

## Dust particle counter SISCO-PC-HZ-012



### Overview:

This product is designed based on the principles of laser scattering, dual-beam infrared (NDIR), imported ion-injection X-type silicon detection, resistance wire, Wi-Fi, touch color screen, and RS485 communication.

1. Detection of particle counts and mass of 0.3um, 0.5um, 1.0um, 2.5, 5.0um, 10um particle size dust, and testing of cleanroom grades of 100 and below
2. PM2.5/PM10
3. Positive and negative pressure detection
4. Display of twelve pressure units
5. CO2 detection
6. RS485 communication interface



7. Gra APP mobile connection remote monitoring
8. Temperature and humidity detection
9. Record data of 10,000 groups
10. Pressure calibration reset
- 11 Time and date
12. LED lighting
13. Speaker alarm
14. Multiple select alarm items
15. Data export to USB flash drive or PC computer
16. SD memory card expansion
17. Automatic shutdown without operation
18. Authority management password lock

Applicable to:

Class 100 cleanroom and below cleanroom testing

Electronic, optical, chemical, food, pharmaceutical, health, biological products, aerospace and other industrial production

Filter seal testing

Source detection of particulate pollution

Safety and maintenance

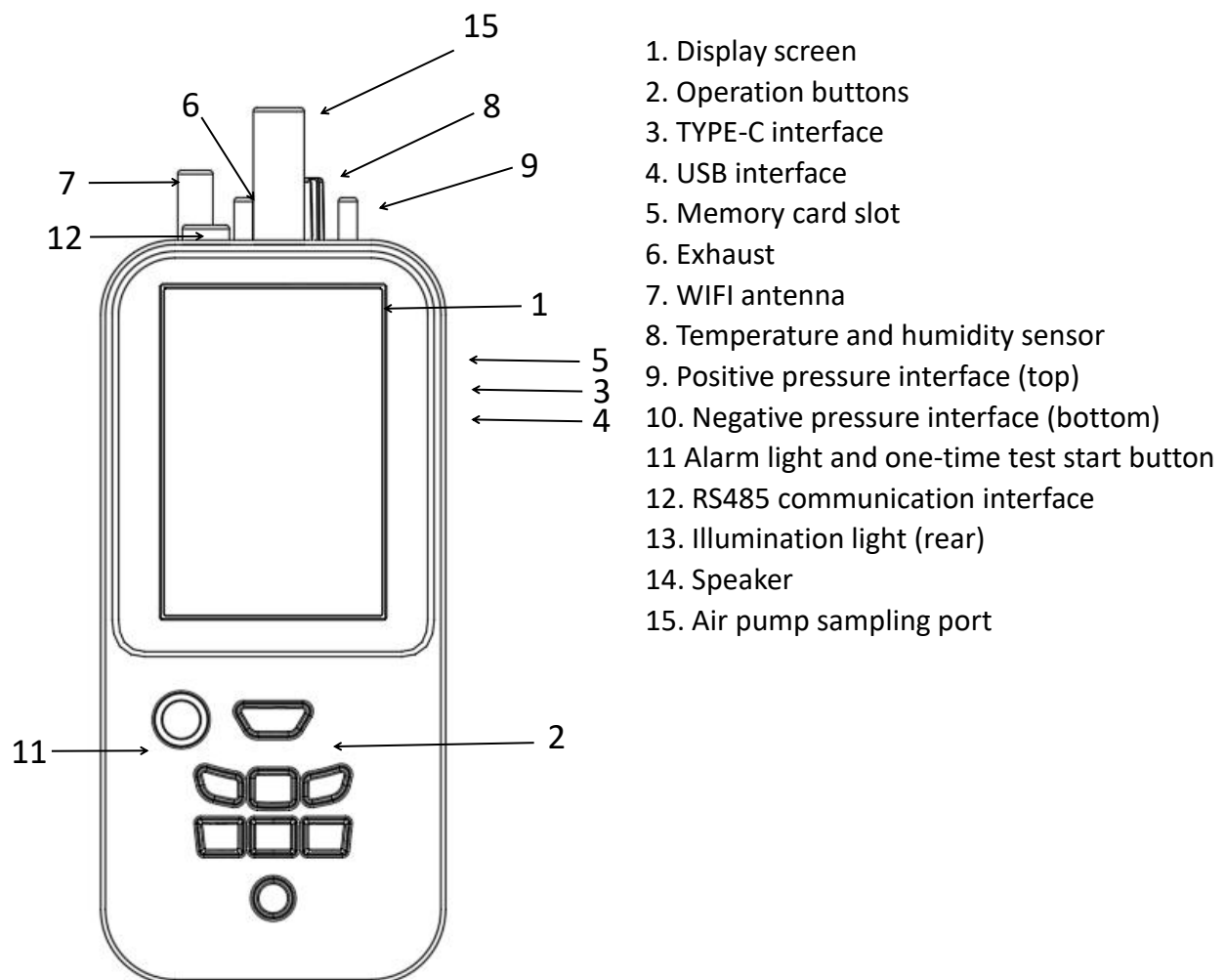
1. Please do not place the instrument in a dusty or corrosive gas environment for use, so as not to cause a reduction in the life of the or damage.

