Wall Mount CO_2 Monitor Operating Instructions

Model: ZGw063RY

Product Overview

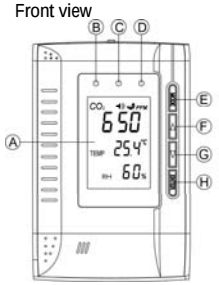
Thank you for selecting ZGw063RY CO2 wall mount monitor. This product was developed to detect the presence of CO2 in the ambient air and to help people to take care of the Indoor Air Quality. By using the CO2 monitor as the indicator, it can easily measure the current CO2 concentration together with the ventilation rate, ambient temperature and relative humidity. A comfortable indoor environment comes from a healthy CO2 concentration. The ZGw063RY can be widely used in a variety of places, such as the office building, green house, school, exhibition facilities, and shopping malls/stores.

The ZGw063RY is easy to use and has many features:

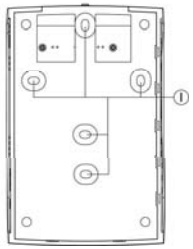
- NDIR (Non-Dispersive-Infrared) technology used to measure CO2 concentration
- Three different LED display show the current Indoor Air Quality situation
- Reliable Sensor provides long-term calibration stability
- Visual and audible alarm function can be adjusted by the user

Operation Instruction

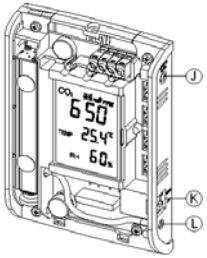
Front view



Back view



Side view



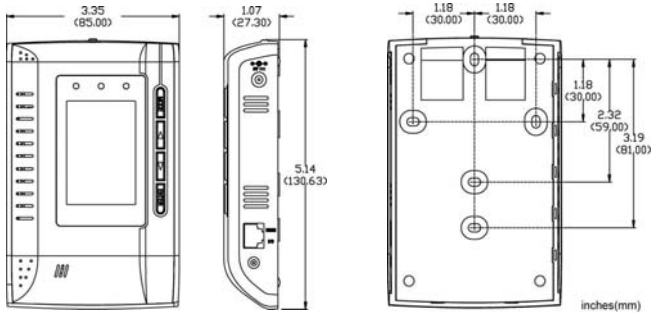
A. Main LCD Display	B. Green LED Display (<800ppm)	C. Yellow LED Display (800-1200ppm)	D. Red LED Display (>1200ppm)
E. Mode Button	F. Up Button	G. Down Button	H. Enter Button
I. Screw Position	J. Power Inlet	K. RJ 45 Socket (For factory use only)	L. Gas Entry Hole

Caring for Your Product

To ensure to receive 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, thinner or aerosols.
2. Repair----Do not attempt to repair the product or modify the circuitry by yourself. Please contact the local dealer or a qualified repairman if the product needs servicing.
3. Calibration--- Please observe the calibration operation to make sure the accuracy for the device when necessary.
4. Air circulation---The vents allow the air circulation liquid for measurement of the CO2 concentration and the ventilation should not be blocked.

Dimension



LCD Display Symbol

Symbol	Meaning	Description
CO2 650 PPM	CO2 Concentration PPM Parts Per Million	The current CO2 concentration in the household
TEMP 25.4℃	Temperature(Celsius)	The present temperature in the household
RH 60%	RH	The relative humidity
	Alarm	The beep Alarm Icon, the buzzer will sound when the red LED lights, the factory setting with alarm is buzzer off
WARM UP	Warm Up	The stability time to let the device to measure the accurate value
MUTE	Mute	The beep alarm can be setting on/off under Mute Mode
ALTI	Altitude	Compensate the pressure changes with appropriate altitude of location when measure
ALARM 1	Alarm 1	The first alarm level
ALARM 2	Alarm 2	The second alarm level
CALI	Calibration	To calibrate the CO2 sensor when the accuracy deviates from the actual CO2 concentration
DATALOGGER	Data logger	Display the past CO2,RH and temperature records in the past 24 hours
MAX MIN	Max Min	Display the Max and Min CO2, RH and temperature records before being cleared or after Power On.
CLr	Clear	To clear the Max and Min CO2, RH and temperature records
RcFS	Recover Factory Setting	To Recover Factory Setting to cancel the customizing Setting

Safety Notes

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

1. Please handle the device lightly; do not subject the product to impact or shock.
2. Do not immerse the product in water.
3. Do not touch the exposed electronic circuitry of the device under any circumstances. Keep the circuit closed during installation, as there is the danger of electric shock.
4. Please use only the included power adaptor. Improper power adaptors or power sources can cause serious damage to the product, or result in injury or death to the user.
5. Do not keep the product under hot and/or extremely moist environment. Keep the product away from any heat source or near water.
6. Please ensure the screws are fixed on the wall tightly. Do not let the screws approach or close to the surface of PCB board during installation. It has the risk of circuit damage or irreparable damage to devices.

