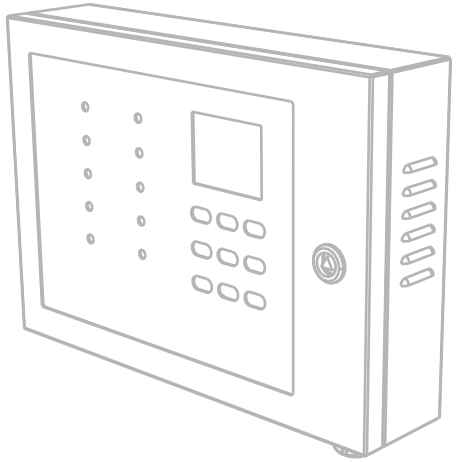
Gas Control Panel

Operation Manual

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1.Product Overview



The combustible gas control panel is wall mounted, which is used to connect the combustible gas detector with 24V DC power supply and RS485 output signal to form a combustible gas monitoring system. This product has abundant external control ports, and users can freely choose the access port of the detector, and can conduct on-site detection and alarm through simple settings. The system is mainly used to detect the combustible gas and display the detected gas concentration (% LEL). When the concentration of a certain gas on site is higher than the set alarm value, close the output contact to drive a series of alarm actions, such as alarm, exhaust, trip, etc. The controller is non explosion proof and should be installed in a safe area.

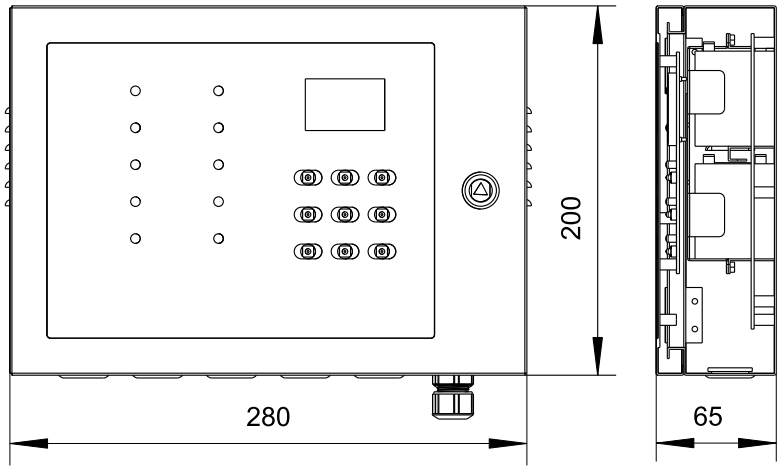
2.Technical Parameter

Working voltage	AC220V 50/60Hz, Battery back up 2*DC12V/1.3AH sealed lead-acid battery in series		
Working environment	Temperature: 0℃~40℃; Humidity: ≤95%， Non condensing		
Output power supply voltage	DC24V ± 6V	Panel power	≤20W
Input signal	Supports two-wire or three-wire 4mA~20mA current signals and RS485 digital signals;		
Digital upload protocol	Two wire Rs485, Protocol support Modbus, Orina		
Matching capacity	Four 4-20mA current signals or four RS485 signal detectors		
Display	LCD display and status display lamp		
Alarm concentration	Two level sound&light alarm, sound(The sound level meter is above 65dB and below 100dB directly in front of 1m away), and the light state indicates alarm.		
Output signal	Three relay contact outputs (capacity: 10A/250VAC or 10A/30VDC)		
Shell	Galvanized cold plate with dark gray color	Weight	3.3kg
Installation	There are two wall mounting holes on the back panel of the chassis, with a lateral spacing of 240mm, and they are fixed with two M8 expansion bolts.		

