

Portable gas detection alarm operating instruction

G50



Thank you for using the series of products of our company. When you are ready to use this product, please read this manual carefully and follow the relevant operation steps provided so that you can fully enjoy the services provided by our company and avoid your misoperation which may damage this machine or cause other accidents.

Please keep this manual properly so that you can refer to it and get help when you need it in the future.

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If the user installs or repairs or replaces parts without following the instructions in this manual, the user shall be responsible for any resulting liabilities.

The product and the color and style of the product are subject to the actual purchase.

User service guide

1. Before using this product, please check the accessories, product certificate of conformity and user warranty card carefully according to the list of products. If you find that they are not complete, please contact the seller or manufacturer immediately.

2. The warranty period of this product is one year from the date of sale. If the quality of the product is lower than the technical specifications due to the user's compliance with the storage, transportation and use requirements, the free maintenance can be enjoyed with the warranty card.

3. If the damage is caused by violating the operation regulations and requirements, the failure caused by not being repaired by our company's designated special technical service department or the product quality problems caused by force majeure factors, our company will charge for the repair.

4. When the product is repaired, please show the product warranty card actively. If you cannot show the product warranty card, it will be charged for repair.

5. After product maintenance and repair, please show this manual. The maintenance personnel will fill in the attached "Maintenance and Repair Record" and sign it; at the same time, please also sign the "Maintenance and Repair Record" of the maintenance personnel to confirm the maintenance and repair content and put forward valuable opinions. If you are a unit user, please affix your official seal.

6. If you have any questions or dissatisfaction with the products and services provided by us, including product technology, quality, installation and maintenance, service attitude, charging standards and other issues, please contact us in time, we will properly handle your opinions.

Use instructions

Before using the detector, please read the following precautions:

- Do not use a damaged gas detector. Before using the detector, check for cracks or missing parts on the housing. If the detector is damaged or missing parts, contact our company or dealer immediately. Replacing components yourself may damage the internal safety of the detector.
- Gas detectors should not be exposed to electric shocks or severe continuous mechanical vibration environments.
- Waste batteries and sensors should be disposed of by qualified recyclers or hazardous waste handlers. Do not throw them into the trash can at will.
- Do not disassemble the battery or put it in fire, and avoid short circuit of positive and negative terminals of the battery, otherwise it will cause fire or explosion.
- Do not disassemble, adjust or repair the detector without permission.
- It is strictly prohibited to open the cover of the instrument while it is energized at the operation site! It is strictly prohibited to charge, disassemble or replace the battery in dangerous places!
- Do not splash water, chemical solvents, benzene or gasoline on the detector, and avoid inhaling these substances into the detector, otherwise it may cause the detector to malfunction.
- Prevent the machine from falling from a height or being subjected to violent vibration.
- In order to ensure the measurement accuracy of the detector, it is necessary to calibrate the detector regularly (not more than 1 year).
- Avoid frequent impact of high concentration toxic gas on the detector.
- Do not continue to use the sensor when it has failed or exceeded its service life.
- Before using this instrument, please read the instruction manual carefully and operate it strictly according to the instructions.
- Any application or use of the fault other than that described in this manual should be contacted with the dealer or manufacturer for solution.

The appearance and color of the products in the product album are for reference only. The supply is subject to the actual goods. Our company reserves the right to modify the technical parameters of the related products in this album without prior notice. If you have any questions, please call our service hotline.

catalogue

1. OVERVIEW	1
1.1 NORMATIVE REFERENCE DOCUMENTS	1
1.2 PRODUCT TERMS	1
2. MAIN TECHNICAL INDICATORS	2
3. PRODUCT FUNCTIONS	3
4. PRODUCT OPERATION FUNCTION DESCRIPTION	3
4.1 OVERALL APPEARANCE AND FUNCTION INDICATION OF THE PRODUCT	3
4.2 MAIN DISPLAY INTERFACE	5
4.3 STARTUP INSTRUCTIONS	5
4.4 SHUTDOWN INSTRUCTIONS	6
4.5 MENU LIST	6
4.6 BLUETOOTH CONNECTION	12
4.7 WiFi LINKAGE	13
4.8 FALL ALARM FUNCTION	14
4.9 SOS DISTRESS CALL FUNCTION	14
4.10 INTERCONNECTION FUNCTION	14
5. PRECAUTIONS FOR USE	14
6. COMMON FAULTS AND SOLUTIONS	15
7. WARRANTY AND MAINTENANCE	16
8. STORAGE	16
9. ACCESSORIES	16

1. Overview

The portable gas detection and alarm instrument is a high-sensitivity industrial gas detection and alarm device. It is suitable for gas concentration detection in industrial and commercial settings: gas stations, chemical workshops, hazardous materials warehouses, petrochemical sites, laboratories, and other venues. It effectively ensures the safety of personnel and prevents damage to production equipment. The product can detect different gases based on various sensor types. Compact in size, easy to operate, convenient to carry, and with excellent vibration resistance. This product uses high-resolution dot matrix LCD display technology, providing more intuitive and clear visuals.

