Thermal Imaging Camera AQ9600

Instruction Manual

Perfect Prime

www.perfectprime.com

Contents

1. Product Overview

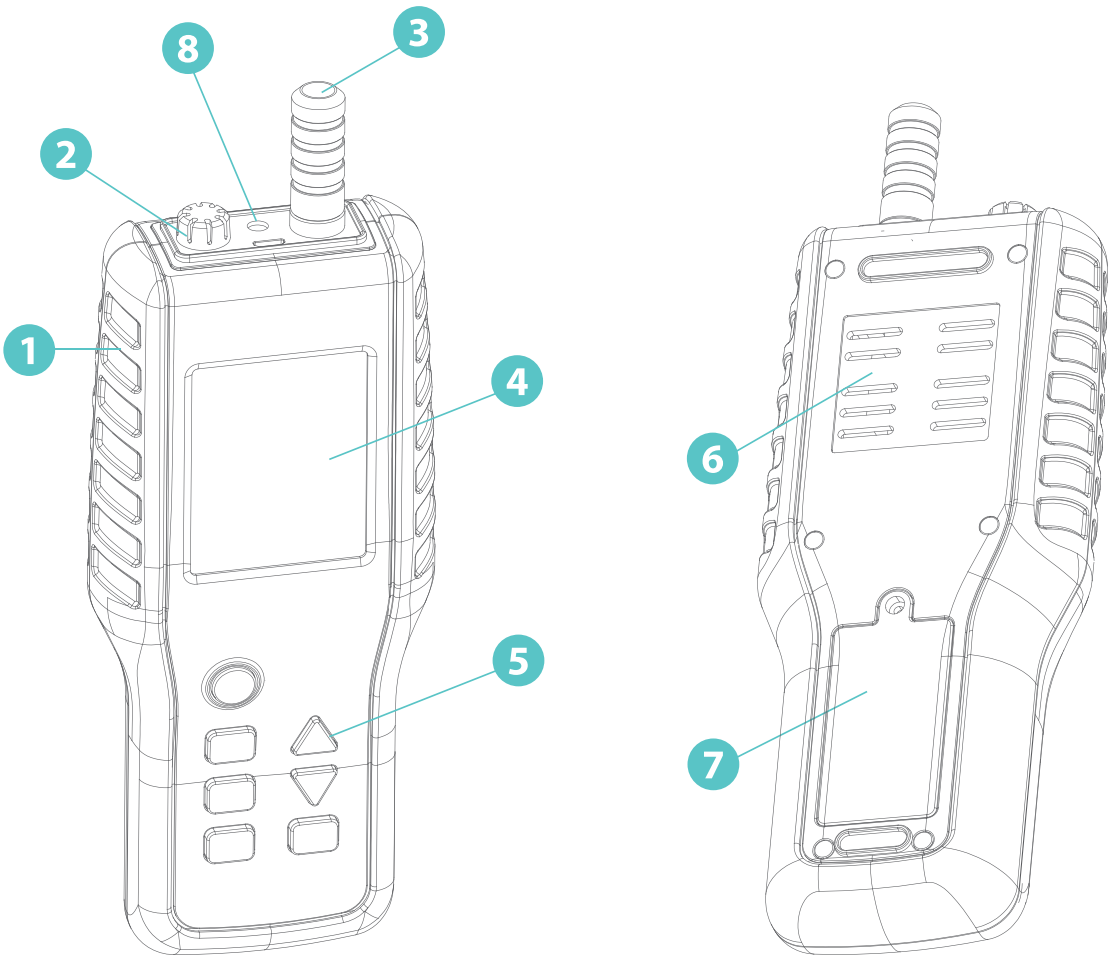
Air quality detector has the function of measuring PM2.5, PM10, counting of dust particles, temperature and humidity. The product is provided with high measurement precision, stable performance and simple operation and convenient to carry. It is suitable for indoor environment of family, office, inside of cars and natural environment, etc.