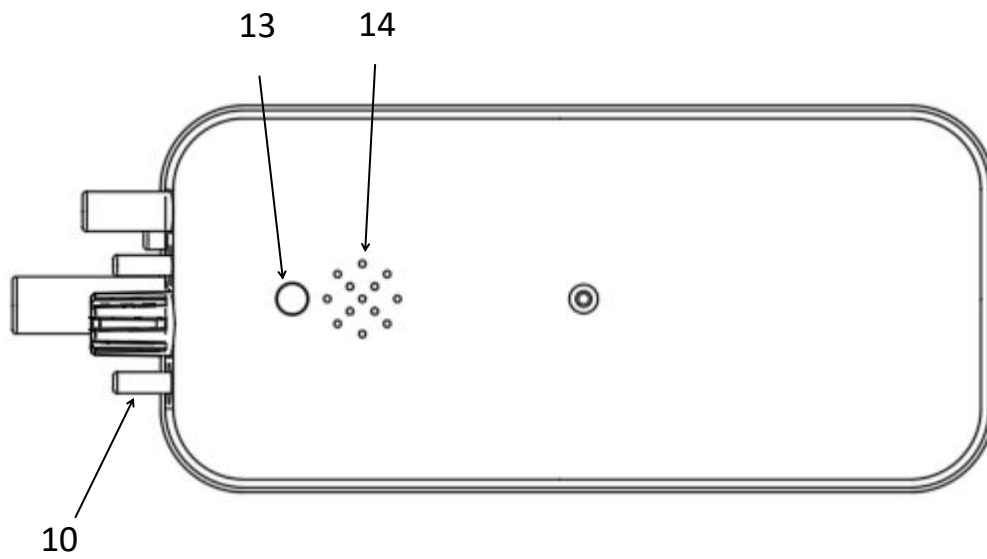
2. Please charge in time when the battery icon on the display is empty or red, and remove the battery when it is not used for a long time.

. Please do not store or use the instrument in a high temperature, high humidity, flammable, explosive and strong electromagnetic field environment.

