

Intelligent Agricultural Control Host Instruction Manual

JXZJ-Z

Ver1.0

威海精讯畅通电子科技有限公司

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Chapter 1 Product Description

1.1 Product Overview

JXZJ-Z series intelligent agricultural control host is a new intelligent agricultural host control system developed by our company. It is a new online monitoring terminal which integrates collection, monitoring, control and remote reporting.

JXZJ-Z series covers five product models with different sizes and functions, covering different requirements from small current to large current, from single channel control to multi-channel control. JXZJ-Z series is equipped with a 7-inch color touch screen to provide a good human-computer interface.

JXZJ-Z series control hosts include "control "," perception "," communication ". Three functions, with fine news cloud and WeChat Mini Program and other organic combination, is a high standard intelligent agricultural

mainframe products.

1.2 Feature

- Use 7-inch touch screen, data and equipment status clear display. You can operate each control device through the touch screen to view the information of each set of sensors.
- A combination of local control and network control, each channel can be controlled locally or remotely through fine-tuned cloud, Mini Programs, and APP, among others
- Support up to 48 channels of control, access up to 32 sensors and access up to 4 display screens depending on the requirements
- Using national standards to make electric gas cabinets, up to 300 A of total current input, single maximum support 90 A of equipment work.
- Complex protection mechanism, support stop button ,380 V voltage protection function, with excellent lightning protection design, through the protection mechanism for too high voltage and too low voltage.
- Excellent motor protection, support phase missing, staggered phase protection, support different current motor thermal protection function.
- A variety of logic functions, support linkage logic, mutex logic, timing logic, support sensor automatic control, provide control function interface.

1.3 Main engine electrical parameters

Parameter	Parameters
equipment supply	12V-DC (JXZJ-Z1Series) 220V-AC (Other series)
product power consumption	$\leq 30W$
number of control channels	≤ 48 Road
number of sensor channels	≤ 32 Group
relays allow current	$\leq 10A$
contactor allowable current	$\leq 90A$ (Selection according to configuration)
tatal allowable current	$\leq 300A$ (Selection according to configuration)
surge protection voltage	385VAC
protection level	1.8KV/5KA
working temperature	-20-70°C
Working humidity	0-95%RH No condensation

1.4 Host communication parameters

Parameter	Parameters
transport	4G wireless signal transmission (7

interface	mode)
Frequency band format	FDD-LTE、TDD-LTD、TD-SCDMA、UMTS、EV-DO、CDMA、GSM
Operational support	China Mobile, China Unicom, China Telecom 4 G、3G、2G All Netcom

1.5 Host display parameters

Parameter	Parameters
Screen Display Size	154*85mm
Screen resolution	800*480 pixels
Screen brightness	200nit
Backlight Mode	LED
Color	65K color

1.6 Sensor parameters

Our intelligent agricultural host on-line monitoring system can be accurately measured: air temperature and humidity, soil temperature and humidity, light, carbon dioxide, wind speed, wind direction and other environmental factors.

Scope	Resolution	Precision	Unit
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Technical measurement parameters

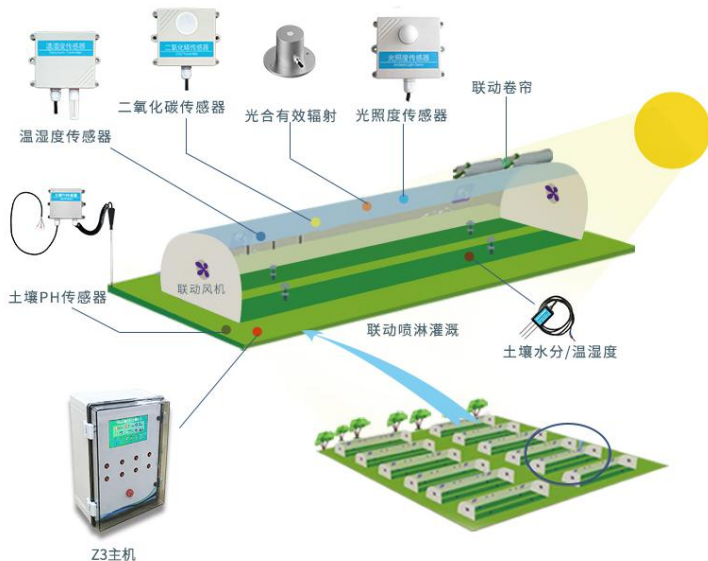
Temperature	-40-80	0.1	±0.2	°C
humidity	0-100	0.1	±3	%RH
Wind speed	0-60	0.1	±0.3	m/s
Windward direction	16Direction	1Direction	-	-
CO2	0-5000	1	±50+3%	ppm
PM2.5	0-999	1	±10F.s	Ug/m3
PM10	0-999	1	±10F.s	Ug/m3
Atmospheric pressure	10-1200	0.01	±0.1	mbar
Light illumination	0-200000	1	±7%	Lux
Oxygen concentration	0-30	0.1	±3F.s	%
Ammonia	0-100	0.01	±3F.s	ppm

