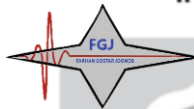




Model: GM8802

## Carbon Dioxide Meter Instruction Manual



Version : GM8802-EN-00

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### I. Introduction

The carbon dioxide tester applies to the continuous online detection and site sound-light alarm of carbon dioxide concentration in various industrial environments and special environment, which functions as early warning for operations safety on the dangerous site. Using the imported electrochemical sensor and microcontroller technologies, the instrument is featured by stable signal, high precision and good repeatability and other merits, and its explosion-proof connection mode applies to various dangerous sites. It can provide 24-hour continuous real-time monitoring of indoor carbon dioxide concentration, display date, detection time, temperature and humidity data on the detection site automatically. The instrument is compatible with various control alarms, PLC, DCS and other control systems, which can realize site alarm, remote monitoring and alarm function at the same time.

Product functions:

1. Supporting carbon dioxide gas detection
2. Environmental temperature and humidity measurement
3. Maximum value, minimum value and data hold
4. Date and time setting
5. Sound-light alarm setting
6. LCD backlight display
7. Temperature unit switch
8. Battery state and indicator of charge/discharge
9. Display of wrong code

### II. Safety Instructions

To know and understand relation between carbon dioxide concentration and human physiological reaction:

- ▶ 350-450ppm: the same as general outdoor environment
- ▶ 350-1000ppm: fresh air and; smooth breath
- ▶ 1000-2000ppm: turbid air; feel sleepy
- ▶ 2000-5000ppm: headache, sleepiness, dull, heartbeat accelerating and lightly nauseous and be unable to concentrate
- ▶ Over 5000ppm: severe hypoxia, permanent brain damage, coma and even death

### III. LCD display (as shown in Figure 1)

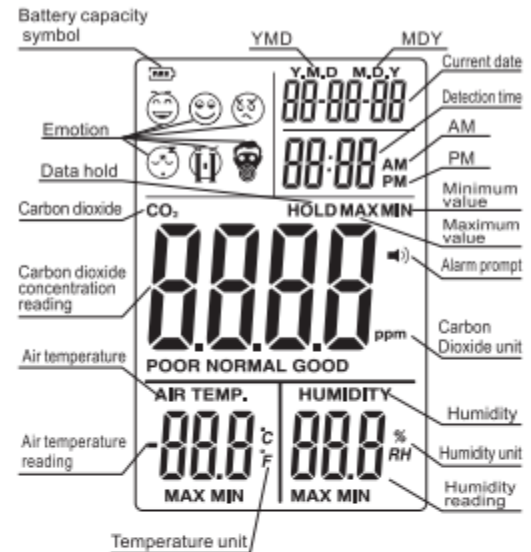


Figure 1

### IV. Operating Instructions

#### 1. Startup and shutdown

Press the power key to start it up and long press the power key to shut it down.

#### 2. Read carbon dioxide concentration

After starting up, the indicator '----' will appear in the middle of the screen until carbon dioxide sensor starts to signal, which takes about (90 ~ 120) seconds. The measured carbon dioxide concentration will be displayed by six emoticons on the LCD display:

- 😊 ≤ 450ppm
- 😊 > 450ppm, ≤ 900ppm
- 🙂 > 900ppm, ≤ 1200ppm
- 😐 > 1200ppm, ≤ 1800ppm
- 😓 > 1800ppm, ≤ 2500ppm
- 💡 > 2500ppm

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Note: The range of this unit is (0 ~ 9999) ppm. When the value exceeds maximum range, the indicator "OL." will appear.

There are also other four status indications besides the vivid and visual emoticons:

POOR: when it is  $\geq 1200$ ppm

NORMAL: when  $800\text{ppm} < \text{it} < 1200\text{ppm}$

GOOD: when  $100\text{ppm} < \text{it} < 800\text{ppm}$

FULL: when it is  $< 100\text{ppm}$

3. Data hold, maximum value and minimum value  
The screen will display HOLD marking when the data hold/maximum value/minimum value key is pressed, to lock carbon dioxide concentration, air temperature and humidity, etc. Press again the key, the screen will display MAX marking, which is the maximum value reading. Press it again, the screen will display MIN marking, which is the minimum value reading. Press it again, the screen will display the current value. When the data hold/maximum value/minimum value key is pressed, the instrument will repeatedly display locked current value, maximum value, minimum value and current value.
4. Time and date setting  
Long press clock key to enter clock mode, and hour will flicker; press + or - to increase or decrease the digit. Then press clock key, and minute will flicker. In this manner, repeatedly press the clock key to set in the sequence of H-M-Y-M-D-Y.M.D. When Y.M.D flickers, press + or - to switch between Y.M.D and M.D.Y., to select the required date display format of year-month-day or month-day-year. Long press clock key to exit clock mode after completing setting.
5. Sound-light alarm setting  
Long press alarm button, and the indicator  $\blacksquare$  stands for the starting up of alarm. If the displayed carbon dioxide concentration value exceeds 1200ppm, the buzzer beeps intermittently ( if the value exceeds 2500 ppm, the buzzer beeps urgently) and the red backlight will be on until the carbon dioxide concentration value is normal. Short press the alarm again to cancel the alarm. The default alarm is on.
6. Backlight  
When starting up, press backlight button, the backlight will be on. Press again and the backlight is turned off.
7. Temperature unit switch  
When temperature unit switch key is short pressed, the temperature unit will be switched between Celsius degree and Fahrenheit degree. Temperature

measurement range is  $0 \sim 50 \text{ }^{\circ}\text{C}$  ( $32 \sim 122 \text{ }^{\circ}\text{F}$ ), humidity range is  $0 \sim 99.9\%$ , and the default unit is  $^{\circ}\text{C}$ .

8. Battery state and indicator of charge/discharge  
Battery state is displayed when no external power is connected. If the instrument connected to an external power supply and placed three rechargeable batteries, the volume indicator within battery box will increase one grid by one grid. When reaching three grids, the indicator will return to 0 grid. The process is repeated until the battery is full. When the instrument is being charged without battery, the battery box flashes.
9. Wrong code  
Err1: Err1 is displayed in the middle of the screen, indicating that the communication of CO2 sensor has failed.  
Err2: Err2 is displayed at the bottom of the screen, indicating that the communication of temperature and humidity sensor has failed. When the above errors appear, please try to:  
(1) Restart  
(2) Check whether the power adapter is original. If the adapter is of no use, please contact after sales.

### V. Name of each component (as shown in Figure 2)

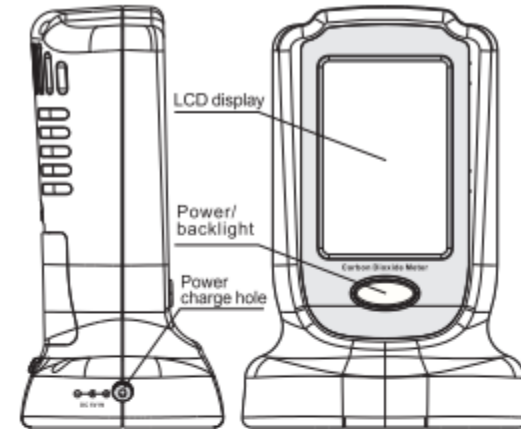
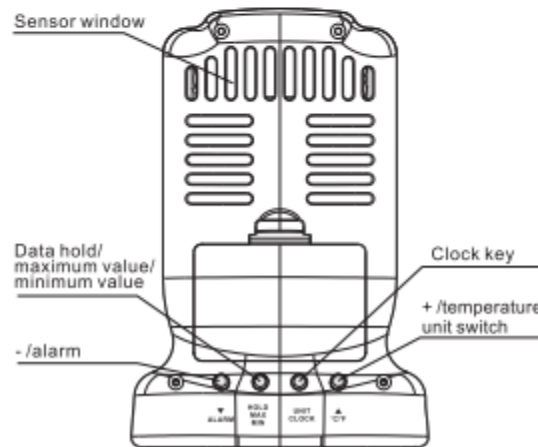


Figure 2

### VI. Technical parameters

Detected gas	Carbon dioxide (CO <sub>2</sub> ) in the Air		
Measuring range	0~9999ppm	Minimum reading	1ppm
Resolution ratio	1ppm	Accuracy	±(40ppm+3%)
Response time	<120s		
Sensor type	NDIR CO <sub>2</sub> gas sensor		
Working environment	0~50°C, 32~122°F; 10~85%RH		
Storage environment	0~50°C, 32~122°F; 10~85%RH		
Power supply	5V power adapter (no battery equipped)		
Dimension	91.5*64.8*135mm	Weight	156.5g

#### Specific Declarations:

Our company shall hold no any responsibility resulting from using output from this product as an direct or indirect evidence. We reserves the right to modify product design and specification without notice.