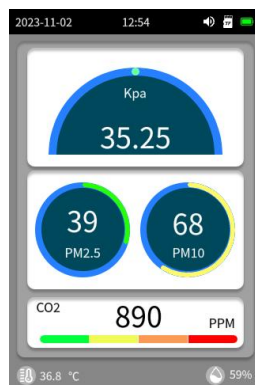
**4.** For maintenance, please the case with a soft cloth and neutral cleaner, and do not use abrasive agents and solutions to avoid corrosion of the case and damage to the instrument

#### Appearance structure





Test interface

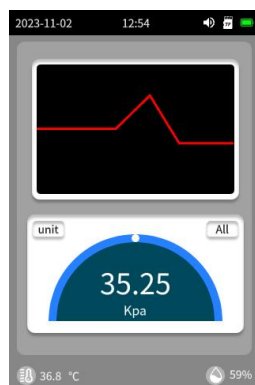
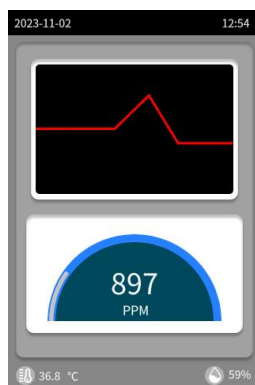


Press this interface



Button to

reset pressure to zero kpa



Press this interface



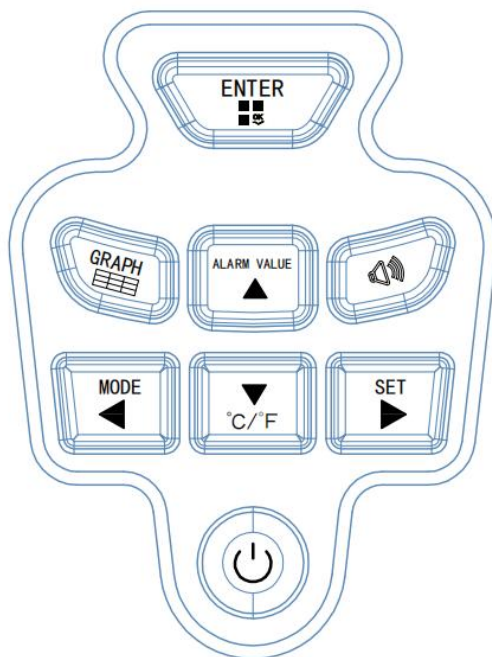
Button to

reset pressure to zero kpa

Note: 1. Do not block the intake port with an object during testing.

The zero calibration can stop the air pump, which can achieve the data zeroing operation, and switching from continuous measurement to single measurement can stop the air pump operation to achieve zeroing.

### Button function



Single measurement start button: short press to start single measurement and enter the countdown

Long press to turn on or off the LED lighting

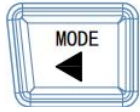


1. Power button: short press to power on or off (in the settings interface, press back to exit);



2. Set button: Set the function interface to enter or confirm

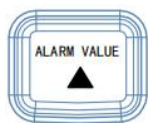
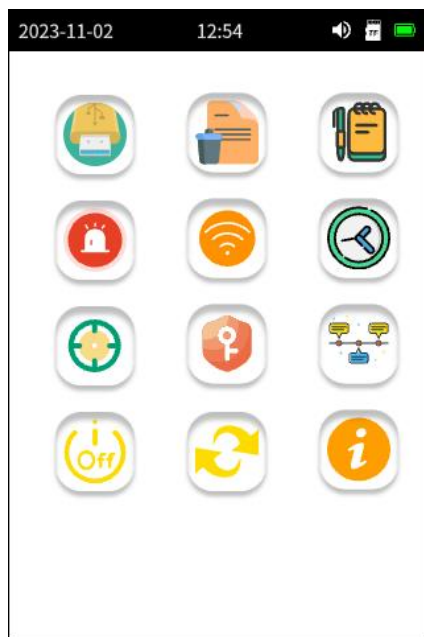
the modified item.



