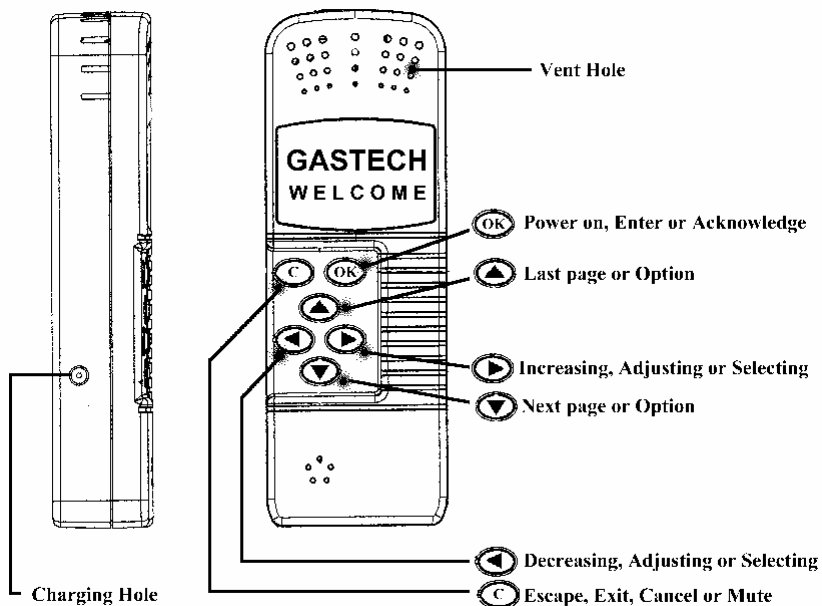


# Portable type of Carbon Dioxide Detector Model: GT220

## Specifications (Specification maybe changed without notice)

Model	GT220
Type	Portable
Sensor	Solid electrolyte
Target	Carbon dioxide
Sampling method	Diffusion
Measuring range	350 ~ 8,000ppm
Resolution/accuracy / sampling time	1 ppm / $\pm 5\%$ F.S. (350 ~ 5,000ppm) / continuity
Alarm level	High alarm reset able
Audible alarm / Alarm message	Available
Backlight alphanumeric LCD	Available
Standard language	English
System clock	Year, month, day, hour, minute
Battery management	Available
Dimensions	131mm x 46mm x 25.5mm
Weight	130g
Battery	Built-in 2000mAH Rechargeable lithium-ion battery
Standard accessory	Adaptor

### 1. Descriptions of the Gas Detector



*GASTECH is a professional manufacturer in various gas detectors, carbon monoxide detector, carbon dioxide detector, oxygen detector, odor detector, VOC detector, hydrogen sulfide detector and carbon monoxide detector. Welcome tour our website [www.gastech.com.tw](http://www.gastech.com.tw)*

# Portable type of Carbon Dioxide Detector

## Model: GT220

### 2. Power on display

After power on, the GT220 gas detector will display a series of messages, including welcome, model no. & lot no., carbon dioxide (ppm).

G A S T E C H  
W E L C O M E

WELCOME  
The detector has to turn on in fresh air or out door.

M O D E L ... A 0 1  
GT220

A01 mean Lot No.  
GT220 mean Model No.




Warning-up  
Wait...

It's warming up now, please wait. (Show it at power on only.)  
The warming time may take 3 to 10 minutes in fresh air. If the detector has been long-time idle, a new-bought detector or turn on it in high concentration of carbon dioxide place; the warming time will get longer.

C. Dioxide  
364 ppm

Show the concentration of carbon dioxide.  
The measuring range would be 350 ppm to 8,000 ppm. **It may shows >8,000 ppm while concentration of carbon dioxide is higher than above range.**


### 3. Operating and Settings

After power on, the display will show the concentration of carbon dioxide. For the other operating and settings, press the  key or the  key to select the functions. Press the  (EXIT) key will go back to the upper layer function or original display.

C. Dioxide  
364 ppm


In the display, press  key to enter next function.

Avg 2563 ppm  
RES { KEEP }

In the display, press  key will reset (RES) the average concentration of carbon dioxide, and detector will delay 1 minute, then detect new concentration of carbon dioxide within 1 to 5 minutes of sampling period (see note). After finish the detection, the detector will show the new concentration of carbon dioxide and keep this value until next operation.