3.Structure characteristics

3.1 Gas control panel Outline and dimension

Figure 1 Outline Drawing



3.2 Component Description

3.2.1 Controller Overview

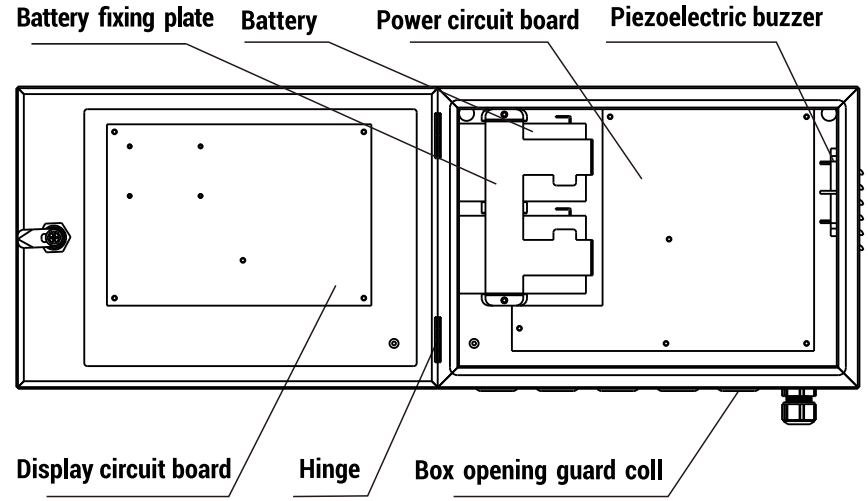


Figure 2 Internal Diagram

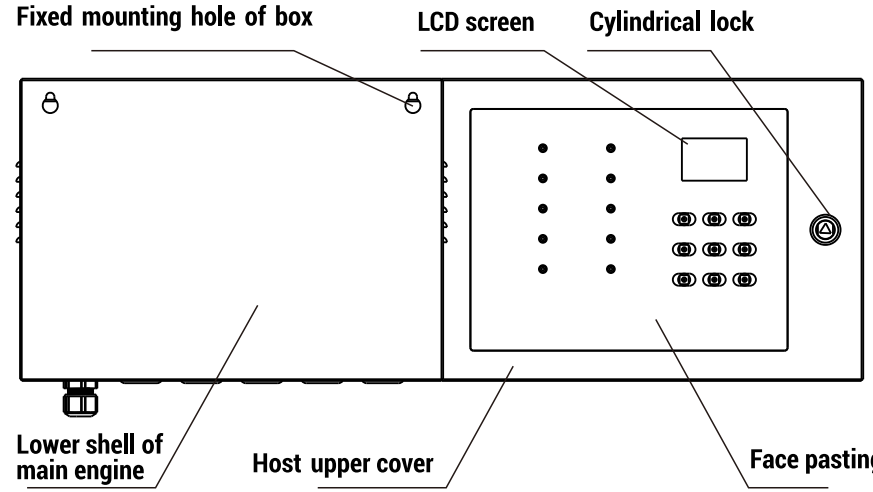


Figure 3 Front panel and back mounting plate

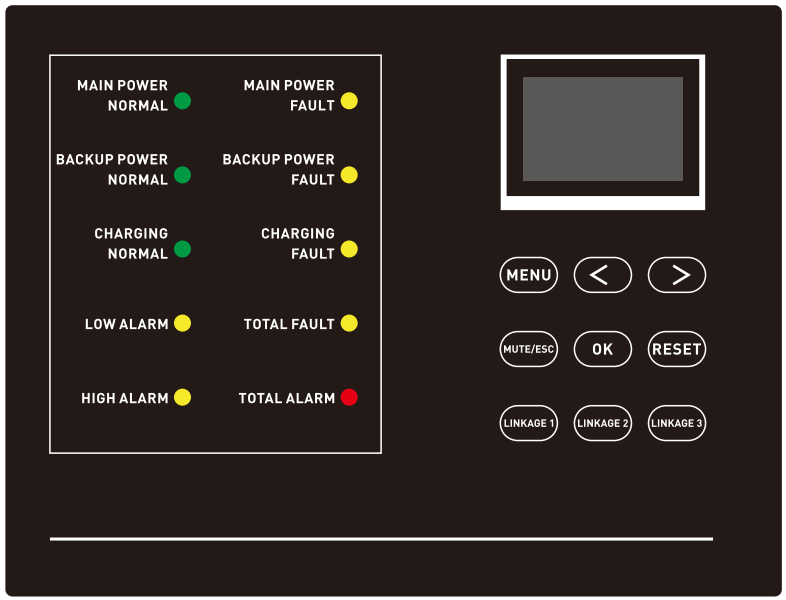


Figure 4 Physical image

3.2.2 Functional description of indicator light

LED	Function
Main power normal (green)	It will light up when the main power supply is normal and go out when the main power supply fails.
Main power fault (yellow)	It will light up when the main power fails and go out when the main power is normal.
Backup power normal (green)	It will light up when the backup power is normal and turn off when the backup power fails.
Backup power fault (yellow)	It will light up when the backup power fails and turn off when the backup power is normal.
Charging normal (green)	It will light up when charging is normal and go out when charging fails.
Charging fault (yellow)	It will light up when there is a charging failure and go out when charging is normal.
Total fault (yellow)	It will light up when there is any fault in the system.
Low alarm (red)	It will light up when the low limit concentration alarm occurs, the corresponding relay is closed, and the relay status light lights up.
High alarm (red)	It will light up when the high limit concentration alarm occurs, the corresponding relay is closed, and the relay status light lights up.
Total alarm (red)	It will light up when there is any alarm in the system.

3.2.3 Key Function Description

Key	Function
MENU	Enter the function menu interface
< >	Left and right key function switching
MUTE/ESC	*The main interface is used for noise reduction, and the menu interface is used for returning。*
OK	Function confirmation
RESET	Main interface alarm reset button
LINKAGE 1	Relay 1 operates
LINKAGE 2	Relay 2 operates
LINKAGE 3	Relay 3 operates

3.3 Description of external terminals of controller

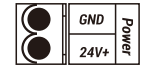
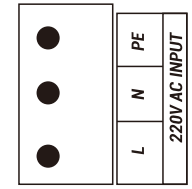
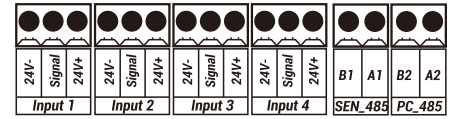
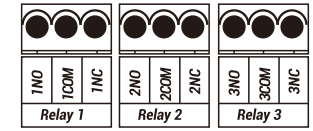


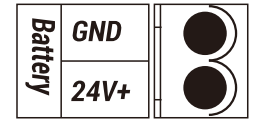
Figure 5 Schematic diagram of external terminals of controller





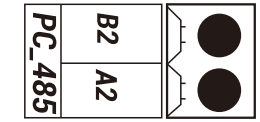


【3.3.1 Standby power interface】



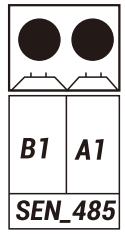
When the mains power is cut off, 24V power is supplied by the battery to supply power to the entire controller and detector. Wiring method: 24V+ connect the positive pole of the battery, GND connect the negative pole of the battery.