The detection alarm can use either pump suction or natural diffusion methods. The sensitive element is a high-quality gas sensor with excellent sensitivity and outstanding repeatability; the instrument is controlled by an embedded microcomputer, making it easy to operate, fully functional, highly reliable, and capable of various adaptive functions; its compact and aesthetically pleasing portable design not only makes it hard to put down but also facilitates mobile use. The casing of the detector is made of high-strength engineering plastic combined with anti-slip rubber, providing high strength, good feel, and protection against water, dust, and explosion.

It is adapted to areas containing explosive gas mixtures in zones 1 and 2 with II A, II B and II C; dustproof enclosures are used for zones 21 and 22.

1.1 Normative reference documents

The design, manufacture and verification of this product shall comply with the following national standards:

GB/T 3836.1—2021 Explosive Atmosphere Part 1: Equipment General Requirements

GB/T 3836.4—2021 Explosive Atmosphere Part 4: Equipment protected by intrinsically safe "i"

GB/T 4208—2017 Enclosure protection class (IP code)

GB 12358—2024 General technical requirements for environmental gas detection and alarm instruments in workplaces

1.2 Product terms

"LEL" refers to the lower explosive limit. It is the minimum concentration of flammable gas in air that can explode upon contact with an open flame or spark, known as the lower explosive limit — abbreviated as %LEL. In English: Lower Explosion Limited. When the concentration of

flammable gas in the air reaches its lower explosive limit, we say that the explosion hazard level of the flammable environment in this place is one hundred percent, or 100% LEL.

% VOL: percentage of gas volume.

ppm: one millionth of the volume percentage content of a gas.

μmol/mol (micromoles per mole) is the unit of amount of substance.

Conversion: 1ppm = 1μmol/mol.

2. Main technical indicators

	methane	oxygen	carbon monoxide	hepatic gas
Sensor type	Catalytic combustion type	Electrochemical formula	Electrochemical formula	Electrochemical formula
measuring range	(0 ~ 100) %LEL	(0 ~ 30) %	(0 ~ 1000) μmol/mol	(0 ~ 100) μmol/mol
Level 1 alarm point	20%LEL	19.5%	50μmol/mol	15μmol/mol
Level 2 alarm point	50%LEL	23.5%	150μmol/mol	35μmol/mol
indicating error	±5%FS	±3%FS	Absolute error: ±5 μmol/mol; Relative error: ±10%; one of the above is sufficient	±2μmol/mol or ±10% (either is acceptable)

Note: Only the detailed parameters of four conventional gases are displayed, please refer to the gas parameter table or consult customer service for other gases!

- Suitable for gases: combustible/toxic and harmful gas/oxygen, etc
- Sampling method: pump suction or natural diffusion
- Display mode: LCD display
- Response time: less than 30s
- Environmental temperature: -25°C~+55°C
- Relative humidity: (20~93)%

- Power supply voltage: DC 3.7 V
- Battery capacity: 3000 mAh lithium ion rechargeable battery
- Charging time: <5 h
- Working time: ≥ 8 h (continuous)
- Explosion-proof mark: Ex ia II C T4 Ga; Ex ia III C T₂₀₀130°C Da
- Pressure limit: 86kPa~106kPa
- Product weight: approximately 265g
- Product size: L 168 mm x W 67 mm x H 61 mm

