

Temptop

M2000

Air Quality Detector User Manual

Overview

The hand-held air quality detector is a device with high precise electrochemical formaldehyde sensor, laser particle sensor and carbon dioxide sensor based on NDIR, it can detect particulate matter, carbon dioxide and formaldehyde in the air and transform the concentration of air pollutant to visual data directly, providing early air quality warning for you and protecting health of your family effectively.

Application

Indoors, Outdoors, Vehicles, etc.

Appearance



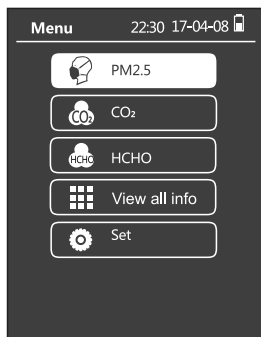
- ① Buzzer status: "🔊" indicates the buzzer is on. When measured pollutant concentration exceeds the upper alarm limit, the buzzer beeps. "🔇" indicates the buzzer is off. When an alarm is triggered, the buzzer will not beep.
- ② Display the two states of the detector: Paused or Running. "Running" indicates data is being detected. "Paused" indicates measurement pauses.
- ③ Date and time: Current date and time is displayed.
- ④ Battery power: Display the remaining battery power and the charging status of the detector.
: Battery is empty, please charge. : Battery is full. : Charging.
- ⑤ Main display area: Display measured data, curve, menu options.
- ⑥ Menu button: Press to pop up the menu options or shift the cursor position.
- ⑦ Up button: Press to increase setting values or shift up to select menu option.
- ⑧ Return button: Press to close current pop menu or return to the previous interface.
- ⑨ Power on/off or confirm: Press $\frac{OK}{\text{D}}$ for 2 seconds to turn on/off the instrument. It can also be used to confirm certain operation.
- ⑩ Down or run/pause button: Press to decrease setting values or move down to select menu option. It can also be used to continue or suspend detection on the detection interface.

Notice

- Please keep the detector away from substances like fluff and hair to guarantee the accuracy of measured data.
- Please do not place the detector in the environment where particle concentration is more than $500\mu\text{g}/\text{m}^3$ and that of formaldehyde(HCHO) is over $1.0\text{mg}/\text{m}^3$ for long time. Long-time exposure to high-concentration air pollutants will damage the sensor and make it work improperly.
- Please do not bump, strike or drop the detector.
- Please do not cover the detection port or air outlet during use.
- Avoid contact with organic solvents which include silica gel and other adhesives, paintings, drugs, oil and high-concentration gases.
- Avoid using the detector in humid environment to ensure the accuracy of measured data.

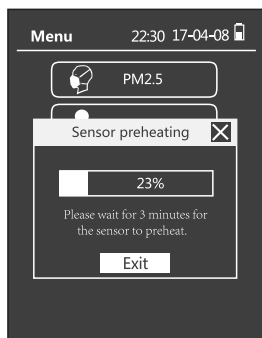
Operation

(1): Main menu interface



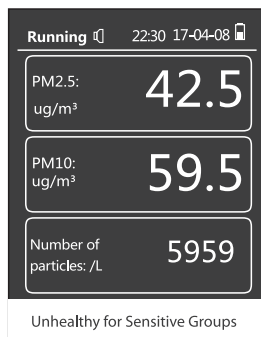
After the detector is turned on, it will display the main menu automatically including the following 5 options:

- ① PM2.5
- ② CO₂
- ③ HCHO
- ④ View all info
- ⑤ Set



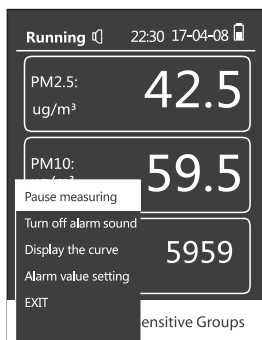
Press ▲ or ▼ to choose an option and then press , a window will pop up, showing "Sensor preheating" if the detector is turned on for less than 3 minutes. After the sensor is preheated, the interface can be entered.

Real-time concentration display



After switching from the main menu to PM2.5 concentration interface, the detector will display the real-time concentration of PM2.5, PM10 and particle numbers as well as the level of pollutant concentration.

If the value goes out of the set concentration's upper limit, the buzzer will beep.



Press to pause or start the measurement.

