O2/CO2/CO Detector
User Manual

Please read this manual before switching the unit on.
Important safety information inside.

Contact :

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1-Introduction

Thank you for purchasing this Gas Detector. This instrument is a Gas Detector that can detector carbon dioxide(CO_2),oxygen(O_2), carbon monoxide(CO).The device is equipped with an accurate sensor that can detect the temperature and humidity at current environment. When the detection result exceeds the alarm value, the device will alert the user. This device supports data logging, and users can view the recorded data at any time. The device will power off automatically in 30 minutes if no operation or with low battery.

2-Features

- Carbon dioxide(CO_2) measurement
- Oxygen(O_2) measurement
- Carbon monoxide(CO) measurement
- Air temperature and humidity
- MAX,MIN,AVG,HOLD display
- Temperature unit converter
- Auto power off
- Record data
- Query data
- Backlight
- Record time

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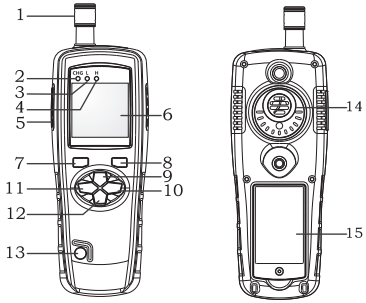
3-Specifications

Oxygen	
Oxygen Range	0～30%VOL
Oxygen Resolution	0.1%
Carbon dioxide	
Carbon dioxide Range	0～9999ppm
Carbon dioxide Resolution	1ppm
Carbon dioxide Accuracy	±5%±75ppm
Carbon monoxide	
Carbon monoxide Range	0～1000ppm
Carbon monoxide Resolution	1ppm
Carbon monoxide Accuracy	±5% F.S
Temperature and humidity	
Temperature Range	-20℃～50℃(-4～122℉)
Temperature Resolution	0.1℃
Temperature Accuracy	±1℃
Humidity Range	0～100%RH
Humidity Resolution	0.1%RH
Humidity Accuracy	±3.5%RH(20～80%RH)
	±5%RH(0～20%RH/80～100%RH)
Power	
Battery	2400mAh Lithium Battery
Charging	USB 5V
The others	
Display	Segment LCD
Data Log	500 group data
Auto Power Off	30 minutes
Working Temperature	0～50℃
Storage Temperature	-10～50℃

4-Front Panel and Button Description



1-Temperature and humidity sensor
2-Charging LED
3-Low-concentration Alarm LED
4-High-concentration Alarm LED
5-USB Charging Interface
6-Segment LCD
7-Set/Alarm Button
8-Memory/Record Button
9-▲ Button
10-HOLD/BACKLIGHT Button
11-MAX/MIN/AVG Button
12-▼ Button
13-Power Button
14-Gas Sensor
15-Back Cover

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5-Power On or Power Off

If the power off, press and hold ⏻ , until the LCD is on, then the unit will power on.

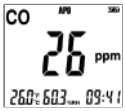
If the power on, press and hold ⏻ , until the LCD is off, then the unit will power off.

6-Measurement Mode

In order to ensure the accuracy, there are 20 seconds to prepare before start measure. After countdown, the device will enter measurement mode for CO_2, users can switch gas type by press ▲or ▼.

Carbon dioxide measurement mode

Oxygen measurement mode



Carbon monoxide measurement mode

7-Setting mode

7-1.Modification time:

Long press Set/Alarm button make device into setting mode. There are 6 options for setting. Followed by switching the temperature unit, setting year, month, day, hour, minute. The device will flash current setting contents. Users can press ▲ or ▼ to switch setting item. Long press Set/Alarm button in setting mode to save and exit.

7-2.Memory Data:

Press MEM/RECALL button, the device will record current data that contains CO_2, O_2, CO, temperature, humidity and time. The device will flash the MEM icon and beep once to remind users memory success.

