Gas Alarm Controller
Instruction Manual

Thank you for choosing to use our company's electronic products. When you are ready to use this product, please read this manual carefully and follow the steps provided, so that you can fully enjoy the services provided by our company and avoid misoperation and damage If this machine or other accidents occur, please keep this manual properly so that you can consult and get help in time when you need it in the future.

Copyright Statement

1. This manual describes the use of the product and technical parameters as much as possible, but the company reserves the right to modify this manual without further notice;
2. The appearance of the finished product in the manual may be slightly different from the actual product due to printing and other reasons, please refer to the actual product;
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User Service Guidelines

1. Before using this product, please check the accessories, product certificate and factory test report carefully according to the factory list of the product, if you find them incomplete, please contact the seller or manufacturer immediately.
2. The free warranty period is one year (from the date of purchase), please use the instrument according to the instructions and precautions, if the instrument malfunctions, please contact the manufacturer.
3. This product can only be repaired by professionals. Please do not disassemble or install internal circuit boards or replace components at will. Otherwise, our company will not bear any responsibility for any consequences arising therefrom.

1. Product Overview

This gas alarm controller is our self-developed alarm controller with practical functions and easy operation. It can be combined with our combustible/toxic gas detector to form an industrial gas alarm system.

The product adopts wall-mounted installation, and each channel corresponds to a detector. A single-channel controller can be connected to 1 detector, a two-channel controller can be connected to 1 to 2 detectors, and so on, each detector can set two alarm values. By cooperating with the detector, it can process various data uploaded by the detector, and finally complete the data display, output, control and other functions.

The design, manufacture and inspection of this product follow the following national standards:

GB16808-2008 "Combustible Gas Alarm Controller"

GB16838-2005 "Environmental Test Methods and Severity Levels of Fire Electronic Products"

2. Parameter

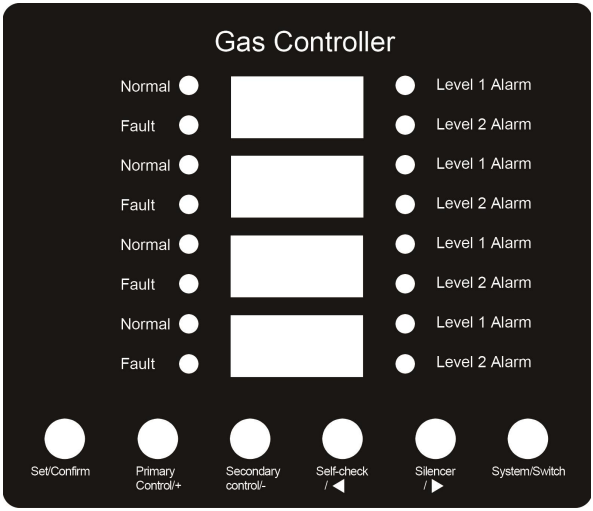
Detection target	flammable / toxic gas
Detection range	0~100%LEL (combustible gas) 0~Nμmol/mol 0~N%Vol (The range is determined by the gas sensor)
Basic error	<±5%FS
Display mode	Digital tube display
Alarm mode Alarm mode	sound and light alarm
Alarm volume	≥80 decibels
Alarm output	Two-level alarm relay output Level 1 alarm, normally closed normally open Level 2 alarm, normally closed normally open (Suitable for connecting a fan, suitable for connecting an emergency shut-off valve in pulse mode) Electric shock capacity: 5A/250VAC
Power supply mode	AC220V,50HZ
Installation method	Wall-mounted spacing: 165mm, aperture 6mm
Working environment	Temperature: -20℃~50℃ Humidity: ≤95%RH
Working mode	24 hours continuous work

3. Way Gas Alarm Controller

3.1 Appearance and Surface Sticker Display Diagram

Product size: 200mm×75mm×305mm

Product weight:2kg



3.2 Interface Description

[Digital tube display] Display the current gas concentration

Normal indicator light] The equipment is working normally, and the connection with the detector is normal.

