麦芽传感科技
Maiya Sensor Technology

MY 400
Voice Type Multifunctional Gas Detector

Product Manual



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Thank you for using our products, please be sure to read this manual first when you are ready to use this product, read this manual and follow the instructions provided so that you can be able to fully enjoy the products and services provided by our company while avoiding unnecessary behavioral damage or other accidents.

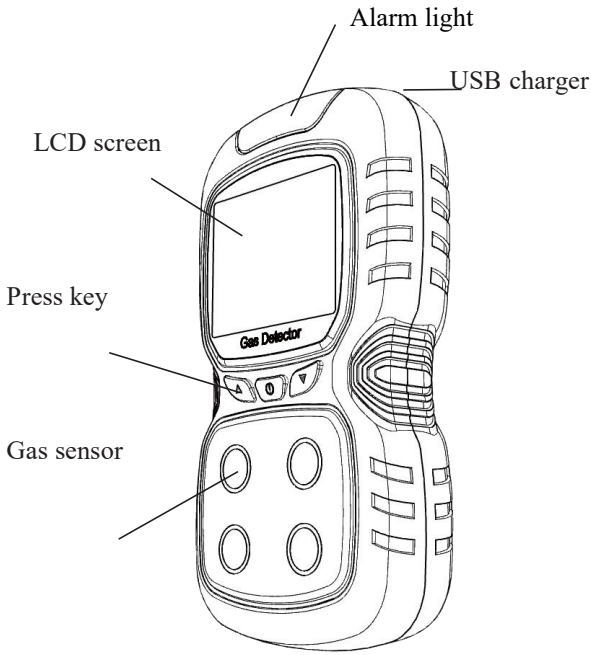
I. Product introduction

portable voice type multi gas detector is a safety device that can continuously detect the concentration of leaking gas. It adopts advanced integrated circuit technology, embedded computer control, high-quality imported gas sensors, with excellent sensitivity and repeatability. It uses dot matrix LCD display to support Chinese-English interface and Chinese-English voice prompt, so that users can quickly understand the product and use and maintain it simply. High-strength engineering plastics, good seismic resistance, high strength, high-grade atmospheric appearance and dust-proof, waterproof and explosion-proof function, etc.

The detector is widely used in petroleum, chemical industry, environmental protection, metallurgy, refining, gas, biochemical medicine, agriculture, fire protection, Archaeology and other industries and places that need safety monitoring for toxicity and harmfulness, explosion prevention. The detector can effectively predict the concentration of dangerous gases and alarm, so as to ensure the safety of workers and production equipment.

II. Structure introduction

2.1 Structure



2.2 Working principle

Electrochemical and catalytic combustion

III. Technical parameter

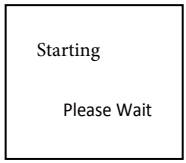
Gas type	Range	Low alarm	High	Resolutio
EX	(0-100)%LEL	20%LEL	50%LEL	1%LEL
H2S	(0-100)ppm	10ppm	35ppm	1ppm
CO	(0-1000)ppm	50ppm	150ppm	1ppm
O2	(0-30)%vol	19.5%vol	23.5%vol	0.1%vol
Other gas type please contact us.				
Precision：	≤ ±5%FS			
Response time	T<30s			
Display：	LCD display real-time data and station of system			
Alarm:	Audible-visual-vibration alarm withvoice alarm			
Work	-20℃ -50℃ ; <95%RH non-condensing			
Power supply：	DC3.7V（Rechargeable lithium battery1800mAh）			
Explosion-Proof grade：	ExibIIBT3Gb			
Battery charge time：	4h-6h			
Working time：	Over 10 hours			
Sensor life:	2 years			
Protection grad	Ip65			
Dimensions：	140mm x73mm x32mm			
Weight：	300g			

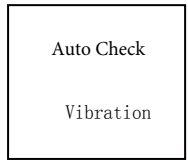
IV. Function and operation

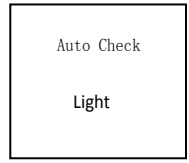
4.1 Turn on, Turn off, Charging

4.1a Turn on

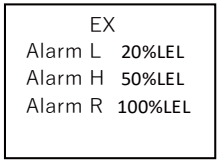
When the detector is off, press and hold the middle power button for about 3 seconds, release the button when the LCD screen displays the software version interface, and the indicator light flashes twice, at this time, the LCD screen displays the boot welcome page, and you can hear the voice prompt "Welcome to use multi-function voice gas detector"

