**BENETECH®**

MODEL:GM8803

# Air Quality Detector
## Instruction manual

GM8803

Air Quality Detector

Version：GM8803-EN-00

—1—

## Ⅰ.Introduction

Adopting laser diffusion principle, with built-in digital p-articulate content sensor, this portable air quality detector can detect the content of the particulate continuously and response in time, the minimum resolution particle size is 0.3um.
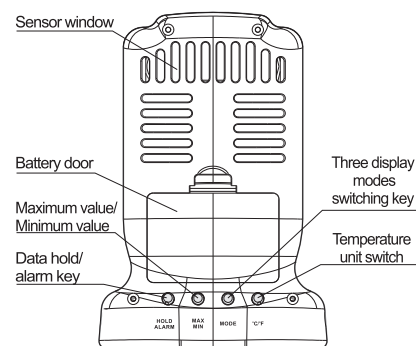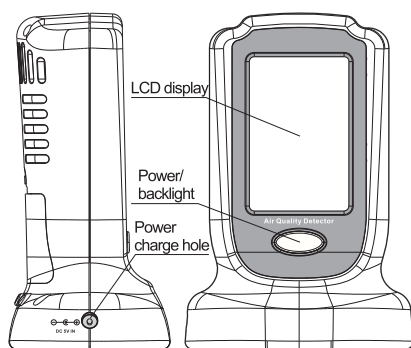
This detector has the following features:
1. Dynamic and real-time detection of PM2.5 and PM10 concentration in the air.
2. Environmental temperature and humidity measurem-ent and temperature unit conversion.
3. Switching between three different display modes.
4. Display of the maximum and minimum values.
5. Data hold function.
6. Sound and light alarm settings.
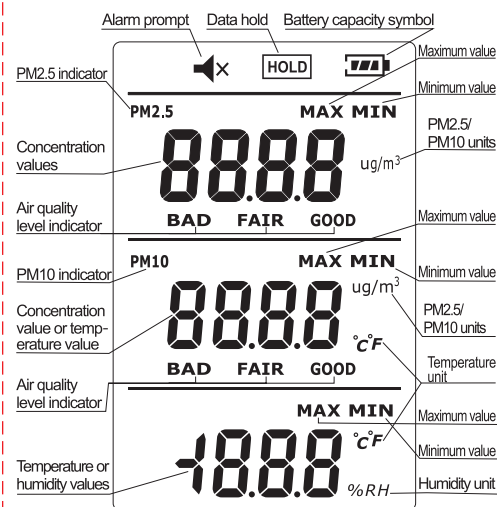7. LCD backlight display of air quality level.

## Ⅱ.Safety Warnings

▶ 0 ug /$m^3$ ~ 75 ug/$m^3$: Air quality level is GOOD (green, good).
▶ 75ug/$m^3$ ~ 150ug/$m^3$: Air quality level is FAIL (yellow, slightly polluted, unhealthy).
▶ ≥150 ug/$m^3$: Air quality level is BAD (red, heavily polluted, very unhealthy).