Installation Step

Before installation, please carefully take out all parts from the package.

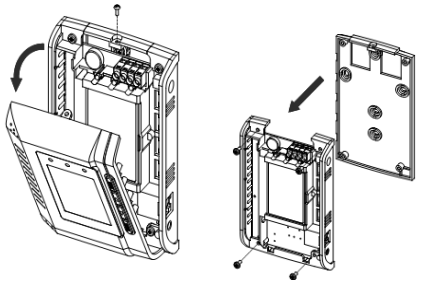
Step 1: Release the screw from the device by screwdriver, and take the front cover off.

Step 2: Release the four screws from the back cover, take the CO2 board from the back cover.

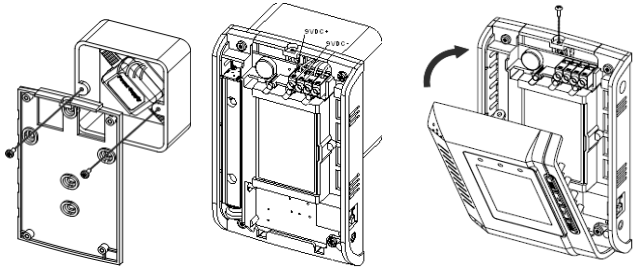
Step 3: Use the screwdriver to fix the back cover to the wall with screws.

Step 4: Re-assemble the CO2 board by screws to the back cover, and Install the front cover to the CO2 board after the CO2 board is fixed well.

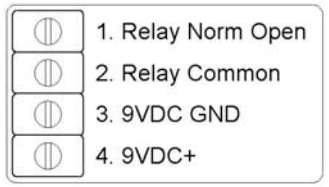
Step 5: Tighten the Front Cover screw with screwdriver.



Step 1 Step 2



Step 3 Step 4 Step 5



Wiring Connection

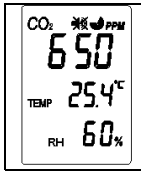
Caution: The RJ45 socket is only for factory calibration use, not for LAN, it was covered by plastic cover; the incorrect RJ 45 connection will have the risk of circuit damage or irreparable damage to devices.

Customizing Settings

When the power has been connected, The ZGw063RY CO2 monitor will begin to work. In order to meet your personal requirements, it is advisable to set up the customizing parameters.

WarmUp: It lasts approximately 1min before WARM UP disappears; all MODE functions will not response during warm up.

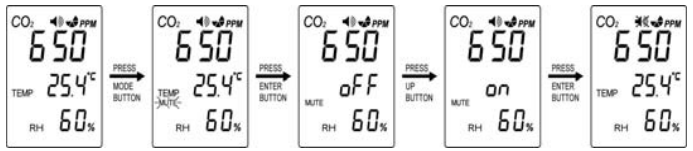
Temperature (ºC) and RH:



1. The LCD display with Temp and Humidity after power on.

Note: Temp ºC refers to Temperature in Celsius;

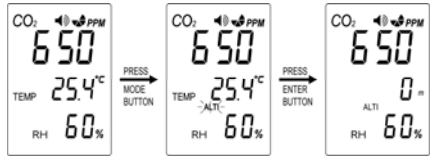
Using the MUTE function:



1. Press MODE, the MUTE icon flashes simultaneously.
2. Press ENTER, use up/down to select the on/off.
3. Press ENTER again to save the data.

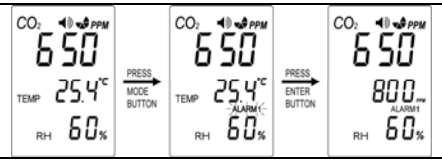
Note: The factory setting with alarm is buzzer off, user can set the alarm on/off according to MUTE function instruction.

