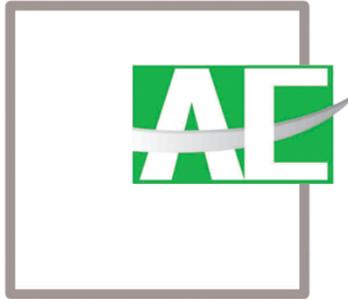


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TO CONTACT US**



**Air-Met Scientific**  
[www.airmet.com.au](http://www.airmet.com.au)



Control Panel

**Operator's Manual**

JUDD/JUDD-S

Dear customer:

Glad to have your trust and support on AIYI Technologies, we will provide you best product and service in return.

As an ISO certified manufacturer. AIYI Technologies has been focus on safety and environment many years, we provide you gas & dust detector and systems. The design and manufacture of product is strictly follow the international standard and company regulations, and each product get a normative QC control to ensure the best quality for you.

Please read and understand this operator's manual before operating instrument. Improper use of the gas monitor could result in bodily harm or death. Please don't hesitate to contact us if you have any questions or suggestions. Thanks!

We are honored to have the opportunity to serve you.

Yours sincerely,

Dongxu Zhang  
Vice-General Manager  
Nanjing AIYI Technologies Co., Ltd.

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The right to interpret and modify this disclaimer belongs to Nanjing AIYI Technologies Co., Ltd.

## Introduction to the operation manual



Note: When installing the device, please carefully read the contents of this manual to avoid possible personal injury and equipment damage.

This manual mainly introduces the hardware characteristics, installation methods and maintenance of the gas detection transmitters.

This manual is suitable for the following personnel: instrument maintenance engineers, field users.

In addition to this manual, if you need to obtain the latest product information, you can go to [www.aiyitec.com](http://www.aiyitec.com) or call the hotline 0086-25-87756351 for consultation.



Attention: please read the manual carefully before connecting and operating your device.

---

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## Chapter 1 Product Introduction

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### 1.1 Brief introduction

JUDD/JUDD-S series control panel (hereinafter referred to as control panel) is a new generation product independently developed by Nanjing AIYI Technologies Co., Ltd., which is specially used for matching toxic gas detectors.

The product is an industrial panel designed for 4~20mA split-line signal, and can be combined with AIYI AG series gas detector to form a gas detection and alarm system. The product adopts modular design and you can choose wall-mounted and cabinet-mounted according to the number of access detectors. The high-brightness OLED screen displays without external light effect. The built-in relay output design can realize the alarm interlock function to ensure life safety.

Main features of the product:

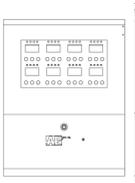
- The product is only used to match the toxic gas detector
- It can be equipped with 4~20mA signal transmitter and displays the gas concentration in real-time and sound and light alarm automatically when exceeds the standard.
- Exceeding standard alarms, fault alarms, etc.
- Modular design, free combination of 1~100 channels, flexible wall-mounted and cabinet-mounted configuration
- Each channel works independently of each other
- OLED high-brightness display with clear and conspicuous screen
- Multi-level alarm relays to achieve gas leakage interlock control

The design, manufacture, testing follow the below standards:

- GB 50493-2009 *Code for the design of combustible gas and toxic gas detection and alarm for petrochemical industry*
- GB 12358-2006 *Gas Monitors and Alarms for Workplace Atmosphere General Technical Requirements*
- GBZ 2.1-2007 *Occupational exposure limits for hazardous agents in workplace Part1: Chemical hazardous agents*
- JJG 915-2008 *Carbon monoxide detection alarm*
- JJG 695-2003 *Hydrogen Sulfide Gas Detector*
- JJG 551-2003 *Sulphur dioxide gas detector*
- JJG365-2008 *Electrochemical Oxygen Analyzer*