**Due to operator's breath will affect detection, using this function and the operator leave while period detection that will get good measuring value.**

Note: Sampling time could be set in the function of "Avg Time".

In the display, press  key will skip next function.

Today  
2001/01/01

Show the date.  
In the display, press  key skip next function.

Time Now  
22:10

Show the time.  
In the display, press  key skip next function.

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# Portable type of Carbon Dioxide Detector

## Model: GT220

Power off

EXIT OK

Press the **OK** shut off the gas detector. Press the **C** (EXIT) key to go back to the concentration of carbon dioxide display. If user wants to turn on the gas detector again, keep pressing the **OK** key for five seconds.

In the display, press **▼** key skip next function.

Settings

EXIT OK

Press the **OK** key to enter next page. While user is in the backlight setup menu or the time & date setup menu, user can press the **C** (EXIT) key to quit from current menu and go back to the concentration of carbon dioxide display.

In the display, press **▼** key skip next function.

Backlight

[AUTO] ON

In order to provide the gas detector longer usable time, the default setup of LCD backlight is AUTO. Press the **◀** key to select ( AUTO ) (default). ( AUTO ) means user press any key or the gas detector alarms the LCD backlight will be turned on. Press the **▶** key to select ( ON ) means the LCD backlight will be turned on continuous and suitable detection in sewer, tunnel, gallery, or other places without sufficient light.

In the display, press **▼** key skip next function.

C. Dioxide

Cal. Zero?

EXIT OK

In the display, if press the **OK** key, the detector will execute calibration function.

The calibration will take 10 minutes in the period time; here the detectors will access the lowest detecting value to make a basis of 350 ppm of carbon dioxide. **In order to get good basis and to avoid the breath affect consequence, the operators have to leave and come back again after 10 minutes. It is necessary to provide a fresh air condition while the period time; if not, user has to prepare the standard air (CO<sub>2</sub>=350ppm, O<sub>2</sub>=21 vol.% and N<sub>2</sub>=79 vol.%).** After completing calibration, the display will back to the concentration of carbon dioxide.

In the display, press **▼** key skip next function, presses the **C** key, user will back to the settings.

Avg Time

- 5 min +

In the display, press the **▶**(+) key to increase or press the **◀**(-) key to decrease average time of sampling period.

Press **▼** key skip next function, presses the **C** key, user will back to the settings.

High Alarm

- 1000 ppm +

In the display, press the **▶**(+) key to increase the setup value of carbon dioxide alarm. Press the **◀**(-) key to decrease the setup value of carbon dioxide alarm.

Press **▼** key skip next function, presses the **C** key, user will back to the settings.

Test Alarm

EXIT OK

In the display, press the **OK** key testing the audible alarm ensure OK or not and acquaint the audible alarm.

Press **▼** key skip next function, presses the **C** key, user will back to the settings.

**Note :** The user may not hear the audible alarm in the high noise circumstance and do not move the gas detector near by ear while alarms with high decibel.

# Portable type of Carbon Dioxide Detector Model: GT220

2001/01/01  
YEAR - + OK

User set the (YEAR) in this mode. Press the (+) key to increase year and press the (-) key to decrease year. Then press the key to enter the setting of month (MON). If user presses the key, user will back to the settings.

2001/01/01  
MON - + OK

User set the month (MON) in this mode. Press the (+) key to increase month and press the (-) key to decrease month. Then press the key to enter the setting of day (DAY). If user presses the key, user will back to the settings.

2001/01/01  
DAY - + OK

User set the day (DAY) in this mode. Press the (+) key to increase day and press the (-) key to decrease day. Then press the key to enter the setting of hour (HOUR). If user presses the key, user will back to the settings menu.

22:10  
HOUR - + OK

User set the hour (HOUR) in this mode. Press the (+) key to increase hour and press the (-) key to decrease hour. Then press the key to enter the setting of minute (MIN). If user presses the key, user will back to the settings menu.

22:10  
MIN - + OK

User set the minute (MIN) in this mode. Press the (+) key to increase minute and press the (-) key to decrease minute. Then press the key to enter next mode. If user presses the key, user will back to the settings menu.

## 4. Read events

If the appears on LCD display meaning some new alarm messages have not been read yet. The GT220 has events record, including alarm messages, ON/OFF time, and Low Battery / Battery Full messages. The maximum capacity is 26 events (from Event00 to Event25). If recorded event exceeds 26, the old events will be overwritten by new events automatically, i.e., the old events will disappear.