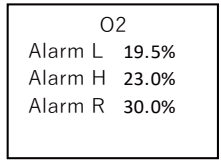


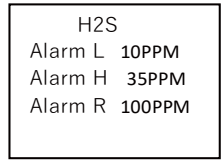


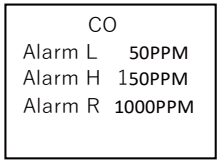


Keep the air around the detector clean on the page waiting to be turned on. During the startup process, the detector will perform vibration and light self-test, please pay attention to observe whether it is normal. The above status is normal, indicating that the sound, display, light, and vibration self-test pass

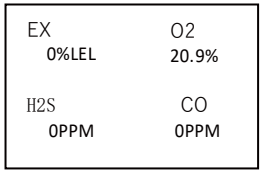


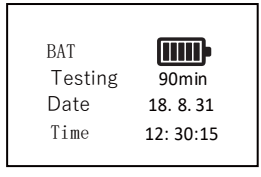






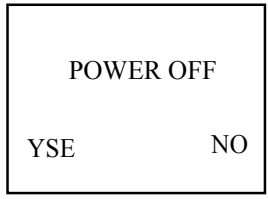
After the boot is completed, the normal gas main surface can be displayed, and the real-time gas concentration can be seen. Press the left button to view the system status information.





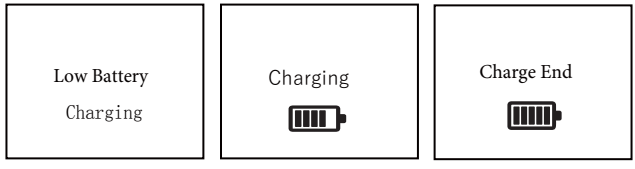
4.1b Turn off

Keep the air around the detector clean on the page waiting to be turned on. During the startup process, the detector will perform vibration and light self-test, please pay attention to observe whether it is normal. The above status is normal, indicating that the sound, display, light, and vibration self-test pass



4.1c Charging

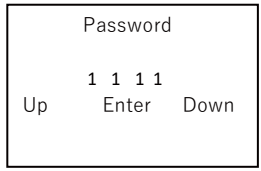
The USB charging cable is plugged in when the detector is in shutdown mode, the current power will be displayed on the screen, when there is only one grid left, the LCD will pop up a low battery page every 60 seconds, and there has a voice indicating“Low battery, please charge”.
When the battery is less than 1 grid, the detector will automatically shut down to prevent data loss inside the detector and unpredictable damage caused by insufficient voltage on the internal sensitive components of the instrument.



4.2 Funtion setting

The menu of detector contain as follow: Alarm Record, Set Low Alarm, Set High Alarm, Zero Adjust, Calibrate Gas, Set Time, Set Backlight, Set Password, Channel Info, Set Language, Exit.

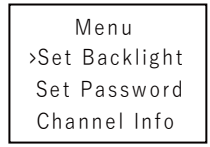
At the detecting interface, press Right key, then input the password, default password is 1111

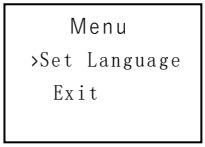


Then you will get the menu.



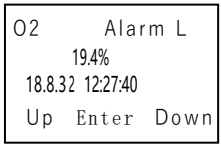


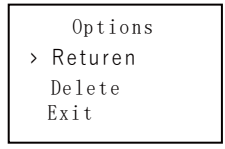




4.3 Alarm Record

Under the menu list choose the Alarm Record, press power key then you can find the alarm record data; View the data by press Up or Down key; Press the power key, switch to the option page, clear all records by selecting "delete", or select "return": return to the record query page; "exit": return to the main menu.

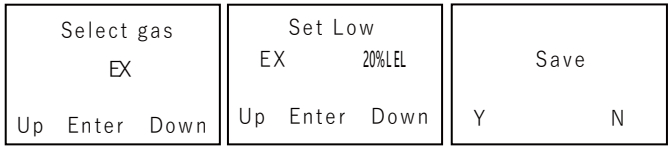




4.4 Set Low Alarm

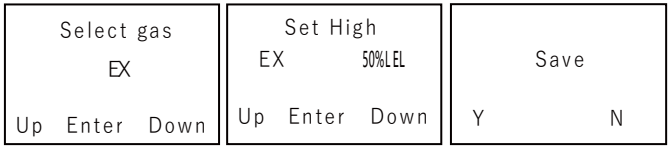
Under the menu list choose the Set L Alarm, press power key then you can enter the setting interface;you can select the channels of combustible gas, oxygen, hydrogen sulfide and carbon monoxide by up and down keys; after selecting the channels you need to set, press the power key to enter the page of setting low alarm concentration; The alarm

concentration can be adjusted according to the Up and Down, and after the Yes key is pressed, the alarm is saved.



