

Manual for Air Quality Detector

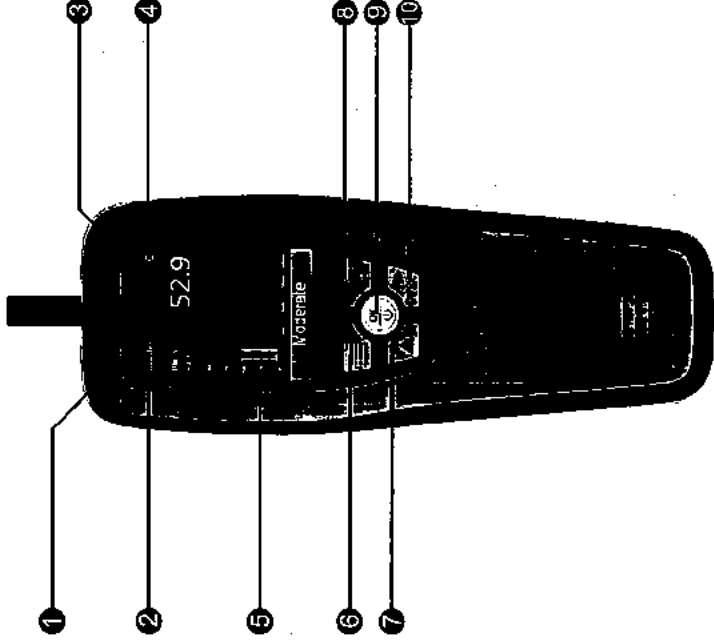
Product Overview

The hand-held air quality detector is a device which can test the concentration of particles and carbon dioxide in the air. It adopts American "TEMTOP" laser particle sensor and carbon dioxide sensor based on NDIR detection theory and can transform the concentration of air pollutants to visualized data directly, providing early air quality warning for you and protecting the health of your family effectively.

Application Scope

At home, cab or in public buildings etc.

Product Appearance



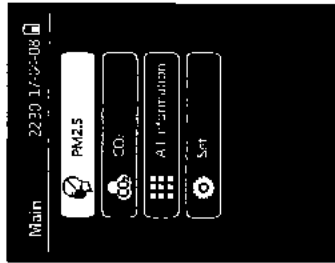
- ① Buzzer switch: the state of the buzzer switch, Under the state of " " , when measured value of the pollutant exceeds the upper alarm limit, the buzzer sends alarm signals. When it shows " " , the buzzer is closed, and no alarm signal will be sent.
- ② Pause or start measurement: display the two states of the instrument. When measuring, "Running" is displayed. When the instrument is paused, "Paused" is displayed.
- ③ Data and time: display the current data and time.
- ④ Battery power: display the remaining battery power and the charging status of the instrument. When it shows " " , the battery is empty, please charge. When it shows " " , the battery is full. Under the state of charging, it shows " " .
- ⑤ Main display area: the instrument data, curve display interface , menu selection will be showed on this area.
- ⑥ Menu button: pop up the menu options or switch the cursor position.
- ⑦ Up button: used to increase the setting value or move up to select menu option.
- ⑧ Return button: close current pop menu or return to the previous interface.
- ⑨ On/off or confirm button: When the instrument is close, press " " for 2 seconds, it will be turned on. When the instrument is open, press " " for 2 seconds, it will be turned off. Besides , press it to confirm the selection of the cursor position.
- ⑩ Down or run/pause button: used to decrease the setting value or move down to select menu option. Besides, press it and the instrument will start or suspend detection on the detection interface.

Operation Notice

- The sensor used to detect the concentration of particles and carbon dioxide adopts laser and NDIR (Non-Dispersive Infrared) detection theory, so objects like bathing and hair should be prevented from entering the detector to avoid influencing the accuracy of test data.
- Please do not put the detector in the environment where the concentration of particles is more than 500ug/m³ and that of CO₂ is over 2500PPM for long time. Long-time exposure to high-concentration air pollutants will damage the sensor and make it work improperly.
- Avoid using the detector in humid environment to make sure the accuracy of test data.
- The product is a precision measurement instrument, so please do not bump, strike or drop the detector.
- Please do not cover the detection port or air outlet during use.

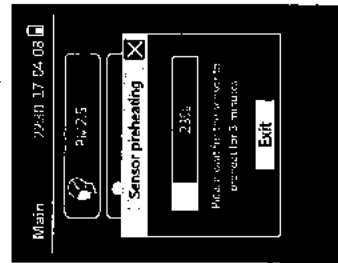
Operation Method

- (1): Main menu interface



After the detector is turned on , it will enter the main menu interface automatically, displaying the following 4 options:

- ① Particles
- ② CO₂
- ③ Check all information
- ④ Setting



Press "▲" or "▼" key to choose an option and then press "⏹" key to enter the interface. Before entering CO₂ concentration detection interface, the detector will have a pop-up window showing "sensor being preheated" if it is turned on for less than 3 minutes. The interface can be entered only after the sensor's preheating is finished.

