CO2mini CO2 Monitor User Manual

Product Overview

Thank you for selecting the CO2mini (model RAD-0301) desktop CO_2 monitor. This is a smart, compact and easy-to-use mini desktop unit. In addition to measuring the CO_2 concentration, the CO2mini also measures the ambient temperature. This product is developed to detect the presence of CO_2 in ambient air to monitor Indoor Air Quality and can be widely used in offices, schools, meeting rooms, homes and other places where personal comfort and health is important.

Features:
☑ Three different LED display shows the current Indoor Air Quality
☑ It uses dual beam NDIR technology to improve the long term stability
☑ A mini desktop CO2 Monitor
☑ Alarm Level can be adjusted by user

Warnings:
☑ This CO2 monitor is for home use, but is not suitable for certifying the test results.
☑ Please use standard USB power (such as USB port from PC, port from general AC adapter), to avoid damaging the unit.

1. LCD Display
2. Calibration Gas Entry
3. Power Inlet
4. Ventilation Slots
5. Red LED Display   (>1200ppm)
6. Yellow LED Display (800-1200ppm)
7. Green LED Display (<800ppm)
8. Mode Key
9. Enter Key
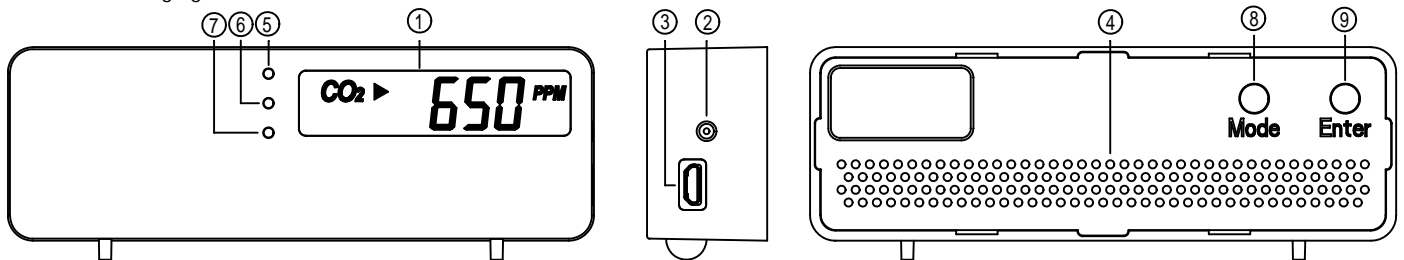
⚠ EMC/RFI

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.

Mode Functions

There are several Modes which can be adjusted by user. These modes are ALTI Mode, ALARM 1 Mode, ALARM 2 Mode, RcFS Mode, and 8BC Mode.

ALTI	Compensate the pressure changes with appropriate altitude of location when measure	ALti	ALARM 1	The first alarm level can be adjusted by user	AL1
ALARM 2	The second alarm level can be adjusted by user	AL2	RcFS	Recover the factory setting to cancel customize setting	rcFS
8BC	This function means CO2 monitor can be calibrated automatically in 8 days.				8bc

Caring for product

To ensure you receive the maximum benefit from using this product, please observe the follow guidelines.
1. Cleaning— Disconnect the power before cleaning. Use a damp cloth.   Do not use liquid cleaning agents, such as benzene, thinners or aerosols.
2. Repair----Do not attempt to repair the product or modify the circuitry yourself. Please contact with the local dealer or a qualified repairman if the product needs servicing.
3. Air diffusion—The ventilation slots on the housing are designed for CO2 diffusion and should not be blocked.

When the power has been connected, the RAD-0301 CO_2 monitor will begin to work. In order to meet your personal requirements, it is advisable to set up the customizing parameters.