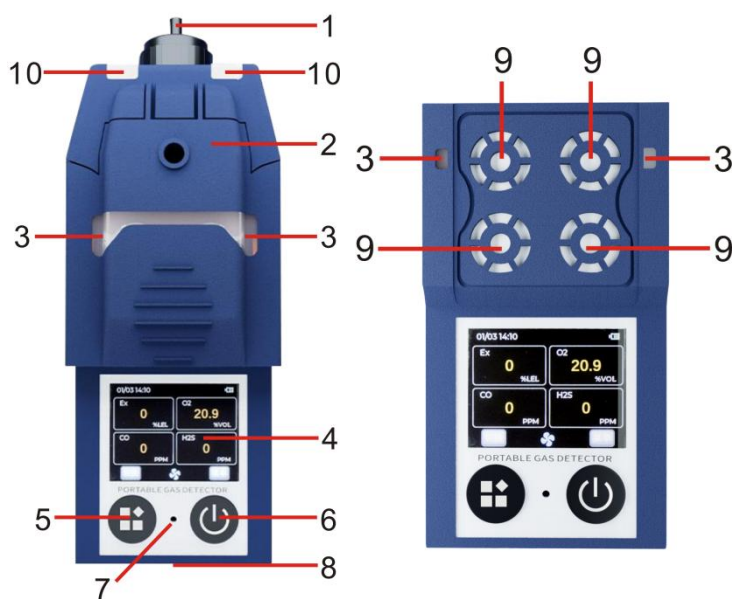
3. Product functions

- It can be connected with confined space detector and portable detector, and supports interconnection of the same machine
- Support 4G upload; support Beidou GPS positioning.(optional)
- Bluetooth, WiFi, and other wireless communication methods
- Magnetic charging port, more convenient
- Sound and light vibration alarm, under-voltage alarm, fault alarm; fall alarm, call for help alarm, one-key call for help
- Multiple alarm mode Settings: low alarm, high alarm, TWA, STEL.
- Multi-level calibration, zero point automatic tracking; can restore factory Settings, concentration calibration error automatic identification and prevention
- Switch between Chinese and English interfaces
- Unit free switching
- It can store 30,000 pieces of data, and the storage time interval and mode can be set

4. Product operation function description

4.1 Overall appearance and function indication of the product

order number	name
1	Pump suction sampling inlet
2	Pump suction hood
3	Indicator lamp
4	LCD
5	Menu button
6	Power button



graph 1-1

graph 1-2

7	Speaker
8	Magnetic charging port
9	Natural diffusion intake
10	Indicator light

The product has two detection methods:

(1) Pump suction type: as shown in Figure 1-1, if the product adopts this sampling method, it needs to install 2, tighten and screw the screw, then air enters from 1; when the product is calibrated, air enters from 1.

(2) Natural diffusion type: As shown in Figure 1-2, if the product adopts this sampling method, 2 should be removed and 9 should be the air inlet; when the product is calibrated, 2 should be installed and 1 should be the air inlet.

4.1.1 Key description



graph 2

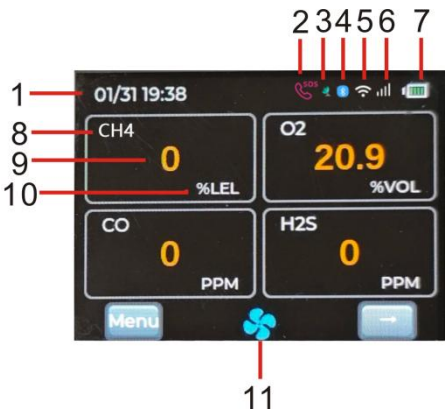
key	function declaration
Menu button	The menu key/add key/select key/left page turn has different functions according to the screen prompt
Power button	The switch key, confirm key, power on key, power off key, long press is the return key, short press is the confirm key, turn page to the right, and have different functions according to the screen prompt (Note: Long press the shutdown button on the main display interface, and long press the return button on other interfaces)

4.1.2 Indicator light description

When the product is a pump - type detection one, it is equipped with four indicator lights. When it is a natural diffusion - type detection product, it has two indicator lights. The four or two

indicator lights light up or go out simultaneously. If the indicator light is green, it indicates that the current is in normal detection state; if the indicator light is yellow, it indicates that the current is in fault state; if the indicator light is red, it indicates that the current is in alarm state.

4.2 Main display interface



graph 3

As shown in Figure 3, the current interface displays information on four detected gases. Pressing the power button allows

order number	name	order number	name
1	present time	7	Current remaining power
2	SOS call for help	8	Name of gas to be detected
3	fixed position	9	Measure gas concentration
4	Bluetooth	10	Unit of gas concentration
5	WiFi	11	Pump switch symbol
6	4G		

you to enter the specific information page for the detected gas, as illustrated in Figure 4. This page shows the name of the detected gas, its concentration, historical maximum gas concentration, historical minimum gas concentration, time-weighted average concentration (TWA), short-term exposure limit (STEL), and concentration curve. Pressing the menu or power button switches between pages to view detailed information about other detected gases.



graph 4

4.3 Startup instructions

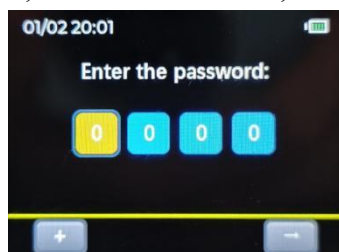
When the power is off, long press the power button and do not release it. The indicator light will be on. After two "beep-beep" sounds, the screen will display the boot-up picture. At this time, release the button, and the system will enter the main display interface after self-check and preheating.

