Temtop

M100 2nd
Air Quality Monitor
User Manual

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Factory Affecting Air Quality

PM2.5 (Particulate Matter 2.5) refers to fine particles with a diameter of 2.5 microns or less. Due to its tiny size, PM2.5 can get absorbed into the bloodstream and lungs, so long-term exposure to high levels of PM2.5 may cause eye and nose irritation, coughing, asthma, emphysema, lung disease, heart attacks, cancer, and more.

PM10 (Particulate Matter 10) relates to particulate matter with a diameter of 10 microns or less. Due to its larger particle size, PM10 can be inhaled and does not penetrate the bronchial tubes because larger particles can be made available by the cilia and mucus in the nose and throat. It is usually considered less of a health hazard than PM2.5.

Carbon dioxide(CO_2) is a colorless and odorless gas usually derived from the breath of humans and animals. High CO_2 concentration means that fresh air or ventilation is required; otherwise, it may cause problems such as drowsiness, dizziness, loss of attention, and cognitive impairment.

TVOC (Total Volatile Organic Compounds) are a wide range of chemicals that readily evaporate into the air at room temperature. TVOC sensors behave similarly to the human nose, responding to changes in the relative intensity of indoor TVOCs on a scale from 1 to 500.

Factory Affecting Air Quality

Temperature & Humidity may often be ignored however they do have a significant impact on individual's well-being, comfort, health and safety as well as your property. High humidity may lead to an increase in household air pollutants especially the biological contaminants such as molds, bacteria, viruses and dust mites; cold, low humidity may cause nosebleeds, skin and respiratory irritations, dyspnea, static electricity and etc.

AQI(Air Quality Index) is a quick guide on air quality levels. It aims to indicates how clean or polluted the air is in a way that's easy to understand. It ranges from 0 to 500 that higher values indicate higher air pollution levels and more adverse for health. AQI assessment can indicated for PM2.5, PM10, O_3, SO_2, NO_2, CO etc. Temtop follows EPA Standards to calculate and focus only for AQI of PM2.5&10.

Important

★ To ensure accurate measurements, do not use the detector for extended periods in humid environments or those with strong pungent odors.
★ Do not cover the vents of the detector and keep lint out of the detector, as the particle sensor may not work correctly.
★ Do not come into contact with organic solvents, which include silica gel and other adhesives, paintings, drugs, oil, and high-concentration gases.
★ To ensure optimal communication performance, please avoid placing the device on metal objects or near thick walls, as metal and thick walls may block signal transmission.
★ Do not dismantle the unit yourself. In the event of a defect, contact your dealer instead, who will liaise with the service center and, if necessary, send the device in for repair.
★ Children should only use this device under adult supervision. Keep packaging materials, such as plastic bags and plastic wrap, out of the reach of children as they present a choking hazard.
★ This product can help monitor the health of the indoor environment, but should not be used as a professional measurement tool.
★ Due to the upgrade and update of the product program, the actual operation interface may differ slightly from the description in this manual. Please refer to the actual operation interface of the product for accuracy.

Overview

Air Quality Parameter For Reference

Pollutant / Status	PM2.5 (μg/m³)	PM10 (μg/m³)	AQI	CO_2 (ppm)	TVOC
● (Poor)	≥55.5	≥255	≥151	≥1501	≥351
● (Fair)	9.1~55.4	55~254.9	51~150	1001~1500	101~350
● (Good)	0~9	0~54.9	0~50	400~1000	1~100

Pollutant / Status	Temp (℃)
● (Uncomfortable)	＜20 or ＞26
● (Comfortable)	20~26

Power Button

7-inch touch screen

Pollutant / Status	RH (%RH)
● (Uncomfortable)	＜30 or ＞60
● (Comfortable)	30~60

Specifications

Dimensions: 182x140x70mm

Battery capacity: 4000mAh

Input: DC 5V 2A Battery Life: ＞4h

WiFi: 2.4GHz

Operation environment: -10-60°C, 0-99.9%RH

LoRa

Frequency: US(915.8MHz), EU(868.3MHz)

Transmission Distance: 1000 m (open area)