Warm Up: It takes approximately 60 seconds before WARM UP disappears; all MODE functions will not respond during warm up.
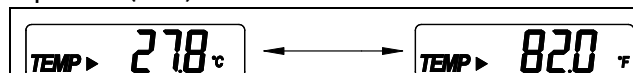
Warm-Up Time: About 60 seconds.
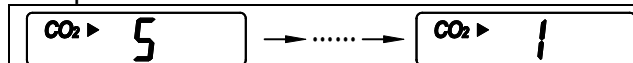
$CO_2 \triangleright$ **5**	→ ...... →	$CO_2 \triangleright$ **1**
1. About 60 seconds warm-up time when first time power.		
2. The LCD shows 5 digits in accordance with the order of 5~1 during warm-up.		
3. The device shows the CO2 reading after above 5 digits disappear.		

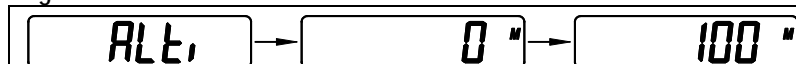*Note: The display time of Temp and CO2: 15sec, 5 sec.

Temperature (ºC/ºF):

TEMP ▷ **27.8** ℃	◄——→	TEMP ▷ **82.0** ℉
1. Press Enter to select ºC or ºF.		

*Note: Temp ºC refers to Temperature in Celsius; Temp ºF refers to Temperature in Fahrenheit.   To change the mode, press Enter and wait several seconds.
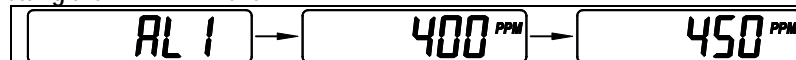
Using the ALTI Mode:

ALtı	→	**0** ᴹ	→	**100** ᴹ
1. Press Mode, the ALTI icon appears.				
2. Press Enter, adjust altitude (step=100m) by Mode button.				
3. Press Enter again to save the data.				

*Note: Range is 0 – 9900m.

Setting the ALARM 1 Level:

AL 1	→	**400** ᴾᴾᴹ	→	**450** ᴾᴾᴹ
1. Press Mode until the ALARM 1 icon appears.				
2. Press Enter. Using the Mode to set the parameter, the default ALARM 1 is 400~2900 ppm.				
3. Press Enter again to save the data.				

*Note:1）When CO2 Alarm level is $\geqq$1,000 ppm, the interval is ±100ppm, when the CO2 Alarm level is ＜1,000 ppm, the interval is ±50 ppm
    2) After setting with new alarm level parameter, the green LED will light when CO2 concentration below the alarm 1 level.

Setting the ALARM 2 Level:

AL2	→	**500** ᴾᴾᴹ	→	**550** ᴾᴾᴹ
1. Press Mode until the ALARM 2 icon appears.				
2. Press Enter. Using the Mode to set the parameter, the default ALARM 2 is 500~3000 ppm.				
3. Press Enter again to save the data.				

*Note:1）When CO2 Alarm level is $\geqq$1,000 ppm, the interval is ±100ppm, when the CO2 Alarm level is ＜1,000 ppm, the interval is ±50 ppm.
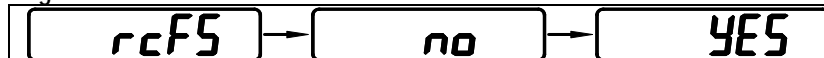   2) After setting with new alarm level parameter, the green LED will light when CO2 concentration below the alarm1 level. The red LED will light when CO2 concentration exceeds the alarm 2 level, the yellow LED will light when CO2 concentration is between the alarm1 level and the alarm 2 level.

Using the "RcFS" Mode:

rcFS	→	**no**	→	**YES**
1. Press Mode until the RcFS icon appears.				
2. Press Enter, the icon "no" shows on the LCD, Press the Mode to select the no/yes.				
3. After selecting, press Enter to save the setting.				

*Note: If the user sets the data or calibrates the RAD-0301 incorrectly, use the RcFS (recover the factory Setting) to return the unit to the default factory setting.

Using the 8BC (calibration) Mode:

8bc	→	**on**	→	**onCE**	→	**oFF**

1. Press Mode until the 8BC icon appears.
2. Press Enter, the icon "on" shows on the LCD, press Mode to select on, once or off.
3. After selecting, press Enter to save the setting.

*Note: If this function is ON, CO2 monitor will be calibrated automatically every 8 days;

If this function is ONCE, CO2 monitor will be calibrated one time in 8 days;

If this function is OFF, CO2 monitor will not be calibrated automatically.

