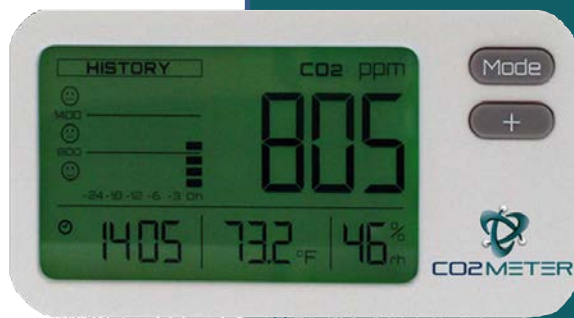


RAD-0302



**IAQMini CO2 Monitor
(CO2, Temp, %RH)**

Table of Contents



Product Overview.....	3
LCD Display Symbol Description.....	3
Operation / Calibration	4
Safety Instructions.....	5
Product Maintenance.....	6
Product Specifications.....	6
Installation Instructions.....	6
Troubleshooting.....	7
Package Contents.....	7
Warranty & Support.....	7

Device Overview

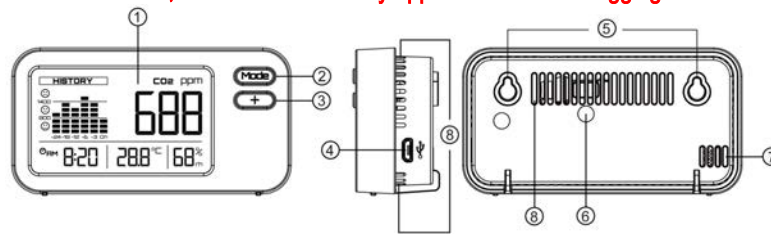
Thank you for selecting the **CO2Meter RAD-0302 - IAQMini CO2 Monitor**. The RAD-0302 IAQ Mini is a low cost, compact, and easy-to-use indoor air quality monitor with the ability to measure Carbon Dioxide (CO₂), Temperature, and Relative Humidity concentrations in indoor air environments. In addition, the RAD-0302 is developed to detect the presence of CO₂ in ambient air to help the user ensure overall improved indoor air quality in environments such as homes, office buildings, classrooms, exhibition halls, shopping malls, fitness centers, commercial buildings, or anywhere where personal comfort and overall well-being is vital.

Features:

- ☑ Dual Beam NDIR technology is used to measure, monitor and track CO₂ concentrations to improve long term stability.
- ☑ The Large LCD clearly displays the CO₂ concentration, temperature, relative humidity and real-time clock.
- ☑ 3-color back light (green / yellow / red) gradually changes color with CO₂ concentration.
- ☑ "HISTORY" with 3 emoticons indicates the status of CO₂ records up to 24 hours.
- ☑ "ECO" saving power function darkens the LCD back light during the period from 10:00pm to 6:00am.
- ☑ 7-color back light for options: white → turquoise → blue → purple → red → yellow → green.

Warnings:

- ☑ Please take off the AC power adapter and store it well when this CO₂ monitor is left idle for long.
- ☑ **This CO₂ monitor is for home or commercial use, not suitable for safety applications or data logging.**



- 1. LCD Display
- 2. Mode Key
- 3. Select Key

- 4. Power Inlet (Micro USB Socket)
- 5. Screw Position
- 8. Ventilation Slots

- 6. Calibration Gas Entry
- 7. Humidity Sensor

Key description:

Mode	Select backlight display mode or press and hold setting modes. (+) to cycle.
+	Adjust the parameters.

LCD Display Symbol Description

Symbol	Meaning	Description
	CO ₂ concentration, parts per million (ppm)	ambient CO ₂ concentration
	Ambient temperature	Ambient temperature
	Relative humidity	Relative humidity
	Real-time setting display	Real-time 24-hour clock (hour/minute)
	Three emoticons	The status of recorded CO ₂ concentration <800ppm 800ppm~1,400ppm >1400ppm
	HISTORY: 24-hour Historical Chart	Bar graph displays indicate the status of CO ₂ records up to 24 hours
	LCD backlight color	A total of 7 colors are optional.
	CO ₂ concentration alarm	CO ₂ concentration alarm settings
	Energy-saving	The LCD backlight will be dark during the specific period.

CAL	Background calibration	Calibrate the sensor while the reading deviates from the actual gas concentration.
CLr	Change calibration and ABC setting parameter.	
AbC	Automatic background calibration	

Operation Instructions

1. Power on and Measure:

Connect the USB cable to a PC or a USB to wall adapter to power on the device. After powered on, the bars on the LCD will decrease by degrees during warm-up. The device will start to measure CO₂ concentration, ambient temperature and relative humidity after warm-up.