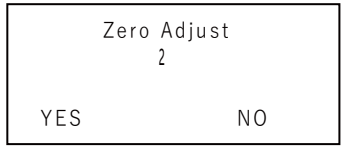
4.5. Set High Alarm

Under the menu list choose the Set H Alarm, press power key then you can enter the setting interface;you can select the channels of combustible gas, oxygen, hydrogen sulfide and carbon monoxide by up and down keys; after selecting the channels you need to set, press the power key to enter the page of setting high alarm concentration; The alarm concentration can be adjusted according to the Up and Down, and after the power key is pressed, the alarm is saved.



4.6. Zero Adjust

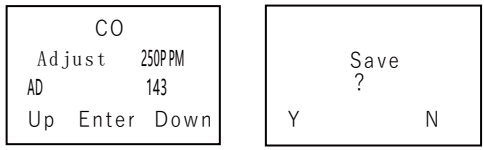
Under the menu list choose the Zero Adjust, press power key then you can enter the setting interface;you can select the channels of combustible gas, oxygen, hydrogen sulfide and carbon monoxide by up and down keys; after selecting the channels you need to set, press the power key to enter the page of zero adjust interface. The data is your gas concentration, after the Yes key is pressed, the alarm is saved.



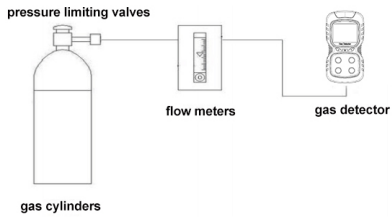
Warning：You must do this in the clean air（The O2 must adjust in the N2 gas environment）,ensure there is no detected gas in the air. Or thedetect value will be wrong！

4.7. Cali Gas

Prepare gas cylinders, pressure limiting valves, flow meters, gas pipes, and calibration hoods before calibration.
When the arrow in menu selection bar points to the calibration setting, press the middle confirmation key to switch to the interface for selecting the calibration setting channel; you can select the combustible gas, oxygen, hydrogen sulfide, and carbon monoxide channels by the "▲" and "▼" keys; After choosing the setting channel, press the OK key to enter the calibration setting page;
Open the pressure limiting valve of the cylinder with the standard concentration, and adjust the flow to 200-400ml/min. connected to our gas detector through a gas pipe and a calibration gas hood. observe the AD value displayed on the instrument, at this time, the AD value should be rising, wait for about 1 minute for the AD value to rise to the peak value and be stable and not floating. Use "▲" and "▼" to adjust the concentration value of the calibration gas. For example, the carbon monoxide concentration of the gas cylinder is 250 ppm, you need to adjust the concentration value displayed on the instrument to 250 ppm. Click OK to save. Calibration successful



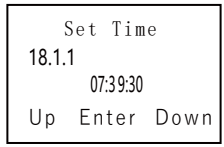
Warning: Non professional personnel are strictly prohibited from carrying out this operation, otherwise all consequences will be borne by themselves. The tester has been calibrated uniformly when it is out of the factory. If the user wants to re-calibrate, please follow the steps strictly, first set the zero point, then re-calibrate the settings. If the user fails to operate this setting, please contact the manufacturer back in time for calibration.



Calibration diagram

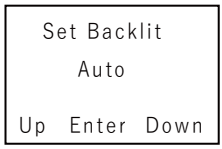
4.8. Set Time

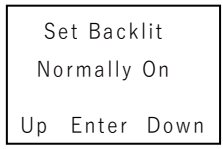
Under the menu list choose the Set Time, press power key then you can enter the setting interface;Modify the date by press Up or Down key. After modified press the save is ok.

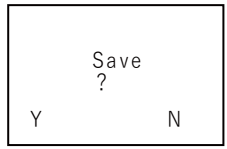


4.9. Set Backlight

Under the menu list choose the Set Backlight, press power key then you can enter the setting interface;Modify the type by press Up or Down key. After modified press the save is ok. Auto: the light will keep for 30 second; Normally on: the light will always be working.



