



GD500
handheld multi gas detector

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Handheld Multi Gas Detector

Product Overview

GD500 series gas detector is kind of mini size and high accuracy portable multi gas detector. Easy to operate, comprehensive functions, can measure 4 common gas hazards: carbon monoxide, hydrogen sulphide, flammable gases and oxygen depletion, other multi gases are available for customization. The detector is with back clip, protected by silicone case, suitable for different kinds of situations.

Specialized in Gas Detection For 16 Years

Product Advantages

- Employ original imported high-precision sensor.
- Four random gas sensors can be combined freely.
- LCD dot matrix display, support Chinese and English operation.
- The gas concentration unit PPM and mg/m3 can be shifted quickly.
- The battery and voltage can be checked by one press. One press to restore factory settings.
- Ultra-high buzzer alarm sound, alarm with sound, light and vibration at the same time.
- Can record 100 sets alarm data, alarm record can be checked on the device.
- Data storage function, can record 100 thousand set data, historical data can be viewed on the device (optional function).
- Rechargeable lithium polymer battery of large capacity, which ensure the device to work continuously for a long time.
- Strong and upscale alligator clip, convenient to take along during operation.
- Special engineering plastics housing of high intensity, strong and durable, exquisite and comfortable in touching.



GD500 handheld multi gas detector

Application



▲ Petrochemical & Chemical Industry



▲ Municipal Engineering & Utilities



▲ Agricultural & Environmental Protection



▲ Electronic



▲ Food & Pharmaceutical Industry



▲ Other Industries

Accessories & Configuration List

- A charging adapter
- Color Box
- warranty card
- Instruction
- Qualification certificate



Technical Specification

GD500

Sampling method	Diffusion
Detected gas	CO H2S O2 EX, etc . According to customers' requirements.
Detection principle	Electrochemistry, infrared ray, catalytic combustion, PID photo ionization (according to the target gas and sensor).
Measure range	The range is optional, according to the target gas and the sensor.
Resolution	According to sensor and measure range
Precision	According to sensor.
Unit	ppm、mg/m3, %VOL (ppm、mg/m3 can be shifted by one click, the concentration value will be auto converted by the system)
Display	Monochrome dot matrix 128*128 LCD graphic display.
Backlight	Time of backlight is settable, when alarm the backlight will be auto on.
Data recording	Storage capacity of over one hundred thousand sets. Interval time ranges from 10~3600 seconds are settable. (Optional function)
Alarm recording	can record 10000 set alarm record, the record can be checked on the device. (Optional function)
Language	Chinese/English
Alarm type	sound, light, vibration.
Battery	3.7V rechargeable lithium battery, with capacity of 2300mAh.
Working Time	14h continuously (common 4 gases). 200h(without LEL sensor)
Charger	travel charger with USB. Charging time: 4~6h
Explosion-proof grade	Explosion-proof grade: Exia II CT3
Protection grade	Protection grade: IP65
Working temperature	Working temperature: -20℃ ~ 50℃
Working humidity	Working humidity: 0-90%RH (Non-condensing, a filter dryer is needed in environment of humidity more than 90%RH)
Housing Material	Housing Material: ABS+ leather case
Dimension	Dimension: 131*83*35mm (length*width*height)
Weight	Weight: 240g

Normal gas types and paramaters (Other gases are not listed can be customized)