**Judd**  
 Wall-mounted single-channel panel is access to connect a single detector



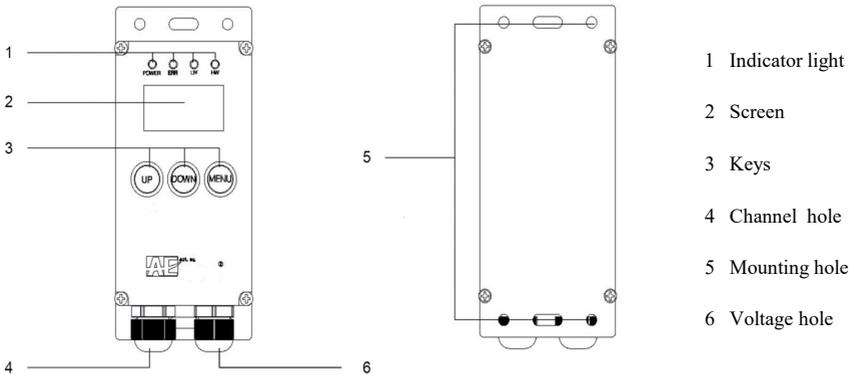
**Judd**  
 Wall-mounted multi-channel panel for accessing 1~8 detectors, the number of channels can be customized



**Judd-S**  
 Cabinet type multi-channel panel, the number of channels can be customized from 1 to 100. It is recommended to use a large number of detectors.

The model and differences of this series are as follows:

1. 2. Description



Indicator light



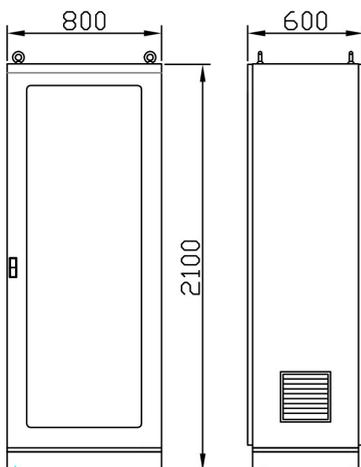
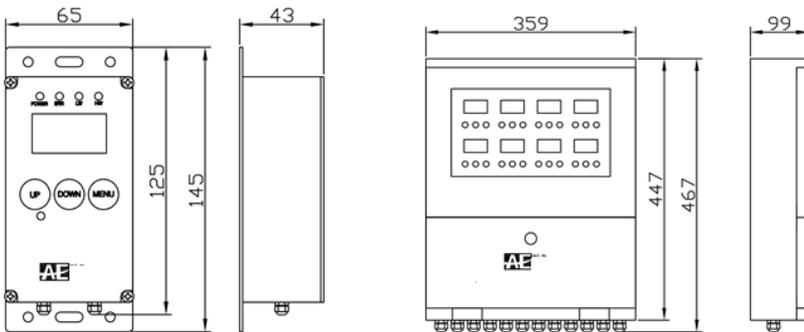
- POWER** Green light always on when power on,
- ERR** Normally off, the red light is always
- LW** Normally extinguished, the red light is always on when on the first alarm
- HW** Normally extinguished, the red light is always on when on the second alarm

## Keys



- UP      Scroll up menu, increase value, mute
- DOWN      Scroll down menus, reduce values, view alarm records
- MENU      Enter menu, setting confirmation

## Dimension



Note: The JUDD series controllers are modular in design and can be freely configured according to different requirements, but the operation modes are the same. Unless specified, the following describes according to the single-

## 1. 3. Specifications

Description	Specifications	JUDD	JUDD-S
<b>Function</b>			
Channels	1-8	●	-
	>16	-	●
Suitable detector	Electrochemical, infrared, PID	●	●
<b>Electric</b>			
Power supply	220VAC	●	●
Power consumption	Single modular≤1W	●	●
Signal input	4-20mA	●	●
Signal output	4-20mA	●	●
Wiring	three wires	●	●
Suitable cable	RVVP3*1.5mm <sup>2</sup>	●	●
Relays output	2 Passive relay (250VAC/5A 30VDC/5A)	●	●
<b>Display &amp; operation</b>			
Display	Single color OLED Resolution 128*64	●	●
Indicator light	Power, fault, high alarm, low alarm	●	●
Operation method	operation	●	●
<b>Environment</b>			
Operating temperature	0°C~40°C	●	●
Operating humidity	10~95% RH Non-condensing	●	●
Operating pressure	80-120kPa	●	●
<b>Structure</b>			
Body material	Aluminum alloy (Single modular)	●	-
	Carbon steel, electrostatic spray (cabinet)	●	●
weight	About 0.24kg for single modular	●	●
Dimensions	145*65*43mm(H*W*D) single modular	●	-
	467*359*99mm(H*W*D)	●	-
	2100*800*600mm(H*W*D) cabinet	-	●
<b>Certificate</b>			
SIL	SIL2	●	●