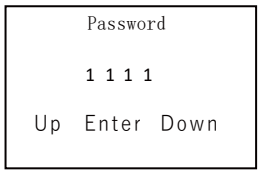


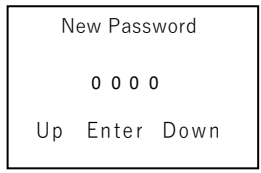


4.10. Set Password

Under the menu list choose the Set Password, press power key then you can enter the setting interface; Before modify the password, you need to validate the password first, then you can change it.

The default password is 1111



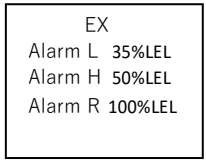


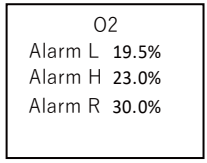
Attention: please save the password properly. Once lost, it can only be returned to the manufacturer to resume the factory settings.

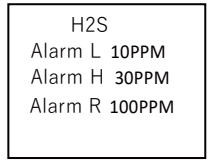
4.11. Channel Info

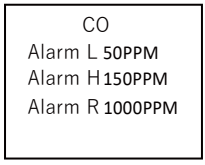
Under the menu list choose the Channel info, press power key then you can enter the info interface; By pressing the Up or

Down to choose the gas type, will display the gas name, low alarm, high alarm, detecting range.



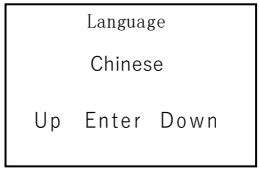


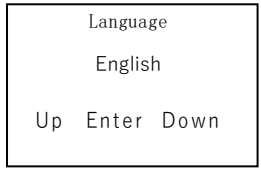




4.12. Language

Under the menu list choose the Set Language, press power key then you can enter the setting interface;





V. Use

5.1. When the detector is turned on, the LCD screen is in the standby state of displaying four concentrations of EX gas, O2, H2S and CO in real time.

5.2 EX alrm

When the concentration of EX gas is detected to be higher than the low alarm value set by the system, the detector will broadcast the voice "Please note that the concentration of EX gas exceeds the standard" and continue to simulate the alarm

sound; the alarm lamp above the detector and the internal vibration motor will be turned on simultaneously; When the alarm value is low, the voice, light and vibration alarm states disappear.

5.3 O2 alarm

When the concentration of O2 is detected to be lower than the low alarm value set by the system, the detector will broadcast the alarm signal "Please note that the concentration of oxygen is too low", which is higher than the high alarm threshold set by the system. The detector will broadcast the alarm signal "Please note that the concentration of oxygen exceeds the standard" and always simulate the alarm sound; the alarm light on the detector will voice the alarm signal. When the concentration of O2 gas is monitored by the detector and restored to the normal value, the alarm state of voice, light and vibration disappears.

Note: O2 concentration in normal air is 20.9%. Users can adjust the value of low and high alarm according to actual needs.

5.4 H2S alarm

When the concentration of H2S gas is detected to be higher than the low alarm value set by the system, the detector will broadcast the voice "Please note that the concentration of H2S gas exceeds the standard" and continue to simulate the alarm sound; the alarm lamp above the detector and the internal vibration motor will be turned on simultaneously; When the alarm value is low, the voice, light and vibration alarm states disappear.

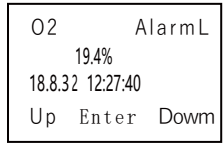
5.5 CO alarm

When the concentration of CO gas is detected to be higher than the low alarm value set by the system, the detector will broadcast the voice "Please note that the concentration of CO gas exceeds the standard" and continue to simulate the alarm sound; the alarm lamp above the detector and the internal vibration motor will be turned on simultaneously; When the alarm value is low, the voice, light and vibration alarm states disappear.

5.6 Alarm data storage

After the detector triggers the alarm, when the detection alarm gas restores to the normal threshold set, the detector will save the current alarm information to the internal storage of the detector,

and according to the user set low concentration alarm threshold, high concentration alarm threshold can be divided into low and high alarm. The user can search through the alarm in the menu.



Note：The alarm voice support Chinese or English, as same as the language you choose.