4.4 Shutdown instructions

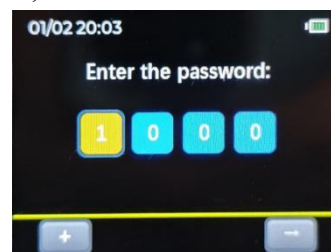
On the main display interface, long press the power button and do not release it. The screen displays the inquiry interface "Please confirm whether to shut down?". At this time, release the button, press the menu button to cancel the shutdown, press the power button to confirm the shutdown, and the screen will go off with two short "beep-beep" sounds after which the system shuts down.

4.5 Menu List

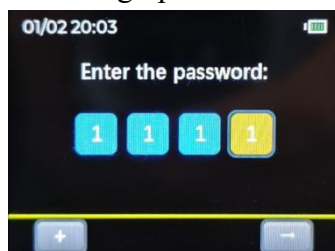
On the main display interface, short-press the power button to bring up the password input screen, as shown in Figure 5. At this point, the yellow cursor is on the first number, indicating that the first number is editable. The initial password is "1111". Use the menu button to increment numbers, and the power button to confirm. Enter "1111" to access the menu list. Short-press the menu button to increase the first number to "1" (only increment allowed), as shown in Figure 6. Short-press the power button to confirm, moving the yellow cursor to the second number. Short-press the menu button to change the second number to "1"; continue this process to set all four numbers to "1", as shown in Figure 7. Short-press the power button to complete the input, and the system will transition to the main menu interface, as shown in Figure 8. The menu list includes: Channel Settings, Time Settings, System Settings, Upload Settings, Zero Point Settings, Calibration, Alarm Records, Historical Records, Factory Reset, BT&WiFi, GNSS.



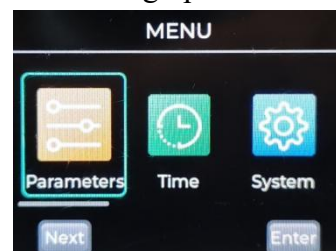
graph 5



graph 6



graph 7



graph 8

4.5.1 Channel Settings

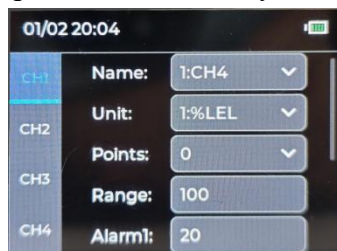
On the main menu interface, use the menu mouse button to select the "Channel Settings" menu item, and briefly press the power mouse button to enter the channel settings interface, as shown in Figure 9. Users can set information such as the gas name, gas unit, decimal places for gas concentration, range, alarm 1, and alarm 2 for each channel in this interface. Briefly press the

power mouse button to confirm the selection of this channel, then use the menu mouse button to select the parameters that need modification, as shown in Figure 10, and press the power mouse button to confirm the modification of these parameters.

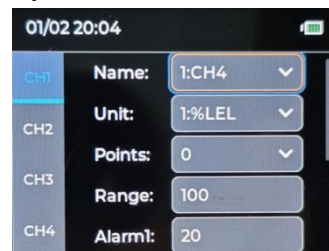
If you modify parameters with drop-down arrows, power-click to bring up a list of options, as shown in Figure 11; menu-click to select, power-click to confirm the selection. If you modify parameters without drop-down arrows, power-click to confirm the modification, then power-click again to bring up an "Enter x x x" interface, as shown in Figures 12 and 13. Use the menu and power mouse buttons in combination to input the parameters you want to modify, and finally power-click to confirm the modification.

After setting the parameters, select "Save" and click power button to confirm saving; if you do not want to save this modification, select "Cancel" and click power button to confirm canceling saving, as shown in Figure 14.

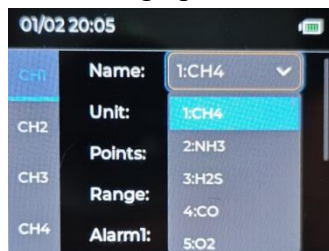
After completing the menu setup according to the above steps, the system will automatically return to the main menu interface; if you do not want to continue to modify a certain menu interface, long press the power button, the system will also automatically return to the main menu interface.



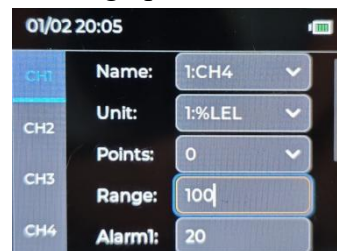
graph 9



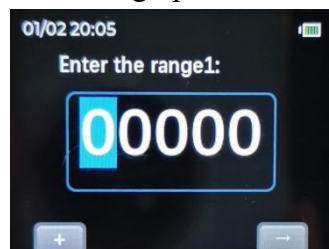
graph 10



graph 11



graph 12



graph 13



graph 14

4.5.2 Time Settings

On the main menu interface, use the menu mouse button to select the "Time Settings" menu item, and briefly press the power mouse button to enter the time settings interface, as shown in

Figure 15. Users can set the values for year, month, day, hour, minute, and second on this interface. After modifying the "second" value, a prompt will appear asking whether to save the settings. Press the menu mouse button to cancel saving, and press the power mouse button to save the settings.



graph 15

4.5.3 System Settings

In the main menu interface, select the "System Settings" menu item with the menu mouse button and press the power mouse button briefly to enter the system Settings interface as shown in Figure 16.