PM2.5

Measuring range: 0-999.9 μg/m^3

Resolution: 0.1 μg/m^3

Accuracy: ±10μg/m^3(0-100μg/m^3)

±10%(100-500μg/m^3)

PM10

Measuring range: 0-999.9 μg/m^3

Resolution: 0.1 μg/m^3

Accuracy: ±15μg/m^3(0-100μg/m^3)

±15%(100-500μg/m^3)

AQI

Measuring range: 0-500

Resolution: 1

CO_2

Measuring range: 400-5000ppm

Resolution: 1ppm

Accuracy: ±(40ppm+5% of reading)

TVOC

Index range: 1-500

Resolution: 1

Temperature

Measuring range: -10-60°C (14-140°F)

Resolution: 0.1°C (0.1°F)

Accuracy: ±1°C (±1.8°F)

Humidity

Measuring range: 0-99.9%RH

Resolution: 0.1%RH

Accuracy: ±5%RH

Note: The above data are from Temtop Laboratory.

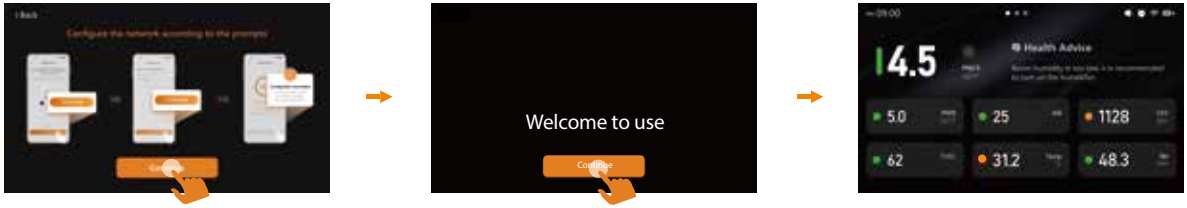
Operations

1. On/Off

- Press and hold the power button for 3 seconds to turn the detector on/off.

2. Connection

- If it is the first time to power on, please follow the steps prompted on the page to perform the following operations.
- Sub-devices need to be purchased separately. If no sub-device is available, please click "Skip".



Notes:

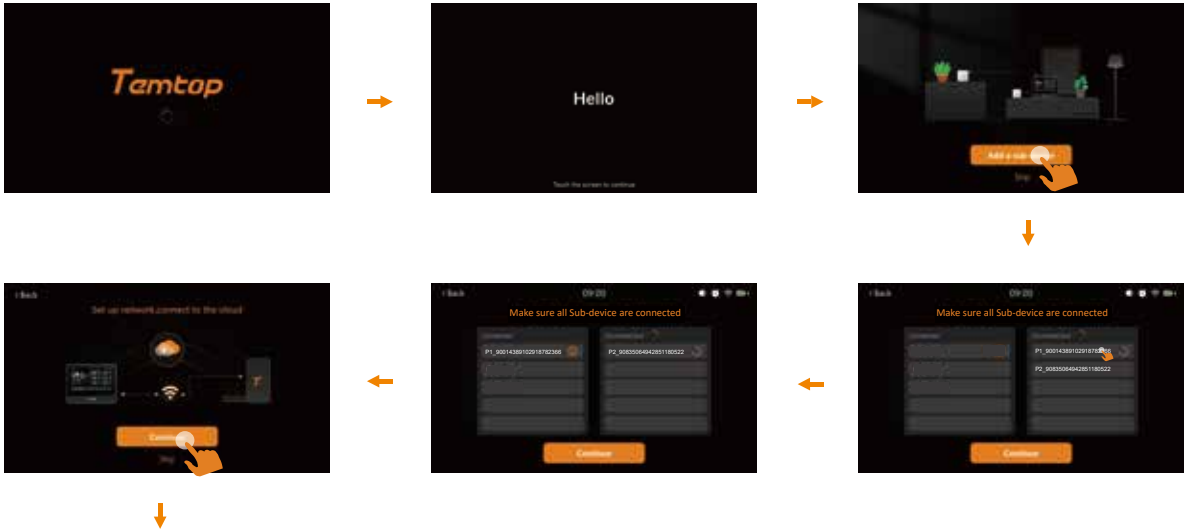
1. Users should scan the corresponding QR code via the mobile phone program to download the Temtop App.