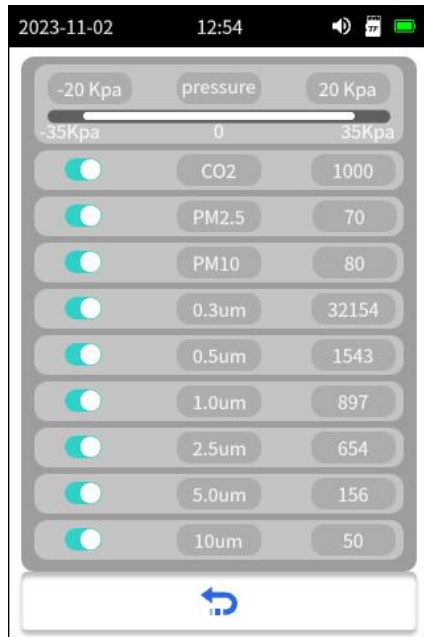
3. Pattern button: 1) Short press to switch between particle number/weighing mode/CO2 mode and differential pressure mode.



4. Settings button: 1) Short press to enter the settings interface.



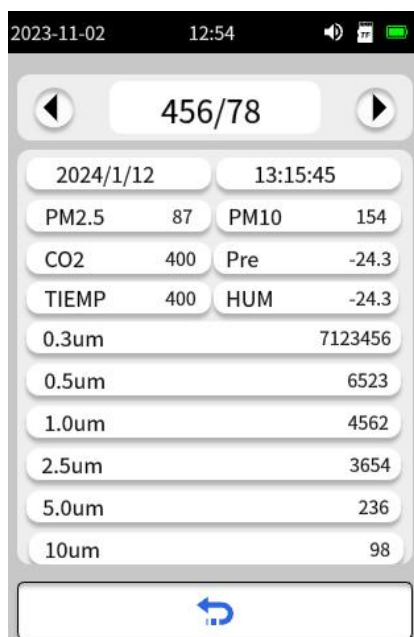
5. Alarm value setting button: 1) Short press to enter the alarm value interface setting