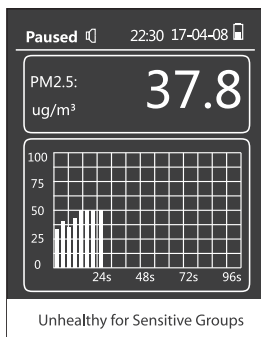
Press to return to the interface of main menu.

Press the following 5 options will show.

Use or to shift.

Press to enter corresponding functions:

- ① "Pause or start measuring"
- ② "Turn on or off the alarm sound"
- ③ "Display or not display the curve"
- ④ "Alarm value setting"
- ⑤ "EXIT"



The functions of above menu items are described as below:

① "Pause or start measuring": Make the detector pause or start measuring the concentration of PM2.5, PM10 and particles as well as the level of pollution concentration.

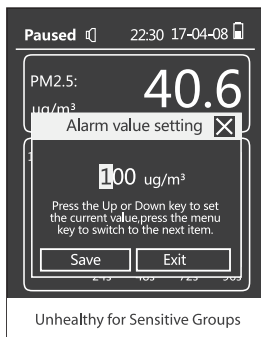
② "Turn on or off the alarm sound": When the detected concentration is higher than the pre-set value, the buzzer will give out the alarm. Pressing this key can turn off or on the alarm function.

③ "Display or not display the curve": If you choose "Display the curve" function, the PM2.5 concentration curve will be shown in a visualized way. If you choose "Not display the curve" function, the curve display will be turned off.

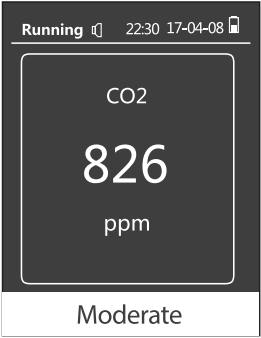
④ "Alarm value setting":

A window showing "Alarm value setting" will be popped up to remind you to set the upper-limit alarm value of PM2.5 concentration. Press key to switch to the next item. Press or key to set the upper-limit alarm value. When key is switched to "Save" or "Exit" key, you can press key to choose to save or not save the set upper-limit alarm value of concentration and then close the pop-up window.

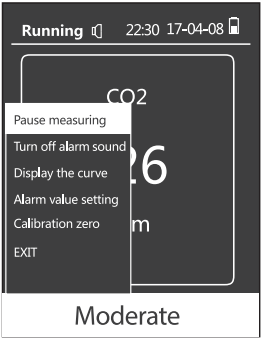
⑤ "Exit": Exit from the menu item and then return to the interface of detecting the concentration of particles.



(3): Interface: CO2 concentration

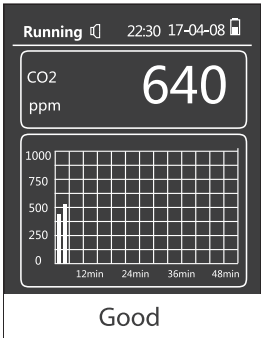


After switching from the main menu to CO2 interface, the detector will display the real-time concentration of CO2 and its level; if the value is beyond the set concentration's upper limit, the buzzer will beep.



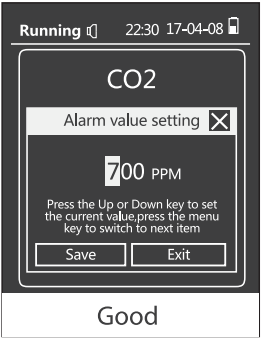
Press to suspend or continue measurement.
Press to return to the interface of main menu.
Press to pop up the 6 options below.
Press to enter corresponding functions.

- ① "Pause or start measuring"
- ② "Turn on or off the alarm sound"
- ③ "Display or not display the curve"
- ④ "Alarm value setting"
- ⑤ "Calibration zero"
- ⑥ "EXIT"



The functions of above menu items are as follows:

- ① "Pause or start measuring": The detector pauses or continues measuring CO2 concentration and its level.
- ② "Turn on or off the alarm sound": When the detected concentration is higher than the pre-set value, the buzzer will beep. Select this option to mute the beep.
- ③ "Display or not display the curve": Select this option to display the curve of measured data visually. If you choose "Not display the curve", the curve will be shifted to data.