【3.3.2 PC communication】



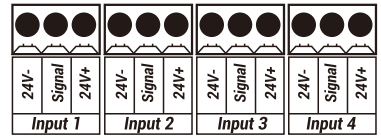
As shown in the figure, the controller communicates with PC through RS485. Wiring method: A2 is connected to the corresponding terminal of 485 module, and B2 is connected to the corresponding terminal of 485 module.

【3.3.3 Sensor terminal block】



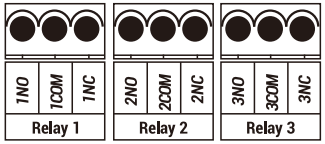
It can be connected to MODBUS protocol 485 detector.
Wiring method: A1 is connected to the corresponding terminal of 485 detector, and B1 is connected to the corresponding terminal of 485 detector.

【3.3.4 Detector power interface】



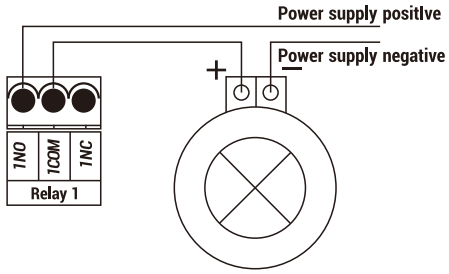
As shown in the figure 1, input 1, input 2, input 3, and input 4 are 4 independent inputs. Each input port can be connected to a detector that outputs a 4~20mA signal (the controller provides 24 DC power supply for the detector). Wiring method: 24V+ is connected to the 24V of the detector, the signal is connected to the signal output end of the detector, and 24V- is connected to the GND of the detector.

【3.3.5 Output signal】



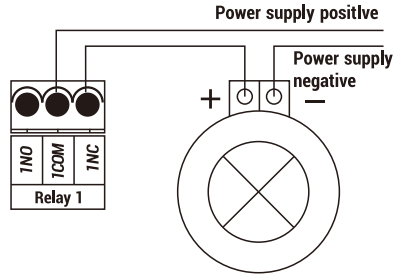
As shown in the figure 2, the output terminals of relay 1, relay 2, and relay 3 are used for external control equipment (relay 1, relay 2, and relay 3 are independent of each other). COM is the common terminal, NC is normally closed, and NO is normally open.

—— · Wiring method (taking relay 1 as an example) · ——



Warning lamp or solenoid valve

- 1.Connect DC 24V normal open solenoid valve or DC24V alarm light wiring diagram

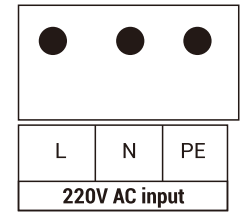


Warning lamp or solenoid valve

- 2. Connect DC 24V normal close solenoid valve or DC24V alarm light wiring diagram

- 3. For AC normally open or closed solenoid valve and alarm lamp, see DC solenoid valve and alarm lamp connection method (regardless of positive and negative polarity).
- 4. If the power of external equipment is greater than the output capacity of the relay (10A/250VAC or 10A/30VDC) or three-phase AC equipment is used, external contactors are required. The wiring method is similar to the above two figures.

【3.3.6 Input Power】



Connect 220V mains power to supply power to the controller.
Wiring method:L is connected to the live line (L) of themains, N is connected to the neutral line (N) of the mains, and PE is connected to the ground.

4.Installation, Cabling, and Debugging

4.1 Installation precautions

- When installing the product, please refer to relevant literature to meet the basic requirements for gas detection in special application situations formulated by the relevant industry.
- The installation process must comply with relevant authoritative national or industry standards.
- The panel should be installed and used in a non explosive gas environment in a safe indoor area.
- During use, ensure that the grounding terminal of the three core power cord is reliably grounded, or directly ground the controller housing to improve resistance to RFI interference (such as mobile phones and walkie talkies) and EMI interference (such as high-frequency cables and switching devices).
- Ensure that the maximum distance between the controller and the detector does not exceed the specified range.
- The controller should avoid using the same power supply as large motor equipment, and install surge protectors if necessary.
- When an external power supply is required to power the detector, each external power supply only supplies power to one group of detectors (the specific number of detectors as a group depends on the actual situation), and the power lines between groups must be independent of each other and not affect each other.

- Regardless of the installation method used, it should be ensured that it is firmly fixed to avoid vibration, dust, and water, and the environment should comply with the requirements of the manual.
- The shell of the controller must not be damaged, otherwise it will affect the shielding effect.
- When the bus detector is connected at a long distance, an external power supply needs to be installed at the remote end. Prevent communication failure caused by insufficient voltage.

4.2 Installation method

Installation method: wall mounted

Installation steps:

1. Choose a suitable installation location to ensure that the controller is easy to operate and the display is clearly visible after installation. Ensure that the opening space of the chassis door is large enough to facilitate wiring, maintenance, and adjustment operations.

2. Based on the distance between the installation holes on the back of the controller, determine the hole positions with a spacing of 240mm on the wall and drill appropriate screw holes.