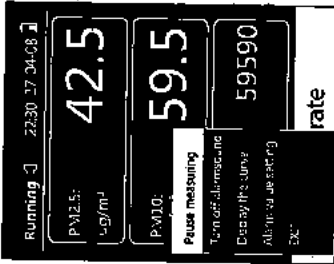
(2): Interface of particles' concentration detection



After switching from the main menu to particles' detection interface, the detector will show the real-time concentration of PM_{2.5}, PM₁₀ and particles as well as the level of pollution concentration;

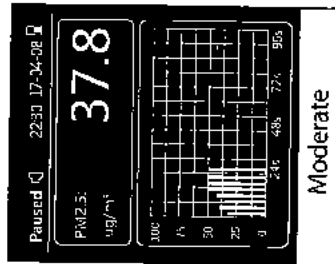
If the value is beyond the set concentration's upper limit, the buzzer will give out the alarm;

(3): Interface of CO2 concentration detection



Press "⏸" key if you intend to pause or begin the detection;
 Press "⏪" key if you intend to return to the interface of main menu;
 Press "⏩" key, and then the following 5 options will be presented.
 Press "⏹" key to enter into the corresponding function;

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



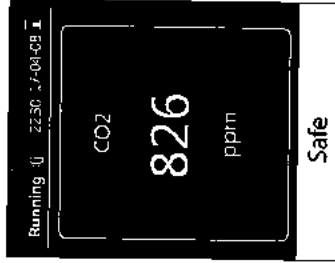
The functions of above menu items are described as below:

- 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 "Set the alarm value":

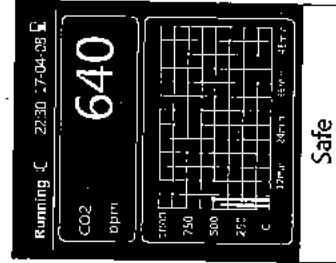
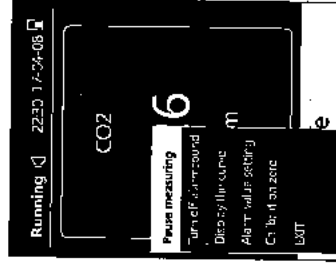
A window showing "Set the alarm value" will be popped up to remind you to set the upper-limit alarm value of PM2.5 concentration. Press "⏩" key to switch to the next item. Press "▲" or "⏸" key to set the upper-limit alarm value. When "⏩" key is switched to "Save" or "Not save" key, you can press "⏹" 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.



After switching from the main menu to CO2 detection interface, the detector will show the real-time concentration of CO2 and the "out of specification" status of pollution concentration; if the value is beyond the set concentration's upper limit value, the buzzer will give out the alarm;

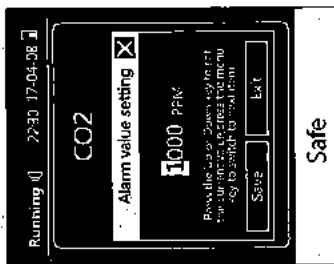
Press "⏸" key if you intend to pause or begin the detection;
 Press "⏪" key if you intend to return to the interface of main menu;
 Press "⏩" key, and then the following 5 options will be presented.
 Press "⏹" key to enter into the corresponding function;

- ① "Pause or start measuring"
- ② "Turn on or off the alarm sound"
- ③ "Display or not display the curve"
- ④ "Set the alarm value"
- ⑤ "Zero calibration"
- ⑥ "Exit"

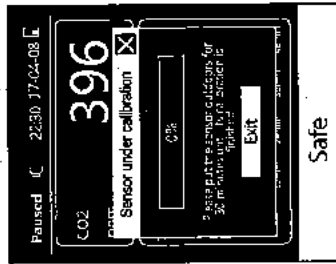


The functions of above menu items are described as below:

- ① "Pause or start measuring": Make the detector pause or start measuring the concentration of CO2 and the "out of specification" status 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 CO2 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 "Set the alarm value": A window showing "Set the alarm value" will be popped up to remind you to set the upper-limit alarm value of CO2 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 "Not save" 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 "Zero calibration": The window showing "sensor under calibration" will be popped up for 30 minutes to calibrate the Zero point of CO2 sensor. You can exit calibration by pressing "←" or "↵" key.

⑥ "Exit": Exit from the menu item and then return to the interface of detecting the concentration of CO2.

(4): Interface of checking all information

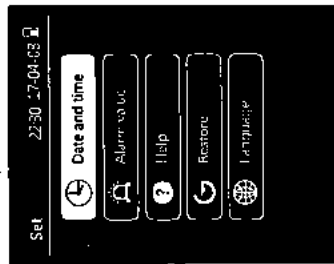


After switching from the main menu to the interface of checking all information, the user will see the concentration of PM2.5, PM10, particles and CO2 as well as the temperature and humidity shown on the detector.