Specifications

Method - Dual Beam NDIR (Non-dispersive-Infrared)
Display - LCD   Independent CO2 Temperature readings
Sample Method - Diffusion

CO2 & Temperature Specification:

CO2 Specification:	
Measurement Range	0-3,000ppm display
Display Resolution	1ppm at 0~1,000ppm; 10ppm at 1,001~3,000ppm
Accuracy	0~2,000ppm: ±100ppm or ±7% of reading, whichever is greater; over 2000ppm: +/-10%
Repeatability	±20 ppm
Temperature Dependence	Typ.±0.3% of reading per °C or ±4 ppm per °C, whichever is greater, referenced to 25°C
Response Time	About 2 min for 63% of step change
Warm-Up Time	About 60 seconds
Zone LED Display	Green: <800ppm; Yellow: 800~1200ppm; Red: >1200ppm. 800ppm is the default AL1, 1200ppm is the default AL2
Temperature Specification:	
Temperature Range	0°C to 50°C (32°F to 122°F) display
Display Resolution	0.1°C (0.1°F)
Display Options	°C/°F(switchable)
Accuracy	±1.5°C(±2°F)
Response Time	20~30min(device must equilibrate with environment)
Operating Conditions:	
Operating Temperature	0°C to 50°C (32°F to 122°F)
Storage Conditions:	
Storage Temperature	-10°C to 60°C(14°F to 140°F)

Power Supply:

| **Power Supply**	USB or 5 VDC from external AC/DC adapter, which is not included in package (Please use Standard USB power) DC output range: 5VDC/ 300mA

Note: CO2 monitor Power consumption: peak current is 200mA. Average current is about 20mA

Communication interface:　（only for RAD-0301）

Version	USB 2.0 low speed function
OS	Windows XP ,Windows7

Weight & Dimension

Weight: 2.47ozs (0.15lbs)

Inch (mm)
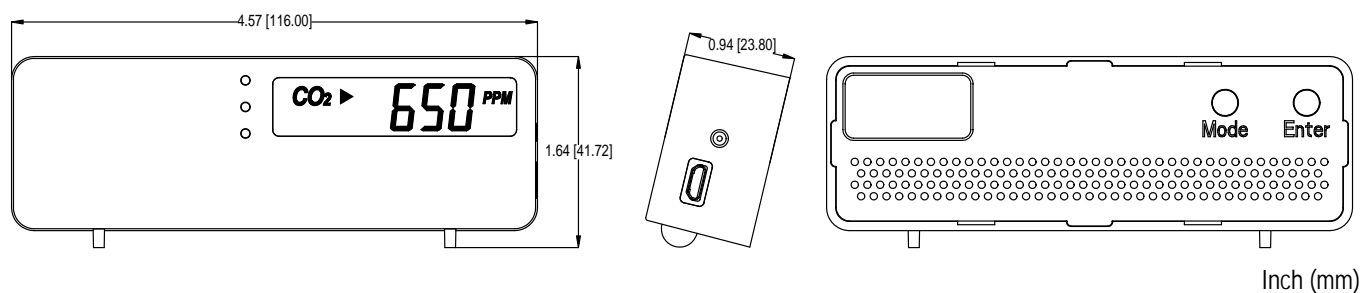
Fault Codes & Troubleshooting Guide

This section includes a list of Frequently Asked Questions for problems you may encounter with the RAD-0301 CO2 Monitor.

Fault Icon	Description of the fault	Suggested Actions
⌐Err3⌐	The ambient temperature has exceeded the operating temperature range 0°C to 50°C (32°F to 122°F)	This error will clear when the temperature returns to the range between 0°C to 50°C (32°F to 122°F).
⌐Err5⌐ Err6	EEPROM System Problem	Please power on RAD-0301 again If the "Err5, Err6" still appears, please contact the Service Department for further assistance.
⌐Err9⌐	The voltage of USB power is too low, the device does not work	This error will clear when user replaces Standard USB power.

⚠ CE ⌧ ♻