concentration				
Hydrogen sulfide	0-100	0.1	±3F.s	ppm
noise	30-130	0.1	±1.5	dB
Nitrogen dioxide	0-20	0.01	±3F.s	ppm
Nitric oxide	0-250	0.1	±3F.s	ppm
Sulfur	0-20	0.01	±3F.s	ppm

*Please contact our customer service or inquire in our website

1.7 Application environment

Our agricultural mainframe and sensors are widely used in agricultural shed, farmland, aquatic products and livestock industry.



Chapter 2 Hardware Introduction

2.1 Inspection of equipment before installation

Please check the equipment list before installing the equipment:

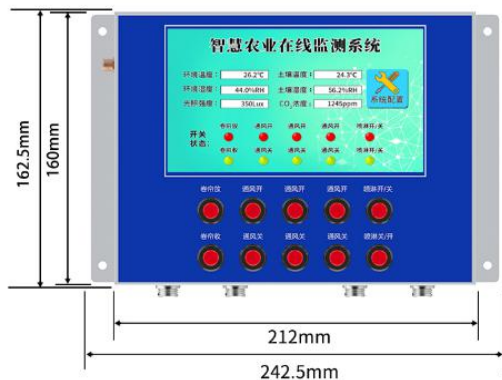
Name		Quantity
JXZJ-Z	Series	1
hosts		
Installation		several
accessories		
Warranty		1

card/certificate

2.2 Product appearance dimensions

JXZJ-Z series has five mainframes, designed according to different use environments, JXZJ-Z1 series is the most mini one, can only do 220 V control; JXZJ-Z2 and JXZJ-Z3 are small and medium volume, can support several 380 V control; Among them, JXZJ-Z4 and JXZJ-Z5 are large-volume control cabinets that support more 380 V control and larger currents.

2.21 JXZJ-Z1 Host



* Note: keys are optional.

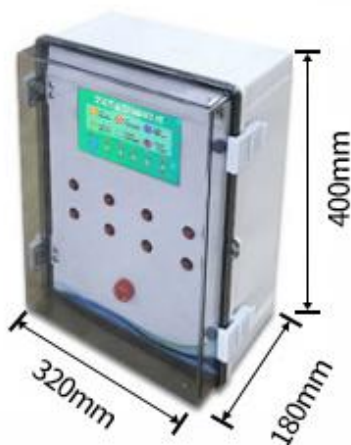
Product parameters	Parameter Description
220V Channels	≤10(optional)
Single phase current	≤10A
380V channels	none
Three-phase current	none
Mainframe through total current	10A Each road

1.7.1 JXZJ-Z2 Host machine



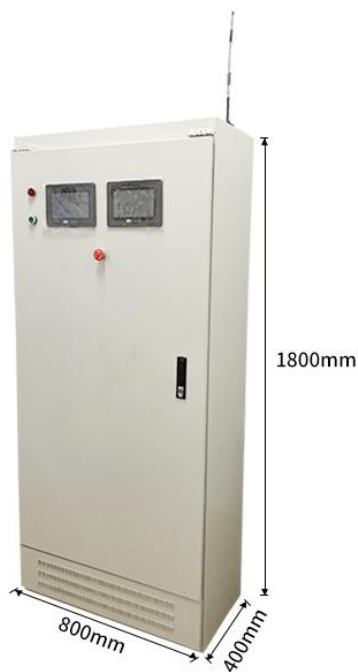
Product parameters	Parameter Description
220V Channels	≤4 Road (optional)
Single phase current	≤10A
380V Channels	≤3 Road (optional)
Three-phase current	≤32A (Optional)
Mainframe through total current	≤32A (Total)