3.Fix the controller firmly on the wall with the self tapping screws of the two expansion tubes provided

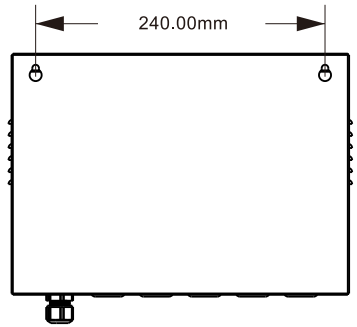


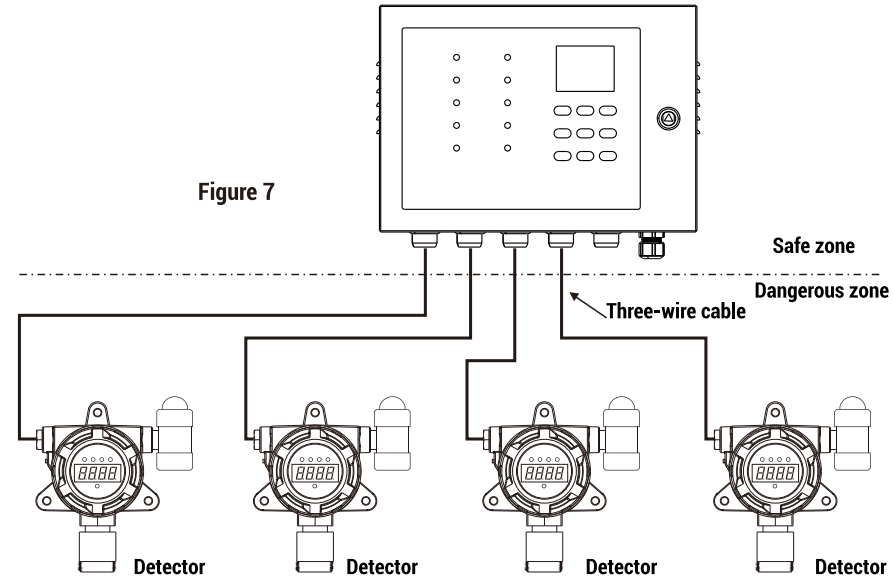
Figure6:Installation hole diagram

4.3 Wiring rules

The controller consists of 4 groups of control modules and a 485 module. Each of the 4 groups of control modules can only be connected to one 4~20mA detector to form a combustible gas monitoring and alarm system. The 485 module can be connected to multiple 485 detectors. The controller is a non-explosion-proof product and should be placed in a safe area. The detector is explosion-proof(the explosion-proof mark is Exd II CT6, please pay attention to its applicable scope)and is installed in an explosion-risk environment where flammable gases may appear.

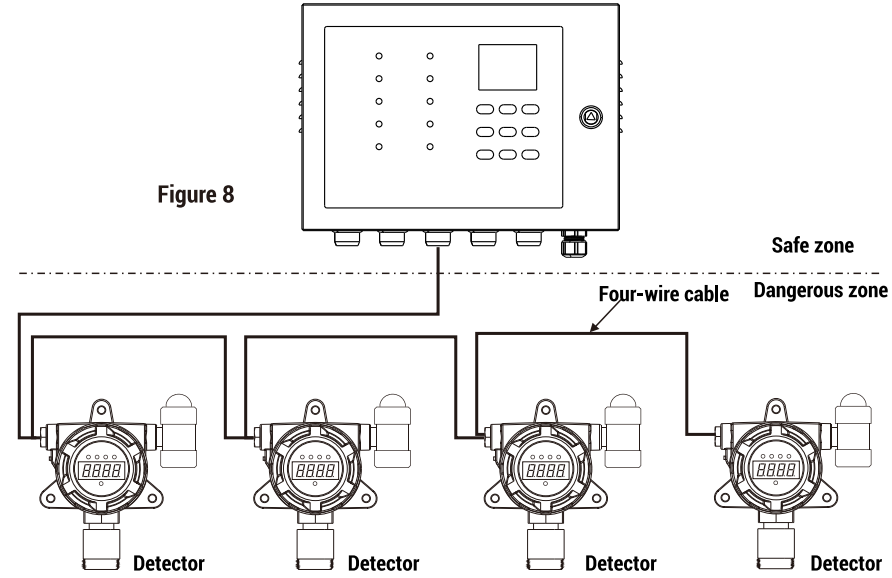
When using a 4~20mA detector, use a three-core cable to connect to the control module. The typical system application is shown in Figure 3. The three-core cable in Figure 3 includes a 24V+ power line, a 24V- power line and a signal line.

Figure 7



When using the 485 detector, use a four-core cable to connect to the control module. The typical system application is shown in Figure 4. The four-core cable in the figure includes the 24V+ power line, the 24V- power line and the A and B wires for 485 communication.

Figure 8



4.4 Wiring requirements

When designing the wiring, ensure that the holes, trenches, tunnels, overhead troughs, etc. for laying cables can accommodate all cables.
When connecting a three-wire detector with a 4-20mA signal output, the cable connected to the controller should be a copper-core multi-stranded conductor cable. The core cross-section should not be less than 1.5 square millimeters, and the outer diameter of the cable should be 6 mm to 8 mm. Line length ≤500m.
When connecting the 485 four-wire detector with the MODBUS protocol, the 485 signal cable connected to the controller should use a twisted pair of copper core multi-strand wires. The core cross-section should be no less than 1.5 square millimeters, and the outer diameter of the cable should be 6 mm to 8 mm. mm, the wire length is ≤1000m. The power cord should use a copper core multi-strand conductor cable, the core cross-section should not be less than 1.5 square millimeters, the cable outer diameter is 6 mm to 8 mm, and the wire length is ≤1000m.
The cables used should also meet other requirements of the use environment, such as heat resistance, corrosion resistance, fire protection, line direction, etc., and should also meet the wiring requirements of corresponding explosive hazardous environments. Cable lines are strictly prohibited from having intermediate joints in explosive hazardous environments. Under special circumstances, when intermediate joints must be installed on cable lines, they are only allowed to be protected by corresponding explosion-proof junction boxes in the safe area before intermediate connections can be made. Our company does not assume any legal responsibility for any accidents caused by wiring that does not meet the requirements.