6. Temperature unit conversion button: 1) Short press to turn on the unit of °C or °F.

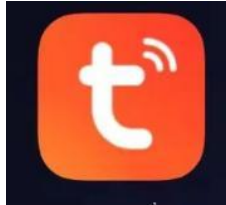


7. History trend button: 1) Short press to enter the historical data trend interface.



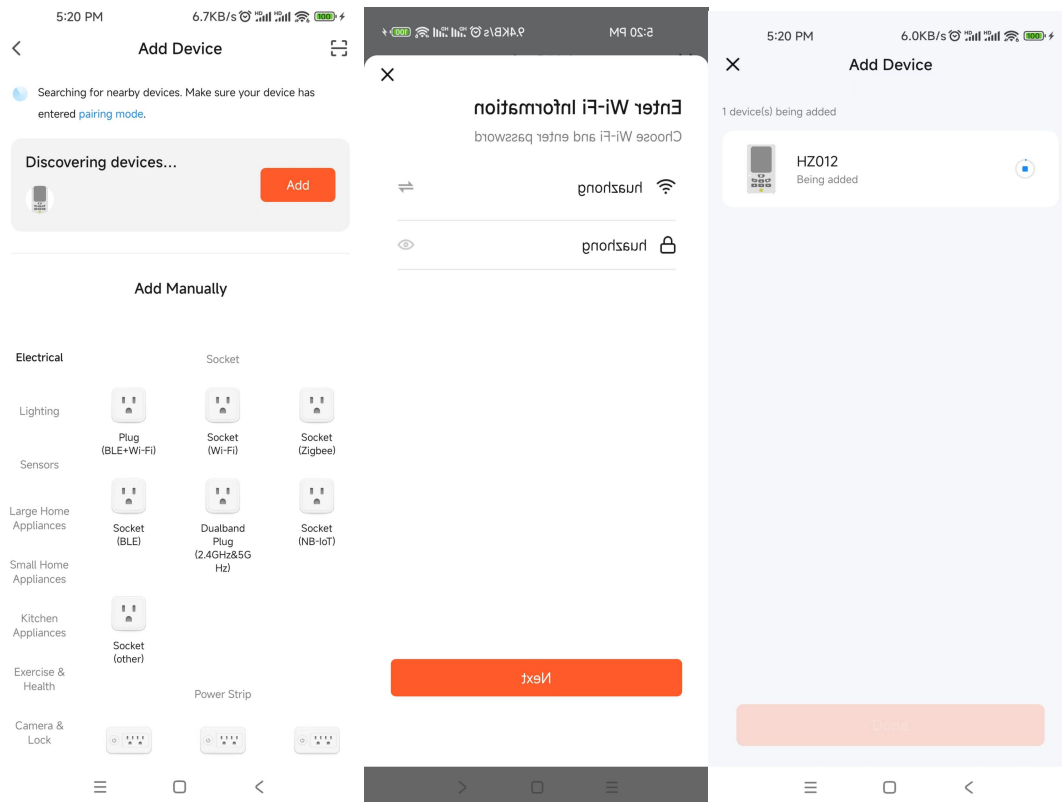


8. Sound alarm button: 1) Short press to turn on or off the alarm sound.

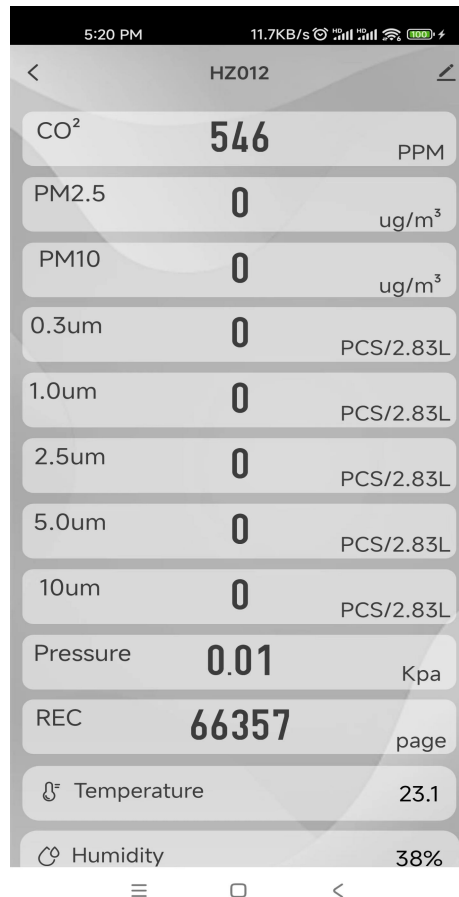
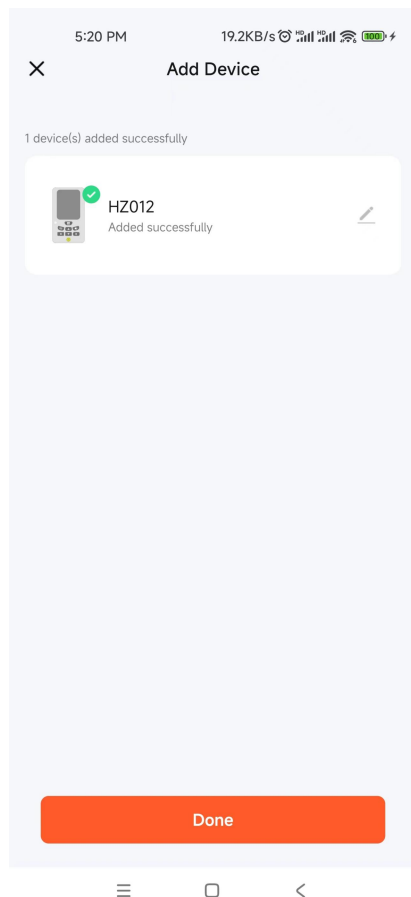


### APP application use

Download the Doodle Smart APP software from the mobile app store, open the "Doodle" smart App, the software automatically searches for product WIFI picture one the App detects WiFi and click "Add". Picture two: Connect automatically by entering the WiFi name and password, picture three complete automatic connection, picture four click "Finish" five enter the App test interface.