④ “Alarm value setting” Press ▲ or ▼ to select this option and then press $\frac{OK}{\odot}$ to enter the interface. Press ▲ or ▼ to adjust the upper-limit alarm value of CO₂ concentration. Press $\equiv$ to shift. After switching to “Save” or “Exit”, press $\frac{OK}{\odot}$ to confirm the settings and back to the interface of settings.



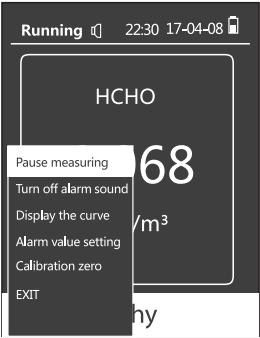
⑤ “Calibration zero”: It pops up a window showing “Calibrating sensor”. Please place the detector outdoors for 30 minutes until Zero point calibration of CO₂ sensor is finished. Press $\blacksquare$ or $\frac{OK}{\odot}$ to exit.

⑥ “Exit”: Exit the menu options and then return to the interface of CO₂ concentration.

(4): Interface: formaldehyde(HCHO) concentration

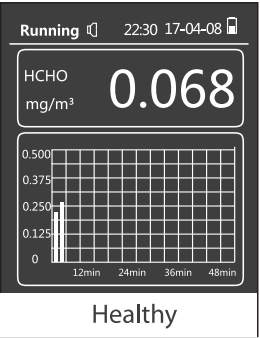


After switching from the main menu to HCHO interface, the detector will display the real-time concentration of HCHO and its level; if the value is beyond the set concentration's upper limit, the buzzer will beep.



Press to suspend or continue measurement.
 Press to return to the interface of main menu.
 Press to pop up the 6 options below.
 Press to enter corresponding functions.

- ① "Pause or start measuring"
- ② "Turn on or off the alarm sound"
- ③ "Display or not display the curve"
- ④ "Alarm value setting"
- ⑤ "Calibration zero"
- ⑥ "EXIT"



The functions of above menu items are as follows:

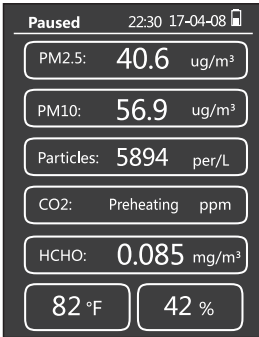
- ① "Pause or start measuring" : The detector pauses or continues measuring HCHO concentration and its level.
- ② "Turn on or off the alarm sound" : When the detected concentration is higher than the pre-set value, the buzzer will beep. Select this option to mute the beep.
- ③ "Display/Not display the curve" : Select this option to display the curve of measured data visually. If you choose "Not display the curve", the curve will be shifted to data.



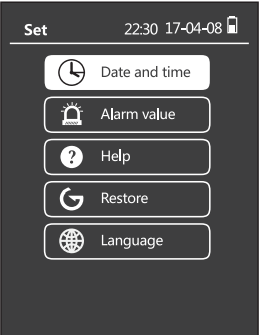
- ④ "Alarm value setting": Press or to select this option and then press to enter the interface. Press or to adjust the upper-limit alarm of HCHO concentration. Press to shift. After switching to "Save" or "Exit", press to confirm the settings and back to the interface of settings.



(5): Interface: View all info



(6): Interface: Set



⑤ “Calibration zero”: It pops up a window showing “Calibrating sensor”. Please place the detector outdoors for 30 minutes until Zero point calibration of the sensor is finished. Press or to exit.

⑥ “Exit”: Exit from calibration and return to the interface of CO2 concentration.

In the main menu, select “view all info” and press to enter this interface, it will display the concentration of PM2.5, PM10, CO2 and HCHO, particle numbers, as well as the temperature and humidity.

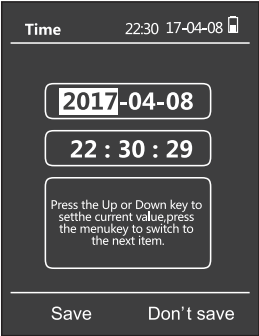
Press to switch between °C or °F.

Press to suspend or continue measurement.

Press to return to the interface of main menu.

