

# A37 Carbon Dioxide Monitor User Manual

## I. Introduction

CO<sub>2</sub> is a naturally occurring gas that emitted at great levels by human activity and it is one of several greenhouse gases in our atmosphere. CO<sub>2</sub> only accounts for 0.03% of the fresh air. If you breathe high concentration CO<sub>2</sub>, you may be at risk of carbon dioxide intoxication. Symptoms of carbon dioxide toxicity include headache, irregular heartbeat, nausea, unconsciousness, or even death.

A37 is a CO<sub>2</sub> Monitor that measures CO<sub>2</sub> concentration, temperature and humidity. This monitor is widely used in homes, shopping malls, offices, vehicles, stations etc.

Please read carefully and follow all warnings and precautions before using the device.

## II. Open box inspection

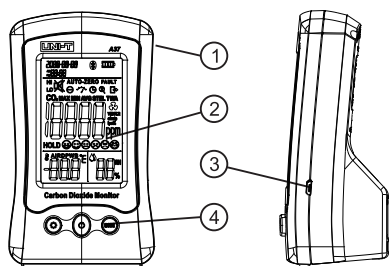
Open the box and take out the device. Please check whether the following items are deficient or damaged and contact your supplier immediately if they are.

- A37 CO<sub>2</sub> monitor ----- 1
- Protective case ----- 1
- User manual ----- 1
- USB cable ----- 1

## III. Safety information

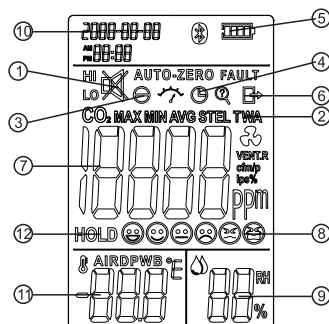
- Check the device and its accessories for any damage or anomaly before use. Do not use the device if the cover is damaged, or has any other malfunctions.
- Please follow the operation instructions.
- Please do not open the device case and modify the internal circuit.
- Do not store or use this device in high temperature, high humidity, flammable, explosive and strong electromagnetic environments.
- Charge the monitor when symbol is displayed.
- Regularly use soft cloth and mild detergent to clean the case. Do not use abrasant or solvent.
- A37 complies with CE standards.
- This monitor has ABC (Automatic Baseline Correction) function. Do not use this monitor in closed environment where CO<sub>2</sub> concentration remains relatively high.
- Use specified adapter to charge the device. The adapter should comply with UL/FCC safety standards.

## IV. Structure



①: Case ②: LCD screen ③: USB port ④: Functional buttons

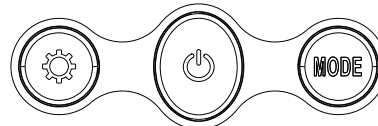
## V. Symbols



No.	Indication	No.	Indication
1	Audio alarm ON/OFF	7	CO <sub>2</sub> concentration
2	STEL/TWA/MAX /MIN/AVG modes	8	CO <sub>2</sub> concentration grading emoticon
3	CO <sub>2</sub> calibration	9	Relative humidity
4	Timing shutdown	10	Date/time
5	Battery status	11	Temperature
6	Exit calibration	12	Data hold

## VI. Operation instructions

### 1. Functional buttons



The following table shows the buttons functions in different modes.

Modes	Functions	Buttons
OFF	Long press: turn on/off the monitor	
	Long press: enter calibration mode	+
Measure	Short press: turn on/off the backlight	
	Short press to switch temperature unit °C/°F	
	Long press to turn on/off audio alarm	
	Short press: cycle switch between HOLD/MAX/MIN/AVG/STEL/TWA	
	Long press: reset to zero	
Calibration	Long press: calibrate the CO <sub>2</sub> concentration (outdoor fresh air)	+
	Short press: increase the value	
	Short press : next parameter (double press to enter date/time calibration)	
	Long press: save	
	Short press: decrease the value	
	Short press: previous parameter	+
	Long press: exit calibration	+

### 2. Operations

#### CO<sub>2</sub> measurement

Long press to turn on the monitor. It takes 120s to stabilize CO<sub>2</sub> concentration. CO<sub>2</sub> concentration, ambient temperature, relative humidity will be displayed on the screen. CO<sub>2</sub> concentration value is refreshed every 3 seconds.