Read Event  
EXIT OK

Press the key to read records.  
Press the (EXIT) key will go back to the auto-cycle display.  
Press the key or key to read each event records.

Event 00  
Battery Full  
08/27 10 : 10

Event 00 is the tag number of events.  
It's the Battery Full and the completed time of charging.

Event 01  
Detector On  
08/27 10 : 20

Event 01 is the tag number of events.  
Means detector turn on and its time.

# Portable type of Carbon Dioxide Detector Model: GT220

Event 02  
CO2 H 3360  
08/27 11 : 00

Event 02 is the tag number of events.  
Mean high alarm of carbon dioxide.  
The concentration of carbon dioxide is 3360 ppm and the occurred time.

Event 03  
CO2 H 2768  
08/27 11 : 15

Event 03 is the tag number of events.  
Mean high alarm of carbon dioxide.  
The concentration of carbon dioxide is 2768 ppm and the occurred time.  
**Remark: the alarm of same gas will be recorded every 15 minutes.**

Event 03  
Battery Low  
08/27 17 : 30

Event 03 is the tag number of events.  
Means low battery and occurred time.

Event 14  
Detector Off  
08/27 18 : 40

Event 14 is the tag number of events.  
Mean detector shut off and occurred time.

.

Event 25  
Detector On  
08/28 14 : 10

There are 26 event records which tag numbers are Event 00 to Event 25.  
The events behind the Event 25 will be overwritten into the Event 00 and the sequential address.

Event 00  
Detector Off  
08/28 20 : 10

**Mean the event record that has been overwritten. It can be judged by the occurred time of event.**

Event 01  
Detector On  
08/27 10 : 20

**Mean the event record that has not been overwritten. It can be judged by the occurred time of event.**

.

## 5. Alarm and warning message

### 5.1 Alarm message

The concentration of gas is higher than the high alarm, the GT220 gas detector not only has audible alarm but also provide clear alphanumeric alarm message for users.

High Alarm  
1059 ppm

The carbon dioxide high alarm and the concentration of carbon dioxide is 1059 ppm.  
If the concentration of carbon dioxide is over 8000 ppm will be indicated > 8000 ppm.

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## 5.2 Warning message

Battery Low

“Battery Low” reminds user to charge the battery as soon as possible.

Charging

“Charging” reminds user the battery is under charging.

Battery Full

“Battery Full” reminds user the battery is charged full.

## 6. Audible alarm and warning sound

There are total three types of sound in GT220 gas detector that includes sound of key, warning sound, and alarm sound. They will be illustrated as below :


### 6.1 Sound of key

The sound of key in GT220 gas detector is low beep.

### 6.2 Warning sound

In case of low battery, the GT220 gas detector will beep highly two times to remind user charging the battery as soon as possible.

### 6.3 Alarm sound

The alarm sound of GT220 gas detector is continuous high beep in 70 dB. Press the  key can mute the gas detector while it beeps. The gas detector will beep again after 30 seconds if the concentration of carbon dioxide or methane (swage-sludge gas, natural gas) is still higher than the setup alarm value. The gas detector will beep again after five minutes if the concentration of carbon dioxide is still higher / lower than the setup alarm value.

If user does not mute the gas detector, it will keep beeping until the conditions of low alarm, high alarm, or UL2034 alarm are relieved.

User should watch alarm message and take some necessary actions for security while the alarm occurs.

**Note:** After charged the battery full of GT220 gas detector for first time, please test the audible alarm first and acquaint the audible alarm. In the high noise circumstance the user may not hear the audible alarm. Please do not move the gas detector near by ear while alarms with high decibel.

## 7. Battery management

**Please charge the battery of GT220 gas detector for 14 hours prior to first-time usage.** GT220 gas detector is built-in 2000mAH rechargeable lithium-ion battery. The LCD of gas detector shows the status of battery. If the battery is low, the LCD will show “battery low” to remind user charging the battery as soon as possible. After the battery is charged full, the LCD will show “full battery” to remind user.

The gas detector will beep two times then display “low battery” to remind user.

The GT220 gas detector will beep two times then auto-off under extremely low battery. **If the gas detector is auto-off, it cannot be used for detection.**

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