4.5 Controller check

After the controller enters the site, the power supply of the controller should be turned on and the controller function should be checked. The inspection contents include:
(1) Observe whether the indicator lights of the control module and each segment of the LCD screen can all light up, and whether the speaker can make a loud sound.
(2) After entering the normal monitoring state, observe whether there is a power failure and whether the equipped equipment is normal.

4.6 Wiring

After the controller is inspected, if all tests meet the requirements, please refer to the relevant instructions of "Installation, Wiring, and Debugging" in this manual to correctly connect the external equipment to the controller. The wiring requirements must comply with the "Wiring Requirements" in this manual.

4.7 Debug

After the wiring is completed, after checking that the equipment connection is correct, you can start debugging. For debugging, you can refer to the following steps: turn on the power, the control module enters the preheating mode, and after the preheating is completed, the control module enters the normal monitoring state. Please refer to the "System function Operating introduction" section for detailed operating steps.

5.Use and operation

5.1 Operating authority

5.1.1 Introduction to operation permissions

The controller mainly has three operating permissions: first-level permissions, second-level permissions, and three-level permissions. Each level of authority has different operation content. The higher the authority level is, the more items can be operated (three-level operation authority can perform all operations).

Operating authority	First	Second	Third
Mute	●	●	●
View boot history	●	●	●
View shutdown records	●	●	●
View alarm records	●	●	●
Linkage Test	–	●	●
Reset	–	●	●
Test	–	●	●
Set	–	●	●
TimeSet	–	●	●
CommSet	–	–	●
ChannelSet	–	–	●
CalibSet	–	–	●
RelaySet	–	–	●
Factory Reset	–	–	●
Clear Record	–	–	●

5.1.2 Use of operation permissions

Forfirst-levelpermissions,youneedtoenter"0000"onthepasswordinputinterfaceandpressthe confirmationkey.

Forsecondarypermissions,youneedtoenter"1111"onthepasswordinputinterfaceandpressthe confirmationkey.

Forthird-levelpermissions,youneedtoenter"1234"onthepasswordinputinterfaceandpressthe confirmationkey.

5.2 Working mode

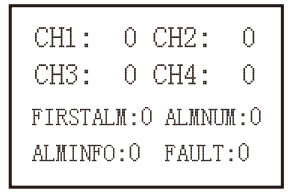
The controller mainly has three working modes - monitoring mode, password input mode and setting mode.

5.2.1 Monitoring mode

After the controller is powered on, it first performs self check mode, then enters preheating mode (60 seconds), and automatically enters monitoring mode after preheating.

1).Normal monitoring status

In the monitoring mode, the front panel display screen will display the gas concentration, first alarm channel, alarm number, alarm channel, fault number and other information of each channel. As shown below:



2)Alarmstatus

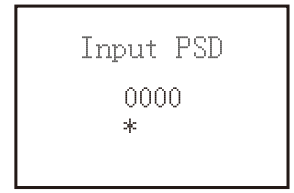
Whentheconcentrationdisplayedonacertainchannelexceedsthealarmsetvalue,thecontrolleren-ters the alarm state. The controller is divided into first-level alarm (can be set) and second-level alarm (can be set). When the gas concentration exceeds the first-level alarm threshold and is less than the second-level alarm threshold, the controller enters the alarm state, the low-limit alarm and total alarm indicators light up, and keeps the three linkage terminals connected until manual reset. When the gas concentration exceeds the secondary alarm threshold, the controller enters the alarm state, and the low-limit alarm, high-limit alarm and total alarm indicators light up, and the three link-age terminals are kept connected until manual reset. When an alarm occurs, there will be a sound prompt. Pressing the "MUTE" button will turn off the sound prompt and enter the silence state until manual reset. If there is a new alarm prompt, the controller will automatically exit the silence state and issue an alarm sound prompt. When an alarm signal occurs, the controller will automatically re-cord the status and time of the alarm, and the alarm information can be viewed through the "query" key of the controller. When the alarm situation is eliminated, you can press the "reset" button of the controller to enter the password and clear the alarm signal.

3).Fault status

When there is a fault in the circuit or detector, the controller enters the fault state, the corresponding indicator lights up, and there is an audible prompt. The noise reduction method is the same as the alarm state. When the fault is eliminated, the controller will automatically exit the fault state and enter the normal monitoring mode.

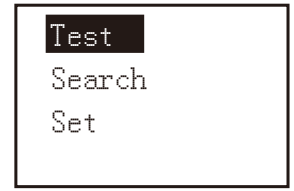
5.2.2 Password input mode

Press some keys (such as "Menu", "Reset", etc.) to enter the password input mode. The default display is "0000". Press the "Menu" key to change the position of "*". Press the "<" and ">" keys to change the current number (the current number cycles from 0 to 9). Press the "OK" key to complete the password input. Press the "MUTE/ESC" key to exit the password input mode. If the four digit password is entered correctly, the corresponding function can be operated, Otherwise, you will be prompted with"Password Error" and returned.