2. Backlight Display Mode:

"Auto" auto backlight is the default mode. Press Mode key (↻) to display the current back-light mode and then press Mode key (↻) to select setting modes in sequence: **Auto** → **AL** → **on** → **OFF**. After selecting the mode, it is the confirmation mode. You do not need to press any key to confirm it.

2.1 **Auto**: The backlight color varies with the CO₂ concentration. <800ppm is green, **good status**; 950ppm~1,400ppm is yellow, **okay status**, >1400ppm is red, **poor status – requires ventilation**.

2.2 **AL**: The alarm level is exceeded and the backlight is displayed in red. The default alarm level is 1,400ppm. Please follow the alarm level setting method to adjust the alarm level.

2.3 **on**: The LCD backlight is always on. It is only LCD backlight, without any prompt function. The backlight color depends on the color you select. (please see the setting of **COL**).

2.4 **OFF**: Turn off all backlight functions.

3. Setting:

Press and hold Mode key (↻) to enter the settings. And then press Mode key (↻) to select setting modes in sequence: **COL** (LCD backlight color) → **AL** (alarm level setting) → **Real-time** → **ECO** (energy-saving mode). Press Select key (↵) to adjust the parameters.

3.1 **COL**: The default LCD backlight color is white. A total of 7 colors are optional. The color order is white → turquoise → blue → purple → red → yellow → green. (Figure 1)

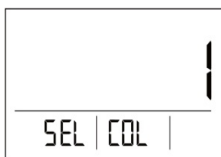
3.2 **AL**: The default alarm setting is 1,400ppm. The alarm value can be adjusted from 400ppm to 3,000ppm (the interval is 100ppm). (Figure 2)

3.3 Real-time:

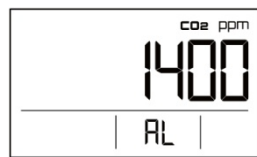
3.3.1 Set "12 Hour (AM/PM)/24 Hour" by pressing Select key (↵).

3.3.2 The default real-time setting is 0:00(24 Hour Clock). The setting sequence is hour → minute. After setting "hour", press Mode key (↻) to set "minute" (the interval is 1 hour / 1 minute) (Figure 3). Press Select key (↵) to adjust the parameters. Press and hold Select key (↵) to quickly set the parameters.

3.4 **ECO**: The default ECO setting is "OFF". Press Select key (↵) to select "**on**". After ECO mode is turned on, the LCD backlight will be dark during the period from 22:00 pm to 6:00am for saving power. (Figure 4)



(Figure 1)



(Figure 2)



(Figure 3)



(Figure 4)

Note: During the setting process, the device will return to the main screen after 20 sec of idle time.

4. °C/°F switch: Press and hold Select key (+) to switch °C/°F.

5. Calibration

1. Plug in and power your device outside.

***Note: Do not breathe directly on your device during the calibration process.

***Note: Do not place the device in direct sunlight.

2. Allow your device to sit outside for 3 - 5 minutes to allow CO₂ levels to adjust appropriately.

3. Press and hold the Mode key (**MODE**) and then press Select key (+) together. When the CO₂ calibration value flashes on the LCD, it means that the calibration mode has been entered.



- Press Select Key (+) to adjust the CO₂ calibration range 350ppm ~ 600 ppm, the interval is 10ppm. Set the calibration value to 400ppm.
- Press the Mode Key (MODE) to confirm the value, then "CAL" icon will begin to blink on the LCD.



- Press the Mode Key (MODE) to begin calibration. "CAL" will stop blinking. "St" will show up in the lower left section of the display and the 10-minute countdown will begin.

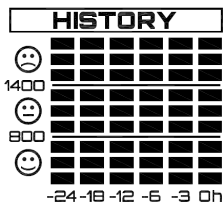


- Once the calibration is complete, the display will show a "dn" in the place of the "St". This will indicate that the calibration is complete.

*****Note: The device will return to the main screen after 20 sec of idle time.**



6. HISTORY: Bar graph displays indicate the status of CO₂ records up to 24 hours (Figure 13)



(Figure 13)

- "0h" bar graph displays the current CO₂ concentration and it is updated with new records every 10 seconds.
- "-3--24" bar graphs display the average CO₂ concentration and it is updated with new records every 10 minutes.
 - "-3" is the average CO₂ concentration of the latest 3 hours.
 - "-6" In past 6 hours, the average CO₂ concentration of the first 3-hour.
 - "-12" In past 12 hours, the average CO₂ concentration of the first 6-hour.
 - "-18" In past 18 hours, the average CO₂ concentration of the first 6-hour.
 - "-24" In past 24 hours, the average CO₂ concentration of the first 6-hour.

E.g. It is now 12:00 noon on 12/01. "-3" = 09:00~12:00 (12/01); "-6" = 06:00~09:00 (12/01); "-12" = 00:00~06:00 (12 /01) ; "-18" = 18:00 ~24:00 (11/30) ; "-24" = 12:00~18:00 (11/30)

Safety Instructions

Warning: Your safety is very important to us. To ensure to use the device correctly and safely, we would like to draw your attention to read the warning and entire User Manual before using the device. These are important safety information and should always be observed .