2. When adding a device through the App, select the M100 2nd model.

3. Follow the App prompts to enter the correct name and password of your home 2.4GHz WiFi. Ensure the mobile phone and the device are connected to the same 2.4GHz network.

4. Keep the mobile phone close to the device (recommended distance ≤ 1 meter) to avoid connection failure.

Add a sub-device (if available):



Please refer to "2. Connection" for the remaining steps.

Notes:

1. The above steps will only be displayed during the first startup.

2. The main device can add up to 10 sub-devices. Please complete the addition within 30 minutes after the sub-device is powered on. If the sub-device cannot be found, turn it off and restart it, then try adding it again.

3. Sub-devices need to be purchased separately. Skip this step if no sub-device is available.

3. Data Display

- The data display interface visible based on the number of products purchased by the user is as follows:

M100 2nd

M100 2nd + P1/P2

Operation examples(PM2.5):

Note:
For both the daily and monthly line charts, data corresponding to future time points shall be represented by "0" (special case for temperature: °C : -10, °F: 14). On the line charts, this shall be reflected as follows:
1. For the daily line chart: a drop to the orange horizontal line at the bottom.
2. For the monthly line chart: a drop to the green horizontal line at the bottom. (The monthly line chart includes two lines: the orange line represents the maximum value (max), and the green line represents the minimum value (min). When the two lines align at this position, the green line will overlay the orange line.).

Data Curve Query:

- Can be queried by month or by day.Click the values on the numeric keypad, click "OK" to confirm after completion, and finally click "Inquire" to query the curve graph.

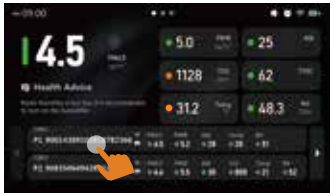
For monthly query:

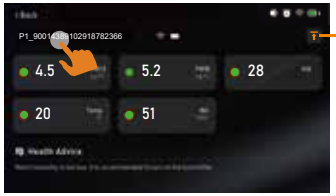
- You can set the year and month, with precision to the month.

For daily query:

- You can set the specific date, with precision to the day.

Operation examples(P1):





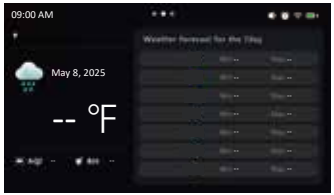
*: *Click* to pin the sub-device to the top as the first one, making it convenient for users to monitor the air quality at the location where this sub-device is placed.*

The user can set the desired name by clicking the keyboard. After setting, click OK to save the settings.

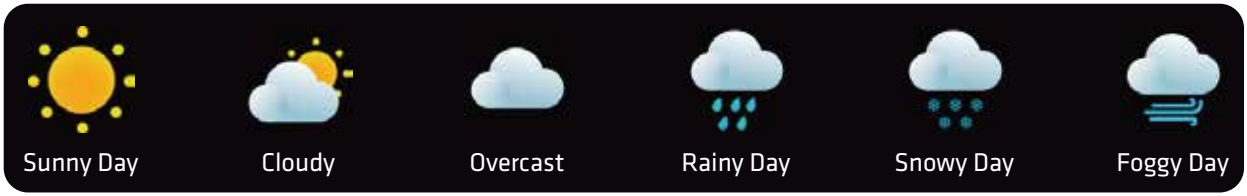
4. Weather Display

● Once the product is connected to the internet, it will automatically locate the current position and display the weather conditions for the next 7 days, including today.