[Fault indicator] The channel data is wrong, and the channel data is not in the normal range.

[First-level alarm, second-level alarm indicator] The gas concentration

exceeds the alarm set point, light up the indicator and close the corresponding relay.

3.3 Button description

[Setting/Confirm] Enter the setting state, set separately, alarm point parameters, range, channel shielding; in the setting state, confirm.
[Level 1 control/+] Manually control the closing of relay 1; in the setting state, the value increases.
[Secondary control/-] Manually control the closing of relay 2; in the setting state, the value decreases.
[Self-inspection/] All components of the inspection system, including all the digital tubes light up, all the indicators light up, and turn on the buzzer; in the setting state, it moves to the left.
[Silence/ ▶] Turn off the buzzer; in the setting state, it moves to the right
[System/Switch] Enter address code, switch setting, channel selection; in the setting state, it is channel switching.
Note: If you need to connect a solenoid valve, you need to enter the system settings and set the switch (EL, EH) to pulse mode, 0 is standard mode, 1 is pulse mode.

3.4 Basic operation

3.4.1 Boot

The cables, main power and external equipment are connected. After

confirming that they are correct, turn on the power, turn on the power switch, and display the version number and the range of each channel. Then the controller enters a delay wait, and there will be 30 seconds to warm up the sensor to prevent false alarms After the delay is over, the controller enters the normal monitoring state.

3.4.2 Detection

When the gas concentration is higher than the set concentration, the corresponding indicator will light up, the related relay will be closed, and the buzzer will sound an alarm. Press the silence key to clear the sound, press the control key to disconnect the associated relay and clear the alarm. When the gas concentration is lower than the set concentration, the alarm sound is automatically turned off, but the closed relay will not be disconnected. Please turn it off manually for safety reasons.

3.4.3 Settings/Confirm

After pressing the set/confirm key, it will enter the setting interface of the controller, the current setting channel value will flash, and the menu explanation is as follows:

LX	Level 1 alarm point setting
HX	Level 2 alarm point setting
Controller current range	Range setting
C-X	Channel mask setting

(1) Level 1 alarm point setting



Enter the flashing state, set the first level alarm point through [First level control/+], [Second level control/-], press [Set/Confirm] again to save, and press [System/Switch] to change the channel.

(2) Level 2 alarm point setting

Press [Silence▶] to switch to the flashing state 

, set the secondary alarm point through [First level control/+], [Secondary control/-], and press [Set/Confirm] again to save.

(3) Warning: The menu alarm setting value of the alarm is not recommended for customers to change at will, so as not to cause unnecessary trouble and affect the normal use of the alarm. Don't increase the alarm value casually. Don't call the police when a danger occurs, leading to an accident.

(4) The controller can set two independent alarm points for each channel, the alarm point setting range is 5%-90% of the full scale; the two alarm points do not affect each other, and the first-level alarm point of each channel corresponds to the first-level output. The secondary alarm point corresponds to the secondary output.

(5) Range setting

Press [Silence/ ▶] to switch to the flashing state of "controller current range", set the range through [First level control/+] and [Second level control/-], and

press [Set/Confirm] again to save.

Warning: The menu range setting value of the alarm will change the alarm value of the first and second alarm points. It is not recommended that customers change it at will, so as not to cause unnecessary trouble and affect the normal use of the alarm.

(6) Shielding channel setting

Press [Silence / ▶] to switch to: flashing, set the channel shielding through [1st level control/+] and [2nd level  control/-], "0" is for the channel to be closed, "1" is for the open, press [Set/Confirm] to save.