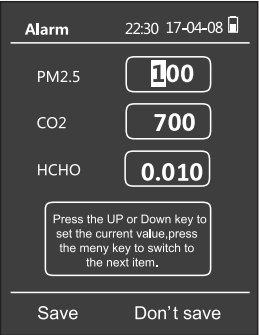
In the main menu, select “ Set ” to and press to enter this interface, it will display the 5 options below. Press or to select a desired option. Then Press to enter the corresponding interface or press to return to the main menu.

- ① “Date and time”
- ② “Alarm value”
- ③ “Help”
- ④ “Restore”
- ⑤ “Language”

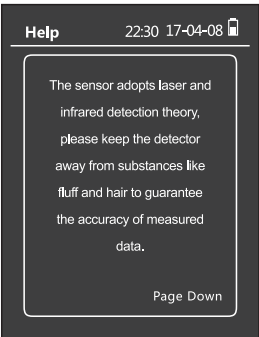


The functions of above menu items are as follows:

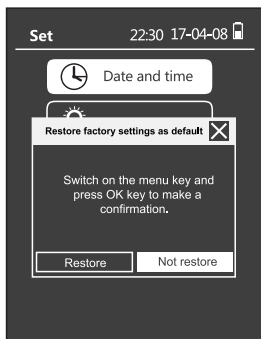
① “Date and time”: In settings interface, select this option and press $\frac{OK}{U}$ to enter the interface and then press $\blacktriangle$ or $\blacktriangledown$ to set the date. Press $\equiv$ to shift. After switching to “Save” or “Don’t Save”, press $\frac{OK}{U}$ to confirm the settings and back to the interface of settings.



② “Alarm value”: In settings interface, select this option and press $\frac{OK}{U}$ to enter the interface and then press $\blacktriangle$ or $\blacktriangledown$ to set the upper-limit alarm value of PM2.5, CO2 or HCHO concentration. Press $\equiv$ to shift. After switching to “Save” or “Don’t Save”, press $\frac{OK}{U}$ to confirm the settings and back to the interface of settings.



③ “Help”: Press $\frac{OK}{U}$ to enter the interface and then press $\blacktriangle$ or $\blacktriangledown$ to view instructions and notices, then press $\blacksquare$ to back to the interface of settings.



④ "Restore": Press $\frac{OK}{U}$ key and then a window showing "Restore factory settings as default" will pop up. Press $\equiv$ key to switch to "Restore" or "Not restore" key, and then you can press $\frac{OK}{U}$ key to choose to restore or not restore factory settings as default and then return to the interface of setting. Factory default settings include: the upper-limit alarm value of various concentration and languages.



⑤ "Language": Select "Language" and press $\frac{OK}{U}$ to enter this interface and then press $\equiv$ to shift. Press $\frac{OK}{U}$ to confirm the language option. Use $\equiv$ to shift between "Save" or "Don't Save". Press $\frac{OK}{U}$ and return to the interface of settings.

Specifications

- Name: Hand-Held Air Quality Detector
- Model: M2000
- Display: color TFT LCD screen
- Battery voltage: 3.7VDC
- Overall dimension: 73.5 x 139 x 37.5 mm
- Power adapter:
 - Output voltage: 5VDC
 - Output current: 1A
- Operating environment:
 - Temperature range: 0~50°C (32~122°F)
 - Humidity range: 0~90%RH
 - Atmospheric pressure: 1atm
- PM2.5 technical specification
 - Measurement range: 0-999ug/m³
 - Resolution: 0.1ug/m³
- PM10 technical specification
 - Measurement range: 0-999ug/m³
 - Resolution: 0.1ug/m³
- CO₂ technical specification
 - Measurement range: 0-5000PPM
 - Resolution: 1PPM
- HCHO technical specification
 - Measurement range: 0-5mg/m³
 - Resolution: 0.001mg/m³

Air Quality Parameter for Reference

Status Pollutant	Good	Moderate	Unhealthy for Sensitive Groups	Unhealthy	Very Unhealthy	Hazardous
PM2.5 ($\mu\text{g}/\text{m}^3$)	≤12	12.1~35.4	35.5~55.4	55.5~150.4	150.5~250.4	≥250.5
PM10 ($\mu\text{g}/\text{m}^3$)	≤54	55~154	155~254	255~354	355~424	≥425
CO2 (ppm)	≤700	701~1000	1001~1500	1501~2500	2501~5000	≥5001

Pollutant	Healthy	Unhealthy
HCHO(mg/m ³)	≤0.1	>0.1

Model: M2000

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