Network Connection

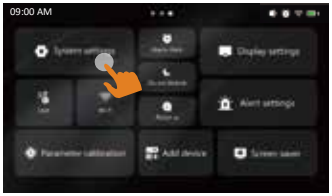


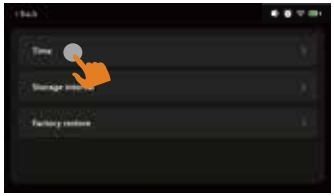
Not Connected

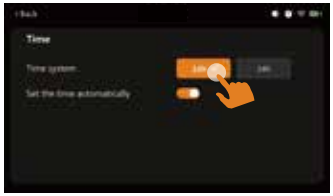


5. Settings

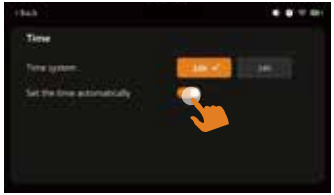
5.1 System settings







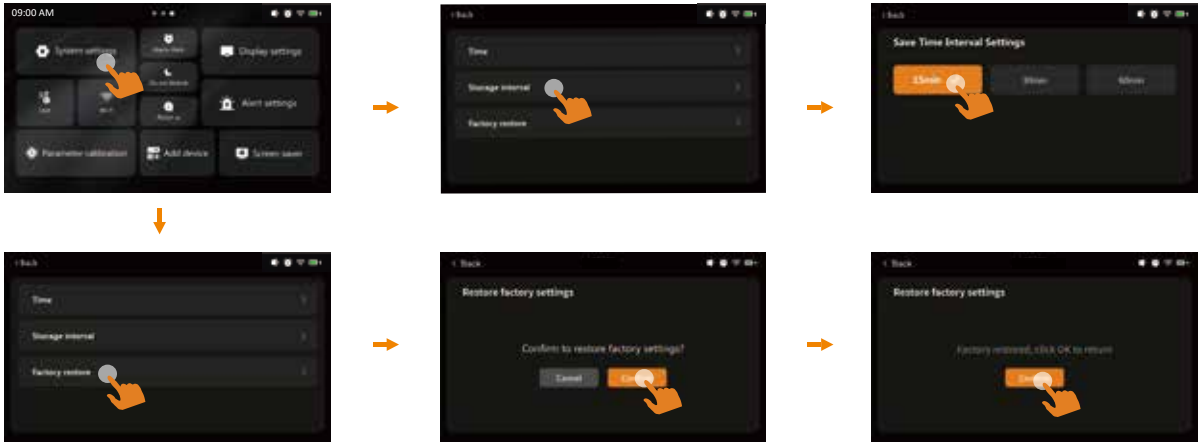
Time can be divided into 12-hour format and 24-hour format.



Auto-Set Date and Time*

Set Date and Time**

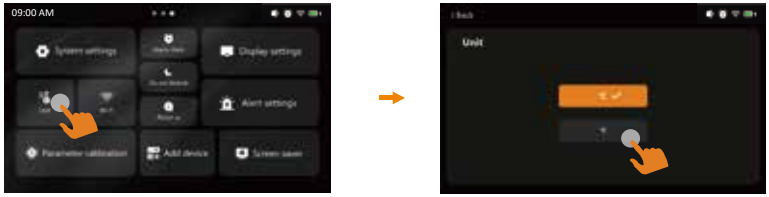
** Automatically synchronize network time after connecting to the internet.*
*** The date and time can be set via the numeric keypad.*



Restore Factory Settings

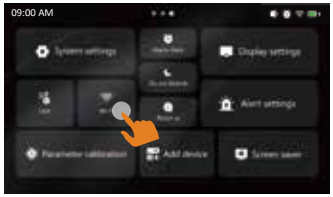
After restoring factory settings, click Confirm to return.

5.2 Unit



Users can switch between °C and °F as needed.