Warning：
1. The detector only alarm when it is detecting;
2. Do not charging detectors at the gas monitoring site to avoid fire or explosion caused by sparks during the plugging process.
3. Try not to charge the detector on startup, so as not to affect charging speed.。
4 The detector has the function of intelligent tracking zero point. Please turn on under the condition of clean air.。

VI. Notes

1、Prevent the detector from falling down or being subjected to severe vibration.。
2、In the presence of high concentration gas, the detector may not be used normally.。
3、Please strictly operate and use according to the instruction manual, otherwise it may cause the test result to be inaccurate or damage the detector.。
4、This product should not be stored or used in environments containing corrosive substances (such as chlorine of relatively high concentration) or in other harsh environments, including too high or too low temperature, high humidity, electromagnetic field and strong sunlight exposure。
5、If there is dirt on the surface of the instrument after long-term use, please gently wipe it with clean soft cloth dipped in water. Do not use corrosive solvents and hard materials to wipe the

surface of the machine. Otherwise, it may lead to scratches or damage on the surface of the instrument.

6、In order to ensure the accuracy of detection, the detector should be calibrated regularly, and the verification period should not exceed 1 years.。

7、Please unload the lithium batteries and sensors of the discarded portable gas detector and send them to the designated location or return to our company. Do not throw them into the garbage can at will。

8、Any failure or failure to be described in this manual should be contacted with our company for settlement.。

9、In the explosive gas environment, the battery pack can not be dismantled or replaced, nor can the battery pack be charged. In explosive gas environment, peripheral plug-in devices without explosion-proof certification can not be used, nor can sensors be replaced.

10. This product has obtained explosion-proof certification. Users are not allowed to change or change the components or structures affecting explosion-proof performance without permission.。

VII. Common faults and Solutions

Fault	Failure cause	Operation
Can not turn on	Low battery	Please get charging
	Detector's down	Please contact the factory
	Circuit fault	Please contact the factory
No detect value	Circuit fault	Please contact the factory
Detecting not true	Sensor over life	Please contact the factory to change
	Long time no cali	Get to calibration
Time display wrong	Battery power is exhausted	Please get charging and re-setting time
	Strong electromagnetic	Re-setting time

Set zero fault	The sensor zero drift too high	Calibrate it or change sensor
After detection the value not back to 0（except O2）	Zero drift	Zero calibrate
Detector display whole range	Sensor bad	Change new sensor

VIII. Storage

The detector should be stored in the ventilation room with ambient temperature -10 to 55℃ and humidity <85%. Avoid direct sunlight, and air can not contain harmful gases or impurities that are corrosive to the detector.

IX. Package

Packing box	1
Portable gas detector	1
Charger	1
USB line	1
Manual	1
mask	1

X、Appendix - Sensor Selection Table

Gas to be measured	Measuring range	Optional range	Resolution	Alarm point
EX	0-100%lel	0-100%vol	1%lel/1%vol	Low：20 High：50 %vol
O2	0-30%vol	0-30%vol	0.1%vol	Low：19.5% High：23.5%vol
H2S	0-100ppm	0-50/200/1000ppm	0.1ppm	Low：10 High：35ppm
CO	0-1000ppm	0-500/2000/5000 ppm	1ppm	Low：50 High：150ppm
CO2	0-5000ppm	0-1%/5%/10%vol	1ppm/0.1%vol	Low：1 000 High：2000ppm
NO	0-250ppm	0-500/1000ppm	1ppm	Low：50 High：150ppm
NO2	0-20ppm	0-50/1000ppm	0.1ppm	Low：5 High：10ppm
SO2	0-20ppm	0-50/1000ppm	0.1/1ppm	Low：5 High：10ppm
CL2	0-20ppm	0-100/1000ppm	0.1ppm	Low：5 High：10ppm
H2	0-1000ppm	0-5000ppm	1ppm	Low：50 High：150ppm
NH3	0-100ppm	0-50/500/1000ppm	0.1/1ppm	Low：20 High：50ppm
PH3	0-20ppm	0-20/1000ppm	0.1ppm	Low：5 High：10ppm
HCl	0-20ppm	0-20/500/1000ppm	0.001/0.1ppm	Low：5 High：10ppm
CLO2	0-50ppm	0-10/100ppm	0.1ppm	Low：5 High：10ppm
HCN	0-50ppm	0-100ppm	0.1/0.01ppm	Low：10 High：20ppm
C2H4O	0-100ppm	0-100ppm	1/0.1ppm	Low：20 High：50ppm
O3	0-10ppm	0-20/100ppm	0.1ppm	Low：2 High：5 ppm
CH2O	0-20ppm	0-50/100ppm	1/0.1ppm	Low：5 High：10ppn
HF	0-100ppm	0-1/10/50/100ppm	0.01/0.1ppm	Low：2 High：5 ppm
C7H8/C8H10	0-20ppm	0-1/10/50/100ppm	0.01/0.1ppm	Low：5 High：10 ppm

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