- Please handle the device lightly, do not subject the device to impact or shock.
- Do not immerse the device in water. Water can cause electric shock, fire or malfunction which may result in damage.
- Do not keep the device under a hot or moist environment. Keep the device away from the heat source or near water.
- Please use a standard USB power supply (such as PC's USB port, universal AC adapter with USB port). Improper power supply can cause serious damage to the device or result in injury or death to the user.

Product Care

To ensure you receive the maximum benefit from using this device, please observe the follow guidelines.

1. **Cleaning**---Disconnect the power before clean. Use a damp cloth, do not use the liquid cleaning agent, such as benzene, thinner or aerosols.
2. **Repair**---Do not attempt to repair the device or modify the circuitry by yourself. Please contact with the local dealer or a qualified repairman if the device needs servicing.
3. **Air circulation**---The vents allow the air circulation liquid for measurement of the CO₂ concentration and the ventilation should not be blocked.

CO₂ & Temperature Specifications

Method – Dual Beam NDIR (Non-Dispersive-Infrared)

LCD Display – the current CO₂ concentration, temperature, relative humidity, real-time and history of CO₂ records.

Sample Method – Diffusion

CO ₂ Specification:	
Measurement Range	0-9,999ppm
Accuracy	0-3,000ppm: ±100ppm or ±7% of reading, whichever is greater; over 3000ppm: ±10%
Display Resolution	1ppm
Warm-Up Time	10 sec
Response Time	About 1min
Temperature Specification:	
Temperature Range	0°C~50°C (32°F~122°F)
Accuracy	±1°C (±2°F)
Display Resolution	0.1°C (0.1°F)
RH Specification:	
Measurement Range	0%-99% RH
Accuracy	±3%@25°C (20% RH~80% RH), other ±5%
Display Resolution	1%RH
Operating Conditions:	
Operating Temperature	0°C~50°C (32°F~122°F)
Humidity Range	0-95% RH non-condensing 0%-99%
Storage Conditions:	
Storage Temperature	-20°C~60°C (-4°F~140°F)

Power Supply Requirement:

Power Supply	USB or 5 VDC from external AC/DC adapter which is not included in package (Please use a standard USB power supply)
DC Output Voltage	5VDC / ≥300mA

⚠ EMC/RFI

Readings may be affected if the unit is operated within radio frequency electromagnetic field strength of approximately 3 volts per meter, but the performance of the instrument will not be permanently affected.

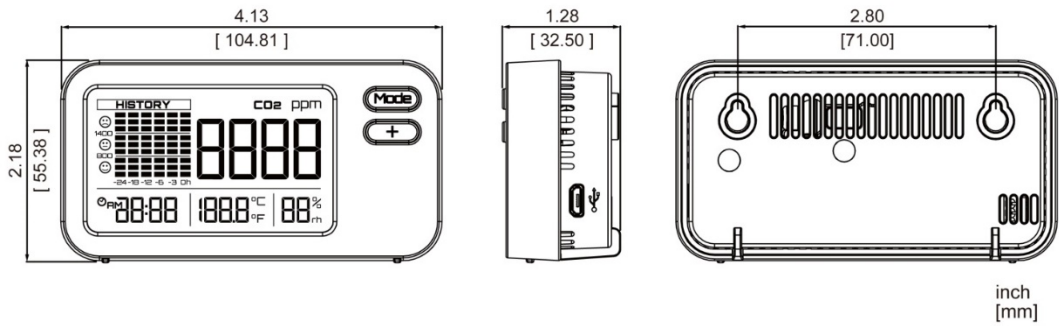
Note: Under the electromagnetic field of 3V/m, the reading will not meet the specification.

Installation Instruction

1. You can put the RAD-0302 CO₂Mini IAQ Monitor on the table or hang it on the wall.
2. Please note the following when hanging it on the wall.
Choose a suitable location to install the RAD-0302, fix the screws to the wall.
Please see 「Dimension」 section to check the distance between the screws.

Weight & Dimension

Weight: 86g



Dimensions: 4.13 x 2.18 x 1.28

Fault Codes & Troubleshooting Guide

This section includes a list of Frequently Asked Questions for problems you may encounter with the RAD-0302 CO2Mini IAQ monitor.

Fault Icon	Description of The Fault	Suggested Actions
9999	This device of CO ₂ measurement abnormality. The display is fixed at 9999 and cannot be recovered, the calibration data has been destroyed.	The device needs to be returned to the factory for repair.

Package contents

- Mini 3 IN 1 CO₂ Monitor
- Manual
- USB cable

Support & Warranty

Contact Us: We are here to help!

For more information, please contact us using the information below.

Ref.No. □ 112019

