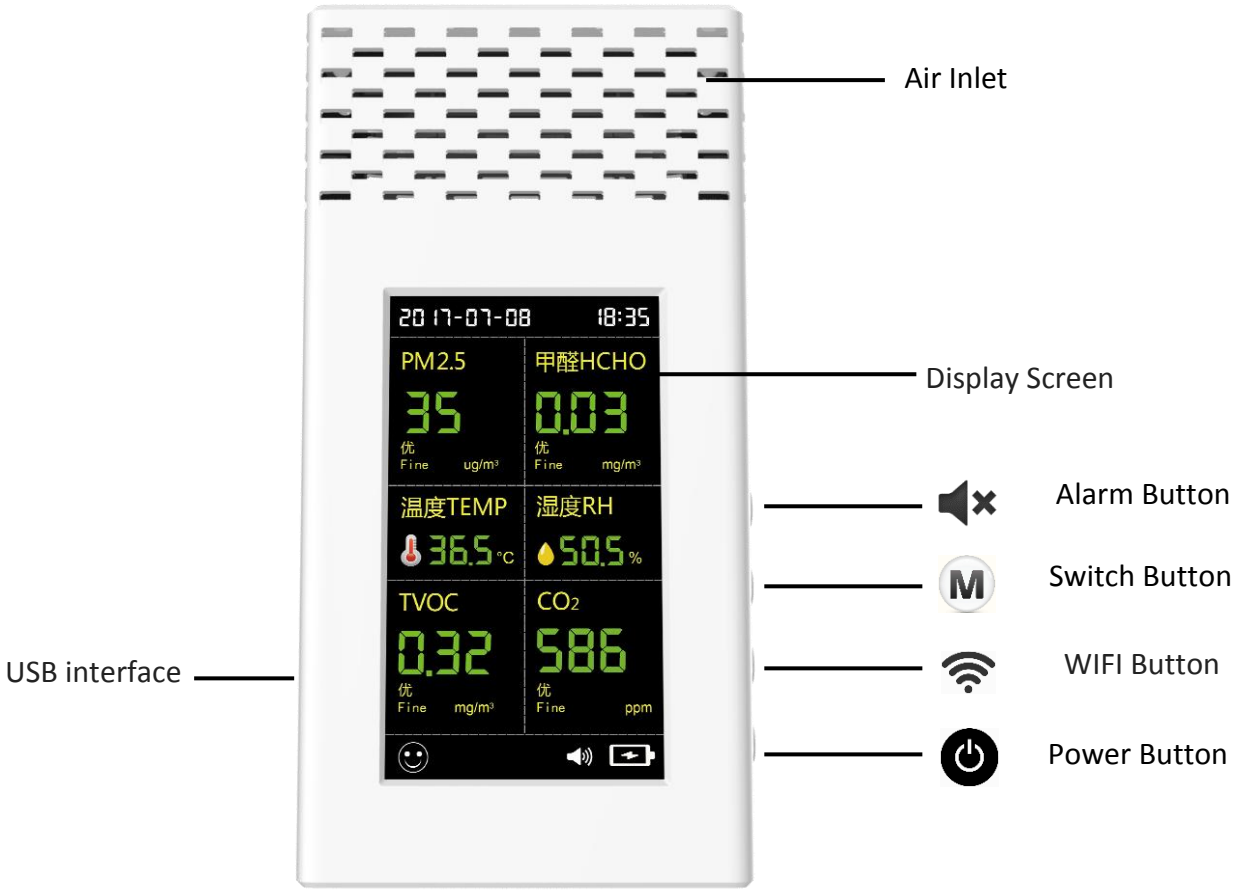
Contents

Chapter 1. Introduction

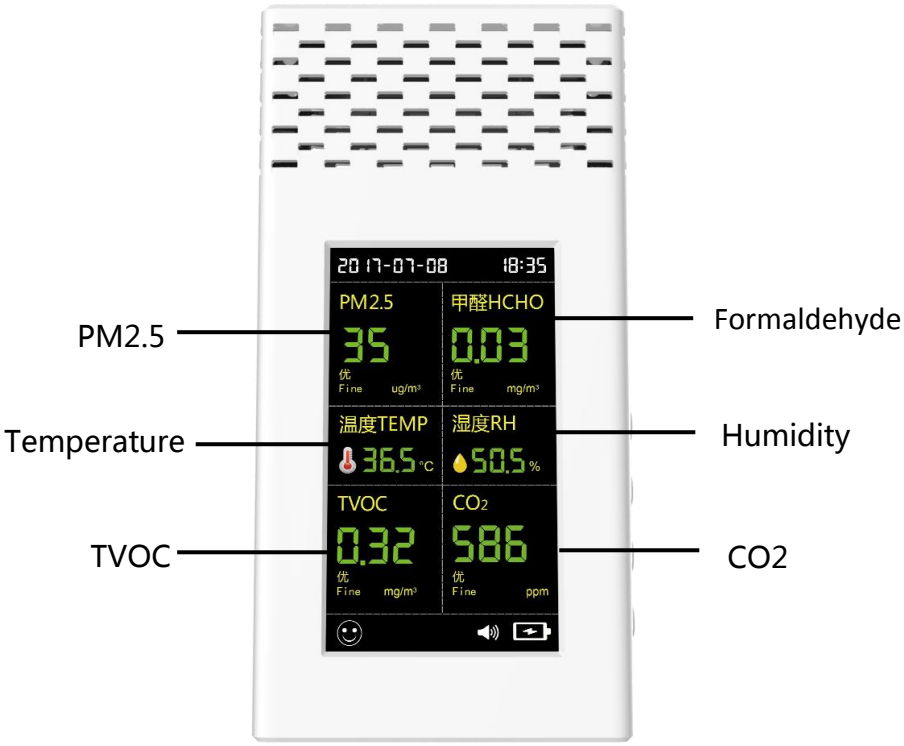
Cloud Air Detector is a versatile air quality monitor that can simultaneously detect PM2.5, PM10, CO_2, TVOC, formaldehyde, temperature and humidity data. Users can register an account on NanoFIL cloud platform, and associate it with different NanoFIL Air Monitors where their data detected will be displayed on PC terminal, mobile App, TV or display device for real-time monitoring.

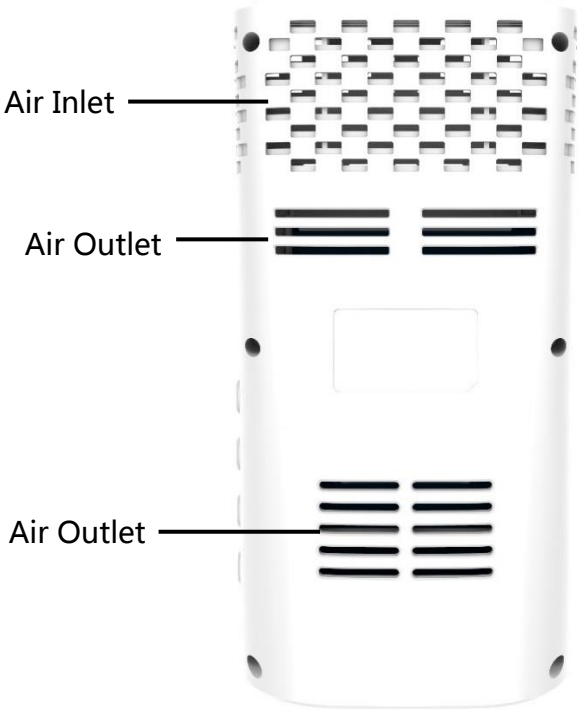
In addition, the monitor can be used to automatically control air purification devices according to the air quality data and parameters of the detecting points. NanoFIL cloud platform also supports multi-account management control, for the convenience of managing air monitoring and purification equipment in large scale.



1. Air Inlet: Collect the detected air. Do not block the inlet during operation
2. Power Button : Press for 3 seconds to turn on or press for 3 seconds to turn off the monitor
3. Switch Button : Press once at a time to switch to view different data detected;
4. Alarm Button : When the detection value exceeds the pre-set parameter, the device buzzer will automatically alarm. Press the button once to turn off. Press again to activate.
5. WiFi Button : Press the WiFi button to connect the device to the Internet. Press again to turn off
6. Display Screen: PM2.5 concentration value, TVOC concentration value, CO2 concentration value, formaldehyde concentration value, temperature and humidity, WiFi, remaining power, alarm on / off reminder, year-date-time
7. Air Outlet: Exchange of air. Do not block the inlet during operation
8. USB interface: USB charging.