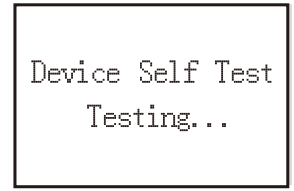
5.2.3 Menu Function

In the monitoring mode, press the "Menu" key, enter the password "0000", and press the "Confirm" key to enter the main menu. The main menu includes: test, search, and set, etc. As shown in the figure below:



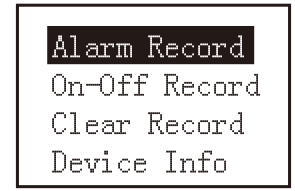
1.Test

Select the "Test" option and click the "OK" button to enter password input mode. After entering the correct password, the controller will perform a self check operation: the front panel indicator lights up completely, the display screen displays the self check prompt, and gives a prompt sound, which lasts for about 4~6 seconds and then returns to the main menu. The self inspection diagram is as follows:



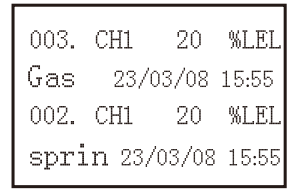
2.Search

Select the "Info" option and click "OK" to enter password input mode. After entering the correct password, enter the query submenu. The query submenu includes: Alarm Record, On/Off Record, Clear Record, Device Info, etc. As shown in the figure below:



a) Alarm Record

Select the "Alarm Record" option to enter the alarm record page. This page records the alarm data of the controller, including serial number, channel number, concentration value, unit, alarm status, alarm time, etc. As shown in the figure below:

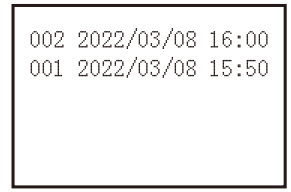


b) On/Off Record

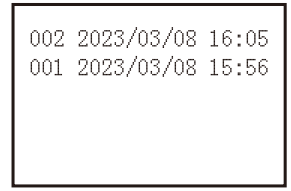
Select the "On/Off record" option to enter the selection page of power on record and power off record. As shown in the figure below:



Select the "On Record" option to enter the power on record page, including serial number and time. As shown in the figure below:



Select the "Off Record" option to enter the shutdown record page, including the serial number and time. As shown in the figure below:

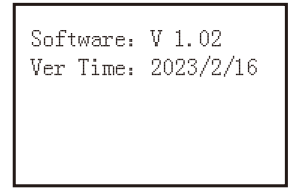


c) Clear Record

Select the "Clear Record" option, click the "OK" button to enter password input mode. After entering the correct password, enter the clear record operation, which includes alarm records, startup records, and shutdown records.

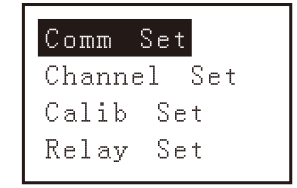
d) Device Info

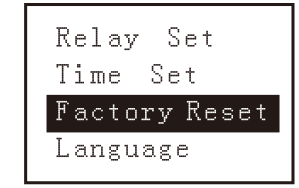
Select the "Device Info" option and click the "OK" key to enter the version information page, including the software version and version time. As shown in the figure below:



3.Set

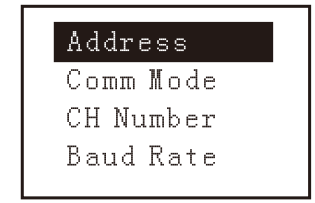
Select the "Setting" option and click the "OK" button to enter password input mode. After entering the correct password, enter the setting submenu. The setting submenu includes: Comm Set, Channel Set, Calib Set, Relay Set, Time Set, Factory Reset, Language, etc. As shown in the figure below:

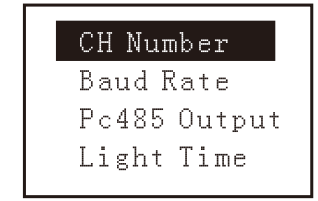




a) Comm Set

Select the "Comm Set" option and click the "OK" button to enter password input mode. After entering the correct password, enter the comm set submenu. The comm set submenu includes: Relay Switch, Gas Relay, Sprin Relay, Fire Relay, Fault Relay. As shown in the figure below:





a-1) Address

Select the "Address" option and click "OK" to enter the settings page. Press the “Menu" key to change the position of “*",and press the "<" and ">" keys to change the current number (the current number cycles between 0-9), press the "OK" key to complete the setting, and press the "Back" key to exit the setting. As shown in the figure below :



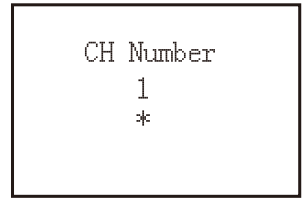
a-2) Comm Mode

Select the "Comm Mode" option and click "OK" to enter the settings page. Press the "<" and ">" keys to change options, press the "OK" key to complete the setting, and press the "Back" key to exit the setting. As shown in the figure below :



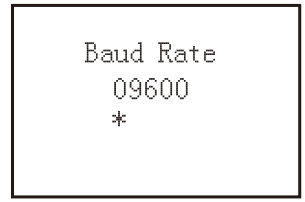
a-3) CH Number

Select the "CH Number" option and click "OK" to enter the settings page. Press the "<" and ">" keys to change the current number (the current number cycles between 1-8), press the "OK" key to complete the setting, and press the "Back" key to exit the setting. As shown in the figure below :



a-4) Baud Rate

Select the "Baud Rate" option and click "OK" to enter the settings page. Press the "Menu" key to change the position of "*",and press the "<" and ">" keys to change the current number (the current number cycles between 0-9), press the "OK" key to complete the setting, and press the "Back" key to exit the setting. As shown in the figure below :



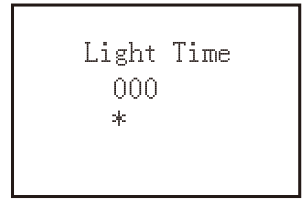
a-5) PC485 Output

Select the "PC485 Output" option and click "OK" to enter the settings page. Press the "<" and ">" keys to change options, press the "OK" key to complete the setting, and press the "Back" key to exit the setting. As shown in the figure below :