3.4.4 System/Switch

After pressing the system/switch key, you will enter the system setting interface of the controller. The menu is explained as follows:

(5-12 options are used for expansion boards)

-255	Address code setting
JL-X	Primary output mode setting
JH-X	Secondary output mode setting
CH-X	Channel setting
J1-X	Channel 1: First level output mode setting
J2-X	Channel 1: Second level output mode setting
J3-X	Channel 2: First level output mode setting
J4-X	Channel 2: Second level output mode setting
J5-X	Channel 3: First level output mode setting

J6-X	Channel 3: Second level output mode setting
J7-X	Channel 4: First level output mode setting
J8-X	Channel 4: Second level output mode setting
485X	485 mode setting

(1) Address code setting

 Enter the blinking state, set the address code through [First level control/+], [Second level control/-], and press [Set/Confirm] to save.

(2) Primary and secondary output mode settings

Press [Silence/▶] to switch to the flashing state of  or "", and set the switch mode through [First level control/+] and [Secondary control/-], "0" is standard mode, and "1" is In pulse mode, press [Set/Confirm] again to save.

(3) Channel number selection

Press [Silence/▶] to switch to the flashing state,  and set the number of channels through [First-level control/+] and [Second-level control/-], "1" is single-channel mode, and "2" is dual-channel mode.

"3" is the three-channel mode, and "4" is the four-channel mode. Press [Set/Confirm] again to save.

(4) Expansion board output mode setting (no expansion board without operation)

These 8 options are the mode setting of the expansion board relay

Press [silence/ ▶] to switch to the flashing state from "J1-X" to "J8-X", "J1" and "J2" correspond to the primary and secondary alarms of channel 1, respectively, "J3", "J4" Corresponding to the primary and secondary alarms of channel 2, "J5" and "J6" correspond to the primary and secondary alarms of channel 3, and "J7" and "J8" correspond to the primary and secondary alarms of channel 4 respectively. For level alarm, set the switch value mode through [First level control/+] and [Second level control/-], "0" is standard mode, "1" is pulse mode, press [Set/Confirm] again to save.

(5) 485 mode setting

This option mainly sets the connection bus detector

Press [Silence/ ▶] to switch to "485X" to flashing state, and set the switch mode through [First level control/+] and [Second level control/-], "0" is used to connect the branch detector, "1" is used to connect the bus detector, press [Set/Confirm] again to save. (This option needs to be restarted to take effect after setting).

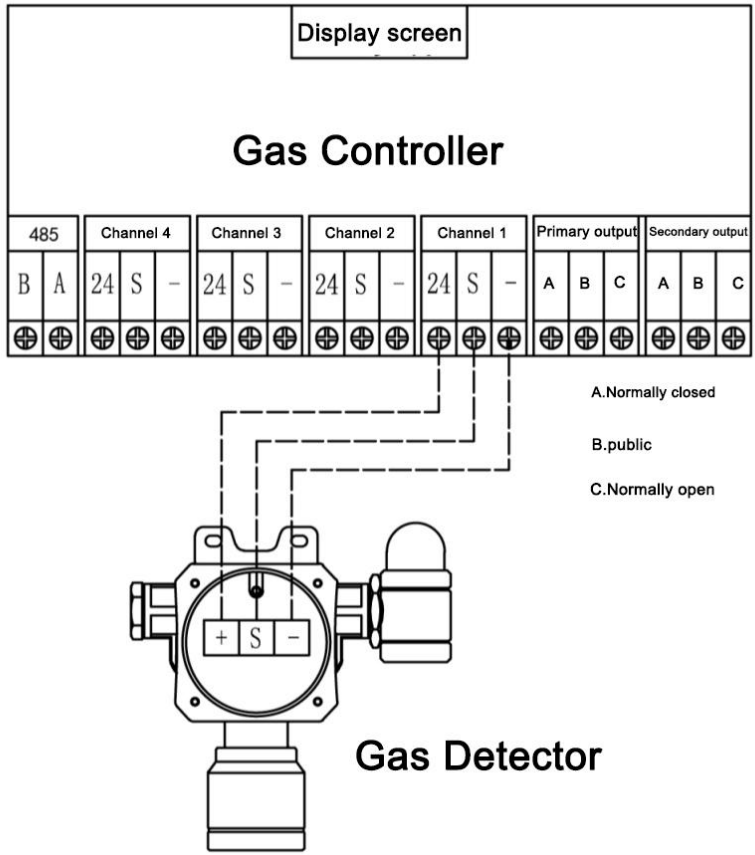
3.4.5 Fault status

The host displays "---", the fault light is on, and the connection between the host and the detector is wrong;

If the circuit is normal, the detector may drift at zero point, please contact the after-sales personnel for maintenance to ensure the accuracy of the detector (see the detector manual for details).