Note: if CO<sub>2</sub>>1000ppm, buzzer goes off with red backlight flashing. The audio alarm's default setting is ON, long press to turn OFF the audio alarm.

#### 1) Concentration grading emoticons

	400ppm ~ 450ppm;
	450ppm ~ 700ppm;
	700ppm ~ 1000ppm;
	1000ppm ~ 2000ppm;
	2000ppm ~ 5000ppm;
	5000ppm以上;

#### Data

Short press MODE to cycle switch between HOLD/MAX/MIN/AVG/TWA/STEL values.

Symbol	Indication
HOLD	Data hold
MAX	Maximum value
MIN	Minimum value
AVG	Average value
TWA	Time weighted average
STEL	Short-term exposure limit

**TWA:** The average exposure within the workplace to any hazardous contaminant or agent using the baseline of an 8 hour day or 40 hours week work schedule.

**STEL:** The acceptable exposure limit to a toxic or irritant substance over a short period of time (time-weighted average), usually 15 minutes.

**Auto shutdown**

The monitor will automatically shut down if there is no operation for 2 hours.

**Backlight**

Please refer to Operation Instructions-Functional Buttons


**Audio alarm**

Please refer to Operation Instructions-Functional Buttons

**Temperature unit**

Please refer to Operation Instructions-Functional Buttons

**Battery**

Charge the battery when  is displayed on the screen. It takes 2~3 hours to fully charge the battery.

**3. Calibration**

**Date/time**

Please refer to Operation Instructions-Functional Buttons to calibrate date/time.

**CO<sub>2</sub>**

**Note:** CO<sub>2</sub> function has been calibrated before delivery. If the value is greatly deviated from the standard, you can calibrate it by either methods below:




**1) Automatic calibration**


A37 has the built-in self-correcting ABC (Automatic Baseline Correction) algorithm to automatically adjust the base value.

- a) Turn on the monitor and leave A37 at a place where there is flowing fresh air for 3 days (powered by the adaptor)
- b) ABC function will automatically adjust and correct the CO<sub>2</sub> standard value.

**Warnings:** ABC function is always on, do not use this monitor in closed environment where CO<sub>2</sub> concentration remains relatively high.

**2) Manual calibration**

- a) Turn on the monitor, leave it outdoor for 20 minutes
- b) Long press + until  appears on the screen. Calibration takes 10 minutes.

 symbol disappears when calibration is done.

**Note:** It is suggested to calibrate the monitor in outdoor environments where there is air flow. Keep device away from animals, plants and human.

**VII. Specifications**

**1. Technical specifications**

Function	Range	Resolution	Accuracy
CO <sub>2</sub>	400~5000 ppm	1ppm	±(5% of rdg+50ppm) from 400~2000ppm *1
Temperature	-10.0°C~50.0°C	0.1°C	±1°C *2
Humidity	0-99%RH	1%RH	(10%RH~90%RH) ±5%RH @25°C

\*1: Measure environment: 1atm, ambient temperature and humidity

\*2: It may be influenced by heat emitted by the adaptor

**2. General specifications**

Specifications	Descriptions
Sensor	NDIR principle
ABC	Automatic baseline correction
Audio alarm	Buzzer
Visual alarm	Red backlight
Display	LCD screen
Low battery indication	√
Auto power off	√

Backlight	√
Operating environment	0°C~50°C, 0%RH~85%RH
Storage environment	-20°C~60°C, 0%RH~95%RH
Power supply	Built-in 3.7V DC rechargeable battery
Weight	195g
Dimension	75mm x 55mm x 130mm

**IX. CO<sub>2</sub> concentration and effects (only for reference)**

Concentration	Effect
350~450ppm	Fresh air
350~1000ppm	Normal
1000~2000ppm	Turbid air, sleepy
2000~5000ppm	Headache, irregular heartbeat, nausea
>5000ppm	Unconsciousness or even death

**X. Maintenance**

- a. The maintenance and service of the device must be implemented by qualified professionals or the designated departments.
- b. Regularly use dry cloth to clean the cover. Do not use the detergent containing solvent composition
- c. To conserve battery, please turn off the device if do not being used for a long time.

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