2.22 JXZJ-Z3 host



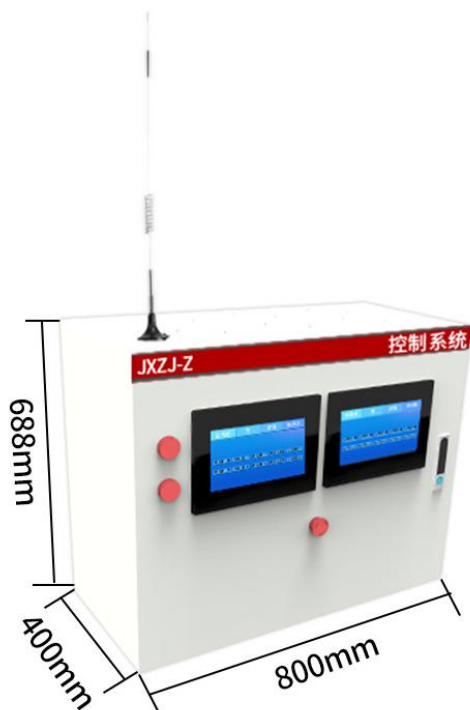
Product parameters	Parameter Description
220V Channels	≤8 Road (Optional)
Single phase current	≤10A
380V Channels	≤3 Road (Optional)
Three-phase current	≤32A (Optional)
Mainframe through total current	≤32A (Total)

2.23 JXZJ-Z4 Host



Product parameters	参数描述
220V Channels	≤8 路 (Optional)
Single phase current	≤10A
380V Channels	≤32 路 (Optional)
Three-phase current	≤90A (Optional)
Mainframe through total current	≤300A (Total)

2. 24 JXZJ-Z5 Host



Product parameters	Parameter Description
220V Channels	≤ 8 Road (Optional)
Single phase current	≤ 10A
380V Channels	≤ 16 Road (optional)
Three-phase current	≤ 90A (Optional)
Mainframe through total current	≤ 120A (Total)

2.3 Host selection control channel parameters

According to the customer's demand, the product can adjust the output of various types of channels, in which the single-phase channel has only one configuration, that is ,220 V/10A configuration, while the three-phase power has the following different configurations according to the different types of electricity.

Configuration type	Configuration content	
-JC12type	≤ 12Acurrent recommended6Ainternal use	(3-phase)
-JC18type	≤ 18Acurrent recommended9Ainternal use	(3-phase)
-JC25type	≤ 25Acurrent recommended13Ainternal use	(3-phase)
-JC32type	≤ 32Acurrent recommended16Ainternal use	(3-phase)
-JC40type	≤ 40Acurrent recommended20Ainternal use	(3-phase)
-JC50type	≤ 50Acurrent recommended25Ainternal use	(3-phase)
-JC65type	≤ 65Acurrent recommended33Ainternal use	(3-phase)
-JC95type	≤ 95Acurrent	(3-phase)

2.4 Main engine selection motor protection parameters

Motor motor protector is recommended for the load of motor type. The motor protector can effectively judge the use of superload and turn off the power supply quickly under the condition of superload.

Configuration type	Configuration content
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-BH6type	Electrical current 4-6 A inside
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-BH8type	Electrical current A 5.5-8
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-BH13type	Electrical current A 9-13
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-BH25	Protective current A 17-25
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* Limited by space, more motor protection type consultation customer service.

2.5 Product installation instructions

JXZJ-Z series of main engine includes vertical pole, ground installation and wall-mounted installation, among which Z2 main engine can be installed in three ways, Z4 main engine adopts ground installation mode, Z1/Z3/Z5 main engine adopts wall-mounted installation mode; take Z2 main engine as an example, as shown in figure:

(1) Vertical mounting

Use expansion screws to fix the stand, and the main

engine uses hoop to fix the stand, as shown in the figure:

01 立杆安装

将抱箍穿过支架，支架固定在设备上，之后安装在立杆上。



(2) Ground fixed

Use expansion screws to fix the bracket to the ground, and the bottom of the main engine is fixed to the bracket by screws, as shown in the figure:

02 地面安装

将支架固定在地面上，如图所示。



*Z4 Host installation does not use hoop, select a stable ground placement, the host can supply power normally.

(3) Wall mounted

Use expansion screws to fasten the hoop to the wall, and the main engine is mounted on the hoop, as shown in the figure:

03

壁挂安装

将设备固定在墙上，
如果所示。



Chapter 3 Product interface and instructions for use

3.1 Introduction to Host Panel and Key

JXZJ-Z series of mainframe housing and keys are made of high quality steel and ABS materials, with the advantages of light weight, anticorrosion and durability.