4.Product Installation

4.1 Connection between controller and detector



① Specifications of wiring with gas detector:

RS485 communication cable, it is recommended to use 2mm2 national standard shielded twisted pair, the shielding layer should be grounded at one

end, and the end power supply should be appropriately increased according to the voltage drop.

4-20mA cable, it is recommended to use RVVP3*1.5 shielded cable, the wire diameter is calculated according to the communication distance, and the copper wire at the connection must be tightened without burrs

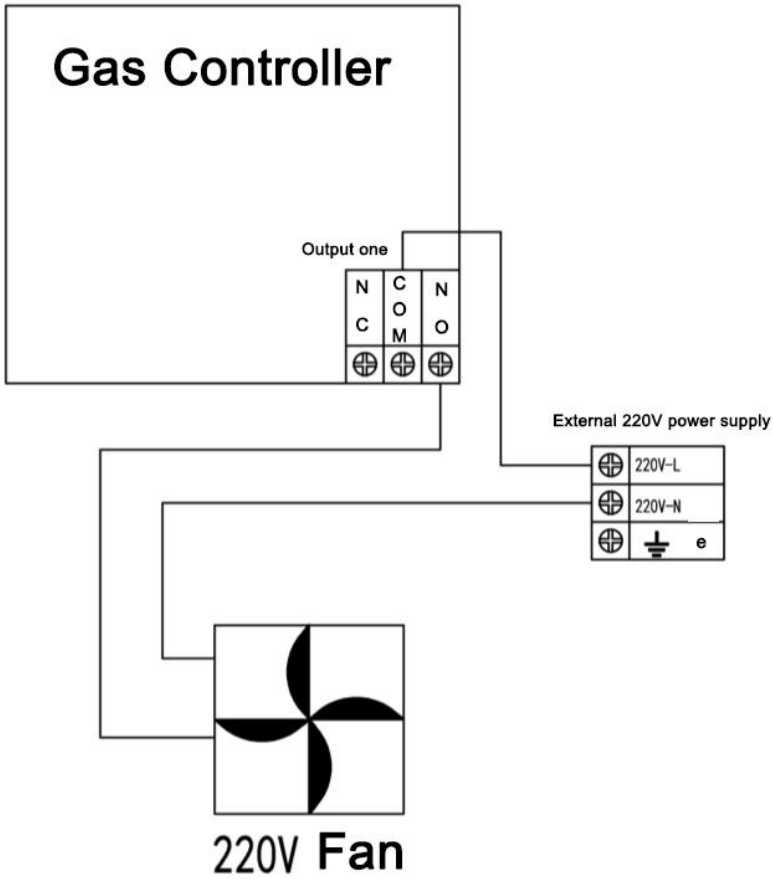
②The gas alarm controller is a non-explosion-proof product. It should be installed in the monitoring room or indoor safe area or in an environment where there is no explosive gas. Wall-mounted installation is adopted.

③ Choose a reasonable installation height for easy operation, not too low to avoid accidental injury to the person, and the wall is required to be firm and flat;

4.2 Connection between the alarm controller and the linkage part

If the alarm controller needs to be connected to linkage equipment, such as fans, solenoid valves, etc., when the electrical current does not exceed 5A and single-phase electricity, it can be directly controlled by the controller, otherwise it needs to add an AC contactor or connect to the company’s linkage control Box (optional)