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7-3.Record Data:

Users can long press MEM/RECALL button to view historical data and press ▲ or ▼ to switch stored data. In REC mode, there is REC icon on the bottom right corner; Long press again to exit REC mode.

REC mode

7-4.View Max/Min/Average Data

Press the "MAX/MIN/AVG" button and the device will display maximum data, minimum data, average data and measured data by turns.

7-5.Hold Data

In measurement mode, press the HOLD/BACKLIGHT button will hold current reading, and short press again can cancel hold mode.

7-6.Open or Close the Backlight

Long press the HOLD/BACKLIGHT button, the device will open the backlight. Long press this button again to close the backlight.

8-Help File

8-1.CO_2 introduction

Carbon dioxide is a colorless odorless gas at room temperature, human breathing is to rely on inhalation of oxygen, exhaled CO_2, CO_2 concentration is too high will directly affect the human breathing is smooth,even serious asphyxia hazards. In general, the concentration of CO_2 can be classified as follows:

Value	Status
0～800ppm	Fresh air, smooth breathing
801～1500pmm	Normal breathing, air slightly turbid
>1500ppm	Began to feel sleepy, feeling headache, drowsiness, dull, severe lead to hypoxia asphyxia

CO_2 concentration level.		
level	Concentration range of CO_2	Indicator LED state
Good	<800ppm	None
Normal	800~1500ppm	Yellow LED light
Poor	>1500ppm	Red LED light

8-2.O_2 introduction

In nature,oxygen is a gas with no color or smell. Oxygen is a very important element because we need it to live. Approximately 21% of the air is oxygen. In general,the concentration of O_2 can be classified as follows:

Oxygen concentration(%VOL)	Signs(At atmospheric pressure)
100%	Fatal/6 minutes (absolute closed environment, such as hyperbaric oxygen)
50%	Fatal/4 ~ 5 minutes after treatment can be cured (absolutely airtight environment, such as hyperbaric oxygen)
>23.5%	Oxygen enrichment
21%	Normal environment
19.5%	Minimum permissible oxygen concentration
15% ~19%	Reduce work efficiency and lead to problems in the head, lungs, and circulatory systems
10%~12%	Shortness of breath, loss of judgment, purple lips
8%~10%	The loss of intelligence, fainting, unconscious, pale, purple lips, nausea and vomiting
6%~8%	Fatal/8 minutes

O_2 concentration level.		
level	Concentration range of O_2	Indicator LED state
High Concentration	>23.5%	Red LED light
Normal	19.5%~23.5%	None
Low Concentration	<19.5%	Yellow LED light

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8-3.CO introduction

This detector can detect the concentration of CO in air, and can accurately test the 1-1000ppm concentration values, CO is a toxic gas, mainly comes from the old stove, gas heaters, fireplaces, fuel and exhaust device etc.

The harm of CO to human body can be expressed in the following form.

0-1ppm	Normal level
9ppm	Standard in living areas, according to The United States of America ASHRAE 62-1989
50ppm	Average level in an extended space over an 8-hour period, according to OSHA
100ppm	Still safe, though the highest level OSHA recognizes as being safe
200ppm	Unsafe, with symptoms of CO exposure including slight headache, fatigue, nausea, and dizziness
800ppm	Could be lethal, with death resulting in two to three hours after continued exposure to CO at this level. Other Symptoms include dizziness and extreme discomfort.
In any closed environment, according to the United States Department of Labor, Occupational Safety, and Health Regulations administration rules, CO concentrations must be maintained at less than 50ppm(0.005%). Environments with CO concentration greater than 100ppm cannot remain or be closed. This meter can help you quickly determine the CO concentration in your environment.	

CO concentration level.		
level	Concentration range of CO	Indicator LED state
Good	<10ppm	None
Normal	10～50ppm	Yellow LED light
Poor	>50ppm	Red LED light

9-Maintain

- Repair or service is not included in this manual, and products must be repaired by professionals.
- If the product have to be repaired, please use specified part.
- The information contained in this manual is subject to change without notice.

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