Chaper2. Parameters





1. **Product Size**
   Dimension: 89.5 * 63.5 * 174mm
2. **Product Weight**
   Host weight: 320g
3. **Power parameters**
   Input voltage: 5V

   Battery capacity: 4400mAh

   Power: 8W

   Charge current: 1.6A

Measurement indicators and scope

Sensor Parameters			
Parameter	Measuring range	measurement accuracy	Resolution
PM2.5	0-2000μg/m³	±10%	0.3μm
CO2	0-2000ppm	±50ppm	1ppm
TVOC	0.000-9.999mg/m³	±0.01mg/m³	0.01mg/m³
Formaldehyde	0.000-4.0mg/m³	0.01-0.2mg/m³ ±5%	0.01mg/m³
Temperature / Humidity	-40-80℃ 0-99.9%RH	±1℃ ±1%℃	0.1%RH

Note: If the instrument is placed in an environment beyond the measuring range for an extended period of time (such as placing a cigarette at the instrument air inlet for a long time), it may result in measurement error.

Environmental conditions

Working environment: 5 to 45 ℃

Storage environment: -20 to 30 ℃

Product Model Configuration Table

NanoFIL Air Monitor

PM2.5	√
CO2	√
TVOC	√
Formaldehyde	√
Temperature / Humidity	√
WiFi	√

Chapter 3 Product Working Principles

Cloud Air Detector is a versatile air quality monitor that can simultaneously detect PM2.5, PM10, CO2, TVOC, formaldehyde, temperature and humidity data. PM2.5 sensor is a digital particle concentration sensor, based on the principle of laser scattering. It can continuously collect and calculate per unit volume of air in different sizes and concentration of suspended particulate matter, and then converted to mass concentration and digital data output. It can be embedded in a variety of airborne suspended particulate matter concentration-related instruments or environmental improvement equipment, to provide timely and accurate concentration data. CO2 sensor collects data by NDIR infrared measurement principle. Formaldehyde is detected by the principle of electrochemical. TVOC is detected by the principles including semiconductor measurement.

Chapter 4. Product Features

1. The latest technology: the current PM2.5 laser scattering precision detection technology, sensitive response, accurate data measurement;
2. Real-time detection: automatically refresh the data to detect air quality;
3. Multi-purpose: real-time display of PM2.5, PM10, CO2, TVOC, formaldehyde, temperature and humidity data;
4. Color screen display: digital LCD display, simple and intuitive;
5. Tiny and convenient: easy to carry, easy to operate;
6. Quick response: fast data reading, stable performance;
7. WiFi interface: press WiFi button to connect to the network.
8. Standby power consumption: long operating time, can be used continuously for 8 hours;

Chapter 5. Using Steps

First time of use:

1. Before you begin, plug the instrument into the power and charge it for 2 to 4 hours;
2. When warming up the instrument, put it in an area with adequate air circulation (such as near a window) to calibrate.

During use:

1. Whenever the monitor needs to restart, it will require 5 to 10 seconds to warm up after reboot, the carbon dioxide sensor needs to warm up for 3 minutes. Upon completion, the monitor can start measurement.
2. Put the monitor in a better environment to start measurement. When the data is stable, the reading is done;
3. Take measurement at different points of a room and calculate an average value of the measurement results, then it will be the average pollution value of the room.

Chapter 6. Calibration

Calibration instructions:

1. First place the instrument in a good place (such as: outdoor, balcony, window), turn on the instrument for more than 10 minutes. TVOC will be automatically calibrated;
2. Press MODE switch button M to select the formaldehyde interface, then simultaneously press MODE switch button M and alarm button for 3 seconds. Formaldehyde will be automatically calibrated;
3. PM2.5 and carbon dioxide do not need calibration.

Time calibration: be performed without network connection

Chapter 7. Pollution Comparison Table

PM 2.5 Concentration Comparison Table	**PM 1.0 Concentration Comparison Table**

Pm2.5 Concentration（ug/m³)	Air Quality	Pm1.0 Concentration（ug/m³)	Air Quality
0-35	Excellent	0-50	Excellent
35-75	Good	50-100	Good
75-115	Mild pollution	100-200	Mild pollution
115-150	Moderate pollution	200-300	Moderate pollution
150-250	Severe pollution	Above 300	Severe pollution
Above 250	Serious pollution		

CO2 Concentration Comparison Table		TVOC Concentration Comparison Table	
CO2 Concentration（ppm）	Air Quality	TVOC Concentration（mg/m³）	Air Quality
450-700	Fresh	0.0-0.6	Good
700-1000	Better	0.6-1.0	Mild pollution
1000-1500	Little turbid	1.0-1.6	Moderate pollution
1500-2000	Turbid	Above 1.6	Severe pollution

Formaldehyde Concentration Comparison Table	
Formaldehyde Concentration（mg/m³）	Air Quality
0.00-0.03	Excellent
0.03-0.1	Good
0.1-0.2	Mild pollution
0.2-0.3	Moderate pollution
0.3-0.8	Serious pollution
Above 0.8	Severe pollution

Chapter 8. Precautions

1. **Multi-point detection**
   The composition of the air in different locations is not necessarily uniform, like the content of pollution will certainly be different at every corner of the room. Users are better to detect by multi-point sampling, and take the average value as reference.