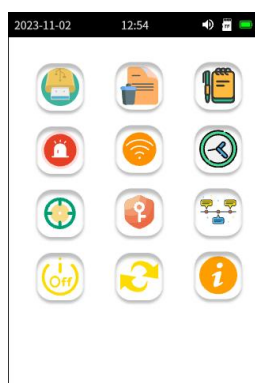




Set operation:



Short press  Button or touch screen setting icon enter interface

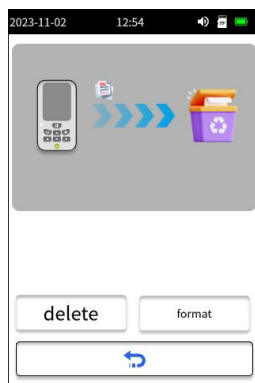




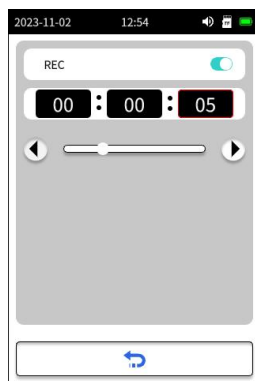
Connect the computer/USB flash drive data export settings



Data document deletion settings

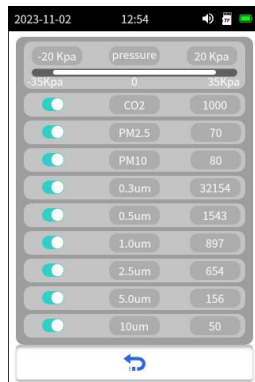


Data recording on/off/interval time setting





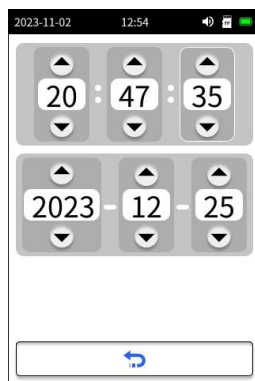
Alarm on/off/value setting



WiFi forced restart disconnection setting

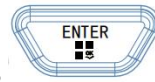


Date and time settings



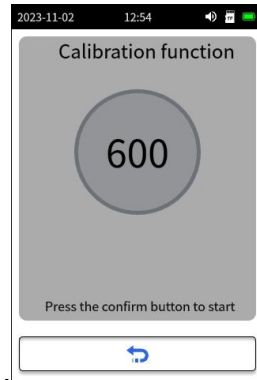


CO2 Calibration Settings : Press



Button starts the

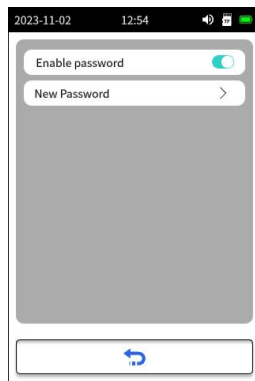
countdown for 600 seconds, and automatically jumps to the detection



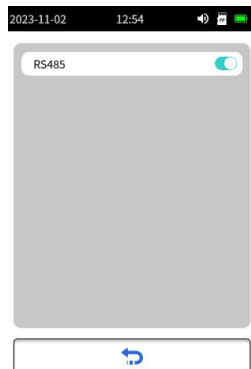
interface after completion.