(1) Set the channel: Turn a certain channel on or off. Press the power button to confirm this setting, and the current setting item will turn into a solid color block, as shown in Figure 17. Press the menu button to select the channel you want to modify, then press the power button to turn this channel on or off, as shown in Figures 18 and 19. After completing this setting, hold down the power button until the solid color block of the current setting item turns into an empty color block, and you can continue to press the menu button to select other items for further settings.

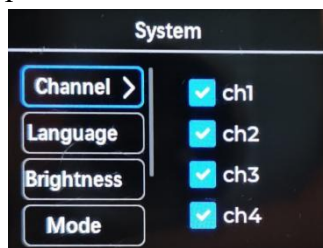
(2) Set the language to Chinese or English.

(3) Brightness Settings: Adjust the backlight brightness to make the screen brighter or darker. Press the power button to confirm this setting. Short press the menu button to increase the brightness value by 1, or long press the menu button to continuously increase the brightness value until it reaches 100%, and then start increasing from 10% again.

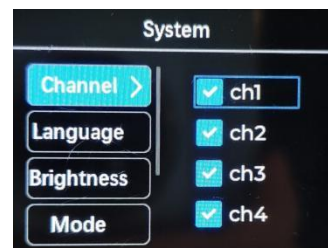
(4) Mode setting: select working mode —— pump suction or diffusion. This mode does not require user configuration. The system will automatically select it based on the actual working mode of the device.

(5) Number setting: Set the number of the current product.

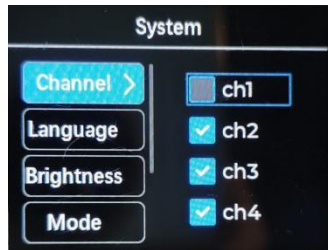
(6) Set the upload cycle. Set the frequency at which the device uploads data to the IoT cloud platform. The upload interval can be configured from 5 seconds to 60 seconds.



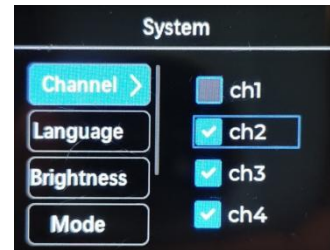
graph 16



graph 17



graph 18



graph 19

4.5.4 Upload Settings (Optional)

In the main menu interface, select "Upload Settings" with menu mouse button and press power mouse button briefly to enter the upload Settings interface as shown in Figure 20. In this interface, you can view the 4G upload QR code and SN number, and upload the detection data to the Zhihui Cloud platform.

The operation instructions of the Wisdom Cloud platform are as follows:

(1) You can view it on both the computer and mobile phone. Here, we mainly introduce the operation method on the computer. The APP installation package and WeChat mini program code for mobile phone are placed at the back cover. You can scan the code to download and view it. The operation method is the same. Access the address <https://www.zhihuiyun-iot.com> on the computer to enter the login interface.

(2) To log in to the system for the first time, you need to register your account information. Click (Account Registration) and immediately jump to the registration interface. Register according to the prompts.

(3) After entering the platform, select "Smart Security" —— "Portable gas detector", and click to enter the monitoring interface of the detector.

(4) Click "Device Management" —— "Add Device", fill in the device information as required, input "device model", "device serial number (SN number)", "Remarks" and "installation location"; click "Next", fill in the notification information, and click "Complete".

(5) Add successfully, click "Data Monitoring" to view the real-time monitoring data and historical data of the device.

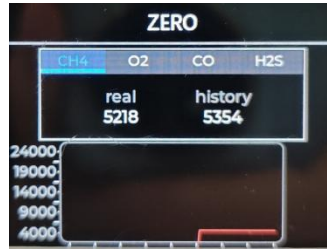
(6) Click "Alarm Management" to view alarm information, work order list and my work order within a certain period of time.

(7) Click "Notification Management" to reconfigure or delete the previously added notification information.