Setting the ALTI mode:



1. Press MODE, the ALTI icon flashes.
2. Press ENTER, ALTI show on the display And press the mode button to alter the m(meter)
3. Adjust altitude (step=100m) by up/down button.
4. Press ENTER again to save the data.

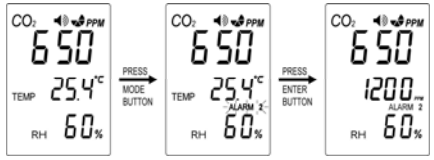
Setting the ALARM 1 level:



1. Press MODE, the ALARM 1 icon flashes.
2. Press ENTER. Using the Up/Down to set the parameter. the default alarm 1 is 400~2900 ppm
3. Press ENTER again to save the data.

Note: 1) When the CO2 Alarm level is ≧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.

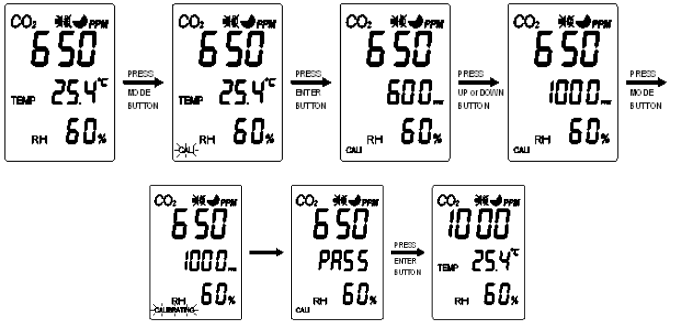
Setting the ALARM 2 level:



1. Press MODE, the ALARM 2 icon flashes.
2. Press ENTER. Using the Up/Down to set the parameter. the default alarm 2 is 500~3000 ppm
3. Press ENTER again to save the data.

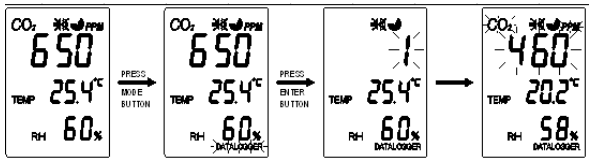
*Note: 1) When CO2 Alarm level is ≧1,000 ppm, the interval is ±100ppm, when the CO2 Alarm level is ＜1,000 ppm, the interval is ±50 ppm.
2) After setting with new alarm level parameter, the green LED will light when CO2 concentration below the alarm1 level. The red LED will light when CO2 concentration 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 CALI (calibration) Mode:



1. Press MODE, The CALI flashes.
2. Press ENTER, the CALI icon on the display. Adjust the lower display to the ambient CO2 reading by Up/Down button.
3. Press MODE for more than 10sec, CALIBRATION flashes. Calibration will be done automatically after 3 minute and the LCD will display “Pass” or “Fail.” If it shows “Fail,” please try again.

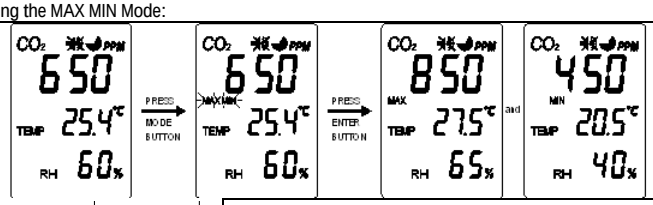
Setting the Datalogger Mode:

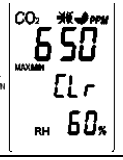


1. Press MODE, DATALOGGER icon flashes.
2. Press ENTER, the reading of CO2, RH and Temperature show on the LCD.
3. Press Up/Down to page up/down the reading. The numbers from 1 to 48 will display with CO2 reading alternatively. If the LCD display with number “1”, it indicates the first datalogger with CO2,RH and temperature reading,. The datalogger function can record 48 sets reading.

Remark: With the Built-in Datalogger,ZGw063RY can provide the past CO2,RH and temperature reading within the past 24 hours. The log interval is 30 minutes per data. ZGw063RY is connected with power and used for the first time, if the working time is more than 30 minutes, ZGw063RY will have CO2, RH and temperature reading in datalogger, if the working time is less than 30 minutes, the LCD will display “NULL” while using the datalogger function.