Detected gas	Measure Range	Optional ranges	Resolution	Response time
Flammable gas (EX)	0-100%LEL	0-100%VOL	0.1%LEL/0.1%VOL	≤10S
Oxygen (O2)	0-30%VOL	0-25%VOL	0.01%VOL/0.1%VOL	≤10S
Carbon monoxide (CO)	0-1000ppm	0-2000ppm	0.1ppm/1ppm	≤10S
Hydrogen sulfide (H2S)	0-100ppm	0-1000ppm	0.01ppm/0.1ppm	≤10S
Ammonia (NH3)	0-100ppm	0-200ppm	0.01ppm/0.1ppm	≤10S
Chlorine (CL2)	0-10ppm	0-100ppm	0.01ppm/0.1ppm	≤10S
Hydrogen Chloride (HCL)	0-20ppm	0-100ppm	0.01ppm/0.1ppm	≤10S
Nitric oxide (NO)	0-100ppm	0-250ppm	0.01ppm/0.1ppm	≤10S
Nitrogen dioxide (NO2)	0-20ppm	0-100ppm	0.01ppm/0.1ppm	≤10S
formaldehyde (CH2O)	0-10ppm	0-50ppm	0.01ppm/0.1ppm	≤10S
Ozone (O3)	0-10ppm	0-100ppm	0.01ppm/0.1ppm	≤10S
Carbon dioxide (CO2)	0-2000ppm	0-100%VOL	1ppm/0.01%VOL	≤10S

Project Cases



◀ GD500
Used in Large oil refinery and metallurgical plant, etc

▼ GD500
Applied in wastewater treatment, sewers, etc



▶ GD500
Used in laboratory, hospitals, pharmaceutical factory, etc

▼ GD500
Applied in dockyards, workshops, etc






More Application

- Furniture, Floor, Wallpaper, Coating, Gardening, Interior Decoration and Renovation, Dyestuff, Papermaking, Pharmacy, Health Care, Foodstuff, Antiseptic.
- Disinfection, Chemical Fertilizer, Resin, Adhesive, Pesticide, Raw Material, Sample, Technological Process, Livestock Farm, Refuse Processing Plant, Perm Place.
- Bio-pharmaceutical Plant, Green Household, Livestock Breeding, Green House Cultivating, Warehouse Logistics, Brewing And Fermentation, Agricultural Production.

User Manual - GD500

Thanks for purchasing our product. Please read the user manual carefully before using.

Keys Operation:

	ON/OFF: long press for 3s to turn on/off the device. In detection mode, short press to check battery power, and press again to go back to detection mode. In parameter setting mode, short press to confirm or save settings.
	UP: in detection mode, long press the UP button to enter into menu, and in parameter setting mode, short press this button to move to upper item.
	DOWN: in detection mode, long press to shift the gas concentration unit quickly, but it is restricted to PPM and mg/m3. In parameter setting mode, short press it to go back to move to next item.

(Note: The long press function only work in detection interface. When you change or reset any data, please remember to click “ON/OFF” button to confirm and save the settings)

Power On

Press the “ON/OFF” for three seconds, the detector will be turned on. The screen displays the following interface successively: Brand and Logo, main parameter interface, initialing countdown. The countdown would be 30~60 seconds, which is to make sure that the sensors are fully activated. After 30 seconds, the device enter normal detection mode.

Zero Calibration

Zero calibration must be done in clean air. Zero calibration is needed when there is zero shift happens.

Put the detector in clean air for 3-5 minutes, under the detection mode, press the “UP” and “DOWN” buttons at the same time for three seconds, the data of all channels will reset to zero automatically.

Note: Zero calibration of oxygen detector, nitrogen detector and carbon dioxide detector (target gases are component of the air), the data will be defaults to 20.9%VOL (O2), 79.1%VOL (N2), 400ppm (CO2). Do not do the zero calibration in not clean air or when there is no zero shift happens.

Process of Over-range incorrect operation

Users should avoid using gases which exceed the measure range to impact the sensor, because it will affect the lifespan and sensitivity of the sensor, even, "poison" the sensor. If there is any over-range incorrect operation makes the detector displaying an concentration at a large reading, the remedy is to take the device out of the environment immediately and put it in clean air for over half an hour, and then observe the reading, if it keeps going down, then wait until the reading back to zero before powering it off, and do the zero point calibration next time before using it. If the reading maintained at full scale, user should send the device back to manufacturer or agent for repair or replacing the sensor.