The host is equipped with relays to control the linkage equipment. The control panel uses a 7-inch large screen, which can not only display the monitored data, but also display the status of keys and relays. And the relay can be

operated through the screen.

When a host key is pressed, the color of the key corresponding to the interface changes from "red to green ", indicating that the relay state changes; it can also be" system setting "through the operation interface. The host parameters of the fine-tuning function and set alarm function.

The aviation plug Z1 the front end of the main engine is used to connect our 485 sensor. The installation sensor is simple and fast. There are alarm lights at the top of the Z2 engine. When the monitoring value is higher or lower than the alarm value, the alarm lights will flicker until the alarm is eliminated. Z3/Z4/Z5 the main engine has an emergency switch. When this switch is pressed, the main engine will be cut off and stop running. The main engine is shown in the following figure:

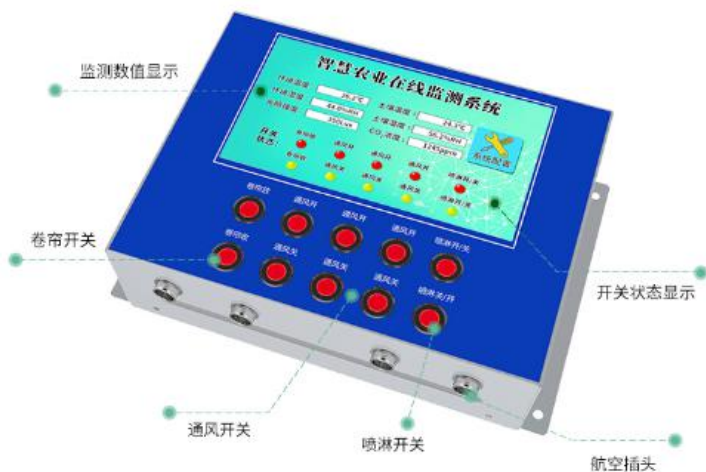


Figure I JXZJ-Z1

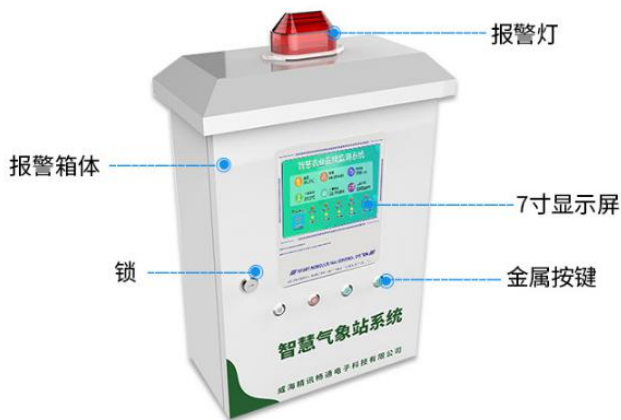


Figure II JXZJ-Z2

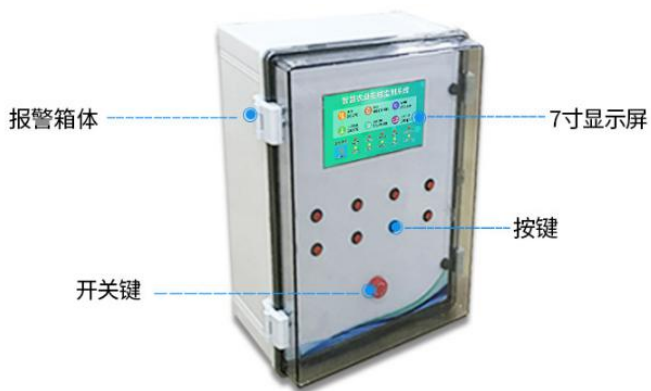


Figure III JXZJ-Z3



Figure IV JXZJ-Z4

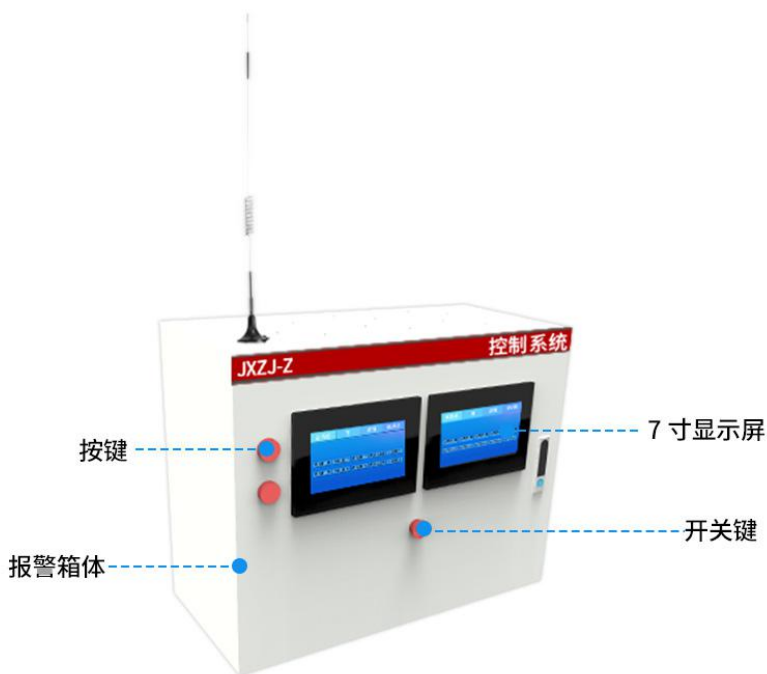


Figure V JXZJ-Z5

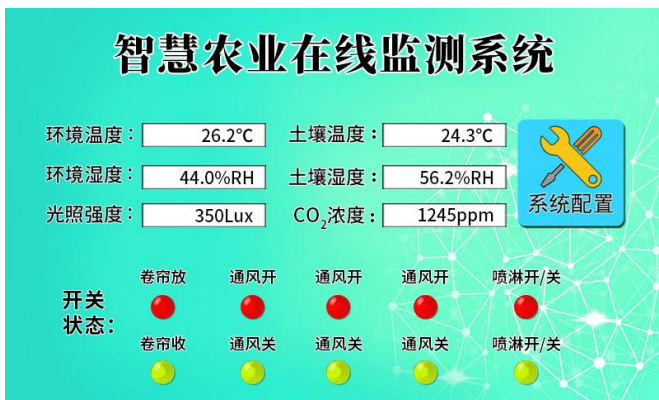
*All kinds of type host display interface can be customized

3.2 Use of Color Screen Interface

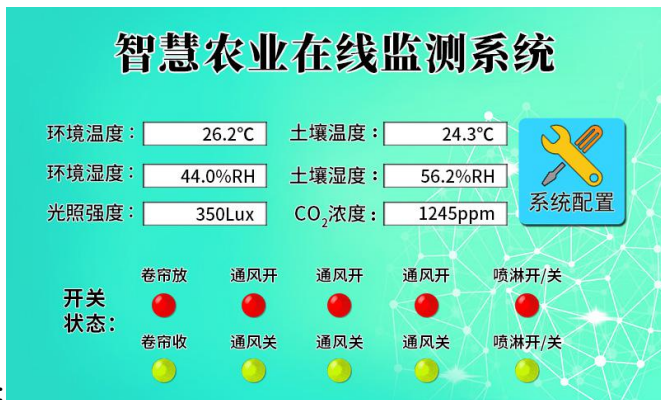
Each channel control status and control button will be displayed on the screen, only click on the relevant button to trigger the operation of the related channel, take Z1 host operation interface as an example.

When there is no operation on the host interface, the

color of the "switch state" of the interface is "red ". When the button is operated, the color of the switch state button changes from" red to green ". Press the same button again, screen button color from green to red, relay recovery before the state. As shown in the figure:



At the same time, the sensor information will be displayed on the screen, as shown below, each sensor information will be displayed on the screen, as shown in



the figure:

3.3 Remote control usage

JXZJ-Z series of hosts, not only through local operation control, but also through our research and development of fine cloud server and fine cloud Mini Programs remote operation, fine cloud server and Mini Programs account common.

(1) Jingxun Cloud Platform

Use browser login "www.sennor.net" to enter the server login interface, enter the account password login.

After logging into the server, click on the menu bar "data center-list display" on the left side of the server to display the number, status, and ID, of the bound relay devices to operate, as shown in the figure:



(2) Jinxun cloud mini programs

Search for “Jinxun Cloud” on Wechat applet, click Follow to add successfully, just log in with your count.