5.3 Wi-Fi

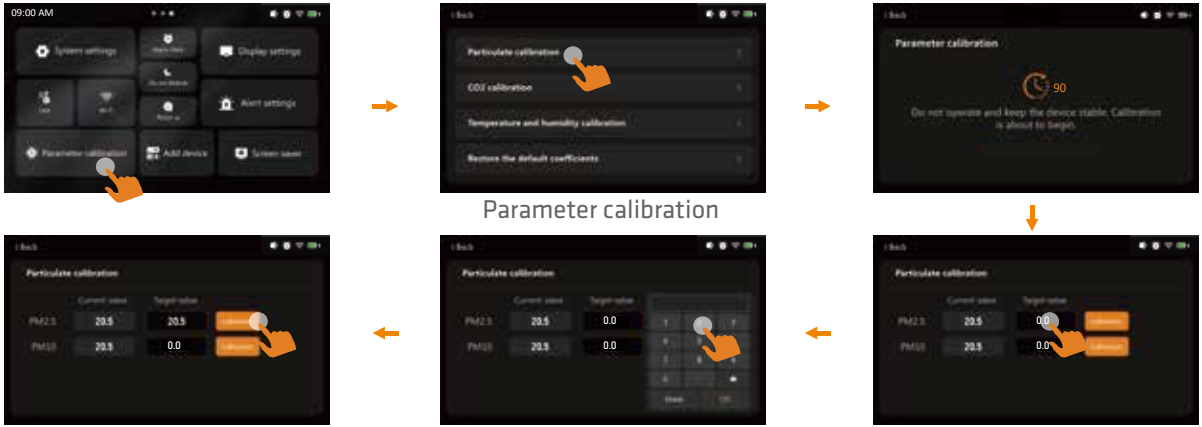


For subsequent networking steps, please refer to the relevant procedures in "2. Connection".

5.4 Parameter calibration

Calibration is recommended under the following circumstances:

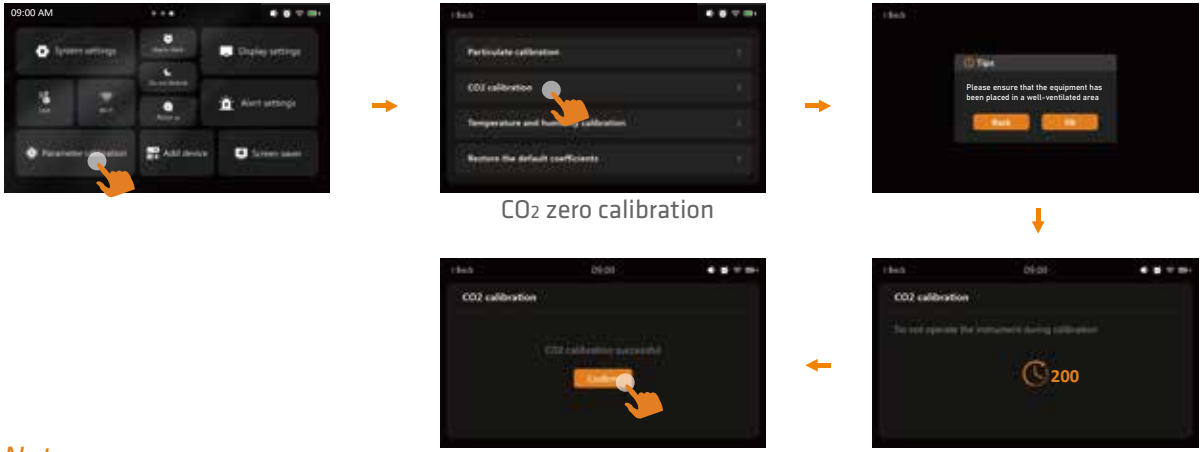
1. Before the first use of the device;
2. When there is a significant deviation between the measured data and the known accurate value (e.g., the difference from the data of official monitoring stations exceeds 20%).



Parameter calibration

Calibration example (PM2.5)

- Use the numeric keypad to set the target value you intend to calibrate, then click OK to confirm.
- Click Calibrate to start the calibration process. If successful: A "Calibration Successful" prompt will appear. If failed: A "Calibration failed" prompt will be displayed.
- After calibration is completed, click Confirm to return to the previous interface.