2. **Avoid interference**

   During measurement process, please try to avoid the interference of methanol / ethanol fume, such as cigarettes, alcohol, perfume, cosmetics, skin care products (hand oil) to avoid measurement error. Before measurement, set the monitor in good ventilation to eliminate interference. In addition, be sure not to blow the monitor with mouth, doing so will after the lifespan of sensors.

3. **Low temperature detection**

   When the temperature is below zero degree, the sensitivity of sensors will decrease. Therefore, please do not leave the monitor work in prolonged low temperature (longer than 30 minutes).

4. **Ensure the air flow is stable**

   Gas molecules in space have been following random Brownian motion, gas distribution is susceptible to air flow interference. As far as possible to make the air flow stable before measurement.

5. **Not used for a long time**
   When monitor has not been used for a long time, it will require to reboot by following the First Time of Use procedure in Chapter 5.

Chapter 9. Care and Maintenance

1. Please keep the product dry against rain, moisture and various liquids that may corrode the electronic circuit, resulting in damage to product;
2. Do not disassemble the internal components and casing;
3. Avoid strong shocks or vibrations to the instrument;
4. Do not seal the instrument;
5. Do not use the instrument in an environment of high soot concentration, that will affect the life of the instrument;
6. Please keep the air inlet of this product unobstructed.

Chapter 10: Customer Service and Warranty Clauses

NanoFil provide products within the scope of the provisions of the Three Guarantees service

1. Consumers who have quality problems within 7 days from the date of purchase of the NanoFil Air Monitor have the option to return / exchange their products.
2. Consumers who have quality problems within 30 days from the date of purchase of the NanoFil Air Monitor have the option to replace new instrument.
3. Consumers enjoy a full year of warranty from the date of purchase of NanoFil Air Monitor

Situations of non-warranty:

a) Purchase receipt and warranty card are the certificate for the Three Guarantees. Warranty service cannot be provided if there is any record modification or product information does not match with the real.

b) Disassemble or modify the product to cause malfunction or damage to the product;

c) Man-caused damage

d) Does not comply with the relevant provisions of the Three Guarantees;

e) Malfunctions caused by bad environment, such as excessive input voltage, moisture, corrosion, rust, etc .;

If exceeding the warranty period, our company will only charge costs for repairing.

Service hotline: (852) 3955 0207
Working hours: Monday to Friday 9:00 am to 6:00 pm (Closed on holidays)

Chapter 11. Recommended places

Suitable for a variety of indoor and outdoor places.

Chapter 12. Connection to Network

1. Press and hold the Power Button on the monitor. After powering on, press the MODE Switch button M to display the QR code screen. Scan the QR code with your mobile phone to download the APP and register an account or login by Wechat. After clicking the APP, select scan QR code and scan the QR code at the bottom of the instrument;

2. Short press the "WiFi" button on the monitor to start the WiFi icon, press and hold the WiFi button for about 3 seconds, then after the “beep” sounds the WiFi icon on the display will flash, click “Next”;
3. Connect your mobile phone with WiFi, APP will automatically detect WiFi router’s name. Enter WiFi password manually. Click “Next”, it will display "Uploading Server". Wait for around ten seconds, and if it displays "Network Matching Success", it indicates successful matching of network;
4. Users can edit the device name and select its location. After that, click to enter the homepage. (When the time expires, “Configuration Timeout” will be displayed, click “OK”. At this time, check if the mobile phone is connected to the WiFi router or the WiFi password is correct. If there is no problem, press the “WiFi” button and turn it off for 3 seconds. Then turn it on and repeat Step 2;
5. According to users’ requirements, it can be provided in digital TV and advertisement machines. Users simply log in the APP on the interface, the data of each detecting points can be monitored in real time.

Adding device

1. Click “Register Now” on the User Login interface in mobile phone and follow the instructions to register.
2. After registration, enter the user name and password and click “Login” to enter the list.
3. Click “Add” to add device, click “+” icon on the upper right corner, scan the QR code on the device bottom and then repeat step 2,3,4.

APP Download: www.nanofil.com.hk

Chapter 13. Product packaging List

1. Host Device: 1
2. Adapter: 1
3. Charging Line: 1
4. User Manual: 1
5. Maintenance Card: 1

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this 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.

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

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 followingmeasures:

-- 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.

FCC ID: 2AO4LPAJK-TS03