## Chapter 2 Installation

### 2. 1. Packing list



Device \*1



Operators manual \*1


 Calibration report, \*1  
certificate

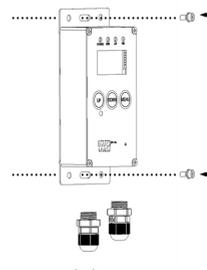

Accessory

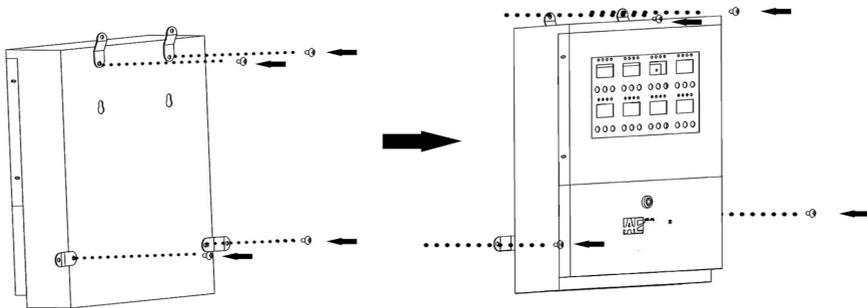
### 2. 2. Cautions

- ❑ The controller is non-explosion-proof and is only used in safe area such as duty rooms and operating rooms. Do not use it in hazardous areas.
- ❑ Please select the corresponding wiring method according to the input signal.
- ❑ The panel should not use the same power supply with any other large power consumption equipment.
- ❑ Wall-mounted panels require a flat, solid wall.
- ❑ The installation process must comply with international standards.
- ❑ The installation position should ensure that the display is visible, and the reserved space is convenient for the operation of the door opening and wiring debugging.
- ❑ Note that the transmission distance between the panel and the detector is recommended to be within 1500m.
- ❑ The installation location should avoid exceeding the operating temperature, humidity, and protection level of the panel, such as a large amount of dust, high temperature, water splashing, corrosive gases, vibrations, etc.

### 2. 3. Installation

- ❑ Determine the installation location.
- ❑ Single channel controller: After drilling the hole position, unscrew the bottom channel locking port of the controller, use the M5 expansion screw (need to be provided) to firmly fix the upper and lower mounting holes and fix channel locking port back .
- ❑ Multi-channel controller: Fix the four mounting plates in the accessory to the controller, up, left, right and fix them firmly to the wall with M6 expansion screws.
- ❑ Cabinet controller: Choose a flat solid floor or mounting platform.