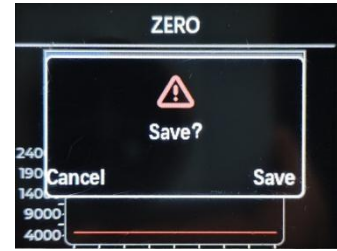
(8) Click "Data Report" to view statistics systematically or export statistical reports.



graph 20



graph 21



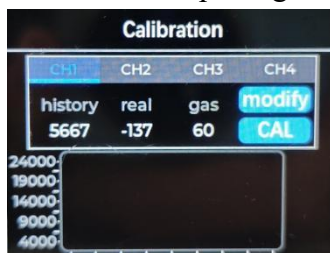
graph 22

4.5.5 Zero setting

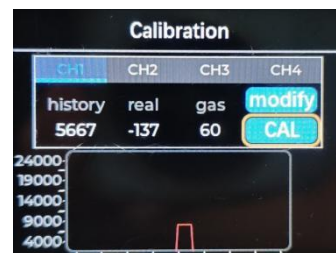
On the main menu interface, use the menu mouse button to select the "Zero Point Setting" menu item, and briefly press the power mouse button to enter the zero point setting interface, as shown in Figure 21. This interface displays the gas channel and gas name, real-time zero AD value, historical zero values, and a curve graph. Select the gas channel for which you want to perform zero point translation. Once the real-time value stabilizes, short-press the power mouse button to bring up an inquiry about saving settings, as shown in Figure 22. Press the menu mouse button to cancel saving; press the power mouse button to save, completing the zero point translation.

4.5.6 Calibration

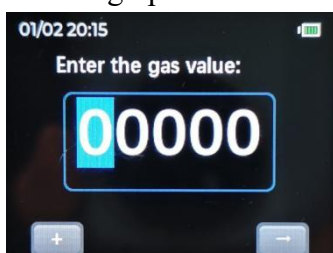
On the main menu interface, use the menu mouse button to select the "Calibration" menu item, and briefly press the power mouse button to enter the calibration interface, as shown in Figure 23. Use the menu mouse button to select the gas channel that needs to be calibrated, and use the power mouse button to confirm the selection, as shown in Figure 24. Press the menu mouse button to select "Modify," and use the power mouse button to confirm. The system will display a "Please Enter Calibration Gas Value" interface, as shown in Figure 25, where you can input the calibration gas value. After completing the modification, introduce the standard gas. Once the data stabilizes, select "Calibrate." Short-press the power mouse button to display an inquiry about whether to save the changes, as shown in Figure 26. Use the menu mouse button to cancel saving; use the power mouse button to save, completing the calibration.



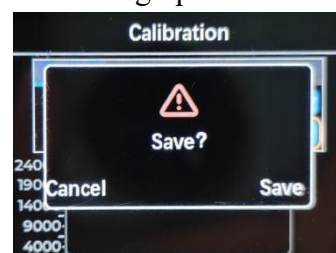
graph 23



graph 24



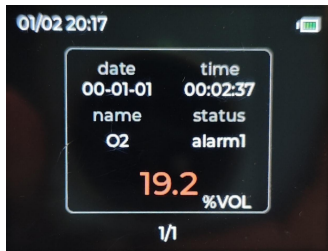
graph 25



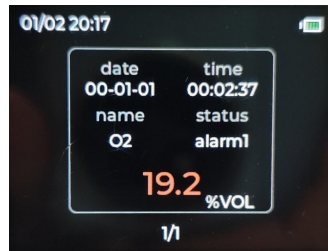
graph 26

4.5.7 Alarm record

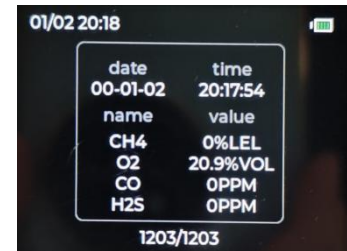
On the main menu interface, use the menu mouse button to select the "Alarm Record" menu item, and briefly press the power mouse button to enter the alarm record interface, as shown in Figure 27. Users can view historical alarm records on this interface, which displays the alarm date, alarm time, gas name, alarm status, gas concentration at the time of the alarm, and the current page/count total pages. Pressing the menu or power mouse button allows you to navigate through pages, as shown in Figure 28. Long-pressing the power mouse button returns to the main menu interface.



graph 27



graph 28



graph 29

4.5.8 Historical records

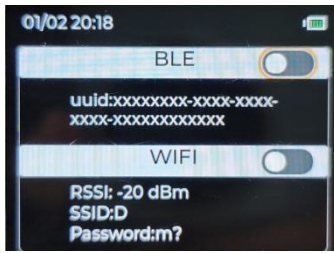
On the main menu interface, use the menu mouse button to select the "History" menu item, then short-press the power mouse button to enter the history interface, as shown in Figure 29. This interface displays the current date and time, along with the gas name and its current concentration. Below Figure 29, "1982/1982" indicates "current page / total number of history pages." Short-press the menu or power mouse button to flip through the pages for viewing.