Using the MAX MIN Mode:

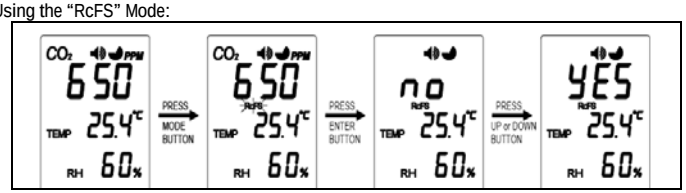




1. Press MODE, the MAX MIN flashes simultaneously.
2. Press ENTER, the reading of CO2, RH and Temperature show on the LCD alternatively.
3. Press Up/Down and the “CLR” will flash on the LCD. Press Enter to CLEAR the MAX and MIN record.

Note: With the Built-in MAX MIN mode, ZGw063RY can provide the Maximum and Minimum CO2, RH and temperature reading record after the device is powered on. If users press up/down to clear the MAX and MIN CO2 reading record, ZGw063RY will provide the new MAX and MIN CO2, RH and temperature reading from that time.

Using the “RcFS” Mode:



1. Press MODE, The RcFS flashes simultaneously.
2. Press ENTER, the icon “no” shows on the LCD, Press the Up/Down to select the no/yes.
3. After selecting, press ENTER to save the changes.

Note: If the users set the data or calibrate the sensor wrongly. You can use the RcFS (Recover the factory Setting) to come back to factory setting data, the datalogger will 48 sets of CO2,RH and temperature will be will be cleared.

Specification

Method – NDIR Sample Method -Diffusion or flow through (50 ~200 ml/min)

■ CO_2 Specifications:	
Measurement Range	0-3,000 ppm display
Display Resolution	1ppm at 0~1,000ppm; 5ppm at 1,001~2,000ppm; 10ppm at 2,001~3,000ppm
Accuracy	0~2,000ppm, ± 70 ppm or ±5% of reading whichever is greater; over 2000ppm: +/-7%
Repeatability	±20 ppm @400ppm
Temperature Dependence	Typ.±0.2% of reading per °C or ±2 ppm per °C, whichever is greater, referenced to 25°C
Pressure Dependence	0.13% of reading per mm Hg (Corrected via user input for altitude)
Response Time	About 2min for 90% of step change
Warm-Up Time	About 60 seconds at 22°C
Zone LED Display	Green:<800ppm Yellow:800~1200ppm Red: >1200ppm
Power Supply	6VDC AC adapter (no plug)
Relay Output	30VDC or 250VAC, max 2A ., SPST. Normal Open
Storage Temperature	-20°C to +60°C

■ Temperature specification:	
Temperature Range	Display 0°C to 50°C
Display Resolution	0.1°C
Display Options	°C
Accuracy Relay (no action and be under the alarm level)	±1°C when the fan blows to the device directly, the accuracy of temperature is +/- 1.5 °C
Accuracy Relay (action and exceeds the alarm level)	±2.5°C when the fan blows to the device directly, the accuracy of temperature is +/- 1.5 °C
Response Time	20-30 minutes (case must equalize with environment)
■ RH Specification:	
Measurement Range	20%-90% RH
Display Resolution	1%RH
Accuracy	±5%RH@23°C
Response Time	<5 min for 63% of step change
■ Operating Conditions:	
Operating Temperature	0°C to 50°C
Humidity Range	0 ~ 95% RH non-condensing

Calibration

Note: Before calibrating, you need to obtain standard gas or semi-standard gas, there are 3 ways to get standard gas.

■ Method A: use CO2 in office/building

-Use two meters (One is the device for calibration. The other one is a calibrated (new) one.
-Use ambient room gas for calibration in office, waiting at least 10min, until the CO2 reading doesn’t change (Notice: user must not breathe toward the ZGw063RY, CO2 from the user will affect the reading of ZGw063RY)
-Use the reading of the new device as the standard reading.
-Calibrate device by the Cali Mode instruction.

■ Method B: use CO2 outsides

-Use ambient room gas for calibration outside. Wait at least 10min, until the CO2 reading stabilizes. (Notice: user must not breathe toward the ZGw063RY, CO2 from the user will affect the reading of ZGw063RY)
-Use 380~420ppm as the standard reading.
-Calibrate the device by the Cali Mode instruction.

■ Method C: use standard CO2 in the bottle

-Pump the standard CO2 gas (0~1000ppm, flux = 0.1~0.2 liter/min) into the ZGw063RY from the Gas Entry Hole, waiting about 2~3min.
- Calibrate the device by the Cali Mode instruction.

ZyAura Monitoring the invisible
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