After successful login, click on the "device" below, the number, status and ID of the bound devices will appear, and then click on the relay device to be used, as shown in the figure:



Chapter 4 Control functions

JXZJ-Z series hosts have complex control functions and control logic.

4.1 Security logic (tier 1)

For the intelligent agriculture controllable host, the bottom logic we provide is security logic, the priority of security logic is higher than all logic, and there are the following security logic and execution in this system:

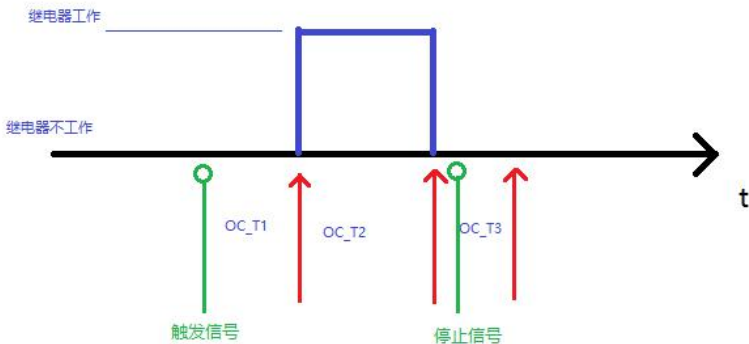
Logical content	Implementation results
Stop switch press	All machine controls disconnected
Too high or too low voltage	The whole machine does not work
Phase error	All machine controls disconnected
Missing phase	The whole machine is completely disconnected and the whole machine is out of power
Trigger thermal protection	Related channel disconnected not working

4.2 Time Protection Logic (Layer 2)

Each channel has a time protection logic, and we set that each channel has a triple time setting as shown below.

Time Name	Time content
OC_T1	Channel Pre Wait Time
OC_T2	Maximum time of channel operation
OC_T3	Time of subsequent waiting for channel work

The working diagram is shown below, where OC_T1 refers to how long the relay will work after receiving the start signal, OC_T2 is a protection mechanism to protect the maximum working time of the channel. After arrival, no matter whether there is an instruction relay, OC_T3 refers to the distance after the channel must wait for the next operation.



4.3 Mutual exclusion logic (tier 2)

Mutual exclusion logic means that some channels and other channels can not be opened at the same time, such as setting 1 channel and 2 channels mutually exclusive, open 1 channel will automatically close 2 channels, open 2 channels will automatically close 1 channel.

Mutual exclusion logic is one of the most commonly used logic, which is often used to control the positive and negative rotation of the motor. For example, channel 1 controls the positive rotation of the motor and channel 2 controls the reversal of the motor. The mutex logic must be set, otherwise channel 1 and channel 2 will trigger the loss caused by short circuit at the same time due to misoperation.

The positive and negative rotation of the motor usually needs to set the time protection logic. There is a waiting time between the motor from positive to reverse. After the motor stops working, it will rotate for a certain time because of inertia, so it is necessary to set the protection time.

4.4 Linkage logic (level 3)

Linkage logic refers to the logic that channel B and C

work together when a channel A work, but channel B and channel can work independently.

Linkage logic is usually used to design master switches, such as channel 1-channel 4 is four lights, we want to set channel 5 is to turn on or off four lights at the same time, then set channel 5 linkage channel 1-4 can.

4.5 Automatic Control Logic (Level 4)

The system can be used as an automatic control system according to the value of the sensor. The automatic control system consists of several alarm values. When the sensor reading is less than or equal to the alarm lower limit or the sensor reading is greater than or equal to the alarm upper limit, the alarm is triggered.

The device can set the fall value, which refers to triggering the alarm action when it exceeds the upper and lower limit of the alarm, but to eliminate the alarm, it is necessary to wait until the sensor reading falls back to the fall area behind the upper and lower limit of the alarm. Range description: alarm upper limit set 100 ppm, fall value set 10 ppm, trigger alarm when reading rises to more than 100 ppm; when reading falls from 105 ppm to 99 ppm, although it is already less than the alarm upper limit, it does not exceed the fall area, so the alarm continues until

the reading falls to $(100 \text{ ppm} - 10 \text{ ppm}) = 90$ The following will be eliminated.

4.6 Networking Control Logic (Layer 5)

The device can accept control instructions from the fine message cloud and make related control actions.

4.7 Priority of control instructions

The six control instructions described above are divided into five priorities. The smaller the hierarchy, the higher the priority, the lower the priority. Prioritize higher priority instructions when a conflict occurs.