MULTI IAQ MONITOR AQ380

Instruction Manual

Perfect Prime

CONTENTS

1. APPLICATION

This air quality meter can measure and display CO_2, PM2.5, Humidity and Temperature measurements and is ideal for monitoring indoor air quality in a variety of environments.

2. ACCESSORIES

1 Meter (with a 3.7V Rechargeable lithium battery)
**1** User's Manual
1 Micro USB cable

⚠	Caution! Please refer to this manual. Improper use may damage the meter and its components.
CE	Complies with European Directive.

- Do not operate in environments with flammable gas or humid environments.

- Operating altitude: up to 2000M.

- Operating environment: Indoor use; Pollution degree 2.

- Clean with soft cloth when dirty, such as glasses cloth. Do not clean with chemicals and other solvents.

- EMC: EN61326-1:CISPR 11:Group 1, Class B
  - Class B – Equipment for use in all establishments other than domestic.
  - Group 1 – RF energy generated is needed for internal functioning.

4.1 FEATURE AND FUNCTION
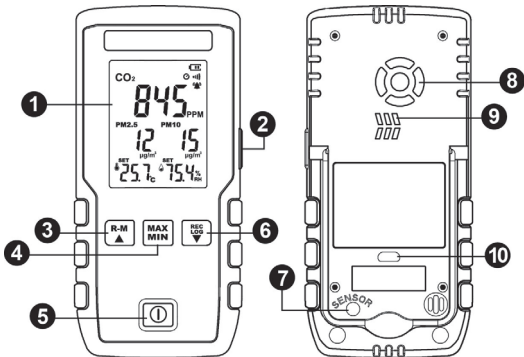
1. LCD

2. Right-side button

3. Memory reading / Up button

4. MAX / MIN / AVG button

5. Power button

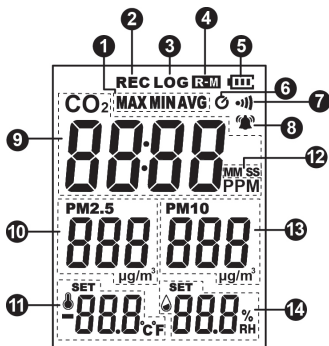**6.** Single log and auto-record button/Down button

7. Temperature and humidity sensing port

8. Air outlet for sensor

9. Air inlet for sensor

10. Micro USB jack

4.2 INDICATION ON THE LCD DISPLAY

1. MAX / MIN /AVG /MAN MIN	**8.** Alarm
2. Manual recording	**9.** CO_2
3. Auto-recording	**10.** PM2.5
4. Read record	**11.** Temperature
5. Battery indicator	**12.** MM minute, SS second
6. Auto-power off	**13.** PM10
7. Buzzer	**14.** Humidity

Please hold the meter in the following way for the correct measured value:

The placement follows the electrical specifications described in Section 7.	This is a suitable way to hold the meter, holding for a long time may affect the accuracy.
This is not a proper way to hold the meter, it will block the temperature and humidity sensors.	This is not a proper way to hold the meter, it will block the PM2.5, PM10 and CO2 sensors.
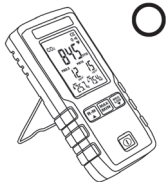
5.1 Power on/off

Press ⓪ to turn the power on or off.

5.2 Auto Power Off

At the power-on status, press and hold ⓪ for more than 2 seconds to disable or resume auto power off function. When auto power off is activated, the indicator 🕐 appearing, and it will automatically turn off after 30 minutes.

5.3 Backlight mode

Press "right-side button" to turn on or off the backlight. (When the red backlight for alarm is on, this button is invalid) The backlight mode is turned off automatically after 15 seconds.

5.4 MAX/MIN AVG and MAN MIN

Press ⬛ to enter this function, the MAX is shown on the screen and it displays the maximum value.

Press ⬛ repeatedly to select the function of MIN/AVG/MAX MIN/MAX and update the displayed value. When select MAX MIN function, it displays the current measured value.

5.5 REC Manual record

Press ⬛ to save one data log, the "**REC**" and the log number appear on the LCD for one second. For an example of the log number 10, it will increase by 1 when pressing ⬛ every time. When reaching the maximum log number 20, FULL appears.

5.6 LOG starts the auto-recording function

Press and hold ⃞, for more than 2 seconds, "**LOG**" appears on the LCD, and auto-recording starts. If the power is insufficient during auto-record-ing, ⃞ appearing, auto-recording will be forcibly stopped. When reaching the maximum log number 20, 𝐹𝑈𝐿𝐿 appears.