4.5.9 Restore factory

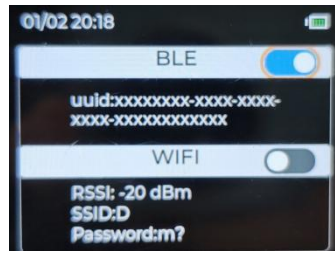
On the main menu interface, select the "Restore factory" menu item with the menu mouse button, press the power mouse button briefly, and enter the password 5656 to restore factory.

4.5.10 BT&WiFi

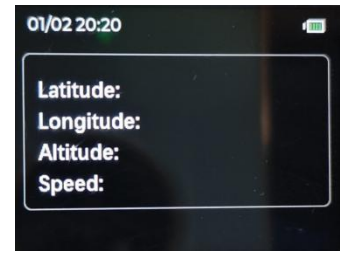
On the main menu interface, use the menu mouse button to select the "BT&WiFi" menu item, and briefly press the power mouse button to enter the BT&WiFi interface. This interface displays the on/off status and information of Bluetooth and WiFi, as shown in Figure 30. At this point, both Bluetooth and WiFi are off. Briefly pressing the power mouse button changes Bluetooth from off to on, as shown in Figure 31. Pressing the power mouse button again changes Bluetooth from on to off. Press the menu mouse button, and the orange box will jump to the switch icon behind WiFi. You can open or close WiFi using the same method. After making changes, long-press the power mouse button to bring up an inquiry about saving the interface. Press the menu mouse button to cancel saving; press the power mouse button to save the settings.(Note: Bluetooth and Wi-Fi cannot be enabled simultaneously.)



graph 30



graph 31



graph 32

4.5.11 GNSS

In the main menu interface, select the "GNSS" menu item with the menu mouse button and press the power mouse button briefly to enter the GNSS interface. This interface can locate the current position of the device and see its latitude, longitude, altitude, speed and other parameters, as shown in Figure 32.

Note: When the system power is insufficient, the battery indicator will flash intermittently. Please turn off the device and charge it in time! When charging, the screen displays "Charging"; when charging is completed, the screen displays "Charging completed".

4.6 Bluetooth connection

The user can view real-time detection data of the product through a mobile APP. First, according to the operation instructions in 4.5.10, turn on the device's Bluetooth. Then download the dedicated APP on your phone and enable Bluetooth and location services to use it. Open the mobile APP, and you will see available devices at the bottom, as shown in Figure 33. Select the device you want to connect, and it will be displayed under "Connected Devices," as shown in Figure 34. Click on the device, and a pop-up window will appear, as shown in Figure 35. Click "Measure Data" to enter the real-time data interface, which displays information such as the device name, current battery level, gas names for each channel, gas concentration, units, and status, as shown in Figure 36. You can also directly click "Real-time Data" to enter the real-time data interface. Click "Switch Language" to change between Chinese and English.



graph 33



graph 34



graph 35



graph 36

4.7WiFi linkage

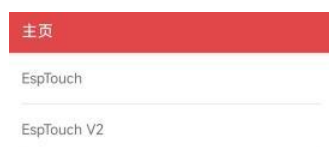
The steps to open the WiFi connection are as follows:

(1) Mobile phone preparation: Download the exclusive APP on mobile phone and connect to WiFi on mobile phone.

(2) Turn on the device WiFi: Turn on the device WiFi according to 4.5.10 operation instructions.

(3) Device WiFi Network Configuration: After the device is powered on and enters the WiFi configuration state, open the dedicated APP downloaded on your phone as shown in Figure 37, click "EspTouch," enter the WiFi password connected to your phone in the "Password" field as shown in Figure 38, click "Confirm," wait for a moment, and the phone will display "EspTouch Complete" as shown in Figure 39. The status bar at the top of the device screen will show a WiFi icon, indicating that the WiFi network configuration has been successfully completed.

(4) View data on the Zhihui Cloud platform: Real-time detection data of this device can be viewed on the Zhihui Cloud platform.



graph 37



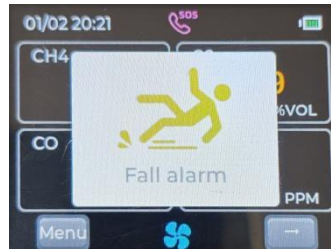
graph 38



graph 39

4.8 Fall alarm function

The product has a fall alarm function. When the product falls, the product will call SOS for help, as shown in Figure 40. Press menu or power button to cancel the alarm.



graph 40

4.9 SOS distress call function

The product has SOS distress function. Long press the menu button to open SOS distress, press the menu button or power button to cancel the alarm.

4.10 Interconnection function

When the product is in SOS distress and fall alarm, other devices and platforms connected to the device can receive its alarm information.