 Single channel controller  
installation diagram

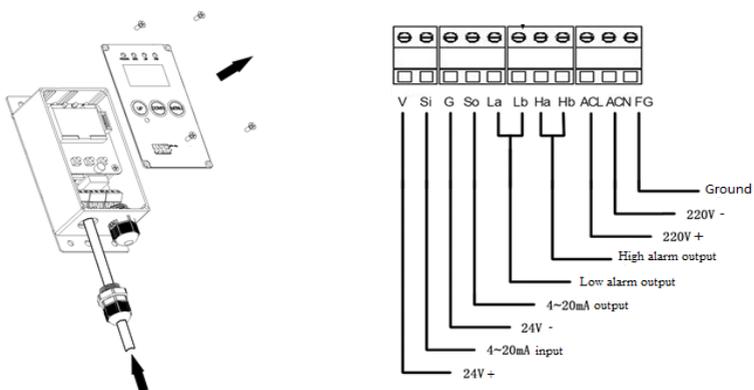


Multi-channel controller installation diagram

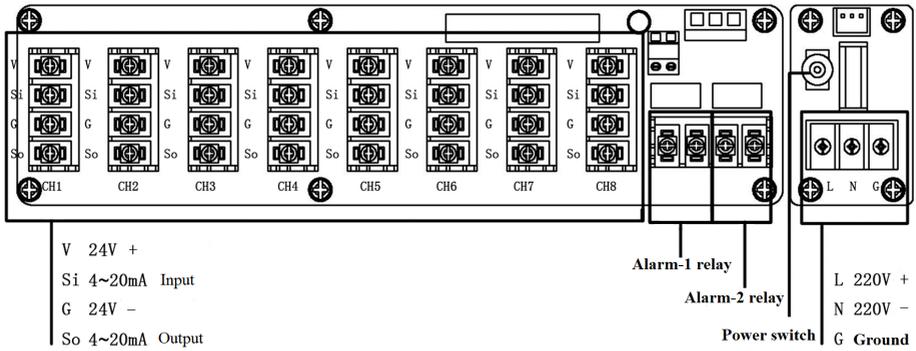
#### 2. 4. Wiring

- Be sure to turn off the power before wiring.
- Open the panel
- Unscrew the bottom locking port of the panel and introduce the cable into the controller.
- According to the terminal port identification, make sure the wiring between the detectors and panel in one-to-one correspondence.
- The panel reserves a mounting hole for additional sound and light alarms. The power cables of sound and light alarm are connected to the B- and B+ terminals of the circuit board.

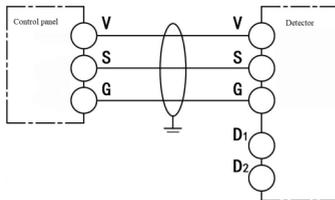
#### Single channel terminal block



### Multi-channel terminal block



### Wiring



4-20mA

#### 2. 5 Power-on test

- █ Please confirm that the wires and terminals are safe before power-on.
- █ The wall-mounted multi-channel panel requires a key to open and switch the power to the "on".
- █ It starts work and POWER light of the panel is always on when supplied by 220VAC power.



## Chapter 3 Operations and Maintenance

### 3. 1. Menu

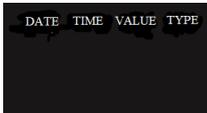


In the normal monitoring state, the main interface displays information such as the concentration value, concentration bar, and measurement unit.

### 3. 2. Mute

When the control panel alarms, press the “UP” button to mute.

### 3. 3. Quickly view alarm record



Press the “DOWN” button in the normal monitoring state to quickly enter the alarm recording interface. Press the “DOWN” button again to return to the main interface.

### 3. 4. Menu operation



Press the “MENU” button on the normal concentration display interface of the controller to enter the menu. There will be 7 first-level menus: “ALARM RECORD”, “ALARM SET”, “485 ADDR SET”, “INPUT SIGNAL”, “LANGUAGE”, “FACTORY SET”, “SAVE &EXIT”. Press the “UP” or “DOWN” button to select different menu items and press the “MENU” button to enter.

### 3. 5. Alarm record



Alarm history

| Press "MENU" to enter

| Press "UP" or "DOWN" to view

| Press "MENU" to return to the previous menu



Time set

| Press "MENU" to enter

| Short press "MENU" to adjust position

| Press "UP" or "DOWN" to adjust the value

| After setting, press and hold “MENU” to return to the previous menu.



Record delete

- | Press "MENU" to enter
- | Short press "MENU" to adjust position
- | Press "UP" or "DOWN" to adjust the value
- | After setting, long press "MENU" to clear the historical data before setting date and return to the previous menu.



Press "MENU" to return to the main menu

### 3. 6. Alarm set



First, second alarm set

- | Press "MENU" to enter
- | Select high alarm setting, press "MENU" to enter
- | Short press "MENU" to adjust position
- | Press "UP" or "DOWN" to adjust the value
- | After setting, press and hold "MENU" to return to the previous menu.
- | The second alarm setting is the same as above.



Press "MENU" to return to the main menu



Note: The first level alarm corresponds to the alarm-1 relay, and the second level alarm corresponds to the alarm-2 relay.

The meaning of the alarm-1/2 is lower/higher than the alarm value set. It is recommended to set the alarm-2 except oxygen.



### 3.7. Language set



#### Language set

- | Press "MENU" to enter
- | Press "UP" or "DOWN" to select
- | Press "MENU" to confirm the language change and return to the main menu.

### 3.8. Save & exit



#### Save & exit

- | Press "MENU" to return to the main interface
- | If you do wrong operation, do not save and exit. Restart after power off to restore the pre-operation status.

### 3.9. Maintenance

- | The panel should avoid water splashing, dust etc. and keep it clean.
- | The panel key should be kept by a special person, and it is forbidden to open and operate it at will.
- | The panel should operate the test periodically to ensure normal function.
- | Pay close attention to controller faults, alarms and handle it in time.
- | Repair of the instrument and replacement of the components must be carried out with original spare parts and by specially trained personnel.
- | If the panel fails to solve the problem, please contact the manufacturer to solve it.



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