## Ⅲ.Components

LCD display

Power/backlight

Power charge hole

DC 5V IN

—2—

Sensor window

Battery door

Maximum value/Minimum value

Data hold/alarm key

HOLD ALARM    MAX MIN    MODE    ℃℉

Three display modes switching key

Temperature unit switch

## Ⅳ. LCD display

Alarm prompt    Data hold    Battery capacity symbol

PM2.5 indicator

Concentration values

Air quality level indicator

PM10 indicator

Concentration value or temp-erature value

Air quality level indicator

Temperature or humidity values

×  HOLD

PM2.5    MAX MIN
**8888** ug/$m^3$
BAD  FAIR  GOOD

PM10    MAX MIN
**8888** ug/$m^3$  ℃℉
BAD  FAIR  GOOD

MAX MIN  ℃℉
**888.8** %RH

Maximum value
Minimum value
PM2.5/PM10 units

Maximum value
Minimum value
PM2.5/PM10 units
Temperature unit

Maximum value
Minimum value
Humidity unit

—3—

## Ⅴ.Operation instruction

### 1. Power button
Press the power button to switch on, and hold down the power button to shut down.

### 2. Three display modes
Press the Mode button to switch between the three modes.
(1)Mode 1: display PM2.5 concentration, PM10 concentration and ambient temperature.
(2)Mode 2: Display PM2.5 concentration, PM10 concentration and ambient humidity.
(3)Mode 3: Display PM2.5 concentration, ambient temperature and ambient humidity.

### 3. Real-time detection value, maximum value and minimum value.
(1)Real-time detection value: After the full-screen display of startup, the real-time detection value can be displayed.
(2)Maximum value: Press the Max/Min key to display the maximum value with "MAX" prompt from power on to present value.
(3)Minimum value: Press the Max/Min key when the maximum value is displayed, the minimum value with "MIN" prompt from power on to present value. Press again to return to real-time detection.

### 4. Data hold.
Press the HOLD key to hold the momentary reading on the screen with the "HOLD" prompt displayed at the top of the screen. Press the Data hold key again to exit the data hold state.

### 5. Unit conversion between Fahrenheit and Celsius.

—4—

Press the temperature unit conversion button to switch between Celsius and Fahrenheit.

### 6. Alarm prompt.
Press and hold the alarm key to turn off the sound and light alarm prompt. The icon " ×" is displayed at the top of the screen. Press the alarm key again to enable the sound and light alarm prompt. The icon "  "is displayed at the top of the screen.
(1)In the event that the sound and light alarm is enabled, when PM2.5 or PM10 concentration is equal to or greater than 75 ug/$m^3$, the yellow light flashes, which suggests the current air quality is slightly polluted.
(2)In the event that the sound and light alarm is enabled, when PM2.5 or PM10 concentration is equal to or greater than 150 ug/$m^3$, the buzzer sounds intermitt-ently and the yellow light flashes, which suggests the current air quality is severely polluted.

### 7. LCD backlight display of air quality level.
In the normal working conditions, press the power button to turn on the LCD backlight, and press again to turn off the LCD backlight.
Note: There are three kinds of backlight colors, which indicate three air quality levels. The green, yellow and red colors respectively represent good, slightly polluted, heavily polluted air quality.

### 8. Charging.
When the battery power is low, LCD will display "  " icon, indicating that the battery power is low and the rechargeable Ni-MH battery needs to be recharged.
Note: In the charging state, shut down the detector to

—5—

solely charge the battery; press the power button to return to realtime detection; hold down the power button to directly turn off the detector. After the battery is fully charged in charging state, or the adapter is unplugged, the detector will be shut down.

## Ⅵ.Technical parameters

| Detected gas | Particulate concentrations in the air (PM2.5, PM10) | | |
|---|---|---|---|
| Measuring range | (0~5000) ug/$m^3$ | Minimum reading | 1 ug/$m^3$ |
| Resolution ratio | 1 ug/$m^3$ | Minimum resolution particle size | 0.3um |
| Response time | ≤10S | | |
| Measurement principle | Laser diffusion principle | | |
| Working environment | 0~50℃,32~122℉;10~90%RH | | |
| Storage environment | -10~80℃,-14~176℉;10~75%RH | | |
| Power supply | 3 * 1.2V AA rechargeable NiMH or 5V 1A power adapter | | |
| Dimension | 91.5*64.8*135mm | Weight | 152g (excluding of batteries) |

## Ⅶ.Warm tips

1. In case the LCD display dims or the detector is turned off before the detection interface is displayed, which means that the battery power is low. It is rec-ommended to plug the adapter to recharge the battery.
2. This air quality detector is equipped with built-in particle concentration sensor, which does not need calibration.
3. Do not blow on the detection window or cover the detection port so as not to affect the detection.

CE

—6—