Press and hold ⃞ again for more than 2 seconds to exit the auto-recording function.

5.7 Read the data recorded in the memory

Press ⃞ to enter the memory-reading mode, while R-M and the log number appear on the LCD for one second, the record is then displayed. Read the data recorded in the memory with ⃞ or ⃞.

Press and hold ⃞ to exit this mode.

5.8 °C or °F units

At the shutdown status, press and hold ⃞, then press ⃞ to turn on the meter, after the software version appears, release ⃞.

Repeat the above steps to switch the unit.

5.9 Clear memory

At the shutdown status, press and hold ⃞ and then press to ⃞ turn on the meter, the 𝐶𝐿𝑟 and software version appears successively on the LCD, release the ⃞ to clear the memory.

5.10 Turn on / off the key sound

The sound is defaulted as on and the ●)) is displayed. At the shutdown status, press and hold 🔆 and then press ⓪ to turn on the meter, after the software version appears, release 🔆 and the ●)) disappears, the key sound is off.

Repeat the above step to tun on the key sound.

5.11 Resume the factory settings

At the shutdown status, press and hold "right-side button" and then press, ⓪ the ϝϲͺϲ and software version appears successively on the LCD, release the "right-side button" to complete the process of resuming to the factory settings and clearing the memory.

• Auto-shutdown: OFF

• Key sound: On

• The calibration value resumed to 0

• CO2 Abc OFF

• Memory cleared

5.12 Function settings

Press "right-side button" for more than 2 seconds to enter the setting mode.

Press the "right-side button" repeatedly to enter the setting function **1 ~ 8** in sequence:
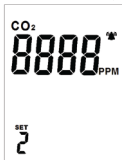
SET 1. Time interval setting

1. The LCD displays:

2. Press $\boxed{\text{R-M} \blacktriangle}$ or $\boxed{\text{REC} \blacktriangledown}$ to select the interval 5 seconds / 10 seconds / 5 minutes / 10 minutes / 20 minutes / 30 minutes / 60 minutes; the default value is 5 seconds.

3. Press the "right-side button" again to enter **set 2**.

SET 2. CO2 alarm setting

1. The LCD displays:

2. Press $\boxed{\text{MAX} \atop \text{MIN}}$ to move the digit, and the selected digit will flash.

3. Press $\boxed{\text{R-M} \blacktriangle}$ or $\boxed{\text{REC} \blacktriangledown}$ to increase or decrease the CO2 value.

4. Press the "right-side button" again to enter **set 3.**

SET 3. PM2.5 alarm setting

1. The LCD displays:
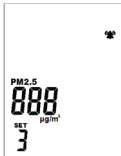
2. Press `MAX MIN` to move the digit, and the selected digit will flash.

3. Press `R-M ▲` or `REC LOG ▼` to increase or decrease the value.

4. Press the "right-side button" again to enter **set 4**.

SET 4. PM10 alarm setting

1. The LCD displays:
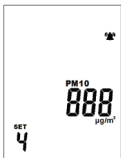
2. Press `MAX MIN` to move the digit, and the selected digit will flash.

3. Press `R-M ▲` or `REC LOG ▼` to increase or decrease the value.

4. Press the "right-side button" again to enter **set 5**.

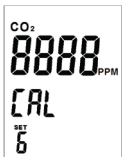## SET 5. (Factory use only) CO₂ Abc self-calibration mode

1. The LCD displays:

```
CO₂
Rbc PPM
    OFF
SET
5
```

2. This is for factory calibration use only. Please do not change it.

3. Click the "right-side button" again to enter **set 6**.

SET 6. CO₂ manual calibration

1. The LCD displays:

```
CO₂
8888 PPM
CAL
SET
6
```

2. Directly increase or decrease the displayed value of CO2, press the $\boxed{\text{MAX} \atop \text{MIN}}$ to move the digit, and the selected digit will flash.

3. Press $\boxed{\text{R-M} \atop \blacktriangle}$ or $\boxed{\text{REC} \atop \text{LOG}}$ to modify the value.

4. Press the "right-side button" again to enter **set 7**.

SET 7. Temperature calibration

1. The LCD displays:


```
CAL
±88.8.c  SET 7
```

2. Directly increase or decrease the displayed value of CO2, press the MAX/MIN to move the digit, and the selected digit will flash.

3. Press R-M or REC/LOG to modify the value.

4. Press the "right-side button" again to enter **set 8**.

SET 8. Humidity calibration

1. The LCD displays:


```
CAL
SET 8   ±88.8.%RH
```

2. Directly increase or decrease the displayed value of CO2, press the MAX/MIN to move the digit, and the selected digit will flash.