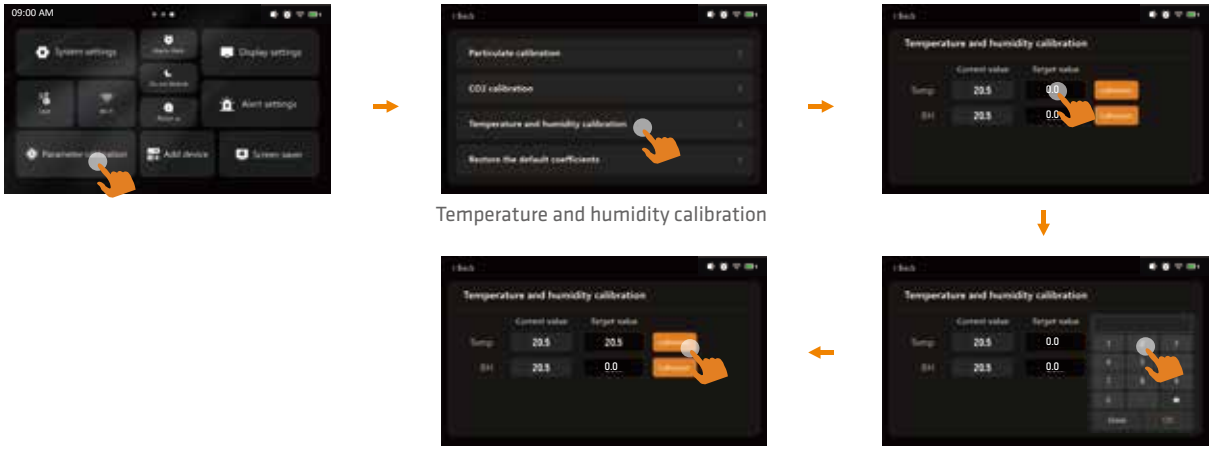


CO_2 zero calibration

Notes:

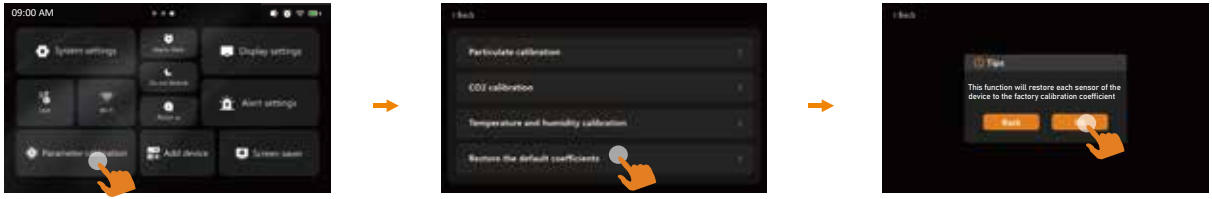
1) CO_2 calibration must be performed in an outdoor fresh air environment (with an approximate CO_2 concentration of 400 ppm). Before calibration, the device shall be kept running stably for 10 minutes and placed at least 1 meter away from crowds.

2) Ensure sufficient power supply. Otherwise, the calibration will be terminated due to shutdown or power failure, resulting in calibration failure, inaccurate data, and the need for re-calibration.



Temperature and humidity calibration

Take the calibrator temperature as an example here; the specific step-by-step instructions are the same as those in "Calibration example (PM2.5)".

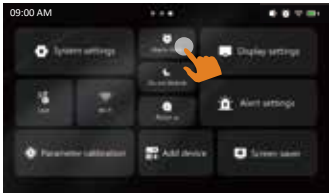


Restore the default coefficients

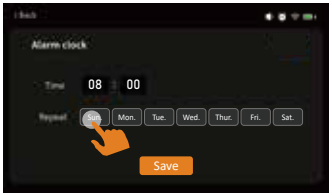
When performing the "Restore the default coefficients" function, the factory-calibrated coefficients of each sensor in the device will be restored.

5.5 Alarm clock

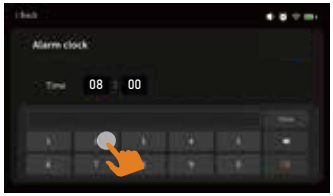
You can set a fixed daily time (e.g., 8:00) to receive a reminder for checking the current air quality data, thus avoiding missing key monitoring information.