Press "←" key if you intend to pause or start measuring the concentration of PM2.5, PM10, particles and CO2.

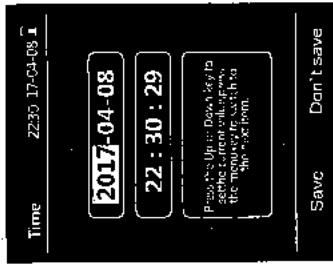
Press "←" key if you intend to return to the interface of main menu;

(5): Interface setting



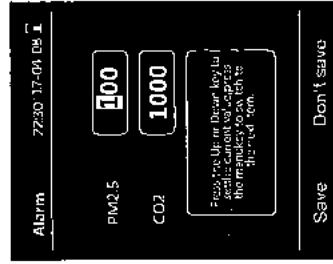
After switching from the main menu to the setting interface, the user will find the following 5 options shown on the screen. Press "▲" or "▼" key to choose the option you want to enter. Then Press "↵" key to enter the corresponding interface or press "←" key to return to the main menu interface.

- ① "Date and time setting"
- ② "Alarm value setting"
- ③ "Instructions"
- ④ "Restore factory settings as default"
- ⑤ "Language setting"

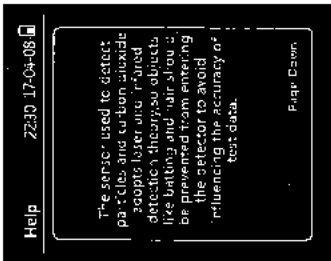


The functions of above menu items are described as below:

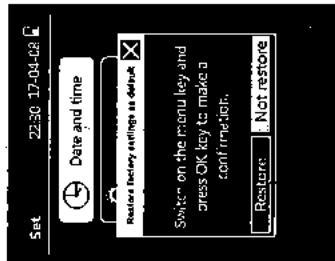
① "Date and time setting": Press "↵" key to enter the interface and then press "▲" or "▼" key to set the time. Press "←" key to switch to the next item. After switching to "Save" or "Not save" key, you can press "↵" key to choose to save or not save the set time value and then return to the interface of setting.



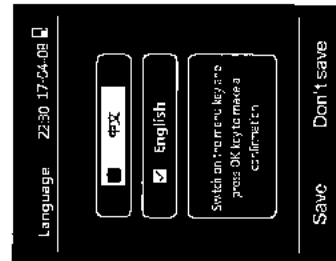
② "Alarm value setting": Press "↵" key to enter the interface and then press "▲" or "▼" key to set the upper-limit alarm value of PM2.5 or CO2 concentration. Press "←" key to switch to the next item. After switching to "Save" or "Not save" key, you can press "↵" key to choose to save or not save the set alarm value and then return to the interface of setting.



③ "Instructions": Press " " or " " key to enter the interface and then press "▲" or "▼" key to check information concerning the product's instructions and then return to the interface of setting.



④ "Restore factory settings as default": Press " " key and then a window showing "Restore factory settings as default" will pop up. Press " " key to switch to "Restore" or "Not restore" key, and then you can press " " 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 setting": Press " " key to enter the interface and then press " " key to switch to the next item. After switching to "Chinese" or "English" key, you can press " " key to choose the language option. After switching to "Save" or "Not save" key, you can press " " key to choose to save or not save the set language and then return to the interface of setting.

Product Specifications

● Note: When the system enters the recording curve display interface, the data is updated every 2s under the abscissa 0-96s; When the abscissa is 0-48min, the data is updated every 1min; When the abscissa is 0-4h, the data is updated every 5min; When the abscissa is 0-24h, the data is updated every 30min.

- Name: Hand-held air quality detector
- Model: M2000C
- Display mode: TFT color LCD screen
- Battery voltage: 3.7VDC
- Overall dimension: 73.5mm*139mm*37.5mm
- Power adapter:
 - Output voltage: DC5V
 - Output current: 1A
- Operating environment:
 - Range of temperature: 0~50°C
 - Range of Humidity: 0~90% RH
- Atmospheric pressure: 1atm
- Measurement specification and range:
 - PM2.5 measurement technical specification
 - Measurement range: 0-999ug/m³
 - Resolution: 0.1ug/m³
 - PM10 measurement technical specification
 - Measurement range: 0-999ug/m³
 - Resolution: 0.1ug/m³
 - CO2 measurement technical specification
 - Measurement range: 0-5000PPM
 - Resolution: 1PPM

Health parameters guide

Pollutant	Status	Good	Average	Dangerous
PM2.5 (China)		<75	75≤value≤150	>150
PM2.5 (USA)		<35	35≤value≤150	>150
CO2		<1000	1000≤value≤2000	>2000

Note: PM2.5(USA) is the USA standard calibration value