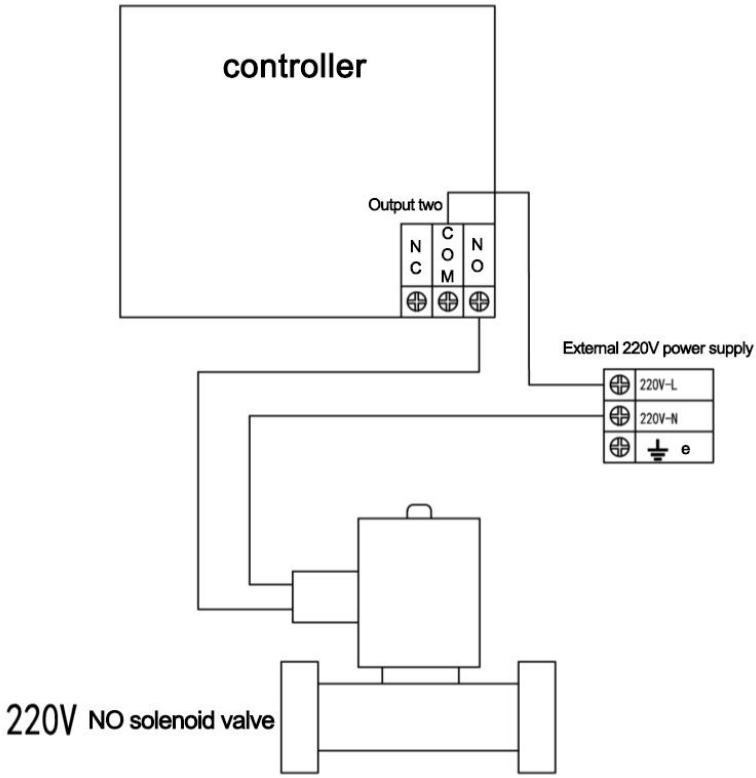
4.2.1 Wiring diagram of mainframe linkage 220V fan



4.2.2 Mainframe linkage 220V normally open solenoid valve wiring diagram

Note: The gas emergency shut-off valve is not allowed to be energized for a

long time, please confirm whether the host can be connected. When connecting the combustible gas detector, the gas emergency shut-off valve is connected to any channel, and this channel should be a 3-second pulse output. After the host generates an alarm, the solenoid valve is energized for 3 seconds, and then it will be automatically powered off. After the leakage treatment, manually open the emergency shut-off valve.



5. Controller maintenance

5.1 The power supply of the alarm controller should be powered by a dedicated instrument power supply, avoiding mixed use with the power supply.

5.2 It is strictly forbidden to disassemble randomly.

5.3 It is strictly forbidden to immerse the controller in liquids such as water or oil, or install it in a place with corrosive gas.

5.4 The alarm controller should be installed in the duty room or instrument room, and non-professionals should not operate it casually.

5.5 Do not operate the menu without permission. If the user has a request, be sure to get in touch with our company and proceed under the guidance of a technician, otherwise you will be responsible for the consequences!

6. Analysis and Elimination of Common Faults

When the controller sends out a fault alarm signal, the personnel on duty should "mute the sound" first, and then follow the following table to deal with according to the reported fault address and fault type:

Failure Phenomenon	Cause Analysis	Elimination Method
Communication Failure	The display board and the power board do not communicate	Check whether the cable connecting the display board and the power board is

		loose
	Current address detector communication failure	Check whether the connecting wire of the detector is off or loose
Electricity Failure	The digital tube does not display	Whether the power connection is connected properly; Whether the power supply normal or not

7. Warranty service regulations

7.1 The product implements three guarantees services;

7.2 The free warranty period is one year (from the date of purchase). Please follow the instructions and precautions for use. If the instrument fails, please contact the manufacturer.

7.3 During the warranty period, the following conditions will not be guaranteed:

① Equipment damage and malfunction caused by failure to follow the precautions in the instructions for use;

② Equipment failure and damage caused by self-disassembly, modification and maintenance;

7.4 The equipment sold is maintained for life, and only cost is charged for maintenance outside the warranty period.