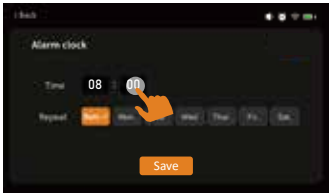


Add Alarm

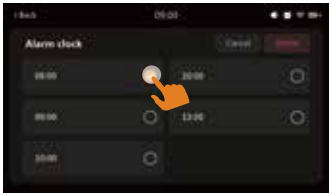


Delete Alarm





Users can set the alarm time by clicking the numeric keypad. After setting, click "OK" to save the settings. Once the settings are completed, click "Save" to add the alarm.

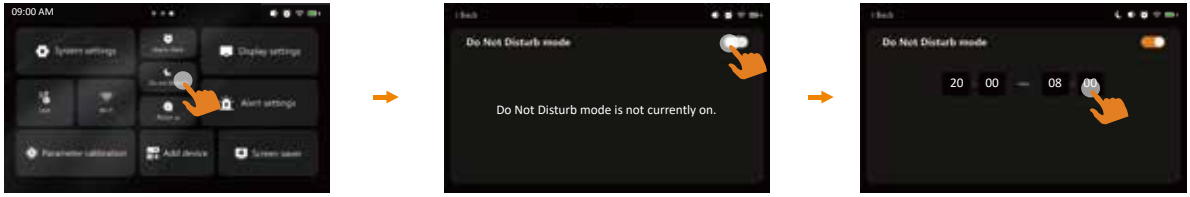


Users can delete one or more alarms as needed.

* & :Alarm function activated. :Alarm function deactivated.

5.6 Do not disturb

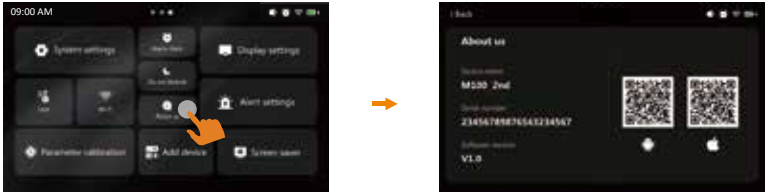
When enabled (e.g., 20:00–08:00), the device will turn off the prompt tone and automatically turn off the screen, preventing disturbance to your rest at night.



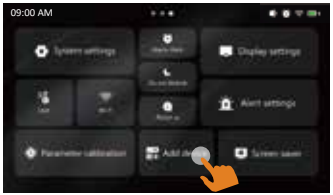
& :Do Not Disturb mode activated.
:Do Not Disturb mode deactivated.

Users can set the Do Not Disturb time by clicking the numeric keypad. After completion, click OK to save the settings.

5.7 About us

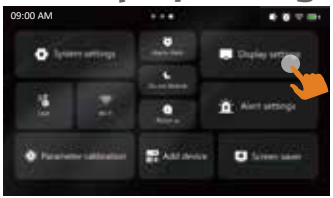


5.8 Add device



For the steps to add devices later, please refer to the relevant operation procedures in "2. Connection-Add a sub-device".

5.9 Display settings



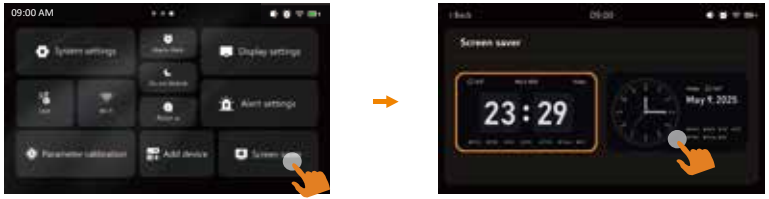
Users can switch the display theme according to their preferences.

:Auto brightness function activated.
:Auto brightness function deactivated.
Users can set the display brightness by sliding the slider; the brightness increases from left to right.

5.10 Alert settings

& :Parameter alarm setting function activated.
& :Parameter alarm setting function deactivated.
Users can set the alarm value using the numeric keypad. After setting, click OK to save the settings (PM2.5 is used as an example here).

5.11 Screen saver



Users can set the screensaver according to their preferred screensaver style. After the settings are completed, the device will enter screensaver mode if there is no operation for 5 minutes.