2. Considerations

1. The electronic sensors and microprocessors used on the product belong to precision electronic device. The product must be kept away from water, fire, inflammable oil and gas or sites with strong electromagnetic interference to prevent influence on/damage to the device.
2. Don't block; or avoid strong air or hot air blowing to the air inlet for air sampling.
3. Please use dry cloth to wipe the instrument case. Don't use damp cloth or corrosive detergents.
4. Don't dismantle and remodel the product without authorization.

3. Product Description

1. Product structure and appearance description



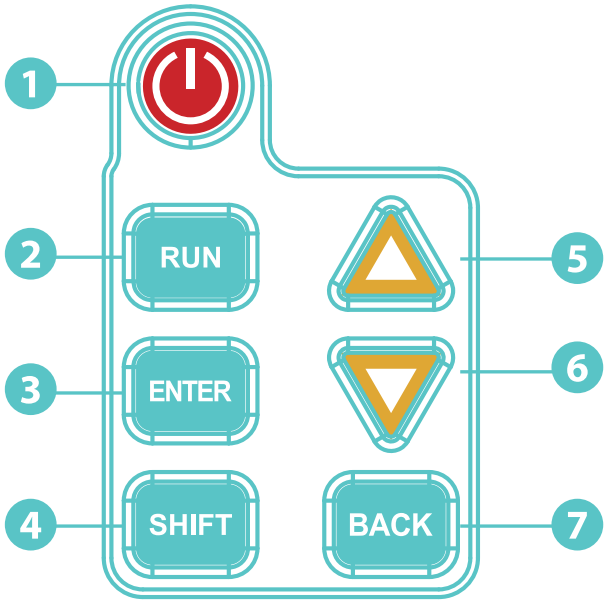
1. Case
2. Temperature and humidity detection port
3. Sampling air inlet
4. LCD display screen
5. Keys
6. Exhaust port
7. Battery box
8. Micro-USB

3. Product Description

2. LCD display description

1. Hour/minute/second
2. Year/month/day
3. Battery level indication
4. Counting unit
5. Schematic diagram of concentration grade
6. Display area of particle counting
7. Humidity
8. Temperature
9. Measuring object
10. Weight unit
11. Display area of particle weight calculation

3. Key function description



1. Power key[⏻] : press to power on/off.

2. Operating measurement key [RUN]
(1) At the main interface, press to start data sampling.
(2) During the sampling period, other keys are Disabled and inoperable. Only the power key will work.

3. Enter key [ENTER]
(1) At the mode of historical record, press—confirm the page number of the selected pages.
(2) At the mode of functional parameters, press—confirm to enter function change.
(3) At the mode of functional parameters, press—confirm the saved items after change.

4. SHIFT key [SHIFT]

(1) At the mode of historical record, press—select the unit's place, ten's place and hundred's place of page number.

(2) At the mode of functional parameters, press—select the functional parameter items to be changed.

5. Page up key [▲]

(1) At the mode of historical record, used to increase by 1 (+1) and page up by one page.

(2) At the mode of functional parameters and at the change state: used to increase by 1 (+1); switching unit and select "yes" or "No".

6. Page down key[▼]

(1) At the main interface, press in order to enter the historical record→ the functional parameter.

(2) At the mode of historical record, used to decrease by 1 (-1) and page down by one page.

At the mode of functional parameters and at the change state:
used to decrease by1 (-1); switching unit and select "yes" or "No".

7. Back key [BACK]

(1) At the mode of historical record and functional parameters, press—back to the main interface.

(2) At the mode of historical record, when to change a parameter, press—exit from the change.

Remark

- 50S sampling
- Cannot switch languages

4. Function Setting Operation

1. Historical Record

1. Page number: Unit's place/ten's place/hundred's place

Check historical record: at the main interface, press [▼] key to ente historical record mode; press [ENTER] key and the current page is selected. At the moment, press [▲] key or [▼] key to go through the data. If you want to skip to certain page directly, input the page number directly. Press [SHIFT] key to select the unit's place, ten's place and hundred's place of the page number. Press [▲] key to increase the value by 1 (+1) and press [▼] key to decrease the value by 1 (-1).