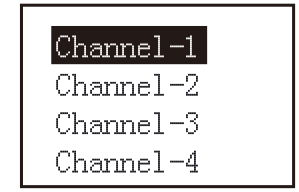
a-6) Light Time

Select the "Light Time" option and click "OK" to enter the settings page. Press the "Menu" key to change the position of "*",and press the "<" and ">" keys to change the current number (the current number cycles between 0-9), press the "OK" key to complete the setting, and press the "Back" key to exit the setting. As shown in the figure below :

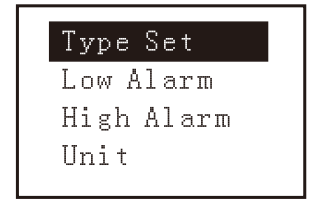


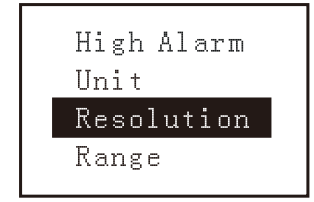
b) Channel Set

Select the "Channel Set" option and click the "OK" button to enter password input mode. After entering the correct password, enter the channel selection submenu. The channel selection submenu includes :Channel 1, Channel 2, Channel 3 and Channel 4. As shown in the figure below:



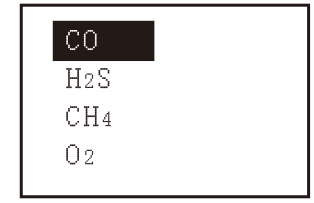
Press the "<" and ">" keys to change options, press the "OK" key to complete the selection and enter the channel settings submenu. The channel settings submenu includes :Type Set, Low Alarm, High Alarm, Unit, Resolution, and Range, etc. As shown in the figure below:





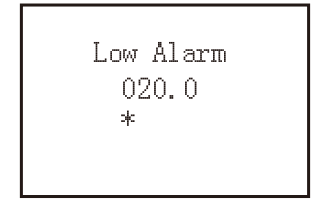
b-1) Type Set

Select the "Type Set" option and click "OK" to enter the settings page. Press the "<" and ">" keys to change options, press the "OK" key to complete the setting, and press the "Back" key to exit the setting. As shown in the figure below :



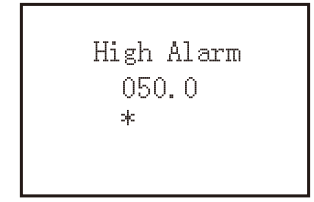
b-2) Low Alarm

Select the "Low Alarm" option and click "OK" to enter the settings page. Press the "Menu" key to change the position of "*",and press the "<" and ">" keys to change the current number (the current number cycles between 0-9), press the "OK" key to complete the setting, and press the "Back" key to exit the setting. As shown in the figure below :



b-3) High Alarm

Select the "High Alarm" option and click "OK" to enter the settings page. Press the "Menu" key to change the position of "*",and press the "<" and ">" keys to change the current number (the current number cycles between 0-9), press the "OK" key to complete the setting, and press the "Back" key to exit the setting. As shown in the figure below :



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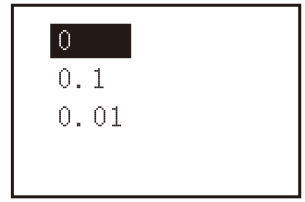
b-4) Unit

Select the "Unit" option and click "OK" to enter the settings page. Press the "<" and ">" keys to change options, press the "OK" key to complete the setting, and press the "Back" key to exit the setting. As shown in the figure below :



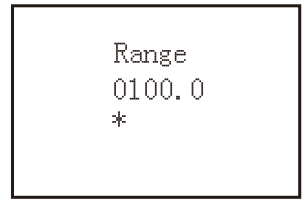
b-5) Resolution

Select the "Resolution" option and click "OK" to enter the settings page. Press the "<" and ">" keys to change options, press the "OK" key to complete the setting, and press the "Back" key to exit the setting. As shown in the figure below :



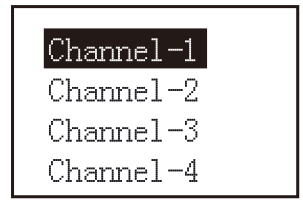
b-6) Range

Select the "Range" option and click "OK" to enter the settings page. Press the "Menu" key to change the position of "*",and press the "<" and ">" keys to change the current number (the current number cycles between 0-9), press the "OK" key to complete the setting, and press the "Back" key to exit the setting. As shown in the figure below :



C) Calib Set

Select the "Calib Set" option and click the "OK" button to enter password input mode. After entering the correct password, enter the channel selection submenu. The channel selection submenu includes :Channel 1, Channel 2, Channel 3 and Channel 4. As shown in the figure below:

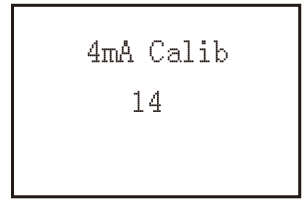


Press the "<" and ">" keys to change options, press the "OK" key to complete the selection and enter the calib settings submenu. The calib settings submenu includes :4mA Calib, 20mA Calib, etc. As shown in the figure below:



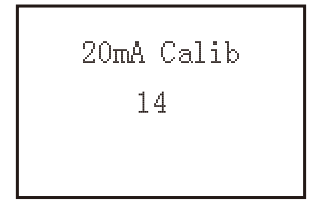
c-1) 4mA Calib

Select the "4mA Calib" option and click the "OK" button to enter the calibration page. Press the "OK" key to complete the setting, and press the "Back" key to exit the calibration .As shown in the figure below:



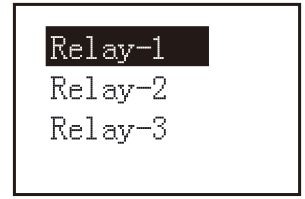
c-2) 20mA Calib

Select the "20mA Calib" option and click the "OK" button to enter the calibration page. Press the "OK" key to complete the setting, and press the "Back" key to exit the calibration .As shown in the figure below:

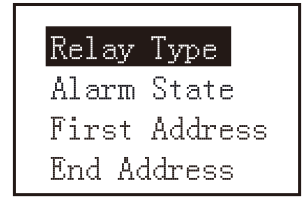


d) Relay Set

Select the "Relay Set" option and click the "OK" button to enter password input mode. After entering the correct password, enter the setting submenu. The setting submenu includes :Relay 1, Relay 2, and Relay 3. As shown in the figure below:

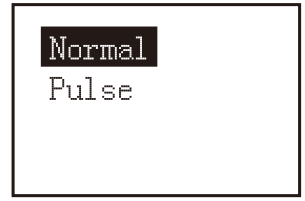


Press the "<" and ">" keys to change options, press the "OK" key to complete the selection and enter the relay Set submenu. The relay Set submenu includes :Relay Type, Alarm State, First Address, End Address, etc. As shown in the figure below:



d-1) Relay Type

Select the "Relay Type" option and click the "OK" button to enter the calibration page. Press the "OK" key to complete the setting, and press the "Back" key to exit the calibration .As shown in the figure below:



d-2) Alarm State

Select the "Alarm State" option and click the "OK" button to enter the calibration page. Press the "OK" key to complete the setting, and press the "Back" key to exit the calibration .As shown in the figure below:



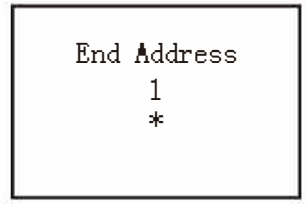
d-3) First Address

Select the "First Address" option and click "OK" to enter the settings page. Press the "<" and ">" keys to change the current number (the current number cycles between 1-8), press the "OK" key to complete the setting, and press the "Back" key to exit the setting. As shown in the figure below :



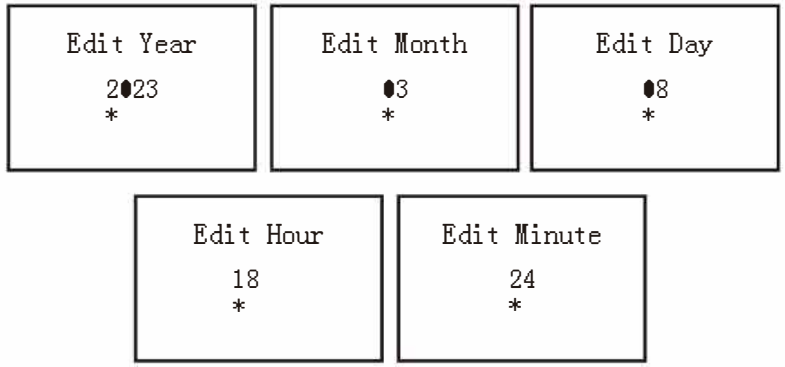
d-4) End Address

Select the "End Address" option and click "OK" to enter the settings page. Press the "<" and ">" keys to change the current number (the current number cycles between 1-8), press the "OK" key to complete the setting, and press the "Back" key to exit the setting. As shown in the figure below :



e) Time Set

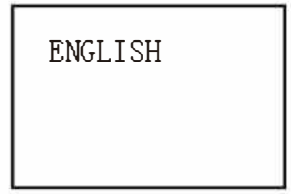
Select the "Time Set" option and click the "OK" button to enter password input mode. After entering the correct password, enter the settings page. Set the page order to :year, month, day, hour, minute, etc. As shown in the figure below:



f) Factory Reset

Select the "Factory Reset" option and click the "OK" button to enter password input mode. After entering the correct password, enter the factory restoration operation, and then shut down and restart. (Be careful!)

g) Select the "Language" option and click the "OK" button to enter the language selection page. Press the "<" and ">" keys to change options, press the "OK" key to complete the setting and press the "Back" key to exit the calibration .As shown in the figure below:



6. Common faults and treatment methods

Fault description	Reason	Settlement
No response after turn on	1. The power supply board and the main board power supply is not connected well 2. The main power switch is not turned on 3. Display abnormalities	1. Check the connection 2. Check the insurance tube and turn on the main power supply switch 3. Check whether the switch S1 is on the side
Backup power fault after turn on	1. Disconnection or burn the insurance tube 2. Low voltage or damage	1. Open switch or replace the insurance tube 2. Charging or Replacement battery
No sound when alarm	1.Damage	1.Replacement the horn
Gas detector fault after turn on	1. There is a fault inside the detector 2. The number of detectors is not connected or the number of detectors has been connected less than the set channel no.	1. Check whether the detector that is contacted is faulty. If there is a fault, you need to replace the detector 2. Connect the detector or adjust the number of channels

7. Precautions

1. This controller is a non explosion-proof product, please make it in the safe area.

2. This manual contains the work, functions and restrictions of the product. All staff responsible for the installation, operation and maintenance of the product should be carefully studied and familiar with. In order to make the product function normal, professional staff must be regularly calibrated and alarm testing.

3. When you do not use or store time, please turn off the switch of the backup power supply; in order to ensure the life of the battery, it is recommended to do a complete charge and discharge.

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