6. Charging

- When the battery is low (▭), please charge the device by connecting a USB data cable and a power adapter.
- For long-term operation, it is recommended to use DC power supply continuously.
- When the device is not in use for an extended period, fully charge it first, store it in a dry and cool place, and recharge it every 3 months to extend the battery life.

FAQ

Q: Why can't I receive the verification code when I sign up for an APP account?

A: ① Please check the advertisement mails and spam mails, your mailbox may automatically. classify the CAPTCHA mails into advertisement mails and spam mails.
② Google Mail, Outlook, and other major mailboxes are recommended.
③ You can also log in directly using third-party accounts such as Google or Apple.

Q: Why can't the APP connect to the device?

A: ① Make sure your phone and device are in the same room and as close to the device as possible.
② Try restarting the device or connecting with another phone.
③ If the issue is still not resolved, please contact our customer service for further support.

Q: Why does the indicator light stay off?

A: As PM2.5 concentration in the environment is changing all the time not only due to environmental factors like changes in airflow, humidity, wind direction, etc. but also due to common pollutant sources like smoking, cooking; exhaust emissions from vehicles, smoke from burning coal/chimneys/ furnaces, etc. All these may influence the PM2.5 concentrations and give differences in the readings.

Q: AQI/ PM2.5/PM10 and other values, why the measured value is inconsistent with the official announcement?

A: The AQI/PM2.5/PM10 shown on the display is a measurement of the space where the device is located. The measured value published on the Internet or official websites is the average value of several monitoring points, and each measurement point will be different. At the same time, according to the regulations of EPA and WHO, the AQI value is calculated based on the highest value among the five pollutants in the atmosphere on that day. In the past ten years, the local AQI in the United States has basically been calculated with the value of PM2.5/PM10, and sometimes with the value of O_3.

Q: Is it true that AQI calculations are not scientific?

A: We calculate the AQI based on PM2.5/PM10, which is MAX (AQI-PM2.5, AQI-PM10), and there are corresponding AQIs for O_3, CO, SO_2, NO_2, and so on, and the official one is released with the maximum of these AQI-PM2.5, AQI-PM10 and other 6 AQIs. The main source of indoor pollution is particulate matter so AQI-Particulate Matter can respond well to indoor AQI.

Q: Why is CO_2 data high?

A: The user's environment may be poorly ventilated,resulting in high CO_2 concentration; it is recommended that the user place the product in an outdoor ventilated place for 10 minutes. If the data is still high, the customer is advised to perform a CO_2 calibration via the APP.

Q: What is TVOC and what are the common sources in households?
A: TVOC (Total Volatile Organic Compounds) refers to a variety of chemical substances that easily evaporate into the air at room temperature. The TVOC sensor behaves similarly to the human nose and reflects changes in the relative intensity of indoor TVOC on a scale from 1 to 500. Common sources of TVOCs in the home include alcohol, air fresheners, citrus fruits, scented candles, paints, cleaning supplies, pesticides, building materials and furniture, inks, glues, and various cosmetics.

Q: Why are the TVOC data readings very high/out of range when with the detectors on?
A: Being packed in an ink-printed box may interfere with the sensor over time due to the organic volatiles left in the packaging. Therefore, once unpacked, please place the detector in a ventilated area to help speed up its data recovery.

What's Included

- Air Quality Detector x 1
- Detector manual x 1
- Adapter & USB Cable x 1

FCC Requirement

FCC Warning statement:
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.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

FCC Requirement

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 following measures:

- 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 RF exposure statement:

The device has been evaluated to meet general RF exposure requirement.This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Warranty

Temtop warrants the included detector for 1 year from the date of original purchase. The item can be exchanged or returned within 30 days if the defect is not caused by artificial damage.

Item	Warranty Period
Detector	1 year
Accessories	N/A

Before return or delivery for repair, please check if the following √ items are ready:

	Detector & Accessories	Complete Package	Proof of Purchase*	Gift (if any)
Return	√	√	√	√
Exchange	√	√	√	
Repair	√		√	

* Including invoice, order number and etc.

Temtop warranty does NOT include:

- Malfunction or damages caused by artificial damage or modification.
- Other deliberate damages.
- Damage caused by natural events.

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