Note

*If detector is used for the gas cylinder detection, considering the high pressure in the cylinder, please use a pressure regulator, and keep it as the below data:

Flow rate: 800mL~1L/minute

Pressure: 0.1MPa or 1Bar

* Working temperature: -20~50 degree C

* Working humidity: 0-95%RH, no condensing

* Please put the detector in clean air for about 5 minutes and waiting for the data falling down to normal before turning it off after measurement.

Operation Interface

When the detector is turned on completely, the device will enter the detecting mode. The detected gases will be showed on the screen (for example: O₂, CO, H₂S, EX). Time and battery power will be showed at the top right. If measured 4 gases, the time and battery power information can be checked by short press the ON/OFF button.

Alarm Status

When the detected gas concentration is higher than the low alarm value, the low alarm is auto on, the relative gas value will be highlighted, and the alarm sound will be on, blue light will be flickered.

When the detected gas concentration is high than the high alarm value, the high alarm is auto on, the relative gas value will be highlighted, and the alarm sound will be on, red light will be flickered.

When there is low alarm and high alarm at the same time, both relative gas values will be highlighted, and high alarm will take the priority.

Low Battery Alarm

When the battery is low, there will be sound, light low battery alarm. There will be sound and light every 5 seconds to remind the user to charge the device in time. When the battery is used up, the device will be turned off automatically.

Alarm Setting

In detection model, long press “UP” button to enter the menu, choose the “Alarm point”, and start to set the alarm value.

There are four options under the alarm setting mode. The first option is the “channel”, there will be 4 channels for 4 in 1 multi gas detector.

Channel choose: press “ON/OFF” button, the cursor will be at the channel number, then press the “UP” and “DOWN” button to choose the channel, press the “ON/OFF” button to confirm.

Alarm setting: The second option is the low alarm value, and the third option is the high alarm value. Choose the option that you want to change, then press “ON/OFF” to confirm, then press the “UP” and “DOWN” to increase or decrease the value, press the “ON/OFF” to move cursor. After the setting is done, press “ON/OFF” button to save the settings.

Settings

In detection model, long press “UP” button to enter the menu, choose the “INST Setup”, and start to set the detector.

There are three options: Language, gray level, LCD backlight.

Language: Chinese and English are available.

Calibration

Note: Calibration needs to be done by professionals and with necessary accessories and standard gas. Password is needed. (If you need password, please contact the manufacturer to get it)

In detection mode, long press the “UP” button, choose the CALIBRATION. There are five options in the calibration interface:

1. Channel option: you need to choose the right channel/gas type before calibration, there will be 4 channels for the 4 gases multi gas detector.
2. Zero calibration option: put the detector in clean air for 3-5 min, then press ”ON/OFF” button, wait for the value become stable, press ”ON/OFF” again, the zero calibration is finished. You can also do the zero calibration in the detection mode, press the “UP” and “DOWN” buttons for three seconds, the data of all channels will reset to zero automatically.

3. Target point calibration:

Prepare the standard gas before starting the target point calibration. Choose standard gas, press ON/OFF button to enter.

There will show “please input standard gas” at the top of the LCD, and at the bottom there are “gas type”, calibrate value, “VA” (current concentration), “AD”, and “ESC or SET”. Change the target concentration to the standard gas concentration by press “UP” and “DOWN”, after the value is stable, press the “ON/OFF”, to finish the calibration.

The detailed process is as below:

1. Connect the detector with standard gas cylinder by tube.
2. Enter the standard gas calibration interface.
3. Change the target point value to the standard gas value.
4. Release the standard gas to the detector in a flow rate of 400mL/min. The value of “current concentration” will become larger gradually, and become stable after about 30 seconds.
5. When the value of VA and AD is stable, the value of “current concentration” will be same with or almost same with the “target point value”. Press the “UP/DOWN” button to change the “SET” to “CONFIRM”, and press the “ON/OFF” button, the calibration is finished.
6. Cut off the standard gas supply.