Permission management settings

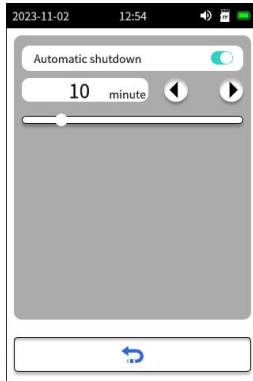


RS485 settings

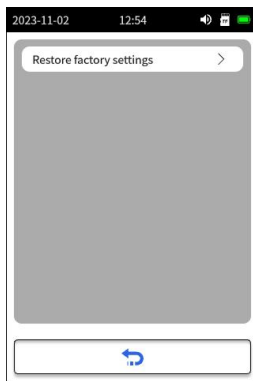




Auto power off setting



restore the factory settings



About the device

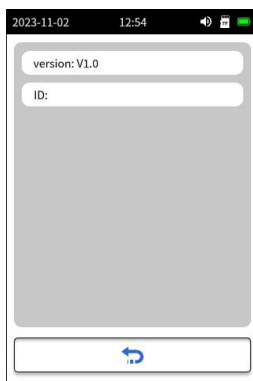


Table of air cleanliness levels in cleanrooms (areas):

Cleanliness level	Maximum particle concentration limit (PCS/m <sup>3</sup> )		Maximum particle concentration limit/50L	
	≥0.5um	≥5um	≥0.5um	≥5um
100 Level	3520	29	176	1.45
1000 Level	35200	293	1760	14.65
10000 Level	352000	2930	17600	146.5
100000 VLevel	3520000	29300	176000	1465
300000 Level	10560000	87900	528000	4395
1000000 Level	35200000	293000	1760000	14650

### Technical specifications

Six-channel particle size	0.3um, 0.5um, 1.0um, 2.5um, 5.0um, 10um
PM2.5/PM10 Range	0~1000μg/m <sup>3</sup>
PM2.5/PM10 Precision	0~100μg/m <sup>3</sup> : ±10μg/m <sup>3</sup> 100~1000μg/m <sup>3</sup> : ±10%
concentration resolution	1μg/m <sup>3</sup>
Particle number output range	≤2000000PCS/L ≤2000000000PCS/m <sup>3</sup>
Particle precision	≤±10%
Traffic	0.1ft <sup>3</sup> (2.83L/min)
Cleanliness standard	ISO 14644-1 ISO5 Level-ISO9 Level
Response time	1s
Startup stability time	30s
Temperature measurement range	-10~60℃
Temperature accuracy	±2℃
Temperature resolution	0.01℃
Humidity measurement range	0~100%
Humidity precision	±3%
Humidity resolution	0.01%
Power supply	3.7V detachable 18650 lithium battery*3 pieces
Charging voltage	5V/USB
Working hours	≥10H
Data record	10000group
Weight	1000g
Size	231*87*57mm

ISO 14644-1:1999 Cleanrooms and associated controlled environments/Part 1

Classification of air clean

Table of Comparison between Integral Grade of Air Purity in Cleanroom and Clean Area and Traditional Classification

ISO Grade N	Maximum concentration limit of particles greater than or equal to the particle size of concern (particles/m <sup>3</sup> )						
	0.1um	0.2um	0.3um	0.5um	1um	5um	
ISO 1 Level	10	2					
ISO 2 Level	100	24	10	4			
ISO 3 Level	1000	237	102	35	8		
ISO 4 Level	10000	2370	1020	352	83		
ISO 5 Level	100000	23700	10200	3520	832	29	
ISO 6 Level	1000000	237000	102000	35200	8320	293	
ISO 7 Level				352000	83200	2930	
ISO 8 Level				3520000	832000	29300	
ISO 9 Level				35200000	8320000	293000	

## Common problem analysis

1. No data display for the number and concentration of particulate matter in the air

Analysis 1: Measurement not turned on  
Analysis 2: Battery power too low to start the air pump

2. Does not turn on

Analysis 1: Battery is out of power or damaged, power it through USB port, if it turns on and the battery indicator on the top right changes, it means the battery is out of power, if there is no change and only the OK icon displayed, it indicates that the battery is already damaged

2: Battery    /- polarity installed backwards, please pay attention to whether the " " and "-" on the battery PCB silkscreen are correctly matched

3. Hangs

Analysis 1: The screen display pauses because the system processing speed is too fast, or the operation is frequent, which can be solved by taking out the battery and cutting off the power supply