3. Press R-M or REC/LOG to modify the value.

4. Press the right-side button again to return to the measurement mode.

- Real-time measurement of CO_2/PM2.5/PM10/temperature/humidity.

- Maximum / minimum / average value.

- Auto-power on / off function.

- Adjustment and calibration function (CO2/temperature/humidity).

- CO2/PM2.5/PM10 red backlight alarm.

- Manual record and auto-record.

- Key sound assists to ensure the operation works.

- Overload indication OL.

- Battery: 3.7V 2000mAh rechargeable lithium battery

- Transformer for charging: 1A/5V

- Battery life: continuous use for approximately 6 hours

- 5V micro USB interface for external power supply

- When battery-low indicator shows as the following figure, the power will be turned off after 5 seconds.

- Charging indication: The battery indicator will sequentially vary as from right to left during charging and keep when fully charged.

- °C or °F unit selection.

- When the external power supply is connected, the auto-power off is disabled, and the white backlight is always on.

• CO2 /PM2.5/PM10 red backlight alarm setting function

Setting value	CO2	PM2.5	PM10
	1000PPM	35μg/m³	75μg/m³

When the measured value reaches the setting value for alarm, the LCD backlight shines in red and related measurement items flash.

• 20 logs for manual and automatic recording values.

• Auto-recording time interval setting: 5 seconds, 10 seconds, 5 minutes, 10 minutes, 20 minutes, 30 minutes, 60 minutes.

• Sampling time: 2.5 seconds (5 types, 0.5 seconds for each).

• Dimensions: 150x65x22mm (L x W x H).

• Weight: 190 g.

• Operating temperature and humidity: 0°C ~ +50°C, <80%RH (no condensation).

• Storage temperature and humidity: 0°C ~ +60°C, <70%RH (no condensation).

• Display size: 52mm (L) x 40mm (W).

CAUTION

If to use the meter in a high-humidity environment, please place the meter in a low-humidity environment for 24 hours after use.

Ambient temperature range for accurate measure:
18°C (64°F) ~ 28°C (82°F)

6.1 PM2.5

SENSOR	LASER PARTICULATE MATTER SENSOR
Measuring range	0-500 µg/m3
Accuracy	±8µg :<=50µg/m3 ±10% of reading value:>50µg/m3
Resolution	1
Reaction time	<10seconds

6.2 PM10

SENSOR	LASER PARTICULATE MATTER SENSOR
Measuring range	0-500 µg/m3
Accuracy	±10µg :<=50µg/m3 ±15% of reading value:>50µg/m3
Resolution	1
Reaction time	<10seconds

6.3 CO_2

SENSOR	NON-DISPERSION INFRARED(NDIR)
Measuring range	400 to 9999ppm
Accuracy	±70ppm ±3% of readings. (400-2000ppm)
Resolution	±1ppm
Reaction time	90% during about 2 minutes

6.4 TEMPERATURE

SENSOR	BANDGAP TEMPERATURE SENSOR
Measuring range	-10℃~50℃ / 14℉~122℉
Accuracy	±1.0℃/±1.8℉ (Non-charging and 30 minutes after charging)
Resolution	0.1℃ / 0.1F (0~35℃ / 32℉~95℉) ; 1℃ / 1℉ (Above 100℃ /℉ or below -10℃ /℉)
Reaction time	About 1 second

6.5 HUMIDITY

SENSOR	CAPACITIVE HUMIDITY SENSOR
Measuring range	1-99%
Accuracy	±5.0%RH(10~90%); ±8.0%RH(<10%,>90%) no condensation, at 25℃
Resolution	0.1%
Reaction time	About 4 seconds

7. NEW AIR QUALITY STANDARD

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

8. MAINTENANCE OR REPAIR

1. For the battery-low indicator: ▭ indicates the battery full; ▭ indicates the battery low, please charge it in time.

2. If dirty, please wipe it with a soft cloth, such as a glasses cloth. Do not wipe it with chemical solvents.

3. If fault on the meter, it can only be sent to the authorized service suppliers or sent back to the original factory for maintenance.

⚠	**CAUTION**
	When the LCD shows the battery-low indicator ▭ , please charge it in time.

9. PRODUCT DISPOSAL

Caution: This symbol indicates that this product and its accessories shall be subject to a separate collection and correct disposal, please not throw it away directly to avoid environmental pollution.

CUSTOMER SERVICE INQUIRIES

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