2. Functional Parameters

1. Particle unit: piece/L, ug/m3

Change the particle unit: at the main interface, press [▼] key twice to enter the functional parameter mode, press [ENTER] key to enter the change state. Press [SHIFT] key to select piece/L or ug/m3. At the moment, press [▲] key or [▼] key to select your desirable unit and press [ENTER] key to confirm. Press [BACK] key to return to the main interface.

2. Time change

At the main interface, press [▼] key twice to enter the functional parameter mode, press [ENTER] key to enter the change state. Press [SHIFT] three times to select "No" in the item of "Time Rev". Press [▲] key or [▼] key to select "Yes". Press [ENTER] key to enter time change interface. Press [SHIFT] key to select the items to be changed. Press [▲] key to increase the value by 1 (+1) and press [▼] key to decrease the value by 1 (-1). Press [ENTER] to confirm. Press [BACK] key to return to the main interface.

4. Function Setting Operation

3. Temperature unit: °C/°F

At the main interface, press [▼] key twice to enter the functional parameter mode, and press [ENTER] key to enter the change state. Press [SHIFT] key four times to select the items to be changed in "Temp Unit". Press [▲] key or [▼] key to select "°C " or " °F ". Press [ENTER] key to confirm. Press [BACK] key to return to the main interface.

4. Restore factory-set value

At the main interface, press [▼] key twice to enter the functional parameter mode, and press [ENTER] key to enter the change state. Press [SHIFT] key five times to select the items to be changed in "Rest". Press [▲] key or [▼] key to select "Yes". Press [ENTER] key to confirm. The screen displays "RestFactory Data…". After completion, press [BACK] key to return to the main interface. (Users may also use the method to delete data record).

5. language selection

From the main interface, press the [▼] button twice to go to the function parameter mode. Press the [ENTER] button to go to the modification state. Press the [SHIFT] button six times to select "Language selection". Press the [▲] button or the [▼] button to select 'Chinese' or 'English'. Press the [ENTER] button for confirmation, and press the [BACK] button to return to the main interface.

5. Measurement

The instrument should be placed in an open place first measure to avoid blocking the sensor. Press power key to turn on,press【RUN】key on the main interface,the instrument will enter the sampling state. At the moment, do not operate the instrument first. After completion of sampling, the measurement result will be displayed on the display screen finally. Users may enter "Setting" interface to set the particle unit so as to realize the switching of measurement mode (cal mode 1/weighing mode).

Note: don't carry out measurement at the time of charging in order to achieve a more accurate measurement result.

6. New Air Quality Standard

Schematic diagram of concentration grade	Air quality level	PM2.5 average standard value in 24 hours.
	Excellent	0-35
	Good	35-75
	Slight pollution	75-115
	Moderate pollution	115-150
	Heavy pollution	150-250
	Serious pollution	>250

7. Battery Charging

Low battery may lead to failure of startup. Please charging it when the  indicator shows up.

1. Using a original adapter and cable for charging.
2. Connecting the cable with meter at the USB Interface.
3. Charging at least 2 hours.
4. Disconnecting the cable after finishing the charging

8. Product Specification

Principle of PM2.5 Sensors	Optoelectronic type
Sampling method	Pumping type
Light sources	Laser diode
Grain size channels	0.3 2.5 10um
Flowrate	1L/min
Measurement range	0-1000ug/m3
Resolution ratio	1 ug
Test method	Manual
Sampling time	50s

8. Product Specification

Sampling method	Pumping type
Typical precision	<20%
Concentration unit	Piece/L | ug/m3
Temperature range	0 ～50℃
Typical precision	土1℃
Humidity range	0 ～99%RH
Typical precision	±2%RH
Work temperature	-10～50℃
Working humidity	10 ～90%RH
Stored data	1999 sets
Automatic power off	2 minutes(no key operation)
Power supply	18500 rechargeable lithium battery
Startup current	120mA
Working current	About 230mA(voltage4.1V)
Display method	LCD value display
Screen size	2.8 inches
Screen resolution	320*240
Dimension	310g (battery included)
Size	245× 85×40mm

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