

A25F

Air Quality Monitor (PM2.5 + Formaldehyde) User Manual

I. Overview

Atmospheric particulate matter (PM) is microscopic solid or liquid matter suspended in the Earth's atmosphere, which can adversely affect human health. PM2.5 particles are air pollutants with a diameter of 2.5µm or less, containing soot, smoke, metals, nitrates, sulfates, dust, water, and tire rubber.

When we breathe, PM2.5 can get deep into our lungs and some may even get into bloodstream. Exposure to fine particles can affect the heart and lungs.

Formaldehyde (HCHO) is a colorless, strong-smelling gas used in making building materials and many household products. It is used in pressed-wood products, such as particle boards, glues, adhesives, permanent-press fabrics, paper product coating, etc. Exposure to relatively high amounts of formaldehyde in medical and occupational settings has been linked to some types of cancer in humans.

A25F is a desktop air quality monitor used for monitoring the concentration of PM2.5 and formaldehyde in homes, shopping malls, offices, stations, etc.

This manual includes information about safety and warning. Please read carefully and follow all warnings and precautions before using the device.

II. Open box inspection

Open the box and take out the device, please check if the items are missing or damaged:

1. USB cable -----1
2. User manual -----1

III. Safety instructions

1. Check the device and its accessories for any damage or anomaly before use. Do not use the device if the cover is damaged, or has any other malfunctions.
2. Please follow the operation instructions.
3. Please do not open the device case and modify the internal circuit.
4. Do not store or use this device in high temperature, high humidity, flammable, explosive and strong electromagnetic environments.

IV. Structure



1	LCD screen	4	Function button
2	°C/°F unit selection button	5	USB charge port
3	Power ON /OFF button		

V. Symbols



1	PM2.5 icon
2	PM2.5 measured value
3	PM2.5 concentration grading emoticon
4	Formaldehyde icon
5	Measured value of formaldehyde
6	Maximum value
7	Temperature icon
8	Measured value of temperature
9	Temperature unit
10	Measured value of humidity
11	Humidity unit
12	Humidity icon
13	Formaldehyde concentration grading emoticon
14	Formaldehyde unit PPM/(mg/m ³)
15	PM2.5 unit
16	Battery icon

VI. Operation instructions

1. Power ON /OFF

Long press  button to turn ON/OFF the device

2. °C/°F selection

Short press  button to switch the unit between °C and °F

3. Backlight

Short press  button to turn on /off the backlight

Default: backlight is off.

a. When the particle concentration exceeds the standard value ($115\mu\text{g}/\text{m}^3$), the red backlight turns on

b. When the particle concentration returns to normal value ($\leq 115\mu\text{g}/\text{m}^3$), the red backlight will automatically turns off

Note: The red light stays ON if the concentration exceeds $115\mu\text{g}/\text{m}^3$. You can short press  button to turn off the backlight.

4. Modes

a. Short press  button to switch between the MAX value and the real-time value of the formaldehyde concentration

b. Long press  button to reset the formaldehyde concentration value.

Notes

Please calibrate the formaldehyde value before measuring.

Calibration steps:

- Place the device in a proper location such as corridor, balcony, and window to detect the natural wind
- About 5 to 10 minutes later, Long press the  button to reset reading to zero.

4. Battery

	Enough power
	Suggest to charge the battery
	Power is running out, please charge the battery
	Power off

Notes

- Use USB cable to charge the device.
- It takes around 3 hours to fully charge the device. This device can be used while charging.
- Power supply: 5V/1A.

VII. Performance para

1. Technical specifications

Function	Range	Resolution	Accuracy	Remark
PM2.5	0~500 $\mu\text{g}/\text{m}^3$	1 $\mu\text{g}/\text{m}^3$	$\pm (10\mu\text{g}/\text{m}^3+10\text{dgt})$ @ 0~100 $\mu\text{g}/\text{m}^3$ range	Ambient temperature: 18~28°C
			$\pm (10\%+30\text{dgt})$ @101~400 $\mu\text{g}/\text{m}^3$ range	
			$\pm (10\%+50\text{dgt})$ @ 401~500 $\mu\text{g}/\text{m}^3$ range	
Formaldehyde	0~2 mg/m^3	0.01 mg/m^3	$\pm 0.06\text{mg}/\text{m}^3$ @ 0~0.6 mg/m^3 range $\pm 10\%$ @ 0.6~2 mg/m^3 range	Ambient humidity: 40%~75%RH
Temperature	-10~50°C	0.1°C	$\pm 1^\circ\text{C}$	
Humidity	0~99%RH	1%RH	$\pm 5\%RH$ @30%~80%RH $\pm 8\%RH$ @<30%RH, >80%RH	Temperature 18~28°C

2. PM2.5 Concentration grading emoticons

Concentration ($\mu\text{g}/\text{m}^3$)	Emoticon	Backlight
0-35	 Excellent	White
36-75	 Good	White
76-115	 Light pollution	White

Concentration ($\mu\text{g}/\text{m}^3$)	Emoticon	Backlight
116-150	 Middle level pollution	Red
151-250	 Serious pollution	Red
251-500	 Bad pollution	Red

3. Formaldehyde concentration grading emoticon

Concentration (mg/m^3)	Emoticons	Remark
0-0.1	 (Good)	Within the national safety standard
0.1-0.3	 (Pollution)	Exceed the national safety standard It is suggested to open the windows to keep air circulating
0.3-2.0	 (Dangerous)	Reaches to the dangerous range. It is suggested to open the doors & windows and stay away from this location.

4. General specifications

- Display: LCD screen
- Working principle :  PM2.5---- laser scattering
Formaldehyde ----- electrochemistry
- Alarm: visual (red light)
- Backlight: dual color LED backlight

5. Operation environment

- For indoor/outdoor environment or vehicles
- Altitude: ≤ 2000 meters
- Operating temperature: -10~50°C
Operating humidity: 0~99% RH
- Storage temperature: -20~60°C

6. Precautions

- When measuring, please take more than 10 minutes to obtain a stable value.
- It is normal to have several digits difference at different locations within one space because PM2.5 suspends unevenly in the air. Use the concentration grading emoticons to judge the air quality.
- For accurate measurement of formaldehyde concentration, it is better to keep space confined for 10 minutes before measurement.
- For accurate readings, keep the device away from alcohol, perfume, H₂S, CO, SO₂, H₂, etc.
- During measurement, please do not use fan, hair dryer, fan heater, etc. to blow directly into device.
- The value of formaldehyde concentration may be large due to fog or abrupt change of weather.
- When measuring the temperature and humidity, it takes 20~30 minutes for the device to obtain the accurate value.
- Please do not place this device in a high concentration formaldehyde environment beyond the specified range. Otherwise there is a risk of damaging the device.
- To avoid anomaly, please use the device under specified operation environment.

VIII. Maintenance

Warning: To avoid false readings and damages, please do not open the device case. Do not crash, drop, bash, or soak the device.

- The maintenance and service of the device must be implemented by qualified professionals or the designated departments.
- Regularly use dry cloth to clean the cover. Do not use the detergent containing solvent composition.
- To conserve battery, please turn off the device if not being used for a long time.

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