5. Precautions for use

- (1) Prevent the machine from falling from a height or subjected to violent vibration.
- (2) In the presence of high concentration gas, it may not be able to use this machine normally.
- (3) Please operate and use in strict accordance with the instructions, otherwise it may lead to inaccurate test results or damage the machine.
- (4) This product shall not be stored or used in an environment containing corrosive gases (such as high concentration of chlorine, etc.), nor shall it be used or stored in other harsh environments (including high and low temperature, high humidity, electromagnetic field and strong sunlight).
- (5) If the surface of the machine is dirty after long-term use, please wipe it gently with a clean soft cloth dipped in water, and do not use corrosive solvents or hard objects to wipe the surface of the machine, otherwise it may cause scratches or damage to the surface of the machine.
- (6) In order to ensure the detection accuracy, this machine should be calibrated regularly, and the verification period should not exceed one year.
- (7) It is recommended that the service life of infrared sensor and semiconductor sensor is 5 years, and that of catalytic combustion sensor and electrochemical sensor is 2 years.
- (8) Please remove the lithium battery and sensor of the discarded detector and send it to the designated place or return it to our company. Do not throw it into the trash can at will.

(9) If any application or use fault exceeds the description in this manual, please contact our company for solution.

(10) The battery pack cannot be disassembled or replaced, nor can the battery pack be charged in an explosive gas environment. Peripheral plug-in equipment that has not been certified as explosion-proof cannot be used in an explosive gas environment, nor can sensors be replaced.

(11) For products with explosion-proof certificates, it is not allowed to replace or change components or structures that affect the explosion-proof performance at will.

(12) In the corresponding national standards, there are clear regulations on the selection, installation or use of electrical design in explosive dangerous places. The installation or user units should strictly abide by these regulations to ensure the explosion-proof safety of electrical equipment in explosive dangerous places.

(13) Charging must be carried out in a safe place and charged with the professional charger provided with the machine.

6. Common faults and solutions

fault phenomenon	Possible cause of failure	process mode
The machine cannot be turned on	voltage below level	Please charge in time
	system halted	Contact the dealer or manufacturer for repair
	fault	Contact the dealer or manufacturer for repair
No reaction to the test gas	The circuit is faulty or the sensor life has expired	Contact the dealer or manufacturer for repair
The display is inaccurate	The sensor has exceeded its service life.	Contact the dealer or manufacturer for repair
	Not calibrated for a long time	Please calibrate in time
The time display is incorrect	The battery is completely drained	Charge and reset the time as soon as possible
	Strong electromagnetic interference	Reset the time
The zero calibration function is not available	Sensor drift is excessive	Calibrate or replace the sensor in time
It does not show zero in a clean air environment	Sensor drift	Perform zero calibration
The normal detection interface	Sensor failure	Contact the distributor or

of the instrument shows full range		manufacturer to replace the sensor
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7. Warranty and maintenance

(1) The warranty period of this product is one year (except for vulnerable parts). In case of failure under normal use, free factory maintenance and maintenance services can be enjoyed. Damage caused by human beings, natural disasters or non-normal use is not within the scope of warranty.

(2) If the sensor life expires, please contact our company for replacement of new sensor.

(3) If the user cannot troubleshoot, you can send the detector back to our company for maintenance. We will troubleshoot and return it to you as soon as possible.

8. Storage

The products shall be stored in a ventilated room with ambient temperature of -10°C to +55°C and relative humidity not greater than 85%, and the air shall not contain harmful gases or impurities that are corrosive to the products.

9. Accessories

The supporting products provide a gas detection alarm, a set of charger, a copy of the instruction manual, a factory test report and a copy of the warranty card.

Table S Gas parameters table

The gas to be measured	measuring range	resolution ratio	Low alarm setting	High alarm setting
combustible EX	0-100%LEL	1%LEL	20	50
Oxygen O2	0-30%VOL	0.1%VOL	19.5	23.5
Hydrogen sulfide, H2S	0-100ppm	1ppm	15	35
carbon monoxide CO	0-1000ppm	1ppm	50	150
Nitrogen dioxide, NO2	0-20ppm	0.1ppm	5	10
natural gas	0-100%LEL	1%LEL	20	50
methane	0-100%LEL	1%LEL	20	50
Carbon dioxide CO2	0-5000ppm	1ppm	1500	2500
nitric oxide NO	0-250ppm	1ppm	50	150
nitrogen	0-100%VOL	0.1%VOL	76.5	80.5
Sulfur dioxide, SO2	0-20ppm	0.1/1ppm	5	10
Chlorine gas Cl2	0-20ppm	0.1ppm	5	10
Ammonia, NH3	0-100ppm	0.1/1ppm	15	35
Hydrogen H2	0-1000ppm	1/10ppm	50	150
Phosphine PH3	0-20ppm	0.1/1ppm	5	10
chlorine hydride HCl	0-20ppm	0.1/1ppm	5	10

For more product parameters, please contact our company.

